RESTRICTED

COMMUNICATION INSTRUCTIONS
U.S. NAVY
1944

DNC 5

NAVY DEPARTMENT
OFFICE OF THE CHIEF
OF NAVAL OPERATIONS

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LETTER OF TRANSMITTAL

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NAVY DEPARTMENT,
OFFICE OF THE CHIEF OF NAVAL OPERATIONS,
Washington, 1 January 1944.

1. *Communication Instructions*, 1944, is issued by the Chief of Naval Operations in accordance with the appropriate provisions of the *Navy Regulations*. These instructions have the same force and effect as orders issued by the Secretary of the Navy but do not alter or amend any provision of the *Navy Regulations* or any Navy Department General Order.

2. *Communication Instructions*, 1944 (short title DNC5) will become effective when directed by the Chief of Naval Operations, at which time *Communication Instructions*, 1939, is canceled and shall be destroyed.

3. This publication is essentially a revision of *Communication Instructions*, 1939, in which considerable rearrangement has been effected and the entire publication brought up to date with current naval communication practices and procedures. It is intended that these instructions shall apply to both war and peacetime conditions, with the smallest possible number of exceptions to sound wartime communication principles being made for expediency in peacetime.

4. Chapter 1 contains information particularly pertinent to officers exercising command. Chapter 2 is of especial interest to originators of messages. Chapters 6 and 7 contain complete information on the use of naval procedures (radio and visual) and have been so prepared that they may constitute an operator's manual when desired. The appendices contain material which is applicable only under certain circumstances or which, if of general application, is inherently of a changing nature and therefore necessarily subject to frequent revisions.

5. *Communication officers are required to be thoroughly familiar with these instructions, primarily to know how best to do that which responsible officers wish to accomplish with naval communications. If no provision has been made to cover a desired communication function, resort to initiative and common sense should usually suffice. These instructions are intended to permit great flexibility with due regard for the requirements of reliability, speed, and security.*

F. J. HORNE,
Vice Admiral U. S. Navy,
Vice Chief of Naval Operations.

COMMUNICATION INSTRUCTIONS, 1944

United States Navy

Original pages are not so marked.

Reprinted pages will be marked "Ch. No. —."

The general correctness of *Communication Instructions* may be verified by checking against the list of effective pages and the "Record of entry of changes".

It has been found that if each copy of *Communication Instructions* issued to a ship, flag organization, or shore station is prominently marked with a serial number, changes and corrections may be more surely entered and checked in all copies.

RECORD OF ENTRY OF CHANGES

Change No.	Entered by (Signature and rank or rate)	Date
one	Levi W. Muncy	Nov. 6, 1944
two	Levi W. Muncy	Nov. 2 1944

LIST OF EFFECTIVE PAGES

[All numbers inclusive]

Communication Instructions, 1944

CHAPTERS 1 TO 7

Pages	*Ch. No.*	*Pages*	*Ch. No.*
I to XVI	Original	6–I to 6–II	Original
1–1 to 1–8	Original	6–1 to 6–54	Original
2–1 to 2–26	Original	Plates 2–6, 3–6, 4–6	Original
Plates 3–2	Original	7–I to 7–II	Original
3–1 to 3–16	Original	7–1 to 7–38	Original
4–1 to 4–22	Original	Plates 2–7, 3–7	Original
5–1 to 5–10	Original		

INDEX

I to II	Original	1 to 30	Original

APPENDICES

I

I to IV	Original	1 to 22	Original

II

I to II	Original	1 to	(will be issued later)

III

I to VI	Original	1 to 52	Original
		Plates 1–III, 3–III	

IV

I to II	Original	1 to	(will be issued later)

V

I to IV	Original	1 to 28	Original

VI

I to IV	Original	1 to 22	Original

VII

I to VIII	Original	1 to 20	Original

VIII

I to IV	Original	1 to 22	Original

IX

I to II	Original	1 to	(will be issued later)

TABLE OF CONTENTS

RED CROSS MSG. 1330

THE DATE TIME GROUP 2025

DEFINITIONS

A small number of communication terms and terms with meanings peculiar to naval communications are here defined. These have been selected, in some cases, because of their importance; in others, because no definition is supplied in the text. No attempt has been made to include all technical communication terms, especially when, by reference to the index, a clear definition may be found in the text.

Authenticator.—A group of letters or characters inserted at a designated point in a message to certify that the message and the transmission are genuine. On voice circuits authentication may be accomplished by means of a password.

Cipher.—A system of substitution or transposition by which the individual letters of plain language, usually dealt with singly, are converted into a form intelligible only to those who possess the key or can reconstruct it.

Code.—A system of representing words, phrases, and individual letters or other fragments of plain language by means of groups of numbers, letters, or numbers and letters according to a table of prearranged meanings.

Cryptanalysis.—The science of breaking codes and ciphers and of reconstructing the keys. The term is a synonym of cryptographic analysis.

Cryptography.—The science of writing in secret characters.

Deception (radio).—Transmissions intended to deceive the enemy. Radio deception is of two sorts: (*a*) Manipulative—transmissions used to conceal from the enemy the locations, movements, and strength of U. S. naval forces by the use of misleading material *in our own communication channels;* (*b*) Imitative—the use of radio to simulate enemy transmissions in order to confuse or deceive the enemy *in his own channels.*

Decipher.—To convert a cipher message (a cryptogram) into its equivalent plain text by means of a cipher system. Sometimes used to mean converting a cryptogram to plain language by cryptanalysis.

Decode.—To convert a coded message into its equivalent plain text by means of a code book; the portion of a "randomized" or "two-part" code in which the code groups are arranged alphabetically (or numerically) with the corresponding meanings in random order.

Decrypt.—A general term meaning both decode and decipher.

Dispatch.—Any message other than a signal or a procedure message. Dispatches may be classified according to means of transmission as radiogram, cablegram, telegram, basegram, and mailgram, but all five methods may be involved in the delivery of the same message to different addressees.

Dummies.—Meaningless words, numbers, letters or code groups added to increase the length of a message, break up repeated phrases, etc. The term "dummy" is usually employed in connection with code books.

Dummy message.—A meaningless, unintelligible message, simulating a legitimate message. Dummy messages are usually earmarked by "dummy indicators" or "dummy call signs."

Encipher.—To convert a dispatch into unintelligible form by means of a cipher system.

Encode.—To convert a message into unintelligible form by means of a code book; the portion of a "randomized" or "two-part" code in which the vocabulary is arranged (sometimes by sections) in alphabetical order with the corresponding code groups in random order.

Encrypt.—A general term meaning both encode and encipher.

Garble.—Error(s) in the headings or texts of messages due to mutilations in telegraphic transmission, mistakes in encryption or errors in copying.

Garble table.—The table of permutations from which are generated the various code groups of a given code book. The code groups resulting from a given garble table have a characteristic form which, in the case of incoming coded messages, is very useful in identifying the code group used by the originator.

General message.—A message having a wide standard distribution and originated by the Navy Department or a fleet commander. Such messages are assigned an identifying title and are usually serially numbered.

General signal.—A signal taken from *The General Signal Book.*

Generatrix.—A column of letters generated by the alphabet strips (when correctly aligned) in the strip cipher device. One generatrix represents the plain text of the message; the other 25 generatrices represent equivalent and alternative encipherments of this plain text.

Interference.—The impairment of radio reception by atmospherics, unwanted signals (not known to be deliberate) or the effects of electrical apparatus or machinery.

Jamming.—Deliberate radio emissions with the object of impairing reception.

Key list.—A publication in which are listed the successive keys for a given cryptographic system (or crypto-channel) for a period of time. The key list prescribes the various cryptographic aids with which its keys are to be used.

Message.—A communication expressed in brief form. The term embraces dispatches, signals, and procedure messages. The term "message" is often employed as a synonym for "dispatch" in these instructions and in other official publications.

Nulls.—Meaningless letters, preferably infrequently used consonants, used before encryption to separate elements of a message, to round out the final group, or for other purposes.

Padding.—Words or phrases, disassociated from the text of a message, added prior to encipherment and deleted upon decipherment, for the purpose of concealing the exact alignment of the clear text with the cipher text.

Paraphrase.—To alter the form and phraseology of a dispatch without intentionally changing its meaning; also the paraphrased version of a dispatch.

Procedure message.—A brief communication between operators employing prescribed procedure, and essential to traffic handling or station operation.

Registered publication.—A publication, each copy of which is assigned a serial number for accounting purposes.

Service or service message.—A brief message incidental to the correction, verification, or handling of another message.

Short title.—A highly abbreviated and standardized title, assigned to cryptographic aids and other publications, in addition to the "long title," in order to facilitate reference where long (descriptive) titles would not be practicable.

Signal.—A message the text of which consists of one or more letters, characters, signal flags, visual displays, or special sounds, with prearranged meanings.

Time of delivery (TOD).—The time the transmitting station completes the delivery of a message. It is recorded on all messages sent.

Time of first call (TFC).—(Used principally in visual communication.) The time the transmitting station first calls the receiving station(s) or commences transmission without preliminary call up.

Time of receipt (TOR).—The time the receiving station completes the reception of a message. It is recorded on all messages received.

Translation.—The decrypted version of an encrypted message, which should agree, verbatim, with the original text.

Chapter 1. ORGANIZATION AND COMMAND

Section A. THE MISSION, POLICY, AND REQUIREMENTS OF NAVAL COMMUNICATIONS

1000. THE MISSION

1001. The mission of the Naval Communication Service is to provide an adequate means of communication at all times, in order, first, to serve command and, secondly, for purposes of administration.

1002. *Command* is responsible for the perfection of the operating forces by training for combat, and the direction of the operating forces before and during conflict with the enemy.

1003. *Administration* may be regarded as the accomplishment of innumerable supporting and organizing measures prior to conflict with the enemy, without which freedom of action in exercise of command would not be possible. These supporting measures involve:

a. Personnel, including procurement, training, transportation, health, morale.

b. Matériel, including weapons, ammunition, fuel, food, clothing, spare parts, general supplies, contracts.

c. Facilities, including bases, yards, hospitals, supply depots, communication stations, shelter.

d. Construction, including planning, production, alterations, repairs.

e. War plans, legislation, treaties, proclamations, Executive orders, and agreements.

1010. THE POLICY

1011. The policy of naval communications is:

a. To provide and maintain a naval communication system based on war requirements.

b. To operate the communication facilities as required, first, by the current operating force plan and, second, by the need for direct communication with overseas possessions.

c. To continue the use of naval communication facilities for the furtherance of safety at sea and in the air, including adequate communication with the United States Merchant Marine and commercial aircraft flying overseas.

d. To cooperate with American commercial communication activities so as to enhance their military value in time of national emergency and to safeguard the communication interests of the United States.

1020. REQUIREMENTS

1021. The following are the requirements of naval communications in carrying out the mission:

a. The establishment and operation for command and administration of an adequate shore communication system:

1. Between the Navy Department and all naval stations, and naval operating forces afloat and ashore.
2. Between the district commandants and all naval stations, and naval operating forces afloat and ashore.
3. Between the continental United States and overseas and distant possessions.
4. Between units of the United States naval continental shore establishment.
5. Between naval coastal stations and aircraft operating at sea.

b. The establishment of appropriate facilities within naval operating forces for rapid communications, radio direction finding, and underwater sound work.

c. Intercommunication of the Navy with the Coast Guard, the Army, and Allied fighting services.

d. The establishment and operation of certain shore radio aids:

1. To provide for strategic tracking in wartime.
2. To facilitate the navigation of ships along the coasts of the United States, Alaska, overseas possessions, and occupied foreign territory, and of aircraft, especially craft flying over the sea.

e. The maintenance of communication security.

f. The establishment and operation of a communication intelligence organization.

g. Liaison with bureaus charged with the design, development, production, and procurement of communication matériel.

h. Utilizing all existing naval communication facilities to assist in cases of maritime distress.

i. Execution of such other communication functions as may duly devolve upon the Naval Communication Service.

1030. DOCTRINE

1031. The operation and administration of naval communications is based on certain concepts, the soundness of which has been proved under war conditions. These basic considerations are:

a. Peacetime methods should be such that only few and minor changes will be required when shifting to an emergency or war status.

b. Radio.—Only the minimum use of radio consistent with the successful accomplishment of the task should be permitted by ships and aircraft.

c. The broadcast (F) method from shore stations is the primary method for delivery of messages by radio to the fleet.

d. The training of personnel in peace must be correct for war.

e. Peacetime indoctrination.—Effective wartime communication security is attainable only by indoctrination in peacetime.

f. Correct methods of operation and correct use of procedure are essential to effective radio communications and tend to nullify enemy attempts at radio deception and jamming.

g. Choice of frequency.—The proper choice of frequency is of the greatest importance in maintaining reliability of radio communications, and lessens the chances of radio interference and interception by the enemy.

h. Rapid communications subject to enemy interception should not be used in wartime when other more secure methods will serve. When communications subject to interception must be used, that method or means most difficult to intercept should be selected.

i. The *three fundamental requirements* of naval communications are *reliability*, *security*, and *speed*. Reliability is always paramount and must never be diminished to meet any conflicting demands of security, speed, or convenience. The relationship between security and speed is by nature elastic and must be balanced according to specific conditions existing.

j. The success of communications depends upon knowledge of when, where, and how to send messages, and can be gained only through a common understanding on the part of all those directly concerned.

k. Radio should not be employed for official communication except where (*a*) essential to fleet operations; (*b*) despite the exercise of proper administrative planning and foresight, mail will not answer the purpose.

Section B. RELATIONSHIP OF COMMUNICATIONS TO COMMAND

1100. GENERAL

1101. Communications are the "voice of command," and as such follow the chain of command. Any naval radio or visual station, afloat or ashore, speaks only for and with the authority of the commander whom it serves. With this authority there is the corresponding *responsibility* of maintaining adequate communications within the command. Since the echelon of command organization is subject to unexpected changes, it is necessary that communications have the same inherent flexibility as does the command organization.

1102. The control of naval radio and landline communications is exercised in accordance with the *Navy Regulations* relative to rank and command.

1103. *Senior officer present.*—The authority of the senior officer present afloat prevails over communications afloat. Similarly, the authority of the senior officer present ashore prevails over communications ashore. Necessary communication coordination between the two shall be effected by the senior officer present, whether afloat or ashore.

1104. *Radio guard ships* have the control authority of the officer by whom they are detailed on the frequencies which they are assigned to guard.

1110. PRINCIPAL RESPONSIBILITIES OF COMMAND

1111. Commanders in chief and other officers, who may be senior officers present afloat, are responsible for controlling and coordinating naval communications for stations and operating forces under their cognizance.

1112. Responsibility of each commander afloat or ashore for that part of the Naval Communication Service under his jurisdiction includes:

a. Supporting the mission and adhering to the policy of the Naval Communication Service.

b. Operating the communication facilities within his command, and complying with the instructions contained herein and with any additional instructions regarding communications issued by responsible senior officers.

c. Regulating, censoring, and when necessary suppressing messages originated under his authority or otherwise submitted for transmission under his control.

d. Granting to all persons permitted to use the service fair and equal treatment during peacetime.

e. Permitting no false, frivolous, or indecent messages, or messages of any other prohibited nature to be handled.

f. Maintaining the inviolability of the contents of all messages, both official and personal.

g. Providing for the safeguarding of all confidential and secret publications issued within his command.

h. Providing for the destruction of confidential and secret publications, as necessary to prevent their falling into enemy hands.

i. Providing for the safeguarding of all secret and confidential correspondence and material.

j. The enforcement of strict radio and visual discipline over all circuits within his command.

k. Requiring all originators of messages within his command to know thoroughly and adhere strictly to the instructions set forth in Chapter 2 regarding the initiating and originating of messages.

l. Maintaining close supervision over the activities of personnel concerned with the handling of mail within his command, including careful attention to notification of proper authorities regarding changes in mail address and the forwarding of mail.

1113. Whenever it is necessary to suspend an established communication service, the responsible officer shall inform all concerned of the nature and probable duration of the suspension.

1114. District commandants and other responsible officers shall keep the Chief of Naval Operations informed regarding changes and interruptions in domestic and overseas cables and radio circuits, Government as well as commercial.

1115. In order to reduce to a minimum the volume of radio traffic between the fleet and its base, visual signal stations should be set up ashore to be employed whenever practicable.

1120. RESPONSIBILITIES OF FLAG AND COMMANDING OFFICERS AFLOAT

1121. In flagships the flag officer shall normally assume jurisdiction over the communication service therein. This does not, however, relieve the commanding officer of the flagship from his responsibility as to the proper internal handling of messages to and from the ship as distinguished from the flag. The flag officer is always responsible for messages originated by flag personnel.

1122. Authority similar to that of commanding officer (to suppress a message) is vested in the senior officers who control circuits. If a senior officer suppresses or unduly delays the transmission or relay of a message, he shall promptly so inform the originator, if practicable to do so.

1123. The commanding officer of a ship, or the senior officer of a group of ships proceeding in company, is at all times and under all circumstances responsible for the communications of that ship or unit.

A ship or unit temporarily operating with a unit other than the one to which regularly assigned shall, for the purposes of communications, be under the purview of the commander of the unit with which then operating unless the senior officer present directs otherwise.

1124. Inspections.—In addition to inspections of communication activities regularly required, commanders in chief and unit commanders should require occasional inspections to be made within their commands by communication officers of their staffs. These additional inspections should be informal and for the purpose of insuring daily efficiency in communications and compliance with existing instructions.

1130. RESPONSIBILITIES OF COMMANDS ASHORE

1131. The naval district commandants are responsible for the operation of the naval communication facilities within their respective commands, and for the control and coordination of communications for stations and operating forces under their cognizance. The details of communications between districts shall be handled, as far as possible, directly between district commandants.

1132. The communication facilities of Naval Transportation Service ships shall be inspected periodically by appropriate officers representing the commandant of the district or navy yard having supervision over those ships.

1133. Inspections.—All inspections will cover operation, personnel, matériel, and records, and should be made by the district communication officer, the radio matériel officer, or other qualified commissioned officer. The second semiannual inspection of all communication stations, or the annual inspection of outlying stations, shall be especially thorough as to matériel features, and if the radio matériel officer does not conduct the inspection, he should participate therein.

Section C. ORGANIZATION OF THE NAVAL COMMUNICATION SERVICE

1200. GENERAL

1201. The Director of Naval Communications under the Chief of Naval Operations, is charged with the preparation, readiness, and logistic support of the operating forces comprising the several fleets, seagoing forces, and sea frontier forces of the United States Navy, insofar as communications are concerned.

1202. Detailed instructions relative to the organization, operation, and administration of the Naval Communication Service under the Director of Naval Communications, shall be contained in the Communication Instructions, United States Navy.

1203. A central communication office established in the Navy Department under the immediate cognizance of the Director of Naval Communications provides direct communication, through shore radio stations, to units afloat and to shore activities—the latter, normally, through the district commandants.

1204. Each naval district maintains facilities for communication with ships and aircraft, between district centers, with the Navy Department, with the Coast Guard, with the Army, and with naval stations serving activities within the district. Special communication arrangements are made when appropriate by the Chief of Naval Operations (Director of Naval Communications) or by the district commandants.

1205. Detailed information concerning the organization of fleet communications is contained in fleet communication plans. The details of the naval shore radio organization are contained in Appendix I to these Instructions.

1210. MOBILIZATION OF COMMUNICATIONS

1211. Communications are, so far as practicable, mobilized for war at all times. Exceptions to certain instructions contained in *Communication Instructions* may be prescribed by proper authority during peacetime for reasons of expediency, economy, or morale. However, in time of war or national emergency, or during fleet problems in peace, such exceptions as may have been made to suit peacetime conditions will be considered as automatically canceled unless the contrary is specifically directed.

Section D. SPECIAL ARRANGEMENTS

1300. FOREIGN MEN-OF-WAR, AND U. S. MEN-OF-WAR IN FOREIGN PORTS

1301. In order to facilitate legitimate communications of Allied naval units when in U. S. ports or strategic sea areas, the use of U. S. naval communications shall be made available to such ships in accordance with the following policy:

a. As a general rule, combatant ships of Allies shall be allowed to communicate between themselves and with their own governments in privacy, using their own codes if desired, by utilizing U. S. naval communication facilities.

b. It is to be expected that such ships will observe the radio silence restrictions currently effective for their location.

1302. Naval commanders may withhold the above-mentioned privilege within areas of their command if it is deemed necessary for military reasons to do so, informing the Chief of Naval Operations as soon as practicable of the request refused and reasons therefor.

1303. Friendly men-of-war visiting in U. S. ports in time of peace shall normally be permitted to use their radio on any frequency requested, *providing* the frequency is one regularly allocated for international use to mobile services, and, further, that no interference with existing U. S. services is likely to result. In case of doubt as to the authorization to be granted, the district commandant shall be consulted.

1304. When U. S. naval vessels visit foreign ports, arrangements for the use of radio while in foreign territorial waters will normally be made with the appropriate local port authorities.

1310. COMMERCIAL FACILITIES

1311. During wartime or emergencies (real or simulated) the Chief of Naval Operations (Director of Naval Communications) may make such arrangements as are deemed necessary to utilize the facilities of the U. S. commercial radio, cable, telephone, and telegraph companies, in order to supplement the existing naval communication facilities. The naval service will be informed as to any such arrangements which may be effected.

1312. Commercial facilities may be utilized at all times by the naval service when naval communication facilities are not available or do not suffice in a particular situation.

1320. PRESS AND CENSORSHIP OF PRESS MESSAGES

1321. *Press* broadcasts, although specifically addressed, may be copied by naval vessels for the benefit of naval personnel only. At a few isolated shore stations this press news may, with the consent of the press association concerned, be furnished to other than naval personnel. Authority for this action should be obtained from the Chief of Naval Operations. All copies of naval press copied by shore stations should be marked:

> For Official Use Only, Please Destroy After Reading. This Press Must Not Fall Into Unauthorized Hands.

1322. *The censorship of press messages* and all details involved in their handling are functions of the commanding officer. This applies to flagships, unless the flag officer definitely assumes some or all of the responsibility hereby assigned to the commanding officer.

a. Commanding officers of ships shall censor press dispatches in order to insure that nothing is released which would reveal confidential information regarding personnel, construction, equipment, methods of training, or strategical and tactical dispositions of fleets and units. He shall cause to be deleted from press dispatches undiplomatic references to foreign powers, remarks derogatory to or critical of other branches of our Government, and any matter which is manifestly libelous, false, misleading, or indecent.

b. In carrying out the provisions of *Navy Regulations*, article 128 (5), commanding officers shall also explain the above censorship restrictions on press messages and that such messages are accepted subject to those restrictions.

c. In order to avoid the appearance of censorship in peacetime, however, commanding officers shall be as liberal as practicable in applying the above restrictions, and any deletions from dispatches or any modifications or rejections should usually be explained to the correspondent concerned.

1323. The charges to be collected, and other detailed information concerning handling of press messages are contained in Appendix III.

1330. RED CROSS MESSAGES

1331. The American Red Cross is entitled to use, without charge, naval communication facilities for sending and receiving messages regarding Red Cross administrative business and emergency welfare messages in connection with the activities, functions, and duties prescribed in *Navy Regulations*. This privilege is subject to the approval, in each specific case, of the commanding officer having cognizance of the communication office to which a message is presented for transmission. While it is desired to comply with the letter and spirit of the privilege granted the Red Cross, commanding officers shall refuse to accept such messages for transmission or relay them when, in their opinion, the circumstances will not permit the handling of such messages without detriment to naval administration or operations. The Red Cross is not entitled to Government rates over commercial lines; therefore, Red Cross messages shall not be accepted for transmission unless delivery can be effected entirely by naval circuits.

1332. Red Cross administrative messages will be incorporated in the text of an unclassified deferred dispatch in naval form, the heading of which shall contain only the call signs of shore radio stations or other activities whose call signs do not require encryption.

1333. Instructions for handling Emergency Welfare Messages are contained in a Communication Standing Order.

1334. When emergencies or disasters occur involving relief work by the Red Cross, the district commandant or senior officer in the area affected may forward Red Cross messages over naval circuits whether in the interest of Army-Navy-Marine Corps-Coast Guard personnel or not, provided such messages will not involve other line charges and are handled as directed in 1331 above. If other line charges would be involved, instructions shall first be requested from the Chief of Naval Operations.

Chapter 2. MESSAGES AND DRAFTING

Section A. PREPARATION OF MESSAGES FOR THE COMMUNICATION OFFICE

2000. THE RESPONSIBILITIES OF THE ORIGINATOR

2001. The originator of a message has certain definite responsibilities in connection with the messages which he delivers to the communication office for transmission. He shall:

a. Determine whether a message is necessary. A message shall not be used when a letter will answer the purpose. *Navy Regulations*, art. 2027 (2).

b. Assign the correct precedence, using mailgram or basegram, as appropriate, whenever possible (art. 2010).

c. Designate whether operational or administrative (art. 2010).

d. List the addressees (art. 2020).

e. Draft the text of the message properly (art. 2030).

f. Determine and designate the proper security classification (art. 2040).

g. Obtain release by an officer authorized to release messages for the command.

2002. The originator, in addition to the above, shall, when required, issue instructions *in the text* for addressees to acknowledge (art. 2050).

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2010. PRECEDENCE OF MESSAGES

2011. The precedence of a message is determined by the subject matter and the time factor involved. It is of the utmost importance that no message be given a higher precedence than is necessary to insure that it reach all addressees in time. If no precedence is designated by the originator, the message shall normally be transmitted as a *deferred* dispatch. Administrative messages shall normally be assigned *deferred* precedence.

2012. Precedence designations.

Designation and use:	Degree of precedence:
a. **"O" URGENT.** Reserved for: 1. Initial enemy contact and initial amplifying reports, or 2. Subsequent contact reports and other messages, sent during actual or imminent combat. This precedence should not be given to messages concerning enemy aircraft except those reporting the approach of formations of aircraft (i. e. 3 or more) or of aircraft seen to be attacking.	**Highest.** Messages designated URGENT will be handled and transmitted in the order received and ahead of all traffic not so designated even to the extent of breaking transmissions thereof already in progress.

NOTE.—*"O" is used by the Coast Guard in peacetime to designate distress traffic.*

b. **"OP" OPERATIONAL PRIORITY.** Reserved for important messages pertaining directly to operations, except ordinary movement reports, which cannot be classified under the definition of URGENT but which nevertheless must be delivered to the addressee as expeditiously as possible in order to be acted upon properly. *This precedence shall be given only to operational traffic.*	**Second Highest.** Messages designated OPERATIONAL PRIORITY will be handled and transmitted in the order received and ahead of all other traffic except URGENT.
c. **"P"* PRIORITY.** Reserved for messages which cannot be classified under definition of URGENT or OPERATIONAL PRIORITY, but which require the addressee's immediate attention upon receipt. *This is the highest precedence that can be accorded administrative traffic.*	**Third Highest.** Messages designated PRIORITY will be handled and transmitted in the order received and ahead of all other traffic except that of higher precedence.
d. **"R"* ROUTINE.** Reserved for messages requiring prompt delivery to the addressee.	**Fourth Highest.** Messages designated ROUTINE will be handled in such order as will clear traffic most expeditiously, with due regard for traffic of higher precedence.

NOTE.—Prosign *R is used only* when *required.* (*See art.* 6236).

e. **"D"* DEFERRED.** Reserved for messages requiring no special precedence, and when delivery to the addressees may be delayed until the beginning of office hours on the day following that on which filed.	**Fifth Highest.** Messages designated DEFERRED will be handled in such order as will clear traffic most expeditiously, with due regard for traffic of higher precedence.

**In wartime, it is necessary to handle operational traffic ahead of all administrative traffic regardless of the relative precedence assigned. Every operational message not assigned a precedence of O or OP should be designated by the originator as operational. If not so designated, the message will be handled as an administrative message and will take precedence as designated but after all operational traffic. Operational messages are defined as those affecting or which may affect movements of ships, aircraft, and ground forces within 48 hours. (See art. 6263, for use of the operating signal QPE to designate operational messages.)*

2013. A reply to a message takes precedence according to its own merit as determined by the originator of the reply. A reply does not necessarily take the same precedence as the message to which it is referring, but, when deemed necessary for operating reasons, the originator of a message may specify the precedence desired for a reply to that message.

2014. The precedence given for delivery to different addressees of a multiple-address message may vary. In many dispatches, a lower precedence can and should be specified for information addressees than that assigned for action addressees. Frequently a dispatch may be sent to some of the addressees by mailgram.

2015. When Government traffic originated by the Navy, War, or State Departments, and the Federal Bureau of Investigation of the Department of Justice is transferred from Navy channels to commercial systems, it may be assigned commercial circuit precedence as follows:

a. **US URGENT.**—To apply to domestic and international messages filed by the War and Navy Departments and to international messages filed by the State Department and the Federal Bureau of Investigation of the Department of Justice.

b. **OP PRIORITY.**—To apply to domestic and international messages filed *only* by the War and Navy Departments.

c. **PRIORITY.**—To apply to domestic and international messages filed by the State, War, or Navy Departments and the Federal Bureau of Investigation of the Department of Justice and to any other domestic message which requires *immediate* transmission for war purposes or to safeguard life or property and which relates to one or more of the following matters:

1. Immediate dangers due to the presence of the enemy.
2. Emergency communications in connection with actual military or naval requirements.
3. Hurricane, flood, earthquake, or other disaster.

Messages designated US URGENT, OP PRIORITY, and PRIORITY shall interrupt the transmission of all telegraph messages of lower precedence.

d. **RAPID.**—To apply to any domestic message which requires *prompt* transmission and delivery for the national defense and security, the successful conduct of the war, or to safeguard life or property and which involves matters of the following type:

1. Important governmental functions.
2. Machinery, tools, or raw materials for war plants.
3. Production, movement, and diversion of essential supplies.
4. Maintenance of essential public services.
5. Supply, movement, and diversion of food.
6. Civilian defense or public health and safety.

NOTE.—*Domestic message means any telegraph message originating in the continental United States and destined to a point in the continental United States, Canada, or Mexico.*

See Plate 1–2 for the wartime agreement as to the equivalent precedence over United States and British military and commercial circuits.

Plate 1–2—TABLE OF PRECEDENCE (PRIORITY) INDICATION EQUIVALENTS

UNITED STATES			BRITISH		
Military Circuits		Commercial Circuit	Military Circuits		Commercial Circuit
Designations	*Symbols*	*Designations*	*Designations*	*Symbols*	*Designations*
Urgent	O	US urgent	Most immediate Emergency enemy aircraft Emergency	OU OA O	Most immediate
Operational priority	OP	OP priority	Immediate	OP	Immediate
Priority	P	Priority	Important	P	Important
		Rapid			
Routine	R		Routine	R	
Deferred	D		Deferred	D	

NOTE.—*1. U. S. precedences are used on U. S. commercial systems and British precedences are used on British commercial systems. Military symbols are used on military circuits and commercial designations are used on commercial circuits.*

2. Appropriate changes in precedence designation are made by the transferring agency when messages pass from one system to another.

3. Commercial precedence designations should be transmitted as the first word of the address. They are transmitted in plain language.

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

5. The designation "Rapid" is for U. S. domestic use only.

2020. ADDRESSEES

2021. Addressees are of two types, *action* and *information*. In the interest of brevity and security the number of addressees shall be kept at a minimum consistent with the requirement that an originator shall make every reasonable effort to foresee and include all addressees who need or will need the information.

2025. DATE-TIME GROUP

2026. This group is expressed as six digits, followed by a zone suffix letter (except when GCT is used) the first pair of digits denoting the date, the second pair the hours, and the third pair the minutes. In abbreviated form the first two digits, denoting the date, may be omitted if not required. The first to the ninth day of the month are represented by Ø1 to Ø9, respectively.

2027. Greenwich Civil Time (GCT-Zone Zero) shall be employed to indicate the time of origin of all communications throughout the Navy.

2028. The time included in the date-time group is the time of origin of a message and is the time at which the message is authorized for transmission. It is normally written by the originator in the space provided on the message blank. If it is not included by the originator it will be added by the communication office, using the time it was handed in for transmission.

2030. THE TEXT OF A MESSAGE

2031. Basic requirements. The text of a message must be clear, accurate, and brief. Brevity, however, must not be attained at the cost of clarity or accuracy. *Messages, after release, are transmitted as drafted.* It is both the privilege and responsibility of the officer who drafts a message to word it so that it expresses unmistakably the thought he desires to convey.

a. Stereotyped phraseology should be avoided in texts which are to be encrypted, particularly at the beginning or end. From a cryptanalytic point of view, *any habit is a bad habit.* However, uncommon phrases and modes of expression must not be carried to the point where the meaning becomes ambiguous or obscure.

b. Redundancy and unnecessary repetition are obstacles to the speed as well as to the security of communications. These, like stereotyped phraseology, may aid the enemy cryptanalyst in his attack on our cryptographic systems.

2032. When a message is to be encoded, the originator should use the exact phrasings of the code book, wherever practicable, in order to avoid the necessity of resorting to spelling and thus of lengthening the message unnecessarily.

2033. Verbatim quotations from periodicals, books, documents, or other messages must be avoided in encrypted messages. When such matter is necessary, it shall be summarized or restated indirectly.

2034. *Punctuation* shall be kept at a minimum and used only when needed to attain clearness.

a. The letter X shall normally be used to represent every mark of punctuation in the text of a message which is to be encrypted. Only when necessary for clarity shall punctuation marks be spelled out. In such cases, abbreviations other than PAREN, PARA, and QUES, are not authorized.

b. Frequent repetition of marks of punctuation, particularly dashes and parentheses, is dangerous from a security standpoint.

c. "Stop" is not acceptable for "period."

2035. Abbreviations are generally desirable, when authorized, in the interest of brevity. However, care must always be exercised to insure that no uncertainty will arise as a result of their use.

a. Only those abbreviations authorized in Appendix V shall be used in the texts of naval messages.

b. Ships names shall not be abbreviated or shortened but must consist of the full official name. In cases where ambiguity might result, the name shall be followed by the official designation consisting of the type designation and number.

2036. *Numerals* in dispatch texts may be written as digits or spelled out, but when reference numbers or call signs are placed in the text, digits are usually preferable. If spelled out, numbers must not be ambiguous. FIVE FOUR SIX is unmistakable, but FIVE FORTY SIX *could* mean 5406. In signal texts numerals must be spelled out.

2037. *Alphabet* letters in dispatch texts shall be expressed by their phonetic equivalents only when an error in one of them might cause serious misunderstanding. Phonetic equivalents shall NOT be used when:

a. Names are to be transmitted. Use J. C. Porter or John Cook Porter.

b. The actual word might better be used: 26° West instead of 26° William.

c. The abbreviation is readily recognizable, such as USCG, USS, CSP, USNR, CNO, NSS, ETA, CVL, DVG, and others.

Phonetic equivalents are desirable in expressions such as "Point Baker," in expressing lettered coordinates, in operation orders, or ordering equipment by letter and number. The phonetic alphabet is given in art. 6403.

2038. *References* in message texts are, for security reasons, to be avoided unless essential to brevity or clarity. When used:

a. They must not habitually be placed at the beginning or end of the text.

b. They will normally consist of *your*, *my*, or the authorized abbreviated title of a third party, followed by the reference number of a dispatch (time of origin or date-time group) or the serial number of a letter, order, or other document.

c. The month may be added, also the year if necessary, for further identification, thus:

YOUR 161421 JUN 43

d. The following abbreviated forms of reference are authorized:

MYDIS (my dispatch)	URDIS (your dispatch)
MYTEL (my telegram)	URTEL (your telegram)
MYMSG (my message)	URMSG (your message)
MYLTR (my letter)	URLTR (your letter)
MYRAD (my radio)	URAD (your radio)
MYSER (my serial)	URSER (your serial)
MYMGM (my mailgram)	URMGM (your mailgram)

e. Care should be taken that the references are available to all addressees. It may be necessary to pass a message to other addressees than those included in the original address before reference can be made to that message. (See art. 6252.)

f. When referring to a message which carries multiple date-time groups, the original reference number shall be used.

g. A radio call sign may be employed in a dispatch text to refer to the message of a third party. Such a reference, when used, shall always be the call sign actually transmitted by the originator, encrypted or plain as the case may be. As a general rule, except for indefinite and shore radio station call signs, the use of call signs in dispatch texts should be avoided.

2039. *The expression of time, day, month, and year* in texts of messages shall be governed by the following rules:

a. The day, month, and year will always be expressed in that order.

b. The month may either be spelled out or abbreviated.

c. All times in the text of a message will be expressed with a zone suffix letter except that in text of messages involving a large number of times, a covering expression such as "all times zone baker" may be used instead of appending a zone suffix letter to each.

TABLE OF TIME ZONES, ZONE DESCRIPTIONS, AND SUFFIXES

Zone	Description	Suffix	Zone	Description	Suffix
7½ W. to 7½ E.	0	Z	7½ W. to 22½ W.	+1	*N
7½ E. to 22½ E.	−1	A	22½ W. to 37½ W.	+2	O
22½ E. to 37½ E.	−2	B	37½ W. to 52½ W.	+3	P
37½ E. to 52½ E.	−3	C	52½ W. to 67½ W.	+4	Q
52½ E. to 67½ E.	−4	D	67½ W. to 82½ W.	+5	R
67½ E. to 82½ E.	−5	E	82½ W. to 97½ W.	+6	S
82½ E. to 97½ E.	−6	F	97½ W. to 112½ W.	+7	T
97½ E. to 112½ E.	−7	G	112½ W. to 127½ W.	+8	U
112½ E. to 127½ E.	−8	H	127½ W. to 142½ W.	+9	V
127½ E. to 142½ E.	−9	I	142½ W. to 157½ W.	+10	W
142½ E. to 157½ E.	−10	K	157½ W. to 172½ W.	+11	X
157½ E. to 172½ E.	−11	L	172½ W. to 180	+12	Y
172½ E. to 180	−12	M			

**Letter N is also used to designate −13; this is to provide for a ship in zone −12 keeping Daylight Saving Time.*

NOTE.—GCT is indicated by suffix Z. Reference should be made to Time Zone Chart H. O. 5192 in order to learn the exact zone boundaries, since they sometimes deviate slightly to accommodate national boundaries, etc. For time midway between zones use both letters.

2040. SECURITY CLASSIFICATION

2041. Messages and correspondence shall be classified *top secret*, *secret*, *confidential*, *or restricted* whenever their contents fall within the definitions of these terms as set forth in article 76 *Navy Regulations*. Each message and each *reply* to a message shall be classified on its own merits, but unclassified replies to classified messages are permitted only to the extent stated in article 2061.

2042. Unless information is secret *in fact* as well as *in nature and definition*, and is likely to remain so for a reasonable length of time, more is risked than is gained by classifying it *secret*. The same principle holds for *confidential* and *restricted* messages.**

2043. The degree of *cryptographic* protection afforded a message is seldom governed by its classification. A cryptographic system frequently carries messages of all three classifications. The primary purpose of classification is to impose restrictions on the internal handling of messages and on the dissemination of the information contained in them. The higher classifications should not be invoked unless there is good reason for compelling addressees to observe the restrictions involved.

2044. The higher classifications lose their significance when overused, and the security of a cryptographic system may be weakened. Only for reasons of administrative privacy may a message be given a higher classification than that justified by its contents.

2045. If a comparatively long message contains only a small amount of classified information, it is usually better to send two messages, one containing the classified information and the other the information which is unclassified. A classified message may refer to an unclassified message, but the reverse is not permissible.

**Since the use in a message of a SECRET code name for a project or operation automatically requires that the message be classified as TOP SECRET or SECRET, it is important that such code names be used sparingly and that they are confined to messages which are inherently SECRET.

596962*—44——4

2046. Dispatch traffic may be transmitted *unclassified* when it falls within the following categories, *provided the information is of no military value to an interceptor and encrypted call signs will not be compromised:*

a. Messages relating to distress or emergencies.

b. Orders to officers and enlisted personnel, messages pertaining to construction, and commercial traffic with nonnaval ships and stations, provided identities or locations of ships in commission are not disclosed.

c. Press material, both naval and commercial, transmitted by shore stations or ships. This will be handled as directed by the responsible officer afloat.

d. General messages, Executive orders, and messages relating to legislation.

e. Official messages of other Government departments.

f. The five one-word replies to classified messages (art. 2061), and acknowledgments which do not compromise the call sign cipher (art. 2050).

2047. The use of a reference to a classified message in one which would otherwise be unclassified may make it necessary to classify the message containing the reference, but not necessarily to give it the same classification.

2048. An unclassified dispatch which will inevitably require a classified reply should be classified. A request for the position of aircraft is an example of this type of message.

2050. ACKNOWLEDGMENTS

2051. *An acknowledgment* is a communication announcing that the message to which it refers has been received and is *understood.* An acknowledgment should not be confused with a reply. A reply may serve in lieu of an acknowledgment.

2052. Acknowledgments to messages shall normally be made *only when requested.* The authority of the addressee or his authorized representative is required for an acknowledgment to be sent.

2053. Acknowledgments shall not ordinarily be required. Naval communications are sufficiently reliable to justify the expectation that a message filed for transmission will be duly delivered to all addressees. Acknowledgments increase the number of messages, and, if transmitted by radio, may disclose information of fleet organization, weaken the security of call signs, and permit the enemy to take radio bearings.

2054. Acknowledgment of a message in normal form may be obtained, when necessary, by means of a request within the text. After transmission, acknowledgment may be requested by means of an operating signal or by a subsequent message. For acknowledgment of a codress message, a subsequent codress message is preferable. Examples of acknowledgments in both normal and abbreviated naval form are shown in article 6314.

2055. When acknowledgments for general messages are required they shall be made through the chain of command. Acknowledgments to immediate superiors through the chain of command shall not be delayed because of nonreceipt of acknowledgment from a few subordinates, but shall be made promptly, stating the exceptions. Acknowledgment for the excepted units should be made as soon as possible thereafter.

2056. Acknowledgment of a message, when requested, is made by the word "your" or the radio call sign actually used to represent the originator, plus the date-time group or reference number. Such an acknowledgment need not be classified. Acknowledgment may also be made by means of an operating signal. In case of a letter or other written communication, the serial number and date will normally be the reference number.

2060. REPLIES, ANNULMENTS, CORRECTIONS, AND VERIFICATIONS

2061. When a dispatch replying or referring to an encrypted plaindress dispatch can be condensed into a reference plus one or more of five authorized expressions, it may be so worded and sent in plain language. IT SHOULD BE RECOGNIZED THAT THE ENEMY CAN USE THIS DEVICE TO CONFUSE OUR FORCES. An encrypted reply is safest and must be used when replying to a *codress* message including modified plaindress messages in which the identity of the actual originator was concealed in the text; an authenticated plain language reply is next in preference; and plain language is least preferred when sent by exposed means of communication. The five authorized expressions are:

a. AFFIRMATIVE—means "yes," "permission granted," "granted," "authorized," "concur," "approved," "recommend approval," "action completed," and equivalent expressions.

b. NEGATIVE—means "no," "permission not granted," "not granted," "not authorized," "do not concur," "not approved," "do not recommend approval," "recommend disapproval," "action not completed," and similar phrases.

c. INTERROGATORY—means "question," "I do not understand," "need more information," "meaning not clear," and similar expressions.

d. COMPLY—includes "will comply," "have complied," or "you are to comply," according to the contents of the message to which it refers.

e. LETTER—includes the meanings, "letter follows," "replying by letter," "by letter," and "reply by letter."

To any of these may be added "by mail," "by airmail," "by guard mail," "by dispatch," "by priority dispatch," and similar phrases.

2062. Annulments.—After the transmission of a message has been completed, it can be canceled only by sending a new dispatch or signal which directs such cancelation. Except on tactical circuits, and then normally only when authenticated, a plain language dispatch transmission shall not be used for cancelation of an encrypted message. A cancelation may be included in the dispatch which takes the place of the one canceled, or it may be sent separately. Only the *originator* may cancel a message. The method by which a message may be canceled during transmission is explained in article 6220. It should be noted that the operating signal meaning, "Take no further action in regard to forwarding this message" does *not* cancel that message.

2063. Corrections.—Circumstances sometimes arise in which it becomes necessary to change the substance or phraseology of a message after it has been transmitted. Small changes can usually be made by means of a new message containing corrections to the original message. When the change is large, it is advisable to cancel the original message.

2064. Verifications and repetitions.—Requests for verifications, repetitions, and corrections shall be kept at a minimum consistent with reliable communications in order to avoid overloading circuits and in the interest of communication security. Careful attention to detail on the part of communication and coding personnel, coupled with good operating technique over naval circuits, will do much to reduce the number of service messages required to effect the correct delivery of a message to the addressees. Resort by coding officers to initiative and ingenuity in the clearing of apparent garbles in encrypted texts will result in less need for initiating requests for corrections or verifications. When necessary, correction, verification, or repetition may be obtained by the use of appropriate procedure signs or operating signals in the form of procedure messages. (See art. 6313.) In some cases, it may be desirable or necessary, as in the case of some codress-type messages, to draft a complete dispatch requesting the information desired. In either case, the officer making the request must supply the originator with all information available or necessary which will aid him in locating the message or source of difficulty.

Section B. FORMS AND PARTS OF MESSAGES

2100. BASIC FORMS

2101. A message in any form has three parts: heading, text, and message ending. The principal difference between the various forms lies in the variations of headings employed.

2102. It is the duty of the communication office to take the message, as prepared by the originator—with classification, precedence, and addressees specified—and prepare it for transmission in proper form in accordance with the instructions which follow. The communication office translates originator and addressee into their proper encrypted or unencrypted call signs or buries them in the message text, and provides the operating signals and prosigns needed to carry out the intentions of the originator.

2103. A message may be drawn up in one of the following forms:

a. Naval or military form.
   1. Plaindress—normal.
   2. Modified plaindress—normal (U. S. Navy only).
   3. Plaindress—abbreviated.
   4. Modified plaindress—abbreviated (U. S. Navy only).
   5. Codress.

b. Commercial form.
   1. International.
   2. Domestic telegraph.

c. Special merchant ship—BAMS form (for wartime use).

2104. Commercial forms are fully discussed in Appendix III, with instructions as to when these forms shall be used. The special BAMS form is designed for communication to Allied merchant ships by the broadcast method during wartime or emergencies. It is described in detail in Appendix VIII.

2110. NAVAL FORMS

2111. *Combined Radiotelegraph (W/T) Procedure* provides two types of message, *plaindress* and *codress*. In order to employ the desirable features of both *plaindress* and *codress* in the same message a third type of message, termed *modified plaindress*, is authorized for use within the U. S. Navy only.

2112. Plaindress.—The components of a normal form *plaindress* message are shown on Plate 2–2. The following components are fixed by the originator and may not be changed by others:

a. Precedence.
b. All components included in the address.
c. All components included in the message instructions.
d. Text.
e. Date-time group in message ending.

Plate 2–2—**COMPONENT PARTS OF A MESSAGE IN NAVAL PLAINDRESS—NORMAL FORM**

		COMPONENT PARTS	CONTENTS
HEADING	CALL	CALL	Call sign(s) of station(s) called. Prosign **N,** call sign(s) of exempted station(s). Prosign **V,** call sign of transmitting station.
	PREAMBLE	PRECEDENCE (SERIAL NR. (IF ANY))	Prosigns **O, OP, P, R, D.**
		TRANSMISSION INSTRUCTIONS	Prosigns **F, G, N, T,** operating signals and call signs. (SERIAL NUMBER (IF ANY))
	ADDRESS	ORIGINATOR'S SIGN	Prosign **A.**
		ORIGINATOR	Call sign.
		DATE–TIME GROUP	6–figure group (with zone suffix if required).
		ACTION CALL SIGN(S)	Call sign(s) of action addressee(s).
		INFORMATION SIGN	Prosign **W.**
		INFORMATION CALL SIGN(S)	Call sign(s) of information addressee(s).
		EXEMPT SIGN	Prosign **N.**
		EXEMPT CALL SIGN(S)	Call sign(s) of exempted addressee(s).
	MESSAGE INSTRUCTIONS	OPERATING SIGNALS	Operating signals conveying instructions to all addressees.
		GROUP COUNT	**GR** and the number of groups.
		LONG BREAK	Prosign **BT** (or prosigns **IX BT**).
TEXT		TEXT (Subject matter)	Plain language, code or cipher groups.
MESSAGE ENDING		LONG BREAK	Prosign **BT.**
		DATE–TIME GROUP	6–figure group (with zone suffix if required).
		FINAL INSTRUCTIONS	Appropriate prosigns and/or operating signals and call signs.
		ENDING SIGN	Prosign **K** or prosign **AR.**

2113. Modified plaindress. The heading of a modified plaindress message has the same component parts as a plaindress heading. It differs in one or both of the following respects:

a. The actual originator is represented in the heading by an indefinite or shore radio station call sign, and identified in the text.

b. Any or all actual addressees are represented in the heading by collective or shore radio station call sign(s) and identified in the text.

Transmission instructions may appear in either the heading or the text. The call may contain indefinite or shore radio station call sign(s). The call, serial number, and transmission instructions are the only parts of the heading which may be changed, except by the originator.

2114. Plaindress or modified plaindress—abbreviated form. For situations in which speed of transmission is all important, such as enemy reports, short messages from aircraft, and tactical messages, an abbreviated form of plaindress and modified plaindress is provided. This form permits omission of any or all of the following: group count, date, time group.

2115. Codress. A codress message carries in the encrypted text the entire address—originator, action and information addressees. The heading consists only of the following items:

a. The call.
b. Serial number, if any.
c. Precedence prosign, if any.
d. Transmission instructions, if any.
e. Date-time group.
f. Operating signals, if any.
g. Group count.
h. Long break.

Transmission instructions may appear in either the heading or the text. The call may contain indefinite or shore radio station call sign(s). The call, serial number, and transmission instructions are the only parts of a codress heading which may be changed, except by the originator.

2116. Use of plaindress.

a. Plaindress has the obvious operational advantage of indicating the addressees in the heading where they may be quickly recognized without decrypting the text. This feature is of particular advantage when it is necessary to refer to messages for the purpose of reply, correction, verification or repetition. Moreover, the message text is not lengthened or complicated by the addition of originator, lists of addressees, and, in some instances, delivery instructions. The chief disadvantage is that, when used, plaindress reveals information which may be valuable to enemy traffic analysts.

b. Plaindress shall invariably be used for tactical messages, plain language messages, and in circumstances where speed in handling is a primary consideration.

2117. Use of modified plaindress.

a. Intelligent use of modified plaindress can, in some instances, provide better security than codress. If a collective call sign is used to conceal an addressee, it is impossible for an enemy cryptanalyst to be certain that the addressee is further identified in the text. Since addressees may be in either the heading or text, a modified plaindress message may contain many more addressees than the heading indicates. The fact that addressees are contained in the text is not definitely established when using a modified plaindress heading as it is when a codress heading is used.

b. Modified plaindress permits variations in the method of handling *any one* message, as shown in article 6291. A thorough study of the various possibilities is necessary in order to use the form which will produce the maximum security and still be consistent with the speed of delivery required. The considerations listed under codress in the next article apply in large measure to modified plaindress also.

c. Indefinite and shore radio station call signs should be used as extensively as practicable in modified plaindress headings. If the originator and all actual addressees are to be concealed, codress is preferable, and nothing is gained by using modified plaindress.

2118. Use of codress.

a. Reasons for using codress may be summarized thus:

1. The primary purpose of codress is to conceal originator, addressees, and call sign patterns in enough instances to frustrate statistical studies by enemy traffic analysts. Because a codress heading contains only such call signs as are necessary to effect delivery *on any one transmission*, all transmissions of the same dispatch must be intercepted before the call sign pattern can be established.

2. Use of codress reinforces the security of encrypted call signs required in plaindress and modified plaindress messages by reducing the number available to enemy cryptanalysts for attack.

3. A message in codress or modified plaindress will usually have a longer text and a shorter heading than the same message in plaindress form. This is an advantage when an electric cipher machine is used, because the time required to encrypt or decrypt the longer text is apt to be less than that required to encrypt and decrypt numerous calls. Furthermore, a garble in the text is easier to clear than one in the heading.

4. Codress offers the most practicable means of delivering a message to several addressees who do not hold a common call sign system.

b. If sufficient instructions for each transmission of a codress message are given *in the heading*, no radio station will have to decrypt the message merely to find out what to do with it. Codress then has the same speed as plaindress or modified plaindress and is suitable for operational as well as administrative traffic. Article 2140 explains the use of transmission instructions fully.

c. A study of each addressee in the light of the following considerations will be helpful in using codress intelligently:

1. If the originator or one of the addressees can deliver the message *by mail or wire* to information addressees buried in the text, concealment is attained, and reconstruction of the complete call sign pattern is practically impossible. *Addressees served by mail must not be indicated in the heading, however.*

2. If an addressee is served by a shore radio station (or wire room) coding board, concealment is attained by using the shore radio station's call in the heading, and no time is lost through the use of codress. When a shore radio station called is expected to decrypt a message as well as to relay it, that station's call must be included in the transmission instructions.

2119. *Procedure messages referring to messages in which the actual originator has been concealed in the text* shall not be addressed to the actual originator by his specific call sign. If a procedure message is used, it should be addressed to the last station transmitting the message and refer, whenever practicable, to the serial number of the message concerned. If this procedure is not practicable in certain instances, then another encrypted message, bearing no outward relation to the original one, must be sent addressed directly to the actual originator.

2120. CALL SIGNS

2121. A call sign is a group of letters, numerals, or both, assigned to an activity to represent that activity in the headings of messages.

a. An *individual* call sign is a call sign representing a single station, unit, command, or other activity.

b. A *collective* call sign is a single call sign representing two or more individual call signs.

c. A *net* or *group* call sign is a collective call sign covering all stations in a net or group on the same frequency.

d. An *indefinite* call sign is one which indicates no specific station and may represent any station or any of a group of stations.

2122. U. S. Navy call signs are assigned in accordance with the following plan:

a. Four-letter pronounceable. Assigned to commands based ashore and to commands and activities of the shore organization.

b. "Letter numeral letter" and *"Letter letter numeral letter."* Assigned to commands of the sea-going organization of the U. S. Fleet.

c. Three-letter call signs the first letter being N assigned to radio stations (shore, D/F and aviation).

d. Four-letter call signs the first letter being N assigned to individual ships of the U. S. Navy and Coast Guard. They are also known as the ship's international radio call signs and may serve as signal letters.

e. Five-letter call signs the first letter being N assigned to airships.

f. Call signs consisting of *two, three,* or *four numerals* plus a *letter* are assigned by blocks to aircraft.

g. Other combinations of *letters, numerals,* or *both* are used as visual call signs for ships, aircraft, tactical organizations, and task forces.

h. Further information regarding assignment of call signs will be found in the *U. S. Navy Call Sign Books.*

2123. Additional call signs are assigned for use as follows:

a. Joint Army-Navy call signs are prepared and issued as necessary by the responsible commander in an area. Their use is limited to the area concerned, and care must be exercised to avoid confusion with regularly assigned Navy calls.

b. Combined call signs are listed in a confidential publication for Allied warships, commanders, and activities. They shall not be enciphered unless special arrangements are made. They should never be used in the same heading with the U. S. Navy call signs if this can be avoided.

c. International call signs are the basic, permanent four-letter call signs of ships. The first letter or the first two letters indicate the nationality of the ship. The letters K, N, and W are assigned to the United States, the entire N block being held by the U. S. Navy.

H. O. 87, *International Code of Signals*, shows in detail the allocation of these call signs or signal letters. The international call signs of all U. S. merchant vessels of 500 tons or more are listed in *International Call Signs of U. S. Merchant Vessels of More than* 500 *Gross Tons Licensed for Radio Communication*, a publication issued by the Chief of Naval Operations. Wartime call signs are extensively used by merchant ships in lieu of international call signs to conceal their identity.

2124. 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. Care must be exercised to avoid separating double calls and groups of related call signs which are interdependent.

Example:

Call sign: WALL BELT BOGY
Meaning: Port Director: New York, N. Y.; Galveston, Tex.

2130. ENCRYPTION OF CALL SIGNS

2131. The encryption of U. S. Navy Radio Call Signs transmitted by radio will be governed by the following instructions.

a. Encrypt the following (see exceptions in paragraph *b*).

1. Call signs of ships (four letter international N Call signs).
2. Call signs assigned to units and commands of the tactical and administration organization of the sea-going forces of the U. S. Fleet.
3. Task organization call signs (*Visual Call Sign Book*) (Section 4)

b. Do Not Encrypt:

1. Call signs of fleet service force commanders, commander aircraft service units, sea frontier commanders and training commands.
2. Call signs assigned to units and commands having a place name included in the meaning:

Example:

(*a*) SOPA Hampton Roads, Va.
(*b*) COMFAIR, Alameda, Calif.

3. Those collective call signs whose meanings start with the word "All".

Example:

(*a*) All Ships Eastern Sea Frontier.
(*b*) All DD, DE, PF and AD PACFLT.

4. Individual aircraft call signs.
5. Temporary call signs assigned for specific operations.
6. Call signs used in actual or imminent combat when utmost speed is imperative, even at the expense of security.
7. Compound call signs. Call signs which are normally encrypted and are used to complete a compound call sign, however, will be encrypted.

Example:

(*a*) Detachment of *"Fleet Air Wing Six"* at *"Noumea."*
Detachment of____at____(not encrypted).
Fleet Air Wing Six (encrypted).
Noumea (not encrypted).

(*b*) COMCARQUALTRAUNIT at *"Norfolk"*.
COMCARQUALTRAUNIT at ____ (not encrypted).
Norfolk (not encrypted).

8. Call signs assigned to offices and commands of the shore establishment of the Navy.

Example:

(*a*) Commandant 12th Naval District.

(*b*) Chief of Naval Personnel.

9. Shore radio station call signs.

10. Indefinite call signs.

Example:

(*a*) "Any or all ships."

(*b*) "Any ship at scene of action."

11. Call signs of minor vessels attached to local naval defense forces.

12. Call signs transmitted on limited range radio which utilizes frequencies above 5Ø megacycles.

2132. Radio call signs which are normally encrypted when transmitted by radio need not be encrypted when transmitted by landline provided the originator is assured that complete delivery to all addressees can be effected entirely over landline.

2133. When required to *service a plaindress* dispatch containing the *encrypted* call sign of the originator, it is preferable in the interests of reliability and security to draft an encrypted dispatch requesting the desired service. If a procedure message is used to service such a dispatch, the following rules will apply:

a. If the date of a service is the same as that of the dispatch being serviced, and if encryption is required, the same date shall be used to encrypt the additional call signs necessary to transmit the service.

b. If the date of a service is *subsequent* to the date of the dispatch being serviced, call signs utilized to transmit the service, if requiring encryption, shall be encrypted according to the new date. A date-time group is therefore required, in such an instance, to show the date on which additional call signs were encrypted.

2134. If a plaindress dispatch *with enciphered calls* is to be transmitted to an addressee not in the original heading (i. e. *double-headed*) the following rules shall be observed:

a. The original heading, after the prosign A, must not be changed, whether call signs are encrypted or not.

b. The supplementary heading must be complete with originator, addressee(s) and date-time group. Encryption of call signs in the supplementary heading shall be in accordance with article 2131, using the date indicated in the supplementary heading.

2140. TRANSMISSION INSTRUCTIONS

2141. Transmission instructions have to do with the routing, relaying, and delivery of a message. They may be omitted or altered, as appropriate, by any relaying station. They consist of procedure signs and operating signals as necessary, the uses of which are explained in Chapter 6, Section C.

2142. Whenever the originator of a message is not in direct communication with all addressees, transmission instructions must be included either in the heading or the text; otherwise nondeliveries will result. A radio station is automatically responsible for delivery only to those addressees who are served by the coding board at that station and not for those addressees for whom it acts as a circuit relay station. As an example, NSS acts as a relay station for all activities in the Washington area, but its coding board serves only COMINCH and the bureaus of the Navy Department. Transmission instructions must be included when it is desired that NSS deliver to such activities as NYD Washington, or NAS Anacostia.

2143. Transmission instructions, preferably in the heading, should always be used in doubtful cases. This is especially true in the case of commands afloat, which may move without promulgating information regarding their movement. When transmission instructions are included in the heading, relays can be effected without appreciable delay. If transmission instructions are in the text, delays should be expected since the text must be decrypted before relays can be effected. Transmission instructions in the text must be specific, especially in cases where two or more stations are required to pass to different addressees. The prosign T, when used alone, applies only to those addressees whose call signs appear in the heading.

2144. *Unless it is definitely known that the coding board at a radio station serves an addressee, specific transmission instructions for that station to deliver to the addressee must be included either in the heading or text.*

2150. THE ADDRESS

2151. The address is fixed by the originator and may not be altered by any other station. When appropriate, the *exempted* sign N, followed by the call sign(s) of station(s) exempted from a collective call, may be employed. See art. 6232.

2152. The address of an encrypted plaindress message may appear in both the heading and the text for the sake of clarity and to prevent the delay in delivery which would be caused by an error in the heading. This must never be done in plain language dispatches if encrypted calls are used in the address.

2160. MESSAGE INSTRUCTIONS

2161. Message instructions are prescribed in the originator's communication office and shall not be altered by any other station. They are usually omitted from procedure messages when a date-time group is not used. They comprise:

a. Operating signals which convey instructions to *all* addressees.

b. Execute to follow (**IX**).

c. Group count.

d. Long break (**BT**). This is the last item in both the message instructions and the heading.

2170. MESSAGE ENDING

2171. In addition to the long break and repetition of the date-time group, the message ending may contain appropriate prosigns and/or operating signals and call signs before the *end* sign **AR** or **K** is transmitted.

Section C. CLASSES OF MESSAGES

2200. ADMINISTRATIVE CATEGORIES

2201. Messages handled by the Naval Communication Service are, for administrative purposes, particularly accounting, divided into classes as follows:

a. Government messages:

Class A. Official messages originated by the Navy, or official Army messages entering Navy circuits, and replies (except Government) thereto.

Class B. Official messages of U. S. Government departments other than the Navy or Army.

Class C. Broadcast messages in special arbitrary forms available to ships of all nationalities and data consisting of special services, such as hydrographic, weather, and time.

b. Nongovernment (private) messages.

Class D. Commercial (including press) messages.

Class E. Private messages to or from naval personnel which are handled without charge over Navy circuits.

2202. Class A. All Class A messages *except the following* shall be in *naval form* and shall be so transmitted over Navy [redacted] circuits:

a. Those addressed to non-Navy and non-Army addressees.

b. Those addressed to Navy or Army addressees at points where there is no Navy or Army communication office, or where in any case it is necessary to transfer the messages to a commercial system to effect delivery.

c. Those from naval activities at points where there is no naval or Army communication office, which require forwarding over Navy or Army circuits.

d. Those handled throughout over commercial circuits.

2203. Class B. All Class B messages shall be transmitted over Navy circuits free of charge in commercial form.

2204. Handling Class A and B messages over commercial systems.—When it is necessary to transfer a Class A or Class B message to a commercial system the following rules apply:

a. When transferred by a Navy communication office within the U. S. and addressed to points *in* the U. S., Alaska, Canada, or Mexico, domestic form with domestic check shall be used, and the *actual* point of origin added to the signature.

b. If addressed to points *outside* the U. S., Alaska, Canada, or Mexico, international radiotelegram or cablegram form shall be used, with the *point of refiling* as the origin, and the point of actual origin added to the signature.

c. When a dispatch in naval form (Class A) must be sent through a system not employing naval procedure, *for further transmission by a naval system*, the dispatch in naval form complete with heading may be embodied as the text of a commercial dispatch.

d. Complete details as to commercial form, procedure, abstracting, and handling of Government messages by commercial systems are contained in Appendix III.

2205. Class C. All Class C messages are handled in special forms which are, in general, different for each type of broadcast transmission.

2206. Class D. All Class D messages are private messages on which full charges are collected from the individual, for transmission over the *entire route*. They shall always be in commercial form. When handled on Navy circuits they are *serviced* by Navy procedure but

the commercial form of the message shall *not* be changed. All ship stations, and some naval shore stations, as listed in Appendix I, are open to commercial traffic. Therefore, even when a message is regarded as not meriting the privilege of free transmission on Navy circuits, the sender may be permitted, providing radio conditions warrant and the message is not otherwise objectionable, to send it by paying the usual charges for a commercial message.

2207. Class E. All Class E messages are personal messages to or from naval personnel on which no charges are made for handling over *Navy circuits*. Charges are collected from the individual only when commercial systems are involved in the transmission or delivery of these messages. The privilege of sending Class E messages may be extended to other Government departments when specifically authorized by the Chief of Naval Operations. Information as to the Government departments which have been accorded this privilege will be promulgated as required. Full details on the forms and handling of Class E messages, on which *charges are involved,* and for Class D messages, are contained in Appendix III.

2210. RULES FOR ACCEPTANCE OF CLASS E MESSAGES

2211. The *privilege* of Class E messages is primarily for the purpose of morale in affording naval personnel at sea a means of communication for important personal matters without incurring prohibitive expense. In general, this privilege should be used sparingly. Whereas under certain circumstances a few isolated messages might not be objectionable, a considerable volume might be prohibitive; furthermore, equal treatment should be accorded all persons concerned. The privilege is not available between points on shore within the United States.

2212. Class E messages are accepted by the Naval Communication Service subject to censorship at the point of acceptance and to such delay in transmission or delivery as circuit conditions and other circumstances may require. In time of war they shall be handled in accordance with *Censorship Regulations, U. S. Navy,* and any further restrictions which may be imposed by responsible authority.

2213. Under ordinary circumstances the following subjects are acceptable or not acceptable for Class E messages as indicated:

a. Acceptable:

1. Matters of life and death, and serious illness.
2. Matters of personal arrangements or important personal business, not of a recurrent nature.
3. Occasional greetings on important personal anniversaries.

b. Not acceptable:

1. Trivial or frivolous messages.
2. Messages of unnecessary length.

3. Holiday or anniversary greetings, other than those specifically permitted above.

4. Ordinary congratulatory messages.

5. Frequent or recurrent messages pertaining to the conduct of a commercial venture.

2214. Class E messages from shore.—Personal messages addressed to naval personnel at sea may be accepted by naval communication offices ashore, under the policy set forth in articles 2211–13, for delivery as Class E messages.

a. In time of war or emergency (real or simulated), they shall normally be forwarded as basegrams or mailgrams as determined by the responsible officer at the point of acceptance.

b. In time of peace, radio may be utilized for transmission direct to the ship concerned at the discretion of the responsible officer at the point of acceptance. When transmitted by radio, however, they shall not be accorded a precedence higher than deferred except in the most unusual circumstances.

2215. Between ships and ships to shore.—The privilege of Class E messages as extended between ships and from ships to naval personnel ashore attached to a naval station is under such restrictions as may be prescribed by commanders afloat. The following example is given to illustrate a typical Class E message, not involving charges:

Commander Door, USS MASSACHUSETTS (call sign **NEPL**) sends to Lieutenant Noble, USS BOSTON (call sign **NAWP**) as follows:

NAWP V NEPL 1218Ø5 GR 14 $\overline{\text{BT}}$ MSG LT NOBLE
WILL YOU HAVE DINNER WITH ME TONIGHT
AT 19ØØ COMDR DOOR $\overline{\text{BT}}$ $\overline{\text{AR}}$

2216. Nothing in these instructions shall be considered as modifying in any way the commanding officer's absolute right of censorship over *all* messages leaving the ship or station.

Section D. SPECIAL REPORTS

2300. ENEMY REPORTS

2301. Enemy reports are divided into two main categories, *contact* and *amplifying.*

2302. A *contact report* is a report of the enemy by ship or aircraft in contact with the enemy by visual, sound, or radio. The first such report is termed the "initial contact report" and is readily identified by the precedence sign O in the heading.

2303. *An amplifying report* is a report made subsequent to the initial contact report, and contains additional information of the enemy.

2304. Detailed information concerning the handling of *enemy reports* is contained in *War Instructions* and fleet communication plans.

2310. MOVEMENT REPORTS

2311. *In time of war,* movement reports of ships shall be made only as directed by responsible fleet or force commanders, with due consideration to the security of the movement and the system of transmission available.

2312. *In time of peace,* a standard system for reporting arrivals and departures may be prescribed by the Chief of Naval Operations, and when prescribed will be appended to the *Communication Instructions.*

2313. *Special instructions* pertaining to certain movement reports required of *aircraft* are contained in Appendix VI.

2320. WEATHER REPORTS

2321. Ships, patrol aircraft, and long-range utility aircraft, operating under orders or circumstances requiring radio silence, or a modified condition thereof, which are nevertheless *obliged* to use radio at sea to transmit any encrypted message, except an initial contact report, will append thereto a weather report, provided:

a. That the message will not be unduly delayed thereby.

b. That the message already contains the position of the reporting ship or aircraft, or

c. That the reporting ship or aircraft is reasonably certain that its position is known within 30 miles by the addressee who is responsible for forwarding the weather report.

2322. No more than one appended report need be made in any 12-hour period by a ship or in a 4-hour period by an aircraft unless a material change in the weather occurs and not then if it is known that another ship or aircraft in company has made a weather report.

2323. Ships and aircraft which are less than 50 miles from a United States port or base are not required to make the foregoing report except when unpredicted or dangerous weather conditions are encountered.

2324. If the original message includes a shore addressee, this addressee will promptly extract the weather data and combine it with the position, to the nearest degree, of the reporting ship or aircraft, as taken from the message or as determined from the local plot of the known track, and forward it as a routine message to the nearest of the following authorities, or as otherwise directed by the fleet commander in the area concerned:

Navy Weather Control, Washington, D. C.	COMTWELVE
NAS, Kodiak, Alaska	COMFOURTEEN
NAS, Argentia, Newfoundland	COMFIFTEEN
	COMSOPAC
	COMSOWESTPAC

2325. In case there is more than one shore addressee, the addressee nearest to one of the above listed authorities will be responsible for forwarding. If addressees are in the same locality, the senior one should forward the weather report. Any shore addressee in doubt as to responsbility should forward the report.

2326. If the original message includes only addressees afloat, the senior of such addressees will forward the position, to the nearest degree, of the reporting ship or aircraft and the weather data, as a routine message, to the nearest of the authorities listed in article 2324:

a. Immediately, if the message can be placed in the shore communication system without using radio, or

b. On the first occasion when radio can, or must, be used with shore except for an initial contact report, and provided the weather report is not more than 6 hours old.

2327. The name or call sign of the original reporting ship or aircraft should never be included in the forwarded weather report. The time of origin on such a report should be approximately that of the original message, but never the same.

2328. Detailed instructions as to composition and encryption of appended weather reports are contained in the appropriate CSP.

Section E. GENERAL MESSAGES

2400. CHARACTERISTICS

2401. Messages having a wide standard distribution are termed General Messages. They are assigned an identifying title, and usually an originator's serial number, in a sequence which covers a calendar year. The serial number follows the date-time group in the heading and is separated therefrom by the slant sign. A call sign is provided in the *Navy Call Sign Book* for each type of general message.

2402. Plate 3–2 lists each type of general message, together with the officer authorized to originate the message, and the addressees. *Such addressees* are responsible for further dissemination within their commands as necessary.

Plate 3–2.—GENERAL MESSAGE CHART

TITLE AND ORIGINATOR

ADDRESSEES	ALNAV (SECNAV)	ALLANT (CINCLANT)	ALPAC (CINCPAC)	NAVOP (CNO)	US FLEET (COMINCH)	ALNAVSTA (SECNAV)	ALCOM (CNO DNC)	ALCOAST (Comdt. C. G.)	ALASTA	ALPASTA	ALSTA-CON	ASTA
SEA FRONTIER COMMANDERS Fleet, force, type, squadron, division and detachment (including task force, group and unit) commanders.	All	Atlantic	Pacific	All	All		All					
~~Sea frontier commanders~~ BASE GRAM DELIVERY AUTHORITIES	All	Atlantic	Pacific	All	All	ALL	All	ALL				
Commanding officers of all naval ships in commission (other than vessels attached to districts, stations, and yards).	All	Atlantic	Pacific	All	All		All					
Prospective commanding officers of naval vessels fitting out.	All			All								
Missions, attachès, observers	All											
Commandants of naval districts, river commands and air training commands.	All	Atlantic	Pacific	All		All	All		All [1]	All [2]	All [3]	
Major and minor shore stations	All	Atlantic	Pacific	All	All under COMINCH.	All	All under COMINCH.		All [1]	All [2]	All [3]	All in district or area specified.
Naval operating bases	All	All under CINCLANT.	All under CINCPAC.	All	All under COMINCH.		All					
Bureaus and offices of the Navy Department	All					All						
Marine Corps activities	All	Atlantic	Pacific	All	All under COMINCH.	All permanent shore activities.	All under COMINCH.				All [3]	
Coast Guard activities	All			All		All stations		All	All [1]	All [2]	All [3]	
Shore radio stations	All			All		All	All		All [1]	All [2]	All [3]	All in district or area specified.
Minor shore activities	All					All			All [1]	All [2]	All [3]	

NOTES

a. The Navy is responsible for delivery of ALCOASTS to all Coast Guard units operating directly with the Navy.
b. ALASTAS, ALPASTAS, ALSTACONS, and ASTAS do not carry an originator's serial number.
c. ALNAVS, ALNAVSTAS, and ALSTACONS *will not* be sent as classified messages, except as mailgrams.
d. ALNAVS sent other than as mailgrams will be confirmed in the Navy Department Bulletin. ALCOMS will be confirmed in appropriate RPM, NRPM, CSPM, or CRPM. *Shore station general messages* will not be confirmed.

[1] All within Naval Districts 1, 3, 4, 5, 6, 7, 8, 9, 10, and 15.
[2] All within Naval Districts 11, 12, 13, 14, 15. and 17
[3] All within continental U. S.

557048—43 (Face p. 2-26)

Chapter 3. THE FUNCTIONS OF PERSONNEL ASSIGNED TO COMMUNICATION DUTIES

Section A. RESPONSIBILITIES AND DUTIES

3000. GENERAL

3001. Communication officers are responsible to their commanding officers for effecting reliable, secure, and rapid communication within the command. In order to carry out this responsibility efficiently they must have as thorough a knowledge as possible of the following subjects:

a. The organization and administration of the Navy ashore and afloat.

b. Communication facilities of the Navy, of other government departments, and of commercial and foreign organizations.

c. General conduct of mobile radio communication—naval, commercial, and merchant ship.

d. Radio wave propagation.

e. Radio direction finding, and radio aids to navigation.

f. Cryptographic systems—their construction, use, protection, and susceptibility to compromise.

g. Signals, tactics, and war operations.

h. The *Estimate of the Situation*, and *Formulation of Directives*.

i. Mail service, foreign and domestic.

j. Censorship instructions, and regulations governing press representatives and war correspondents.

k. Handling of commercial and press traffic.

3010. REQUIREMENTS

3011. All officers performing communication duties shall:

a. Be thoroughly familiar with these instructions and with such additional communication plans or instructions as are from time to time issued by responsible commanders afloat and ashore.

b. Be cognizant of combined and joint communication arrangements to the end that such communications may be conducted smoothly and effectively at any time.

c. Safeguard the security of communication publications, equipment, and cryptographic aids under their care.

d. Know the capabilities and limitations of the equipment under their cognizance.

e. Know the *General Signal Book*, *Call Sign Book*, and associated publications.

f. Be thoroughly familiar with the provisions of the *Registered Publication Manual* regarding stowage, correction, destruction, and accounting for secret and confidential publications.

g. Be thoroughly familiar with the cryptographic aids issued to the command, and with the principles of communication security.

h. Be able to draft properly and completely any kind of message for transmission by any system.

i. Keep themselves informed of the general tactical situation, and the movements of ships and aircraft as necessary to communication purposes.

j. Vigorously prosecute the continuous and progressive training of all communication

596962*—44——5

personnel under their charge in order to increase the over-all efficiency of their organization and to fit enlisted personnel for advancement in rating.

k. Make frequent and regular inspections to determine the operating conditions of communication matériel and to insure compliance with all existing regulations, orders, or instructions by all personnel under their charge.

3020. SPECIFIC DUTIES

3021. In addition to the duties and requirements of all officers assigned to communication duties, as listed in the preceding paragraphs, certain specific duties are prescribed in the paragraphs which follow.

3022. *The District Communication Officer* shall:

a. Organize, operate, and supervise communications for all district naval activities in order to assure proper handling of rapid and postal communications from, to, and within the district.

b. Prepare the district communication war plans for the commandant's approval; maintain liaison with the district war plans officer.

c. In conjunction with the district intelligence officer, organize and maintain a communication intelligence and security service, based on the district war plans.

d. Keep the commandant informed at all times as to the status and adequacy of the communication equipment and of the communication situation in order that the commandant may successfully conduct his operations.

e. Assist ships commissioning within his district as necessary to insure their having proper allowances of corrected communication publications on board.

f. In connection with the operation, maintenance, and improvement of communication matériel, utilize fully the knowledge and service of the district radio matériel officer in order to maintain such matériel in the most effective operating condition.

g. Take the initiative in cooperating with other Government and commercial communication services to increase the safety of life at sea and in the air insofar as efficient communications can contribute to this end.

h. Supervise the training of communication personnel within the district, including instruction of communication reservists and the communication personnel of district craft.

i. Under the Commandant, exercise administrative control over Registered Publication Issuing Offices located within the district.

j. Be responsible for direct supervision of the procurement, custody, distribution, correction, accounting, and destruction of the publications distributed by the Registered Publication System, issued to the Commandant as a holder, in accordance with the instructions set forth in the *Registered Publication Manual.*

3023. *Flag Communication Officer.*—Communication, radio, and signal officers attached to the staff of a flag officer are charged under their flag officer with the efficiency of communications within the command. Their specific duties shall include:

a. Acting in an advisory capacity with the subordinate communication officers within the command.

b. Formulation of communication plans and directives for the approval of their flag officer.

c. Responsibility for the efficient communications of the flagship.

d. Providing for the effective and rapid distribution of messages from the flag to the units of the command, including the flagship.

e. The enforcement of strict radio and visual discipline over the circuits within the command.

f. Initiation of training and operating methods designed to improve the efficiency of communications within the command.

g. Frequent inspections of the various units within the command to insure compliance with existing instructions and regulations as regards the upkeep and condition of equipment and the conduct of communications.

3024. *The Ship's Communication Officer* shall:

a. Organize, operate, and supervise ship communications to insure reliable, expeditious handling of rapid and postal communications to, from, and within the ship.

b. Supervise and coordinate the activities of the radio officer, signal officer, ship's secretary, mail clerk, and all other personnel under his jurisdiction.

c. Be responsible for the security of communications within the ship, including the physical security of all classified matter coming under his cognizance.

d. Insure that messages are delivered promptly to the proper persons for action or information.

e. Maintain a follow-up system to insure that timely action is taken where required.

f. Insure that necessary acknowledgments and replies are made promptly.

g. Be proficient in signals and tactics.

h. Be thoroughly familiar with the operation orders and communication plans under which the ship is operating.

i. Exercise the coding board frequently, insuring its proficiency and encouraging and assisting the personnel in the study of cryptography and cryptanalysis.

j. Be responsible for the constant training and exercise of all communication personnel in order to increase their proficiency in the performance of their duties.

k. Be responsible for the preparation of the watch, quarter, and station bill for the communication division.

l. Carry out frequent inspections of the personnel, matériel, and quarters under his charge.

m. Maintain the prescribed files and records of messages sent and received.

n. Be responsible for direct supervision of the procurement, custody, distribution, correction, accounting, and destruction of publications distributed by the Registered Publication System in accordance with the instructions set forth in the *Registered Publication Manual.*

o. Unless another officer of the Communication Department is specifically designated by the Commanding Officer, perform the duties of the Communication Officer as set forth in the *Registered Publication Manual,* maintaining, as custodian, an accounting system for publications and insuring that publications are kept corrected to date.

p. Verify and forward, via the commanding officer, all abstracts and statements of account of the Naval Communication Service funds.

q. Prepare and publish procedure and duties in case of casualties and emergencies, including instructions for the disposition of confidential and secret publications.

r. Be responsible for furnishing the *effective* recognition and emergency identification signals to the personnel of the watch whose duties require that they be cognizant of these signals.

3025. *The Ship's Radio Officer,* under the ship's communication officer, shall:

a. Organize, operate, and supervise the radio communication personnel to insure accurate, rapid and secure handling of radio communications, and the recording and reporting of violations of radio discipline brought to his notice.

b. Arrange for guarding all required frequencies.

c. Keep all transmitters adjusted accurately to assigned frequencies.

d. Be proficient in radio and sound operation and procedure.

e. Be proficient in the use of the *General Signal Book* and be familiar with the tactical publications of the fleet organization.

f. Be thoroughly familiar with the effective radio frequency plans and radio organization.

g. Have a good knowledge of the propagation characteristics of radio frequencies, and proper use of those frequencies.

h. Organize the personnel for operating all radio apparatus, including the radio direction finder and portable radio equipment, and, through training, develop in the men a high degree of skill in the handling of all such matériel.

i. Take charge of the radio personnel during maneuvers, tactical drills, general quarters, all-hands evolutions, getting under way and coming to anchor, and when approaching harbor or anchorage.

j. Prepare the watch, quarter, and station bill for the radio personnel of the communication division, and take charge of the radio personnel of that division.

k. Frequently inspect the radio circuit logs and check the handling of all radio traffic.

l. Inspect frequently for cleanliness and upkeep of the entire radio and sound installation, including apparatus and storerooms and other spaces assigned.

m. Maintain the required records of transmitters and other communication matériel.

n. Keep an adequate supply of forms required for message blanks and logs, both radio and visual.

o. Prepare all correspondence connected with radio matters.

3026. *The Ship's Signal Officer*, under the ship's communication officer, shall:

a. Organize, operate, and supervise the visual communication personnel to insure accurate, rapid, and secure handling of visual communications, and the recording and reporting of discrepancies noted.

b. Organize the personnel for operating all visual equipment and train as many men as possible to be expert in the handling of this matériel.

c. Be proficient in visual operation and procedure.

d. Be proficient in the use of the *General Signal Book*, and be familiar with tactical publications and fleet organization.

e. Prepare the watch, quarter, and station bill for the signal personnel of the communication division and take charge of the signal section of that division.

f. Take charge of the signal force during maneuvers, tactical drills, general quarters, all-hands evolutions, getting under way and coming to anchor, and when approaching harbor or anchorage.

g. Frequently inspect all visual records and check the handling of all visual traffic.

h. Inspect frequently for cleanliness and upkeep the entire visual communication installation, including apparatus and storerooms and other spaces assigned to visual communication personnel.

i. Prepare all correspondence connected with visual matters.

3027. *The Ship's Secretary*, under the ship's communication officer, shall:

a. Keep informed of the progress of correspondence from officer to officer and maintain a follow-up system to insure that all correspondence is acted upon and returned to the captain's office within a reasonable length of time.

b. Route, record, distribute, and file all correspondence. Insure that messages bearing on correspondence are filed in the correspondence files as well as in the *General* file.

c. Similarly handle classified correspondence, but with a system making each temporary or permanent custodian of a document duly responsible therefor.

d. Maintain, for the commanding, executive, and other officers whose duties require it, a correct roster of officers, complete information concerning the duties of officers, their

leave, home addresses and telephone numbers, and special assignments (such as shore patrol, court and board duty, and social functions).

e. Assist the communication officer in the preparation of official correspondence and reports which do not fall directly under any head of department, and in handling correspondence and reports submitted for the captain's signature.

f. Be responsible that all general orders, and other general publications, as well as additions, corrections, changes, deletions, and revisions thereto, are distributed to the proper persons. See that modifications to publications are made promptly. Assume responsibility for the entry of changes in publications and letters remaining in his custody.

g. Prepare the watch, quarter, and station bill for the yeomen, mail clerks, and printers, and any other personnel included in the communication division or under his cognizance and take charge of that section of the division.

h. Inspect frequently for cleanliness and upkeep the spaces assigned to him, including the captain's office, the post office, and the print shop.

i. Take the initiative, subject to the approval of the commanding officer, in informing postal authorities as to the proper address for the forwarding of mail to the command, together with any other action necessary in the interest of expediting the handling and delivery of mail to or from the personnel of the command.

3028. *The Coding Officer* shall:

a. Know how and when to use each cryptographic aid available to the command.

b. Be responsible for the selection of the proper cryptochannel (cryptographic system).

c. Be responsible for technical accuracy of the encryption and decryption.

d. Be responsible for the internal distribution of decrypted copies of messages, including their filing and safeguarding.

e. Be proficient in the clearing of garbles and rectification of errors, and so perfect himself as to eliminate all possible delays, and insure the accuracy of his work.

f. Prepare paraphrases when required.

g. Know the internal organization of the ship, and have a good general knowledge of the current situation and communication matters which are required of all officers performing duties in communications.

NOTE.—*The usual duties and responsibilities of the coding officer do not extend to the determination of security classification, and to the phraseology employed in the text, since these are included in the duties and responsibilities of officers who originate and release messages. However, he shall be vigilant in detecting errors in classification or phraseology which may be made by originators, in order that these apparent errors may be referred to the originator for decision prior to transmission.*

3029. *The Chief Radio Electrician and Radio Electricians.*—The duties of chief radio electricians and radio electricians and instructions as to their status are set forth in *Navy Regulations*, article 1259. While primarily matériel experts, they shall be required to be proficient in all branches of communications. Accordingly they shall:

a. Stand watches to retain and perfect their operating ability and to maintain familiarity with operating conditions and conditions of matériel.

b. Be qualified to perform the duties of communication officers in small ships and of radio officers, assistant communication officers, coding officers, or communication watch officers in large ships or stations.

3030. *The Radio Supervisor.*—The specific duties of supervisors vary in accordance with the size, location, and work of the various stations. It will therefore be necessary for those responsible to issue specific additional instructions for the guidance of their supervisors. In general, however, the radio supervisor shall:

a. Be responsible for the proper handling of traffic.

b. Be in complete control of the radio personnel on watch and of the radio matériel in use.

c. Be responsible for the proper functioning of transmitters and receivers as well as for the procedure employed in the handling of messages on circuits.

d. Assist the communication watch officer, if there be one; otherwise, usually, act as the communication watch officer so far as concerns cognizance of internal routing and delivery of messages.

e. Stand his watch, normally, where he can best observe the conduct of communications on radio circuits.

f. Insure, before being relieved, that his relief is in every respect ready to perform the duties assigned, that any special orders or information are turned over to his relief, and that his relief is informed of the radio organization in effect, of the status of traffic, and of the condition of receivers, transmitters, and controls.

g. Devote as much time as is practicable to listening in on frequencies in use, in order that he may correct his own operators who violate instructions and may report any improper practices of other operators, and thus insure the efficient handling of communications in progress.

h. Be responsible for inventory of classified matter each time watch is changed.

3031. *Radio operators* should be assigned watches in accordance with their ability. While on watch they shall come under the authority of the supervisor.

a. Before turning over the watch, an operator shall insure that his relief is ready in every respect to receive messages. He shall turn over to his relief any special orders. He shall be careful to inform his relief of the radio organization in effect, of all messages awaiting transmission, receipt, execution, or acknowledgment, and of other necessary matters.

b. Before leaving the radio room at any time, the operator shall have completed the radio log up to the time of his relief and shall have indicated his relief in the log. Before his predecessor leaves the radio room the relieving operator is to determine that the receiver is in efficient operating condition and properly adjusted to the prescribed frequency, and that the transmitter control circuit is satisfactory. The operator who has been thus relieved shall report to the supervisor that he has been properly relieved.

c. He shall consult the officer in charge or the radio supervisor when (*a*) he does not fully comprehend the meaning of any transmission heard, (*b*) is uncertain whether a transmission recorded in his log should be written on a message blank for delivery beyond the receiving room, or (*c*) receives an urgent or unusual transmission.

3032. *Signalmen—general duties.*—The first duty of all signalmen is the maintenance of an efficient lookout at all times. An efficient lookout cannot be maintained unless the watch is stationed on both sides of the signal bridge. There is always a tendency, which must be suppressed, to bunch on the side where something is occurring and neglect the other side. Similarly the tendency to congregate on the lee side, particularly on the night watches, must be guarded against. Signalmen should be trained to:

a. Observe and report accurately and rapidly the sighting of anything unusual outside the ship.

b. Answer signals and calls addressed to their ship or station *as soon as made.*

3033. *The Signal Supervisor* (signalman in charge of the watch) shall:

a. Be responsible for the safeguarding of all communication publications on the signal bridge. He shall make entry in the signal log as to receipt of each publication and turn over to his relief. Upon securing the watch on the bridge he shall personally deliver these publications to the custody of the signal officer.

b. Insure that an alert watch is maintained at all times.

c. Station the signal watch so as to conduct efficiently the visual signalling activities of the ship with due regard to the requirements of each system of visual signalling.

d. Coordinate and supervise the operations and activities of the watch to the end that

the maximum of efficiency in handling visual traffic is maintained with a minimum of noise and confusion.

e. Know the *General SignalBook, Signal Vocabulary, Call Sign Book*, and all instructions pertaining to visual communications.

f. Be thoroughly familiar with the *International Code of Signals* and the procedure for communication with merchant ships.

g. Be familiar with combined and joint communication instructions and publications so far as visual signalling is concerned.

h. Know the recognition and identification signals in effect and be ready instantaneously to challenge or reply *when directed.*

i. Be proficient in all forms of visual communications including the ability to draft a message for transmission in any visual system.

j. Keep himself and the watch informed as to the disposition, organization, formation, and location of all units in visual company.

k. Know the visual responsibility as to relaying and repeating of his ship or station.

l. Conduct training and instruction for the signalmen on watch, if practicable under the operating conditions existing.

m. Be responsible for the maintenance of all visual equipment in readiness for use and in good operating condition.

n. Be responsible for the cleanliness and orderliness of the signal bridge and the personnel on watch.

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Section B. INTERNAL ORGANIZATION

3100. GENERAL

3101. It is not considered practicable or desirable to prescribe rigidly a standard internal organization to be followed by all communication offices. Internal organization must necessarily be adapted to the particular office with due consideration to the physical layout, personnel available, and over-all efficiency in operation. There are, however, certain basic requirements which must be fulfilled by any organization, large or small, afloat or ashore. It is highly desirable that the organizational methods adopted to meet the basic requirements be as uniform as practicable throughout the naval service in order to simplify the indoctrination of personnel as to internal handling methods in general.

3110. BASIC REQUIREMENTS

3111. Basic requirements of internal organization are:

a. Provision for an adequate watch and station bill.

b. The effective handling of all messages, incoming and outgoing, including an orderly filing system.

c. Quick routing and action in emergency cases.

d. Maintenance of files and logs.

e. Preservation of the inviolability of messages.

f. Security.

g. Designation of action and releasing officers.

h. Check-up system on required replies and acknowledgments.

i. Dissemination of information to *those who need to know.*

j. The organization and efficient functioning of the coding board.

k. Effective interior communications between all communication stations required in battle.

l. Provisions for the handling of casualties with a minimum of interruption to required services.

m. Availability of necessary publications at all stations.

3120. HOW REQUIREMENTS MAY BE FULFILLED

3121. Provision for an adequate watch and station bill.

a. Watches and stations of communication personnel normally will be based, so far as is practicable, on the master bill of the ship or station.

b. It must be realized, however, that the watches of communication personnel cannot always be made to conform to the hours or watches of other personnel of the ship or station. Often the peak load of communication will occur when other activities of the command are at a comparative lull, hence the arrangement of the communication watch bill must be sufficiently flexible to provide adequate personnel on watch to meet the fluctuations which will occur at odd intervals; at the same time it must afford these personnel their fair share of rest.

3122. Effective handling of all messages, including filing.

a. The internal routing and handling of all messages within a ship or station requires the careful and continual attention of all communication personnel. The closest liaison between signal bridge, radio room, communication office, code room, and designated action officers is essential, and the internal organization must be such as to effect this close interrelationship.

b. The form of message blank best adapted to the particular ship or station should be determined and an adequate supply of these blanks kept on hand.

c. Message blanks should be made up into "books" of several blanks with carbon paper inserted between blanks.

d. The number of message blanks in each book will depend on the particular requirement of each station as regards the number of officers served, the type of circuit, and the type of message. For example, an operator receiving an encrypted message over a radio circuit need be supplied with a book consisting of only two blanks, one for the radio room file and the other to go to the coding room for decryption. On the other hand, the operator copying a plain-language message can save time required for retyping by copying the message as received on a book consisting of at least six message blanks. This ordinarily should suffice for the distribution required. The majority of officers to whom messages are shown for information need only initial the original (General file copy), and should usually not require copies for their retention. When care is exercised in recording, and when many copies are not needed, visual message blanks, as written on the bridge, may be used for necessary distribution.

e. Messengers should be trained to deliver messages expeditiously to the designated action officer. The initials of each person concerned on the original (General file copy) serves as the receipt for delivery.

f. Delivery to the action officer should never be delayed by delivery to information officers. If a sufficient number of messengers are available it is desirable that one be detailed to deliver action copies only.

g. Message blanks, as delivered, should always contain complete information as to the originator, addressees, classification, precedence, reference number, and time of receipt (or time of delivery) of the message.

3123. Quick routing and action in emergency cases.—Emergency messages must be delivered to the action officer or the sending operator, as appropriate, with the maximum speed. Communication organization must be such as to provide the by-passing of usual channels of internal routing and routine recording of such messages. In such cases the necessary recording, filing, and any additional internal routing to information officers should be accomplished later. Delivery by telephone to the officer who must take action is often the quickest method of delivery of emergency messages. In this regard, communication personnel must be indoctrinated to recognize the fact that incoming messages must sometimes be accorded more rapid internal handling than their indicated precedence would necessitate.

3124. Maintenance of files and logs.

a. The organization must provide for keeping and safeguarding the logs and files, as prescribed in Section D of this chapter.

b. Filing should be orderly and simple so that traffic previously handled may be readily found for reference.

c. A continuous check must be made by the supervisor on the daily logs and the current files to insure their being properly maintained by the watch and as a check against delay or loss of messages.

d. Final daily check should be made on all the previous 24-hour logs and traffic files prior to permanent filing in the General file.

3125. Preservation of the inviolability of messages.—Internal routing of messages and the location of message files must be such as to prevent the contents of any message being divulged to any person other than those authorized by the commanding officer. This may be accomplished by:

a. Placing messages, both for delivery and for filing, on covered boards.

b. Instructing messengers under no circumstances to allow the contents of messages which they are distributing to be seen by persons other than those authorized.

c. Instructing all personnel handling messages never to divulge the contents of any message to any unauthorized person by word of mouth or otherwise.

d. Restricting access to communication spaces solely to communication personnel or other personnel specifically designated by the commanding officer.

3126. Security.

a. Internal organization must provide for the safeguarding of all confidential and secret material, having due regard to the requirements as prescribed by *Navy Regulations* and Chapter 4 of these instructions.

b. Provisions must also be made for the physical security of communication spaces and equipment and for the destruction of all cryptographic aids to prevent loss in time of disaster.

3127. Designation of action and releasing officers.

a. A list of cognizant officers should be prepared and made available to the communication watch officer to enable him to select the appropriate action officer for internal routing purposes. If a mistake has been made in selecting the action officer, the officer first so designated should immediately indicate the correct action officer so that the message may be delivered for action without further delay. If action is required by more than one officer, the one with paramount interest should be designated as action officer. This officer is then responsible for the cooperation of all concerned in the prompt preparation of the reply or execution of the necessary action.

b. Prior to transmission outgoing messages must be released by an officer who has been specifically designated by the commanding officer as authorized to release messages for the command.

3128. Check-up system on required replies and acknowledgments.

a. The messenger who delivers a message requiring an acknowledgment should request authority from the action officer to acknowledge the message. The communication office shall prepare an acknowledgment for release as soon as the received message has been delivered to the action officer.

b. While the action officer is responsible for taking all action which may be required, the communication office should keep a record of incoming messages which require dispatch replies. After a reasonable time, if the required reply has not been received for transmission, the action officer should be notified. This follow-up is essential for efficiency. In order to facilitate appropriate follow-up action, if necessary, records should also be kept of outgoing messages which require reply or acknowledgment.

3129. Dissemination of information to those who need to know.

a. The organization should provide for copies of messages in sufficient number to insure the information of all officers *who need to know.* However, in large ships and stations, it is generally considered sufficient if one copy is made for the head of a department or office. Any further distribution within that department or office which is desired by its head should be accomplished within the department or office itself.

b. All pertinent information concerning communication matters, fleet organization, and the general tactical situation, should be disseminated to communication personnel in order to promote the efficient conduct of communications within the command.

3130. Organization and efficient functioning of the coding board.

a. The composition of the coding board shall be as prescribed by *Navy Regulations* and article 4140 of these instructions. The number of personnel assigned shall be sufficient to serve adequately the needs of the command.

b. The coding board should be organized by the communication officer and systematically trained to function expeditiously and effectively with full knowledge of the requirements of reliability, speed, and security.

c. The internal organization of every command should provide for the continuous availability for cryptographic work of a commissioned officer who has access to effective cryptographic aids. This need not necessitate his being a member of the regular coding board, but he should be fully qualified for such assignment.

3131. Effective interior communications between all communication stations required in battle.

a. The smooth functioning of the internal organization is largely dependent upon the communication arrangements between various stations within the command.

b. The interior communication facilities of the ship or station must be carefully studied in order that the internal organization may make the fullest and most efficient use of the available facilities.

c. Ship's service telephone, sound-powered telephone, battle telephone, voice tube, and messenger service must be fully utilized and clearly designated in the internal organization.

d. All interior communication circuits must be paralleled wherever practicable.

3132. Provisions for the handling of casualties with a minimum of interruption to required services.

a. Communication personnel must be indoctrinated with the necessity for prompt action in every case of matériel failure or battle casualties.

b. Standby frequencies, transmitters, receivers, and power supplies must be designated for emergency operation in locations as widely separated as possible.

c. Standby stations must have the necessary communication publications available.

d. Standby battle signal stations, with temporary halyards ready for rigging, should be provided in the event of visual casualties.

Section C. PUBLICATIONS, FILES, AND LOGS

3200. PUBLICATIONS

3201. *Issuing Offices* are established at certain bases and on certain ships for the distribution of publications. The locations of these offices are listed in the *Registered Publication Manual* and in RPM. All necessary communication publications shall be obtained from these Issuing Offices, and communication officers shall maintain close contact with their nearest office in order to keep up to date on publications, memoranda, changes, and British corrections.

3202. Allowances.—The list of publications required to be held by each class of ship or station, together with the number of copies authorized, is contained in the *Registered Publication Allowance Tables*. These tables list all the publications of general distribution which are distributed by the registered publication section through the Issuing Offices, and include *all* communication publications issued by the Navy Department, both registered and nonregistered.

3203. Accounting for publications.—Confidential and secret registered publications will be accounted for, stowed, safeguarded, transferred and destroyed in strict conformity with instructions in the *Registered Publication Manual;* nonregistered publications shall be handled and safeguarded in accordance with their classification, but no accounting is required.

3204. *Changes* to communication publications are effected as follows:

a. Advance changes are, if speed is required, promulgated by dispatch in ALCOM messages, which are normally transmitted as basegrams, but are in some cases transmitted by radio to all addressees. These dispatch changes, if of a permanent or long lasting nature, are confirmed, and other advance changes are initially promulgated, in Communication Publication Memoranda, of which there are four series:

1. NRPM—for restricted and nonclassified publications.
2. CRPM—for combined publications.
3. CSPM—for communication security publications.
4. RPM—for all other secret and confidential publications.

b. Printed changes, corrections, and amendments to Communication Publications are promulgated as necessary and must be obtained from Issuing Offices.

3205. List of necessary publications.—Some or all of the following publications, selected according to the duties being performed by the station, should be readily available to communication personnel on their stations:

a. Communication Instructions.
b. U. S. Navy Call Sign Books.
c. Call Sign Cipher.
d. Communication Operating Signals.
e. Communication Plan, including the frequency plan under which operating.
f. General Signal Book (or Auxiliary Signal Book).
g. Signal Vocabulary.
h. Effective recognition and identification signals.
i. Cryptographic aids required by current operations.
j. Communication Standing Orders.
k. Communication Circular Letters.
l. Communication directives, letters, and bulletins issued by responsible commands.
m. Fleet and Force Organization.
n. Navy Regulations.

o. Fleet Regulations and Force Instructions.

p. Manual of Engineering Instructions, Chap. 31, and Bulletins of Engineering Information (Radio and Sound).

q. Operating, Maintenance and Repair Instructions for each piece of equipment. (Issued with equipment or separately by the Bureau of Ships.)

r. Radio Navigational Aids (H. O. 205) and *Radio Weather Aids to Navigation* (H. O. 206).

s. International Code of Signals (H. O. 87 and 88).

t. Call Signs of Merchant Vessels of the U. S.

u. War Time Call Signs of Merchant Ships (major war vessels and shore stations only).

v. Pertinent Merchant Ship Communication Publications. See Appendix VIII.

w. Publications required for Combined and Joint Communications. See Appendix VII.

3210. LOGS

3211. Radiotelephone.—Every signal or dispatch transmitted by radiotelephony shall be logged, with the time its transmission began, in a suitable record book.

3212. Visual.—Every signal transmitted or received by visual means shall be logged, together with the time of execution, in a suitable record book.

3213. The logs prescribed for recording radiotelephone messages and visual signals, although separate from the *General* file, shall be considered as officially parts thereof. They shall be maintained, safeguarded, retained or disposed of in the same manner as provided for the *General* files.

3214. Radiotelegraph.—Every radiotelegraph transmission on every radio frequency guarded shall be logged in accordance with the following instructions:

a. Every transmission heard by an operator on watch (regardless of source or completeness) shall be recorded, whether or not addressed to the receiving station.

b. If the transmission must be written in full on a message blank, as when the message is addressed to, is passed to, or is to be relayed by the receiving station, only sufficient details need be inserted in the radio log to identify the message.

c. If it need not be written on a message blank, the transmission shall be written out fully in the radio log.

d. An entry shall be made in each radio circuit log at least every 5 minutes. However, if the operator is too busy to comply over a period of time, he may enter essential data later—indicating inclusive times.

3215. The following example illustrates the proper method of keeping a radio circuit log. In the example given the station's call sign is BF6:

RADIO LOG

U. S. S. ———.

Receiver No. 6 | Frequency 4235 | Page 1

Smith, C.W., on watch. | Ø8ØØ–29 Dec. 1943 | Receiver and controls OK.

TOR or TOD GCT	Transmission
Ø8Ø2	**NBA V BF6 – OP – A – X2YL 29Ø728 NBA GR 92 BT** (see files)
Ø8Ø4	**BF6 V NBA R AR**
Ø8Ø5	**NBA V A2D – P – T – A – A2D 29Ø655 NPL GR 14 BT BORA RADU CANE VULA KENO ZAVE BALU ROLA TAKU GALE CENO DOGE RALE FAKO BT 29Ø655 K**
Ø8Ø6	**A2D V NBA IMI 14 K** **V A2D 14 – FAKO K**
Ø8Ø9	**A2D V NBA R AR**
Ø81Ø	**NBA V G94 – OP – T – A – G94 29Ø715 6F2 GR 2 BT COMPLETED DUTY BT 29Ø715 K**
Ø812	**G94 V NBA R QNC Ø83Ø AR**
Ø813	No signals.
Ø818	No signals.
Ø819	**NBA V BF6 – P – A – M3LF 29Ø8Ø2 NBA QPE GR 18 BT** (see files)
Ø821	**NBA V BF6 R AR**
Ø822	**BF6 V NBA QJW K**
Ø823	**NBA V BF6 R AR**
Ø827	No signals.
Ø831	**G94 V NBA QRU INT QTC K**
Ø832	**NBA V G94 R QRU AR**
Ø835	Relieved—CW to BW. Circuit clear, signals excellent both ways.

3220. FILES

3221. Every message transmitted or received by any system other than radiotelephony or flag hoist shall be filed as here prescribed.*

3222. Separate message files in numerical sequence will be kept by addressees of each type of serially numbered General Message, and of each broadcast (F) and intercept (I) method schedule required to be guarded.

3223. There are three required message files: The *General* file; the *Radio Station* file; and the *Visual Station* file. These files are to be maintained by all stations in accordance with instructions set forth in the following paragraphs.

3224. The *General* file will contain copies of *all* messages originated and sent, and those received (by whatever means) for action or information, usually arranged chronologically in order of reference numbers (date–time group). As this file contains the exact translations of encrypted messages, it shall be divided physically into parts according to classification—secret, confidential, restricted and unclassified—for purposes of stowage and safeguarding.

3225. The *Radio Station* file will contain copies of *all* messages transmitted and received by radiotelegraphy (plus radiotelegraph log sheets) arranged preferably as follows:

a. Relayed messages and incoming messages—in order of times of receipt (TOR).

b. Outgoing messages—in order of times of delivery (TOD).

c. Radiotelegraph circuit logs.

3226. The *Visual Station* file will contain copies of all visual messages transmitted and received by visual methods (other than flag hoists) arranged as prescribed above for messages in the radio station file.

3227. Retention of files.—The *Radio Station* file and the *Visual Station* file are maintained for convenience in handling traffic. In the absence of specific instructions to the contrary, messages therein shall be retained for 6 months. The *General* file is an official file, which shall be retained or disposed of *as provided by Navy Regulations* for other official files, unless all messages contained therein, which must be retained as official correspondence, are filed in the regular correspondence files of the office or station. Particular care shall be exercised to retain all messages concerning distress, or messages which may have to be produced for legal or historical purposes, until it is definitely ascertained that no further use will be required for them.

3228. *Additional files*, although not required, will probably be found desirable. These files are mainly for the purpose of insuring the smooth functioning of the internal organization and do not supplant or replace the three files required in article 3223. Some of these are:

a. A *tickler* file on which are placed flimsies of messages requiring acknowledgement or reply from the command, and which are retained in this file until appropriate action has been taken.

b. An *awaiting action* file in which are placed flimsies of messages requiring certain action to be taken by the command and retained until this has been accomplished.

c. A *relay* file in which are placed copies of messages awaiting relay.

d. An *awaiting signature* file in which are placed copies of messages awaiting signature by *information* officers.

3229. No person is entitled to inspect the files of a communication office unless authorized to do so by the commanding officer, or higher authority.

*Where the automatic method of relaying teletypewriter messages is used it is not necessary to maintain a record of such relayed messages.

Chapter 4. COMMUNICATION SECURITY

Section A. INTRODUCTION TO SECURITY

4000. DEFINITION AND OBJECTIVES

4001. Communication security is the protected condition of communications which attempts to prevent the enemy from obtaining information of military value and seeks to make deception impossible.

4002. Communication security is a means—not an end. Rules governing communication security are analogous to gunnery safety orders. They do not guarantee security, and they do not attempt to meet every conceivable situation. The law of diminishing returns limits the security measures that can be employed profitably, but it is possible to obtain a satisfactory degree of security with a minimum of undesirable effects in other directions.

4003. Security is achieved by a variety of practices, precautions, and safeguards. These include suitable defensive measures against:

a. Capture or salvage of codes, ciphers, messages, plans, communication equipment, documents, or other classified material.

b. Theft, espionage, observation, and photography.

c. Interception of mail, wire, visual, radio, and telephone traffic.

d. Radio direction finding or tracking.

e. Traffic analysis.

f. Cryptanalysis.

g. Imitative deception, spurious messages, and falsification of communications.

4010. RELIABILITY, SECURITY, AND SPEED

4011. While *reliability of communications is always paramount,* there is a variable relationship between security and speed. At times, security is more important than speed; at other times the reverse is true. In the planning stages of an operation, when only a few know what is contemplated, security considerations are dominant. As the time of execution approaches, additional persons must know the plan, and preparations cannot be concealed. Speed is then increasingly important. In actual or simulated contact with the enemy, speed is secondary only to reliability. Plain language may be used if necessary, but even in combat security of communications may not be wholly disregarded.

4012. It is possible today to have *security with speed.* Measures which contribute to the speed of communications are:

a. Using rapid, secure, machine ciphers whenever practicable.

b. Using rapid, special-purpose cryptographic aids when appropriate.

c. Reducing internal delays in handling messages.

d. Selecting and training code room personnel for efficiency.

e. Eliminating unnecessary operations, such as making smooth copies when a work sheet will suffice.

f. Being brief, but not at the expense of clarity.

g. Using very-high-frequency voice radio, with suitable precautions.

4020. COMPONENTS OF SECURITY

4021. Communication security has four phases:

a. Physical security—covered in Section B.

b. Cryptographic security—treated extensively in Section C. Its requirements are the basis for much of Section A, Chapter 2.

c. Transmission security—this is the topic of Section E.

d. Censorship—discussed in articles 4040 and 4050. This is equal in importance to the first three phases, and is adequately covered in official censorship regulations. Personal censorship is treated briefly because almost everything that can be said is familiar or obvious.

4030. BASIC RESPONSIBILITIES

4031. Many weaknesses in communication security may be traced to lax administration. It is important that commanding officers be well informed regarding the methods of attaining communication security, and that they be alert in interpreting its principles within their respective spheres of authority.

4032. It is the duty of all ships and stations to report serious breaches of communication security to offending ships or stations as soon as practicable, having due regard for the requirements of radio silence. Security units are not able to monitor all naval radio transmissions or to examine all encrypted messages for cryptographic errors. Any evidence tending to indicate that a cryptographic system has been exposed to compromise shall be reported in detail to the Chief of Naval Operations (Director of Naval Communications) by dispatch.

4040. OFFICIAL CENSORSHIP

4041. The authority to pass, delay, paraphrase, suppress, return for correction, or delete a portion of any communication is an essential form of protection for military information. Censorship of all naval communications is a function of command. It is mandatory at all times to the extent necessary to make certain that classified information does not directly or indirectly reach unauthorized persons. Where exercised, it includes personal communications, commercial traffic, press material, and messages for other government agencies as well as official Navy and Army messages. The current rules are promulgated by *Censorship Regulations, U. S. Navy.*

4050. PERSONAL CENSORSHIP

4051. Indiscreet conversation is one of the greatest of all menaces to security. Information imparted to unauthorized persons within or outside of the service may be repeated innocently and in ignorance of its importance until it becomes a matter of common knowledge. Intelligence agents are trained to collect and collate innumerable bits of seemingly harmless information from conversation and rumors which circulate in the vicinity of naval activities. Censorship of official and unofficial conversation is, therefore, the solemn duty of all naval personnel. *The habit must be cultivated until it becomes automatic.*

Section B. PHYSICAL SECURITY

4100. PRINCIPAL FACTORS

4101. It is imperative that classified documents and communication apparatus be safeguarded from compromise through capture, salvage, theft, inspection, or photography. This is accomplished by:

a. Proper handling on the part of everyone concerned.

b. Proper stowage, when not in use.

c. Thorough destruction when necessary.

4102. Unsuspected physical compromise is far more serious than outright loss.—This is particularly true of cryptographic aids and translations of messages; if an undisclosed compromise occurs, the system continues in use, and the enemy is able to read all the traffic sent in that system.

4110. BASIC RULES FOR PHYSICAL SECURITY

4111. Classified material may be handled only by authorized personnel. No one else should be permitted even to see cryptographic aids, publications, or equipment.

4112. Cryptographic equipment must be stowed in locked accommodations or kept under constant surveillance *at all times*. Superseded systems, work sheets, and message files must be protected in the same manner as current and reserve material until destroyed.

4113. Special measures should be taken to guard equipment too bulky to store when not in use. Classified communication apparatus such as radar equipment must be protected against u

4114. Accurate accounting and periodic inventories are prescribed. *Prompt report to the Chief of Naval Operations in case of loss or suspected compromise is required* in order that appropriate action may be taken to minimize the effect of such compromise. Details of procedure to be followed in reporting loss or suspected compromise are set forth in the *Registered Publication Manual.*

4114 ...t report to order that

4115 ...bon paper, and blott... ...al as that exercised for classified publications. Single sheets of paper on hard surfaces should be used when drafting or transcribing classified documents.

4116. The number of publications, devices, and other items exposed to capture in transit, aboard small ships, or at weakly garrisoned bases shall be kept to an absolute minimum. Submarines and surface ships undertaking especially hazardous duties in shallow water should leave as much of their classified material behind as practicable.

4117. Specific instructions for the safety of registered publications will be found in the current edition of the *Registered Publication Manual. Navy Regulations* contains further directions for handling and transporting classified documents.

4120. PLANS FOR EMERGENCY AND ROUTINE DESTRUCTION OF CLASSIFIED MATTER

4121. The suddenness with which attacks occur in modern warfare makes it necessary

for commanding officers, afloat and ashore, to have in operation a practical plan for the emergency destruction of classified matter. Such a plan must provide for the following:

a. Sufficient officer and other personnel, *including alternates*, to carry out expeditiously, at any time, the destruction of cryptographic aids.

b. Assignment of responsibilities by watches or duties rather than by names.

c. Procedure for carrying out destruction and sufficiently frequent and realistic drills to familiarize personnel with each detail of the process are essential. *Plans must not underestimate the amount of time required.*

d. Destruction of reserve editions prior to destruction of effective publications. Circumstances may permit this to be carried out considerably in advance of destruction of effective publications.

4122. Destruction of effective publications should be carried out in the following order:

a. Destruction List No. 1.

Recognition key lists and memoranda.
Electric cipher machine key lists, code wheels, and baskets.

b. Destruction List No. 2.

General purpose cryptographic systems.
Strip alphabets and key lists.
Combined reciphering and recoding tables.
Electric cipher machine frames and instruction books.
Basic British-U. S. cipher book.
Hagelin key lists.

c. Destruction List No. 3.

Classified dispatch files.

d. Destruction List No. 4.

Special-purpose cryptographic systems, devices, and machines.

e. Destruction List No. 5.

All other cryptographic systems, devices, and machines.

4123. Classified material shall be readily accessible at all times for destruction by assigned personnel. Publications aboard ships shall be stowed habitually in weighted, perforated canvas bags sufficiently small to allow ready access to publications for use, and to permit ready handling by one or two men when destruction is necessary. Material to be destroyed first should be marked in a distinctive manner. A list showing the exact location of documents held elsewhere in the ship or station shall be instantly available.

4124. Restricted equipment must be destroyed *beyond repair.* Secret and confidential equipment must be destroyed *beyond recognition.* If necessary, destruction may be limited to those portions of a device which show secret or confidential plans or designs.

4125. When circumstances do not permit communicating with the commanding officer, every person concerned must act on his own initiative. The importance of beginning destruction sufficiently early cannot be overemphasized.

4126. A prompt, accurate, and detailed report of destruction is second in importance only to the destruction of the material itself. Such report shall be made to the Chief of Naval Operations as soon as practicable.

4127. It is important that all *routine destruction* be completed promptly at the specified time in order that the amount of classified material which would require destruction in an emergency may be kept at a minimum. Message and correspondence files shall not be permitted to accumulate to a greater extent than is necessary.

4128. Destruction, except in an emergency, must be carried out by or in the presence of personnel authorized to handle the material.

4129. Instructions governing the accounting reports for registered publications destroyed are contained in the *Registered Publication Manual.*

4130. METHODS OF DESTRUCTION

4131. When printed matter and work sheets are destroyed by burning, they must be watched until completely consumed. The ashes should be broken up and scattered. Since books and stacks of paper are difficult to burn completely, the sheets shall be separated and crumpled. Kerosene, oil or chemicals which will facilitate destruction may be used if available. Care must be taken to prevent portions of burning matter not completely consumed from being carried away by wind or draft. A satisfactory brazier may be constructed by punching holes in the sides of a metal drum or container, and used with a cover of wire netting and a rod for breaking up the ashes.

4132. In deep water, heavy apparatus may be jettisoned and publications thrown overboard in perforated weighted bags. In shallow water, burning of publications is necessary to avoid the possibility of salvage by the enemy. Cipher machines and other mechanical devices must be destroyed with explosives, sledge hammer, or incendiary bomb. On land, where open flames may draw enemy fire, the method must be adapted to the circumstances.

4140. MAKE-UP OF CODING BOARDS

4141. As far as is practicable, coding boards shall be made up of commissioned officers. Where necessary in individual cases, when so authorized in writing by the commanding officer or commandant concerned, and subject to the limitations of article 4161, warrant officers and petty officers of superior trustworthiness and loyalty may serve on coding boards.

4150. USE OF CRYPTOGRAPHIC AIDS

4151. Only custodians and members of coding boards shall have access to cryptographic aids and to the spaces where they are stowed or used, except as follows:

a. Naval personnel and civilian employees at issuing offices, ECM repair shops, training schools, and the cryptographic sections of the Division of Naval Communications may handle cryptographic aids as a part of their assigned functions, when individually designated in writing by the officer in charge of the activity concerned.

b. A petty officer in command of a small craft or activity is authorized to use all cryptographic aids allowed his command. He may designate one reliable subordinate to assist in such use.

c. The pilots, plane captains, and radiomen of aircraft crews are authorized to use all cryptographic aids allowed their aircraft.

d. Enlisted personnel may use call sign ciphers, authenticator tables, and signal books as necessary in the performance of their prescribed duties.

4152. When publications are turned over from one watch to another, an adequate accounting system must be maintained.

4160. HANDLING OF CLASSIFIED MESSAGES

4161. *a.* Only specifically designated commissioned officers shall encrypt, decrypt, see, read, transcribe or deliver exact transmissions or paraphrases of *top secret* messages.

b. As far as is practicable only commissioned officers shall encrypt, decrypt, see, read, or transcribe exact translations or paraphrases of *secret* messages.

4162. Commandants and commanding officers may authorize, in writing, especially reliable, trustworthy, and temperate petty officers to act as messengers for the delivery of *secret* messages within the limits of a ship, navy yard, naval station, or the contiguous activities of a naval base.

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4163. Especially reliable, trustworthy, and temperate civilian employees and enlisted personnel may be designated to file and have custody of *secret* and *confidential* messages, as provided in *Navy Regulations*, article 76.

4164. In every case, the information contained in secret and confidential messages shall be made available only to those persons whose duties require that information.

4170. TRANSLATIONS OF INCOMING ENCRYPTED MESSAGES

4171. Exact and approximate translations of messages must be more carefully safeguarded than other documents of the same classification. Every existing copy endangers a cryptographic system as well as the information which the message contains. The number of translations of incoming classified messages prepared and distributed must, therefore, not exceed *the barest minimum* consistent with the situation. Commanding officers afloat and ashore shall issue appropriate instructions, bearing in mind the dangers involved.

4172. To insure the safeguarding of all copies of secret and confidential messages, specific instructions shall be issued in every command requiring strict accountability for each copy until it has been destroyed. Extra copies of incoming secret and confidential messages may be prepared only by the communication office; and quotations, when necessary, must be indirect, as specified in article 4273. Plain language translations of secret encrypted messages shall never be mailed. Communication offices may mail plain language translations of confidential or restricted messages subject to the restrictions prescribed by the Chief of Naval Operations.

4173. Paraphr ses shall not be used to circumvent rules covering exact and approximate translations. When necessary, identifying data and a brief résumé of a cl ssified message may be placed in the classified correspondence files.

4180. COPIES OF OUTGOING CLASSIFIED MESSAGES

4181. The originator shall prepare only one copy of a secret or confidential outgoing message. This the communication officer retains as his authority for transmitting. A record copy may be returned to the originator for his files. Additional copies may be made only by the communication office, subject to instructions regarding accountability as prescribed for incoming messages.

4182. The number of copies of restricted outgoing messages prepared shall be governed by instructions issued in each command. Due regard shall be had to the necessity for keeping the number of copies to a minimum.

4190. OFFICE AND CODE ROOM SECURITY

4191. Each code room and each office handling messages or other classified matter should have an internal security officer responsible for regular inspection and other security measures within the office or code room. The following check list is provided to assist such an officer in safeguarding military information and files properly:

a. Are all personnel having access to classified material periodically warned of the danger of loose talk in public and private places? Are they familiar with the Espionage Act of 1917?

b. Are the combinations on the safes changed at least every 6 months, or whenev r any person having access to a safe is detached or transferred from the office?

c. Is someone appointed to inspect each safe, desk, and file at the close of every working day to make certain that everything is properly stowed? Is a record made of each inspection?

d. Are classified documents and material invariably locked up when not in use?

e. Are burn bags used, and are wastebaskets checked each day to make certain that they contain no classified material, including shorthand notes, carbon paper, or rough drafts?

f. Are notes regarding classified matter left on memorandum pads or under the blotter? Is classified matter of any kind posted on the bulkhead?

Section C. ENCRYPTION AND DECRYPTION

4200. PRINCIPAL FACTORS IN CRYPTOGRAPHIC SECURITY

4201. Cryptographic security is the kind furnished by suitable codes and ciphers. These include call sign ciphers, voice or teletype scramblers, and encrypted procedure signals, as well as codes and ciphers used for message texts. The safety thus provided depends mainly upon four factors:

a. **The inherent security of the cryptographic aid.**—The one-time pad offers the ultimate in inherent security. Electric cipher machines and teletype scramblers afford ample security *if correctly used*, and should be employed whenever circumstances permit. Flat strip systems afford sufficient security if properly used. Other systems, like aircraft codes and the Hagelin Cryptographer, have a lower degree of security and shall be used only for their designated purposes.

b. **Correct technical use of each system in accordance with the specific instructions furnished.**—A modern cipher system affords ample security for its designed purpose and for the quantity of traffic anticipated. The same cipher will afford almost no security if misused or overloaded.

c. **Replacement of physical elements at frequent intervals.**—This practice limits the information available to the enemy in case of theft or successful cryptanalytic attack and reduces the damage from unsuspected compromise.

d. **Security practices.**—The rules for drafting messages, and for the use of cryptographic aids, are based on knowledge of how codes and ciphers are constructed and how they may be broken. Continuous cryptanalytic attacks provide a scientific basis which, tempered by careful consideration of the practical aspects involved, determines the security practices necessary.

4210. U. S. NAVY CRYPTOGRAPHIC PLAN

4211. An adequate cryptographic plan must provide ciphers and codes in sufficient number and variety to accomplish the following purposes:

a. Minimize the effects of capture or compromise. This is the principle of *isolation of damage.*

b. Meet the requirements of special situations with systems adapted to perform particular functions.

c. Provide for privacy of communications within the higher echelons of command.

Naval cryptographic systems are organized, distributed, and used in accordance with the plan described herein and tabulated in the cryptochannel charts.

4212. The basic unit for cryptographic communication is known as a *cryptochannel.* A cryptochannel is like a radio circuit. With certain exceptions any flag, ship, or station in a given cryptochannel can communicate with any other flag, ship, or station in that channel.

4213. These cryptochannels are organized by echelons of command and types of vessels or stations into seven classes, afloat and ashore. The highest echelon, Class 7, is limited to commanders in chief. The lowest, Class 1, consists of motor torpedo boats, minor shore activities, and smaller craft of the local defense forces. Higher classes hold the publications of all lower classes, except for certain special-purpose systems. Complete details may be found in *Assignment to Classes and Waters.*

a. Cryptochannels are segregated on a geographical basis into three areas:

Worldwide.

Atlantic waters.—Atlantic Ocean and tributary waters; Eastern, Gulf, Caribbean, Panama, and Moroccan Sea Frontiers; First through Tenth, plus Fifteenth Naval Districts.

Pacific waters.—Pacific and Indian Oceans and tributary waters; Western, [redacted]-ALASKAN, Hawaiian, and Panama Sea Frontiers; Eleventh through Fifteenth ~~Naval Districts~~. Plus 16th Naval Districts.

4214. Cryptochannels and the corresponding cryptographic aids are further classified according to function, thus:

a. General-purpose systems.—These have a wide distribution, afloat and ashore, and are intended for any type of message. They include electric cipher machines, flat strip systems, and the Hagelin Cryptographer in descending order of security.

b. Special-purpose systems.—These have a wide distribution. They include:

1. General and auxiliary signal books and signal vocabulary.
2. Signal ciphers.
3. Authenticator systems.
4. Aircraft codes.
5. Fighter director vocabulary.
6. Weather report codes and ciphers.
7. Local defense force code.
8. Call sign books, radio and visual.
9. Radio call sign ciphers.
10. Amphibious warfare code.
11. Tracking DF codes.
12. Joint Army-Navy operations code.
13. Merchant shipping control ciphers.

c. Intelligence systems.—These have a very narrow distribution in order to conceal naval intelligence activities as completely as possible. Intelligence systems are sometimes issued to advanced outposts to which it would be dangerous to issue widely held systems.

d. Liaison systems.—These have a comparatively limited distribution and are held chiefly by attachés, observers, officers of other services and Allied nations, and by certain weakly defended bases to which it would be dangerous to issue widely held systems.

The one-time pad is used when appropriate for certain special, liaison, and intelligence purposes.

4215. Information concerning the combined cryptographic plan of British and U. S. armed forces may be found in the effective editions of the following publications:

a. Combined British-U. S. Communications Publications Distribution List.

b. Instructions for Intercommunication between the British and United States Fleets.

c. Combined Registered Publications Memoranda.

4220. BASIC INSTRUCTIONS

4221. No one shall attempt to use a cryptographic aid of any kind unless he is, at the time, thoroughly familiar with the instructions for that system and with the particular key being used. Instructions must be faithfully and intelligently followed. Directions for using cryptographic aids shall be *reviewed periodically* for the purpose of refreshing the memory and taking note of changes.

4222. Special care must be taken to use a system held in common by all addressees unless some good reason exists for doing otherwise (art. 4280). If more than one common system is available, it is important to employ the one having the narrowest distribution.

4223. As provided in *Navy Regulations*, "All signal books and code and cipher publications shall be prepared in the office of the Chief of Naval Operations." Locally designed systems are dangerous because they may engender a false sense of security and may lead to confusion.

4224. More than one cryptographic system shall not be used to encrypt different portions of a message text unless the instructions for that system specifically authorize supplementary use, for instance, of signal vocabulary or a condensation code.

4225. Encrypted text and plain text shall never appear together in the same message unless specifically authorized in the instructions for the system employed. An encrypted message or signal and its translation shall never be filed together or written on the same sheet of paper except in the case of work sheets used in the process of cryptography.

4226. Messages shall be encrypted and decrypted exactly as submitted. No changes in phraseology are authorized, except by consent of the originator. In codress or modified plaindress messages, the originator, addressees, and delivery instructions must be buried within the text if possible and not be habitually placed at the beginning or end.

4227. Garbles should be underlined, with the probable reading indicated or with alternative meanings supplied. The addressee, because he is more familiar with the probable content than the coding officer, will decide what is correct or, if danger of a serious misunderstanding exists, will request verification.

4228. Every possible precaution shall be taken to prevent transmission by radio of the same message in both its encrypted and unencrypted forms. Such a violation of security often compromises the cryptographic system employed.

4229. *Superseded or reserve editions* of cryptographic aids shall be used only in emergencies. A reply to a message so encrypted shall be sent in the same system if it is apparent that the choice of system was deliberate; otherwise, the reply shall be encrypted in the proper system.

4230. SPECIAL RULES FOR CIPHER MACHINES

4231. Special rules for cipher machines will be found, in each case, in the instructions for the machine to be used.

4240. SPECIAL RULES FOR FLAT STRIP SYSTEMS

4241. Special rules for flat strip systems will be found in the effective edition of *CSP847*.

4250. LENGTH OF MESSAGES

4251. Very short messages are weak cryptographically. *Ten groups of encrypted text*, exclusive of indicators, shall be the *minimum*, except for special-purpose systems which permit shorter messages.

4252. Unusually long messages, by their conspicuousness, may provide the enemy with useful information. They shall normally be divided into separate, complete messages, as follows:

a. Parts shall be of unequal length. Each part not longer than permitted by the instructions for the cipher concerned.

b. Use a different date-time group and internal indicator for each part.

c. Make intervals between date-time groups irregular. Variety of headings is also desirable.

d. Let the date-time group of the last dispatch be that of the dispatch as a whole.

e. Show the relation of each part to the other parts by burying in the text such statements as "First part my Ø81705"; "Part two follows as my Ø81638"; "Final section." Unless this is done, addressees will inevitably be confused.

4253. When linkage between parts cannot be concealed, as in messages of high precedence, encrypted General Messages, and multiple address messages which require reply, the message may be broken into cryptographic parts, the number of groups in each part not to exceed the maximum allowed in the instructions for the cipher concerned, and sent as one message. The procedure is as follows:

a. Parts will be identified in plain language. (See example)

b. Use the same external indicator but a different internal indicator for each part, repeating the external and internal indicators as shown:

K49 V BF6 282133 GR354 $\overline{\text{BT}}$ THREE PARTS PART ONE DUPYH XLTQY . . . cipher text . . . XLTQY DUPYH PART TWO DUPYH SQCMG . . . cipher text . . . SQCMG DUPYH PART THREE DUPYH PKFBO . . . cipher text . . . PKFBO DUPYH $\overline{\text{BT}}$ 282133 $\overline{\text{AR}}$

4260. PADDING AND NULLS

4261. In order to protect particularly short messages, arrival or departure reports, and other messages of an unavoidably stereotyped form, the coding officer is authorized to add padding when encrypting such messages. Padding must not be used to excess or as a matter of routine. It need not be used at both ends of a message unless the phraseology at both ends is stereotyped. Padding must be employed when a message is encrypted in more than one system. Padding should always be deleted after decryption, prior to delivery.

4262. To serve its purpose when used, padding must not itself become stereotyped. It must not imitate or copy padding seen in other messages. The length should be varied.

a. It should not consist of such phrases as "Good morning," "Good night," "Good-bye," "Hello again," "Here we go again," "This is a long one," "Happy days," and "That's all." It is equally important that other phrases of a similar nature be avoided.

b. It should contain no quotations from popular songs and no references to current holidays, current sports, or current events of national importance.

4263. Other considerations which govern padding are:

a. It must have no connection with the text of the message in form, thought, or wording.

b. It must not be disrespectful, profane, or obscene.

c. It should not be used as a vehicle for passing personal messages.

d. If used at both ends, the padding at the beginning should have no connection with that at the end, since cryptanalytic recovery of one would give a clue to the other. Use of the same word or words at each end is likewise undesirable.

4264. For the sake of clarity, padding may be separated from the text of the message by double letters, providing they have no possible connection with the text. Neither XX nor KK shall be used for this purpose, nor shall the same letters be used at both ends of the message.

4265. After encipherment of a text, the final five letter group shall be rounded out by adding the required number of unenciphered X's.

4270. PARAPHRASING

4271. Paraphrasing is a process of rewriting the plain language text of an encrypted message in order to protect the cryptographic system from compromise. It can become an evil in itself because of the time required and the possibility of distorting the meaning. Its usefulness is futhermore limited by the fact that a paraphrase can be almost as valuable to the enemy as an exact translation *if it can be linked with the encrypted version.* The instructions which follow are based on these considerations.

4272. When taken from encrypted messages, information which is to be made public *must be thoroughly paraphrased* prior to release. Such information shall be presented as a memorandum or bulletin rather than a message, and shall avoid dispatch language. It must give no indication that it came from a message.

4273. Messages distributed within the naval service and to the U. S. Army need not be paraphrased under the following conditions:

a. When time does not permit.

b. When paraphrasing will alter the exact meaning.

Messages which are to be embodied in other documents shall be paraphrased or quoted indirectly in different words.

4274. 4274. Naval commands which work in close liaison with Allied fighting services may provide these services with exact translations of encrypted messages, with padding deleted, *when essential to proper coordination,* and when time does not permit proper paraphrasing. Any exact translation so passed must contain a statement that it is an exact translation of an encrypted message and that it must be paraphrased and reencrypted before further transmission by electrical means.

provide t ices may g deleted, rasing.

4275. Outgoing messages to be transmitted in naval cryptographic systems for nonmilitary Government departments or for civilian contractors shall not be paraphrased, but ample padding shall be supplied. If a record copy is returned to the sender, it shall omit the padding and the date-time group of the message and give only the originator's date. The classification must be plainly indicated and the following statement affixed:

> Reproduction of this material in any form is not authorized except by specific approval of the Secretary of the Navy.

4276. Incoming messages received in naval cryptographic systems for nonmilitary Government departments or civilian contractors shall not be paraphrased but will be written up with the padding omitted and only the originator's date retained from the date-time group. The order of sentences may be rearranged, if practicable, before delivery. The classification of the message must be plainly indicated and the statement at the end of article 4275 affixed.

4277. When thorough paraphrasing is undertaken, the following successive steps are recommended:

a. Change order of sentences.

b. Rearrange clauses, phrases, and voice of verbs within the sentence.

c. Substitute synonyms where practicable.

d. Increase or decrease the length substantially. Chapter IV of *Notes on Communication Security* shows in detail how this may be done.

4280. REENCRYPTION

4281. Failure to choose a cryptographic system held by all addressees when a suitable one is available wastes time and jeopardizes security. The addition of an addressee, after a message has been transmitted, may likewise involve reencrypting the message in a different system. Unless circumstances require it, this practice is discouraged.

4282. In the following instances, encryption of a message in more than one system may be necessary:

a. Addressees hold no system in common.

b. The only system held in common is currently overloaded or under suspicion of compromise.

c. Some definite advantage will be gained by using a more rapid system for one or more of the addressees.

4283. When simultaneous encryption of a message in more than one system is necessary, the same date-time group shall be used for each version. The padding shall be different; and the order of sentences shall be different, if practicable.

4284. Reencryption of the entire message may be necessary when a message or portion thereof is corrected or passed to an additional addressee not originally included. When this is done, the following precautions must be taken:

a. A new date-time group shall be used.

b. Words to the effect that the second message is a reencryption of a previous one shall be inserted in the text to explain the connection between the two messages.

c. Different padding shall be used.

d. The order of the sentences shall be changed insofar as is practicable.

e. A different internal indicator or message alignment shall be chosen.

4285. *a.* Reencryption of the entire message is not necessary when one of the following types of encryption errors is corrected:

1. Use of external indicator for one channel with cryptographic aids for another (provided the addressees hold the aids actually used).
2. Use of external indicator for one classification with set-up for another.

3. Use of different internal indicator or message alignment from that shown.
4. Use of set-up for wrong date.
5. Improper encryption of portion of text, resulting in garbles.

b. Such errors can be handled by a short encrypted message similar to one of the following, but with the phraseology varied as much as possible:

1. "To decrypt my 030418 use channel 126 confidential."
2. "My 030418 was encrypted on secret set-up."
3. "Internal indicator my 030418 should be Victor Able Peter Charlie Jig."
4. "Use set-up for tenth to decrypt my 030418" or "Break my 030418 on table two."
5. "This reencrypts groups 36 to 59 of my 030418." then following with the previously garbled text. This method shall be used only when the garbled portion of the text is not too long in relation to the total length of the original message.

4286. *The worst possible error in reencryption is to repeat a message or portion of a message in the key originally used, with the erroneous portion correctly encrypted and the correct portion unchanged.*

4290. CHECK DECRYPTION OF TEXT AND CALL SIGNS

4291. The best time to discover errors is before transmission. For this reason, each outgoing message shall be completely decrypted, preferably by another person using different apparatus, prior to transmission if possible. It is imperative also that call signs be verified, in view of the risk of nondelivery or compromise should an error occur.

4292. Check decryption should cover the following steps:

a. Check cryptochannels available to addressee(s).
b. Check external indicator against classification, rotator chart and indicator list for the calendar day.
c. Check key list and physical elements.
d. Check internal indicator.
e. Completely decrypt message.
f. Compare decrypted message with original text.
g. Check encryption of call signs.

4293. This procedure makes certain that the processes were correctly carried out, that the machine functioned properly, if one was used, and that no omission or alteration occurred.

4310. GARBLES

4311. If a message fails to yield intelligible text after a determined effort to decrypt it, a request for verification may be necessary. The urgency of the message, the length of time required for obtaining a correction, and the possibility that the originator or addressee may be under a condition of radio silence are factors to be considered.

4312. Delay in the delivery of a message may be of vital consequence. While waiting for a correction, the coding officer shall renew his efforts to resolve the error. The decryptor can often outguess the encryptor and, by resourceful analysis, discover what is wrong.

4313. When a message text garbles from the outset, and no clear text is obtainable, the error is apt to be one of the following:

a. Use of the wrong month or day in entering the key list. Trial of the previous or the next day's arrangement is advisable if the date-time group is close to ØØØØ GCT.
b. Omission of one or more steps in the initial set-up.
c. Improper insertion of code wheels.
d. Use of physical element not belonging to system used, or employment of a key not belonging with the physical element used.

e. The line above or below the correct one in the key list may have been used.

f. Dirty contacts in an electric cipher machine used by either the originator or addressee.

g. Use of confidential for secret setting and vice versa.

4314. *Duplication and omission garbles* cause a message to be unintelligible from the point where the garble begins to the end of the message. These are the commonest garbles encountered with electric cipher machines. Eliminating one strip too many or too few in flat strip system has the same effect. Garbles of either type are often easy to clear by one of the following steps:

a. A doublet in the cipher text should be suspected in case the plain text breaks at this point. Cancel one of the duplicated letters and proceed with decryption. If three letters, four letters, or a whole group of cipher text is repeated, the fact will be evident, and this possibility should therefore be investigated first.

b. Assume that a letter, letters, or an entire group has been *omitted* in the cipher text and attempt to decipher the remainder of the message by skipping one, two, or more letters at the point where the garble begins. Occasionally a longer omission occurs, or, in a flat strip system, only part of a generatrix was used.

4315. When a message garbles for a part of one or more flat strip generatrices, a little ingenuity will often suffice to clear it. The situations which follow cover most garbles of this type:

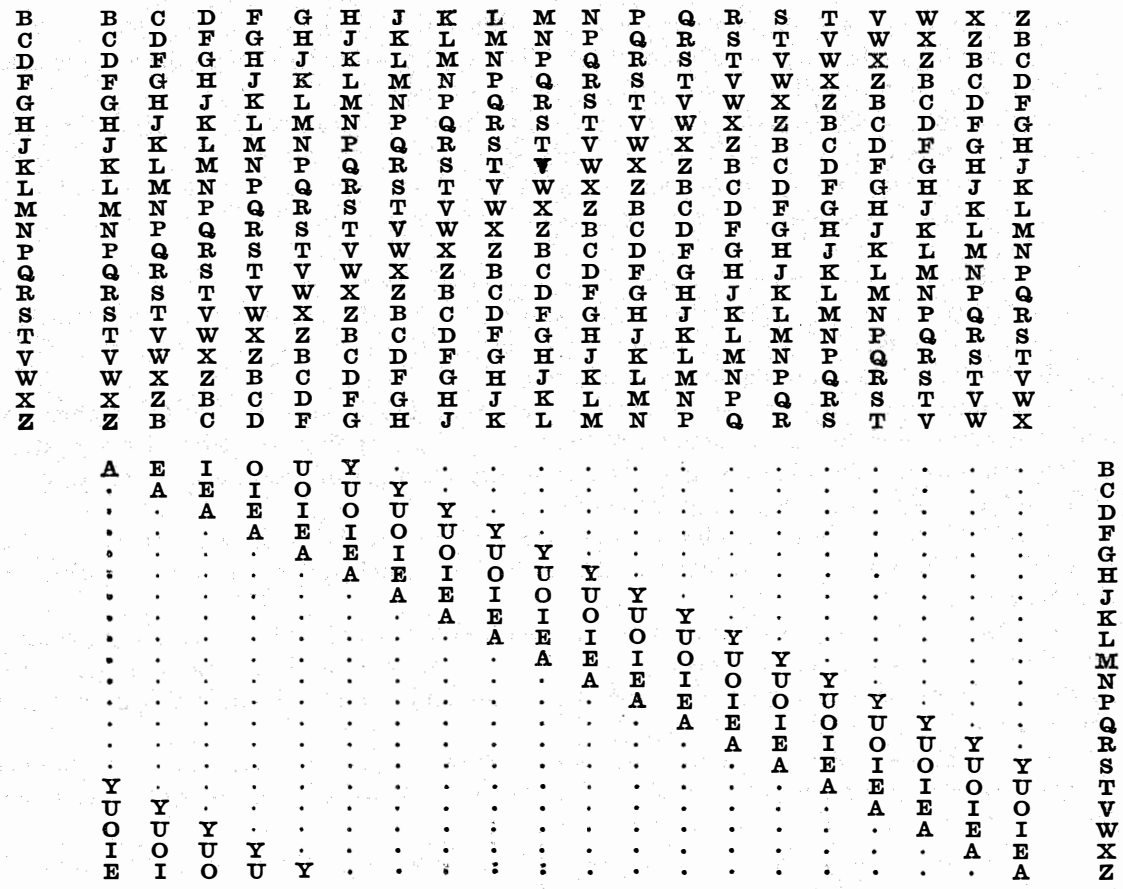
a. The message garbles from a point in the middle to the end of a single generatrix, but clear text resumes on the next generatrix. An accidental shift from one generatrix to the next may have occurred while copying off the cipher text. Look for clear text on a generatrix near the garble.

b. A garble occurs regularly over the same area on each generatrix. This may happen because the wrong strip was turned down, or because one strip was inserted in the wrong place. Experimentation will disclose the correct set-up.

c. If two strips are interchanged for any reason, each will produce a single-letter garble on each generatrix at the same point.

4316. Garbles of one or two letters ordinarily result from errors in transcription or transmission, or possibly from transposition of two strips. Sometimes two or three strips are accidentally moved before copying off the cipher text. Such errors can usually be cleared by inspection.

4317. *Garbles in a code system* can be cleared in one of several ways. The first is by reference to the garble table from which the code groups were constructed. Each code group will probably differ from each other code group by at least two letters. A typical garble table follows:



To use the table, construct groups progressively, taking:

The first letter in the left-hand column beside the consonant table.

The second letter from the corresponding line in the consonant table.

The third letter from the column of vowels below the second letter.

The fourth letter from the right hand column beside the vowels and in the same line as the third letter.

Successive code groups generated by the above garble table are:

BBAB	BCAC	BDAD	
BBEZ	BCEB	BDEC	
BBIX	BCIZ	BDIB	
BBOW	BCOX	BDOZ	
BBUV	BCUW	BDUX	
BBYT	BCYV	BDYW	and so on.

Suppose the code group BCOK appears in a code message and not in the code. It is then necessary to assume that each letter in turn has been garbled, and to generate the possible code groups from the garble table. The context of the message will usually indicate which of the possible meanings is correct.

Example:

Letter assumed incorrect	Letters assumed correct	Missing letter from garble table	Resulting code group	Meaning from code book
Fourth	B C O –	– – – X	B C O X	332.
Third	B C – K	None	None	
Second	B – O K	– N – –	B N O K	CH.
First	– C O K	P – – –	P C O K	Have sound contact.

4318. Garbles in code messages frequently result from the transposition of two letters in a code group. The remedy is to interchange adjacent letters and see whether the resulting code group fits the garble table and whether the meaning assigned in the code book fits the context of the message.

4319. When a message can be partially decrypted, it may be possible to recover the missing portions by filling in the probable text, encrypting it, and then ascertaining whether any plausible error of encryption, transmission, or typing could have resulted in the encrypted text actually received.

Section D. TRANSMISSION SECURITY

4400. RISE OF RADIO INTELLIGENCE

4401. Advances in code and cipher solution have been paralleled by the rapid development of radio intelligence.

4402. One phase of radio intelligence has acquired a reputation of its own—traffic analysis. It covers statistical study of message headings, receipts, acknowledgments, relays, routing instructions, and services; tabulation of the volume, types, and directional flow of traffic at each point; and the noting of *departures from normality*. In this manner a great deal of useful information has been gathered, although the messages themselves resisted cryptanalysis.

4403. Transmission security is a protected condition of radio and other means of communication so that the amount of reliable information which the enemy can obtain by interception and analysis of traffic is reduced to a minimum. It is achieved mainly in the following ways:

a. By defensive measures against traffic analysis.
b. By defensive measures against interception and direction finding.
c. By excellent circuit discipline and operator training.
d. By specific precautions in the use of radiotelephone.
e. By practices which insure security of wire communications.
f. By measures to prevent radio deception.
g. By limitations on visual transmission.

4404. Methods of transmission, arranged in their *approximate* order as regards security, are:

a. Messenger.
b. Registered mail—guard mail, U. S. postal system, or diplomatic pouch.
c. Landline or cable—Army or Navy controlled.
d. Ordinary guard mail or U. S. postal system.
e. Domestic landline or cable.
f. Short-range systems—visual, underwater sound, ultra-high-frequency radio.
g. Foreign landline or cable.
h. Low-power radio.
i. High-power radio. All transmissions are likely to be intercepted and studied.

The relative security of one method over another will vary according to circumstances.

4410. DEFENSIVE MEASURES AGAINST TRAFFIC ANALYSIS

4411. Among the methods by which traffic analysis may be rendered unreliable are the following:

a. Maximum use of other methods of communication, whenever practicable; or use of wire systems in preference to radio.

b. Encryption of call signs and avoidance of patterns. Linkage between an encrypted call sign and its plain equivalent, or between two encrypted call signs of the same unit, must be avoided.

c. Avoidance of date-time groups which, by their characteristics, will identify the originator.

d. Concealment of originator and addressee(s) in encrypted text of message.

e. Use of collective calls whenever practicable.

f. Elimination of specific routing and relay instructions when reliable delivery can be accomplished without them.

g. Delivery of messages over those circuits which involve the fewest relays.

h. Avoidance of service messages by every practicable means.

i. Maintenance of radio traffic at artificially controlled levels or creation of false traffic peaks by use of dummy messages and other means. This may be authorized only by competent authority.

j. Rotating indicators make it difficult or impossible for the enemy to tabulate messages according to the system used. Thus cryptographic security, as well as transmission security is increased.

k. Control of test transmissions in order that their timing and volume may not give information about impending operations. For example, the enemy may discover when to expect a raid and how many planes are involved if each pilot tunes his radio just before taking off.

l. Use of a few powerful stations for Fox broadcasts and transmissions to individual ships. Ship movements from area to area can be traced more readily if a large number of small area stations are employed.

m. Full use of alternative call signs and indicators whenever provided.

4420. DEFENSIVE MEASURES AGAINST INTERCEPTION AND DIRECTION FINDING

4421. Strict radio silence, when required, is the primary defense against radio intelligence measures at sea, when the location of a ship or task force is unknown to the enemy. Radio direction finders are now effective on nearly all frequencies; a transmission of *only 15 seconds' duration* is sometimes sufficient for obtaining a bearing. The skip-zone phenomena of high-frequency wave propagation cannot guarantee against direction finding even when the direction finders are in what is believed to be a skip zone. Radiating receivers are more helpful to the enemy than transmitters of the same power because they are on the air continuously.

4422. Unauthorized transmission and unnecessary testing provide increased opportunity for enemy direction finding. These must be avoided.

4423. Those combinations of transmitters, antennas, and power should be used which will give the minimum wave propagation consistent with reliable communications.

4424. The F method of delivering traffic to ships at sea shall be used whenever possible in preference to the R method.

4425. When a shift in frequency is made except on point to point circuits, it must be disguised by use of an encrypted procedure signal or other cryptographic means so that enemy interceptors can locate the new frequency only by searching for it.

4430. CIRCUIT DISCIPLINE AND OPERATOR TRAINING

4431. Speed and reliability, as well as security, make circuit discipline and thorough training of operators essential. This is particularly important in the case of long-range radio circuits.

4432. Operators should be trained in particular to avoid the following practices:

a. Violation of radio silence.

b. Unofficial conversation between operators.

c. Unauthorized transmissions, including testing.

d. Tuning transmitters with antenna cut in.

e. Excessive transmitter power.

f. Improper transmitter and receiver adjustment. A transmitter or receiver which is off frequency either fails to establish communication or makes extensive repetition necessary. This wastes time and increases enemy opportunity for interception and direction finding.

g. Misuse and confusion of radio call signs. This may result in nondelivery of an important message or establish linkages leading to compromise of the call sign cipher.

h. Incorrect and unauthorized procedure.

i. Unnecessary and excessive procedure transmissions.

j. Transmissions at speeds beyond the capabilities of receiving operators.

k. Individual characteristics in sending. The particular swing of an operator will frequently identify a ship or station, even when frequency and call signs are changed.

l. Failure to maintain radio watches on designated frequencies and at prescribed times.

m. Excessively long call-ups. When a unit afloat is called and does not answer within a reasonable time, presumably because a condition of radio silence prevails, the dispatch should be sent blind or put on a Fox schedule. When a unit afloat calls a shore station on a ship-to-shore circuit and receives no answer within a reasonable time, the ship should deliver the message via any available station, using the call NQO if necessary.

4433. Good judgment and common sense in a radio operator contribute substantially to the safety of our ships at sea. An operator on shore, for example, who requires a submarine in enemy waters to repeat transmissions because of garbled call signs or incorrect authenticators is not exercising good judgment.

4434. Traffic transmitted for the training of operators should be drafted expressly for this purpose, and should never consist of bona fide messages selected from the files.

4440. RADIOTELEPHONE SECURITY

4441. Careless or excessive use of radiotelephone is a serious hazard to security. Wartime experience has shown that it is invaluable for quick maneuvering of a task force *if reserved for command and used only under the direct supervision of the task force commander.*

4442. Although high-frequency radiotelephone transmissions are less susceptible to interception and direction finding than medium or low frequency transmissions, they are frequently intercepted at distances in excess of 100 miles.

4443. Radiotelephone silence can be carried too far. Once a task force has been sighted and *identified,* use of radiotelephone for fighter direction or for maneuvering is unquestionably advantageous.

4444. Several precautions should be taken by all who use radiotelephone, even though a voice code is provided:

a. Think out contents and wording before starting the transmission in order to reveal no information of military value, even by *implication.*

b. Avoid the plain-language use of names of ships, places, chart references, or persons.

c. Avoid reference to titles which may reveal the nature of the headquarters, task force, or other unit concerned.

d. Self-evident voice codes have no security value. They are used only for condensation and speed.

e. Avoid linkage between radiotelephone call signs and any other call signs.

4450. SECURITY OF WIRE TRANSMISSIONS

4451. Wire services used by the U. S. Navy may be grouped in two categories:

a. **Military.**—This means the entire line—whether open wire or cable—including terminal boxes, repeater stations, and switchboards, is maintained and operated by the armed forces of the United States. It includes field telegraph, telephone, and teletypewriter.

b. **Nonmilitary.**—Whenever any portion of a facility is maintained or operated by a nonmilitary agency, the entire facility shall be classified as nonmilitary.

4452. The protection required for information of each classification, when transmitted by wire, is summarized in the following table, except that under no circumstances will *TOP SECRET* messages be transmitted by electrical means in the clear:

U. S. Wire Services	Restricted	Confidential	Secret (except TOPSEC)
1. Teletypewriter private line:			
Military	Clear	Encrypt*†	Encrypt*†
Nonmilitary or commercial TWX	Clear	Encrypt*†	Encrypt†
2. Telegraph—Cable:			
Military	Clear	Encrypt*†	Encrypt*†
Nonmilitary	Encrypt*	Encrypt	Encrypt
3. Telephone:			
Military	Clear	Encrypt*†	Encrypt†
Nonmilitary—private line operated by military personnel.	Clear	Encrypt*	Encrypt*
Commercial exchange system	Encrypt*	Encrypt*	Encrypt
4. Facsimile:			
Military	Clear	Prohibit*†	Prohibit*†
Nonmilitary	Clear	Prohibit*†	Prohibit

**In nontactical situations, when* necessary *military operations would otherwise not be completed in time, messages may be transmitted in the clear (art. 4453) (except Top Secret).*

†*In tactical situations, when in actual or imminent combat, messages may be transmitted in the clear (art. 4453) (except Top Secret).*

4453. Both tactical and nontactical situations must meet the following conditions before transmission in the clear is permissible within the exceptions above:

a. The information to be transmitted, if intercepted by the enemy, cannot be acted upon in time to be of assistance to him.

b. Each written message to be transmitted in the clear must be individually approved, and the words "Send in clear" inscribed over the signature of the releasing officer.

c. One of these statements must apply:

1. No cryptographic aids are available.
2. No cryptographic aids are held in common by sending and receiving stations.
3. The urgency of the message prevents the delay involved in using cryptographic aids.

4454. The security classification of messages sent in plain language on wire circuits shall be shown by including in the first part of the text such statements as "Restricted" or "This is restricted." The operating signal with the neaming "Do not forward this message by radio" shall appear in the heading.

4460. SECURITY OF U. S. RADIO SERVICES

4461. Security of U. S. military and nonmilitary radio services is summarized in the table which follows:

U. S. Radio Services	Restricted	Confidential	Secret except [illegible]
1. Telegraph and teletypewriter:			
Frequencies over 40,000 kc	Encrypt*-----	Encrypt*†-----	Encrypt*†
Frequencies below 40,000 kc	Encrypt*-----	Encrypt†-----	Encrypt†
2. Telephone (all frequencies)	Encrypt*-----	Encrypt†-----	Encrypt†
3. Facsimile	Clear-----	Prohibit*†-----	Prohibit

*† *See notes in table in 4452.*

4470. RADIO DECEPTION

4471. Radio deception, the radiation or reradiation of radio waves in a manner intended to deceive the enemy, is one of the offensive tools which communication offers to command. There are two kinds of radio deception:

a. Manipulative deception is the use of radio to conceal from the enemy the location, movements, and strength of U. S. naval forces by the use of misleading material *in our own communication channels.*

b. Imitative deception is the use of radio to simulate enemy transmissions in order to confuse and deceive the enemy *in his own channels.*

Deception plans of both the manipulative and imitative type are explained in current registered publications on the subject. They are carried out by specially trained personnel as and when authorized by the area or task force commander, in accordance with approved policies.

4472. Protection against radio deception is accomplished in several ways:

a. By correct use of authenticators when advisable. Unauthenticated messages cannot be rejected out of hand, however. Even incorrectly authenticated messages may be genuine. Such messages should be delivered without delay, but with suitable notation, for decision by the addressee as to their genuineness.

b. On voice circuits, the best means of authentication lies in recognizing the voice of the speaker or identifying his accent and phraseology. European attempts at deception might be more difficult to detect than Oriental efforts.

c. By training in authentication on the part of communication personnel, particularly in tactical situations.

d. By use of encrypted call signs when required.

e. By use of direction finders on transmissions of questionable origin.

f. By alertness of operators to recognize irregularities in procedure and characteristics of tone or keying which might denote imitative deception by the enemy.

4473. Communication personnel need to be particularly alert for such tricks as the following:

a. Combining the text of a genuine message, intentionally garbled, with the heading of another, word count corrected, and introducing this imposter on a different radio circuit.

b. Lifting a message, including authenticators, if any, from one circuit and introducing it on another circuit simply to waste time, create confusion, and perhaps produce service messages.

c. Transmitting false plain language orders, signals, or procedure messages.

d. Enemy calling U. S. ship with the hope of taking DF bearings on the answer.

NOTE.—*Radio deception can frequently be detected because in minor ways it lacks plausibility. The enemy must depend largely on unsuspecting communication personnel or the haste and preoccupation of tactical situations. He may conceal the incompleteness of his knowledge by arranging to have his message partly obliterated by interference. If he can induce a radio operator to waste time trying to copy such a transmission, he has accomplished a part of his purpose.*

4480. SECURITY OF VISUAL TRANSMISSIONS

4481. Methods of visual communications in order of preference from the standpoint of transmission security are:

a. Day:

Flag hoist, semaphore, or small searchlight.
Large searchlight.

b. Night:

Blinker tube.
Yardarm blinker or small searchlight.
Large searchlight direct.
Large searchlight beam.
Large searchlight beam on clouds.

4482. Visual communication is ordinarily preferable to radio *except when in close contact with enemy units at night.*

4483. Searchlight and blinker irises shall be kept as narrow as possible in visual communications, particularly at night. Consideration must be given to the possibility of interception.

Chapter 5. SYSTEMS AND METHODS FOR THE TRANSMISSION OF MESSAGES

Section A. GENERAL

5000. PRINCIPAL SYSTEMS AVAILABLE

5001. The principal systems and methods available for the transmission of messages are:

a. Messenger.

b. Mail—Mailgram or airmailgram.

c. Visual.

1. Directive flashing light.
2. Nondirective flashing light.
3. Semaphore.
4. Flag hoist.
5. Pyrotechnics.*
6. Panel methods.*

d. Sound.

1. Underwater.
2. Whistle or other similar device.

e. Wire.

1. Cable.
2. Land telegraph.
3. Teletype.
4. Telephone.

f. Radio.

1. Radiotelegraph.
    a. Broadcast (F) method.
    b. Intercept (I) method.
    c. Receipt (R) method.
    d. Basegram method.
2. Radiotelephone.

5002. A description or explanation of certain of these systems and methods, together with the considerations bearing upon the choice of which system to use in a particular circumstance, is contained in this chapter.

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*NOTE.—*Special-purpose methods not described herein.*

Plate 1–5.—SAMPLE FORM FOR MAILGRAM

MAILGRAM

COMMUNICATION OFFICE—(Activity)

DELIVER THIS MAILGRAM TO COMMUNICATION SYSTEM IMMEDIATELY UPON RECEIPT FOR DISTRIBUTION AND HANDLING AS A REGULAR DISPATCH

From:	Date:	Released By_____	
Action to:	Information to:	Secret*_____ Confidential*_____ Restricted*_____ Plain_____ Via air mail_____	

SPECIAL INSTRUCTIONS

*If not encrypted by originator do not retransmit by radio without thorough paraphrasing and encrypting.

Authenticated_____

(Prepare sufficient copies for all addresses *plus one* for file.)

Section B. MESSENGER AND MAIL

5100. MESSENGER

5101. This system, as the name implies, provides delivery by hand over the entire route of the message from the communication office of the originator to that of the addressee(s). Plane, message drop, boat, diplomatic pouch, or any available means of transportation may be used with due regard to the security of the matter involved.

5102. The message is prepared by the originator and handled by the communication offices concerned in exactly the same way as a message by any other system. It must invariably be authenticated by the office of origin. Receipt for delivery together with the time of such delivery should always be obtained from the office of destination, and this date should be entered on the original copy of the message prior to permanent filing by the office of origin.

5103. This system of communication is of great value in relieving congestion over rapid communication circuits, particularly in the case of long messages wherein no immediate action is required. However, when circuits are heavily loaded and the distances involved are comparatively short, speed in delivery will in many cases actually be increased by the use of messenger communication. This is particularly true as regards classified matter which, if sent by other systems, would have to be encrypted and decrypted.

5104. From all considerations of reliability, security, and, in many instances, speed, this system is preferable to all other systems of transmission available and *full use* of it should be made whenever practicable.

5110. MAILGRAM OR AIRMAILGRAM

5111. This is a method of sending a dispatch to any or all addressees by mail or airmail. A mailgram, because it ordinarily does not have to be encrypted, transmitted, decrypted, and delayed at each end by traffic of higher precedence, may arrive sooner than would a deferred dispatch. Overnight delivery is frequently attained, depending on mail schedules. The mailgram method reduces the load on ciphers, coding boards, and particularly on overburdened wire or radio circuits.

5112. A message which must go by rapid means to action addressees may frequently be sent to information addressees by mailgram. If the message is encrypted and in a system held by all addressees, the mailgram shall be a copy of the encrypted version. When mailgram service is used for all addressees, dispatch headings shall not thus be employed; the originator and addresses shall be indicated by official titles rather than by call signs, never by both.

5113. Regular message blanks may be used for mailgrams, but special forms for this purpose are more satisfactory. A sample is shown in Plate 1–5. In any case, the word MAILGRAM must appear on the message and on the envelope; and the date-time group must appear on each copy.

5114. Outgoing mailgrams must be delivered promptly to the originator's communication office for transmission. They will be transmitted to *the communication office* of the addressee. For example, mailgrams to bureaus or offices of the Navy Department shall be addressed: Communication Office, Navy Department, Washington, D. C. If there is no communication office at the destination, they may be forwarded directly to the addressee. At each end they will be accorded the same handling that is given to dispatches.

5115. Classified mailgrams may be encrypted for additional security. If encrypted, neither the mailgram nor the envelope containing it should show the classification.

5116. When a classified mailgram is sent in plain language, the security classification must b[illegible] with *Navy R*[illegible] be transmi[illegible] and only wh[illegible]

5116. Unencrypted, classified mailgrams not previously encrypted will be handled as provided for classified material by *Navy Regulations*, article 76.

"Transmission of this message by registered mail within the continental limits of the United States is necessary and is therefore authorized."

5117. When practicable, communication officers at the point of origin shall mail sufficent copies of each plain language mailgram to provide for normal distribution within the office of destination. This permits immediate delivery to action officers without making additional copies.

5118. All copies to be transmitted require a signature or initials of authentication. The signature of an officer is ordinarily required, but in large organizations signatures of other authorized persons may be used.

Section C. VISUAL, SOUND AND WIRE

5200. VISUAL SYSTEMS AND METHODS

5201. A complete description and explanation of the use of visual systems and methods available to the Navy is given in Chapter 7.

5202. *Flag-hoist* signalling is the most rapid and accurate method when in easy visual signalling distance in daytime. It should normally be the primary tactical maneuvering and order method of transmission between surface units whenever visibility conditions permit. Signals are normally repeated by addressees, and thus a sure check on the accuracy of reception is provided. It is limited, as to the text which may be conveyed directly, by the meanings contained in the signal books employed.

5203. *Flashing light* methods are divided into nondirectional and directional classes. All-around lights, such as yardarm blinkers or signal searchlights at night, have the advantage of affording quick and practically simultaneous delivery of messages to a group of ships or aircraft within visual distance. There is, however, the attendant disadvantage of lack of security and privacy. This disadvantage usually precludes the use of *nondirectional* light methods in wartime, even in port. *Directional* systems, such as signal searchlights in daytime and blinker guns at night, have the advantage of increased security and privacy, but are necessarily somewhat slower, since relays are involved when delivering messages to a group of ships or aircraft. *During darkness in wartime,* any flashing light method should normally be prohibited except for recognition and messages of sufficient importance to outweigh the need for preserving secrecy of location.

5204. *Semaphore* is much more rapid than any flashing light system for daylight transmission of *dispatches.* It cannot, however, be received at such great distances. This fact somewhat limits its usefulness but at the same time reduces the possibility of interception by the enemy or unauthorized persons.

5205. The *choice* of visual system or method to be employed, as well as the decision as to whether radio should be employed in preference to visual, must always be carefully considered by responsible officers according to the particular situation and conditions existing.

5206. As a general guide for responsible officers, the following is prescribed as the normal order of preference in the choice of visual systems during daylight:

a. Tactical signals:

1. Flag hoist.
2. Small signal searchlight.
3. Large signal searchlight.

b. Dispatch traffic:

1. Semaphore.
2. Small signal searchlight.
3. Large signal searchlight.

5210. SOUND

5211. It is possible to transmit messages in telegraphic code by any sound-emitting apparatus within audible distance. This has a limited application in the Navy in the use of special whistle signals. However, the principal use of sound for communication purposes lies in the utilization of underwater sound signalling devices. These devices are particularly adaptable to short-distance signalling between submerged submarines. Some methods of underwater sound signalling are more secure than others, depending on the particular equipment used, but it must be fully realized that any such system may be intercepted by an enemy equipped with a similar device. Sound transmission is slow, extremely limited in range, and of an indeterminate reliability, subject to the variations in propagation peculiar to sound waves in various media.

5220. WIRE

5221. Wire systems may, in general, be considered the most secure method of communication by rapid means (i. e., excluding messenger and mail) since the possibility of interception is the most remote. Many factors enter into this security, however, and there is a great difference in the relative degree of security among the various wire systems available. The most secure wire system is one which passes directly between naval or military activities and lies over a carefully guarded route. The least secure would be one requiring several relays through territories or locations of doubtful security. The consideration of *methods* of transmission used over wire systems is extremely important in determining the security attainable over such systems. Other considerations such as location of addressees, availability of facilities, reliability, and speed of transmission, often outweigh considerations of security.

5222. *Cables.*—The Naval Communication Service does not own or operate cables, hence the cable facilities of commercial companies or foreign governments must be utilized. Inasmuch as cable companies often rely upon radio links when cables are interrupted or nonexistent, it is necessary, if all-cable transmission is desired, to include the phrase PAR-FILS in the prefix of the dispatch. When thus directed, the cable office will divert the dispatch over competing lines if necessary to assure a cable route throughout. The locations of cable offices and terminals throughout the world may be obtained from the H. O. Chart No. 2180. In addition, the Chief of Naval Operations (Director of Naval Communications) maintains records of routes, interruptions, and technical data concerning cables, which are available upon request.

5223. *Landwire telegraph, teletype, and telephone* are methods of wire transmission adapted to transmission between points of communication located ashore. Certain classified equipment is in some instances used to increase the security of those methods of transmission. *Teletypewriters* have now in the main largely replaced, in the Naval Communication Service, the hand- or machine-keyed land telegraph as a means of wire communication between stations ashore. But considerable use is still made of transmission by keyed telegraph. *The telephone* has particular advantages of convenience and speed, and is especially suitable for administrative traffic at naval bases and shore stations. Its disadvantages lie in (*a*) susceptibility to interception by unauthorized persons, and (*b*) liability to errors in reception which cannot be verified. This latter disadvantage can be overcome to some extent by requiring that the receiving operator repeat back important or difficult portions of telephone messages.

SECTION D. RADIO SYSTEMS AND METHODS

5300. GENERAL

5301. *Radiotelegraph* is the primary system of transmission by radio. It is best adapted for communication to, from, and between widely separated mobile units and, hence, is the most important system in use by the Naval Communication Service.

5302. *Radiotelephone* (voice radio) is utilized in the Navy primarily for short-range tactical communications by aircraft and surface ships. Because of its comvenience, speed, and simplicity of operation it is often used to replace or to supplement visual systems. It must be emphasized, however, that no tactical communication plan should ever depend solely on *one* tactical communication system alone. Standby systems should always be provided, and manned, ready for instant use.

5303. Probably the most important factor leading to efficient communications over voice circuits is the enforcement of *strict circuit discipline.* This can be accomplished only through vigorous indoctrination and insistence upon rigid compliance with the prescribed procedure. Superfluous, unimportant, and unauthorized transmissions must be prohibited at all times. See article 4430.

5304. The use of *radiotelephone* may be authorized in principle as follows:

a. By all types of ships and aircraft—when in contact with the enemy, including gunnery control.

b. By aircraft patrols—to broadcast warnings or urgent enemy reports.

c. Between aircraft in the air, except that aircraft in which a radioman is embarked shall normally use keyed transmission.

d. Between ship or ground control stations and aircraft—principally for fighter direction.

e. During amphibious operations (actual or simulated landings).

f. For special services as authorized by competent authority.

5305. Very-high-frequency (VHF) tactical radiotelephone circuits have proved their value in war. The following general rules are set forth for the guidance of responsible commanders in the use of such circuits in wartime:

a. They may be used for initial contact reports, emergency maneuvers, and the transmission of important information when visual means are prohibited or too slow.

b. Only a minimum of transmission should be permitted during darkness or reduced visibility.

c. Caution must be exercised in the use of *plain language* transmissions of vital importance which would be of value to the enemy if intercepted.

5306. *Detailed instructions* supplementing or modifying the foregoing general principles shall be issued by responsible commanders as appropriate and necessary, depending upon the situation existing.

5310. PRINCIPAL METHODS OF TRANSMISSION BY RADIOTELEGRAPH

5311. The principal methods used for the transmission of naval messages by radiotelegraph are the **Receipt** (R), **Broadcast** (F), **Intercept** (I) and **Basegram** methods.

5320. THE RECEIPT (R) METHOD

5321. The *receipt* or R method is that in which both the transmitting and receiving stations may use their transmitters in order to effect delivery of messages, and in which the transmitting station requires and obtains a receipt for each message thus transmitted.

5322. This is the normal method of handling point-to-point, ship-to-ship, ship-shore, and aircraft traffic. It may also be authorized by responsible commanders in peacetime, or under exceptional circumstances, in wartime, for shore-to-ship communications.

5323. This method is the most reliable, since no doubt exists as to the receipt of the message by the addressee. Repetitions and corrections may be obtained as desired at the time of transmission. A decided disadvantage in the use of this method in wartime is that it entails the use of transmitters by both stations. The *presence* of both stations is thereby disclosed, and their *positions* can be determined by direction finding. Moreover, as the use of individual call signs is required, this may lead to the disclosing of the *identity* of the stations called.

5330. THE BROADCAST OR F METHOD

5331. The *broadcast** or F method is that in which, although the messages transmitted are addressed either directly or indirectly, the stations addressed are not permitted to receipt for messages or to use their transmitters for any other purpose directly in connection with these F method transmissions.

5332. The principal advantage of the F method, which is also applicable to the I method, is that the station addressed does not answer and thus avoids disclosure of its position. This method has the further advantage that by its employment it is often possible to avoid the use of the individual call signs of the stations addressed, thus concealing the identity of the stations for which the message is intended.

5333. A disadvantage in this method is that it provides no positive indication that the message, as transmitted, has been received by the addressee. However, by the use of transmitters of adequate power, by careful choice of frequencies, by careful check on accuracy of transmissions by monitoring, by good operating technique, and by use of serial numbers, this method has attained such a high degree of reliability that it can be used as the primary method for delivery of messages from shore stations to the forces afloat.

5334. Officers controlling broadcast (F) schedules should, however, as an added assurance of correct reception, repeat *important* messages on subsequent schedules wherever practicable. The number of repetitions deemed advisable will vary with the circuit conditions existing, the type of stations to which the messages are addressed, and other pertinent factors. These considerations reach a maximum of importance when transmitting to submarines on patrol.

5335. Every ship or station required to guard F or I method transmissions, as prescribed in Appendix I or as further prescribed by fleet or force commanders, must copy all messages transmitted, taking necessary cognizance of those in which it may bean addressee.

5336. Guard Organizations.—Guard organizations may be prescribed for groups of ships or stations by responsible senior officers. In this case the guardship assumes the responsibility for delivery of F or I traffic to addressees specifically designated by that officer. The guardship organization shall normally be established for ships with a limited number of operators in port, and at sea when practicable. All stations served by F or I method schedules shall, however, keep complete files of such schedules except that a responsible senior may designate specific stations within his command to keep complete files, if it is impracticable for all stations to do so.

a. Ships acting singly or undergoing yard overhaul, unless specifically exempted, shall maintain a complete file of the effective schedule by which they are served.

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*NOTE.—*The term "broadcast" as usually employed in nonnaval parlance also has some naval application. That is, certain transmissions are made without definite addresses and are intended for practically unrestricted reception. Messages thus broadcast by the Naval Communication Service include time signals, hydrographic notices, meteorological reports, weather forecasts, storm warnings, and ice warnings. Naval press transmissions, being specifically addressed, do not come under this category and may be utilized only by those addressed.*

b. Nothing herein is intended to modify the provision that a message which has been regularly transmitted on an F or I method schedule is considered to have been delivered to *all* addressees who are required to guard the schedule. Guard organizations are local arrangements wherein a responsible senior assumes the responsibility for certain units under his command.

5337. Requests for repetition.—In the interest of security, requests for repetitions or verifications of F or I method messages should be reduced to a minimum, and the use of radio for such requests should be avoided, if possible. Therefore, in case it is necessary for a ship to request a repetition of a shore station F or I method message, every effort should be made to obtain such repetition from ships in company and preferably by visual or boat. A radio request for repetition should normally be resorted to only when (*a*) no other means is available and (*b*) the necessity for obtaining the repetition prior to arrival in port is considered to outweigh the risk of disclosing the location of the ship.

5340. THE INTERCEPT OR I METHOD

5341. The *intercept* or I method is that in which one transmitting station sends to a second station, the latter obtaining necessary repetitions to insure correct reception, and repeating back if so directed by the first station, or if so prescribed. The messages thus transmitted are *addressed* to other stations which are required to copy the transmissions but are not permitted to receipt for messages thus received or to use their transmitters for any other purpose directly in connection with these I method transmissions.

5342. This method has a slight advantage over the F method in that necessary verifications can be pointed out and corrections obtained by the station called. The station called (even though not an addressee) decrypts the message, if practicable to do so, and requests the transmitting station to verify and repeat as may be necessary. Thus the intercepting station (actual addressee) obtains the correct version without transmission on its part. Most of this advantage is, however, realized in the F method when the services of a monitoring station are used.

5343. A further advantage in the use of the I method, so far as reliability of reception is concerned, is gained when the station called is directed to "repeat back." The ship station then has two locations from which to receive the message, and when radio reception from one is poor it is likely that the transmissions from the other may be readable.

5344. The great weakness of the I method lies in the limited amount of traffic which can be handled in a given period as compared to that which can be handled by the F method. Because of this, the I method is seldom utilized by the Naval Communication Service.

5345. Without the "repeat back" feature, comparatively slight advantage is normally to be gained from the use of the I method. Therefore, whenever two shore stations are directed to utilize this method on a regular schedule, the "repeat back" feature is standard practice.

5346. Ships should make full use of the regular shore F or I method schedules for delivering messages to other ships known to be served by such schedules. A message to be so handled should be delivered to the proper station for introduction into the F or I method schedules via the naval shore radio traffic station nearest to the originating ship. The appropriate operating signal should be employed to indicate that the message is to be delivered to addressee by F or I method. Examples of the procedure to be used when conducting either F or I schedules are given in Chapter 6.

5350. THE BASEGRAM METHOD

5351. The term "basegram" pertains to a method of delivery of messages to forces afloat. Messages designated "basegram" are delivered to the appropriate basegram delivery

authorities, as listed in Appendix I, either by rapid means over the shore communication system to the radio stations serving the delivery authorities or directly to the delivery authorities by mailgram. Fleet units based ashore should make arrangements with the nearest delivery authority to receive any mail basegram traffic which may include them in the address. Basegrams for units afloat are held by the delivery authorities, except as hereafter specified, until called for by them.

5352. *Subordinate* delivery authorities may be established without reference to the Chief of Naval Operations by any delivery authority designated in Appendix I, to serve forces afloat in his area more conveniently. Information regarding the establishment of subordinate delivery authorities is promulgated locally.

5353. Delivery authorities will, if holders of the cryptographic channels in which encrypted basegram traffic for forces afloat is received, decrypt this traffic and have it available for addressees on their return to port.

5354. Units afloat will arrange to call for basegrams upon their return to port and at regular intervals while in port. However, if basegrams of higher than deferred precedence are received, the delivery authority concerned will be responsible for making delivery on return to port or immediately if addressee is in port.

5355. Delivery authorities will, if the addressee of a specifically addressed basegram has departed and is not scheduled to return to the base, forward the basegram to the appropriate delivery authority.

5356. Where an authority is unable to effect delivery of a specifically addressed basegram within ten days because the addressee has not arrived in port and he has no positive knowledge of the movement of the addressee, the originator will be informed of the nondelivery by appropriate procedure (operating) signal. The originator will then advise the delivery authority as to the disposition desired.

5357. In order to insure that all basegram traffic is received by ships, all ships and delivery authorities shall keep basegram logs containing the following information of basegrams received:

Originator—Time of origin—Addressees——Serial number (if any).

Comparison of ship's basegram log with the delivery authority's log will readily indicate the basegram traffic that the ship should obtain from the particular delivery authority.

5358. The operating signal QIR is used in the heading (message instructions) of messages to identify them as basegrams.

Chapter 6. RADIO

CONTENTS

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.

596962*—44——8

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.*

557048°—44——21

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**

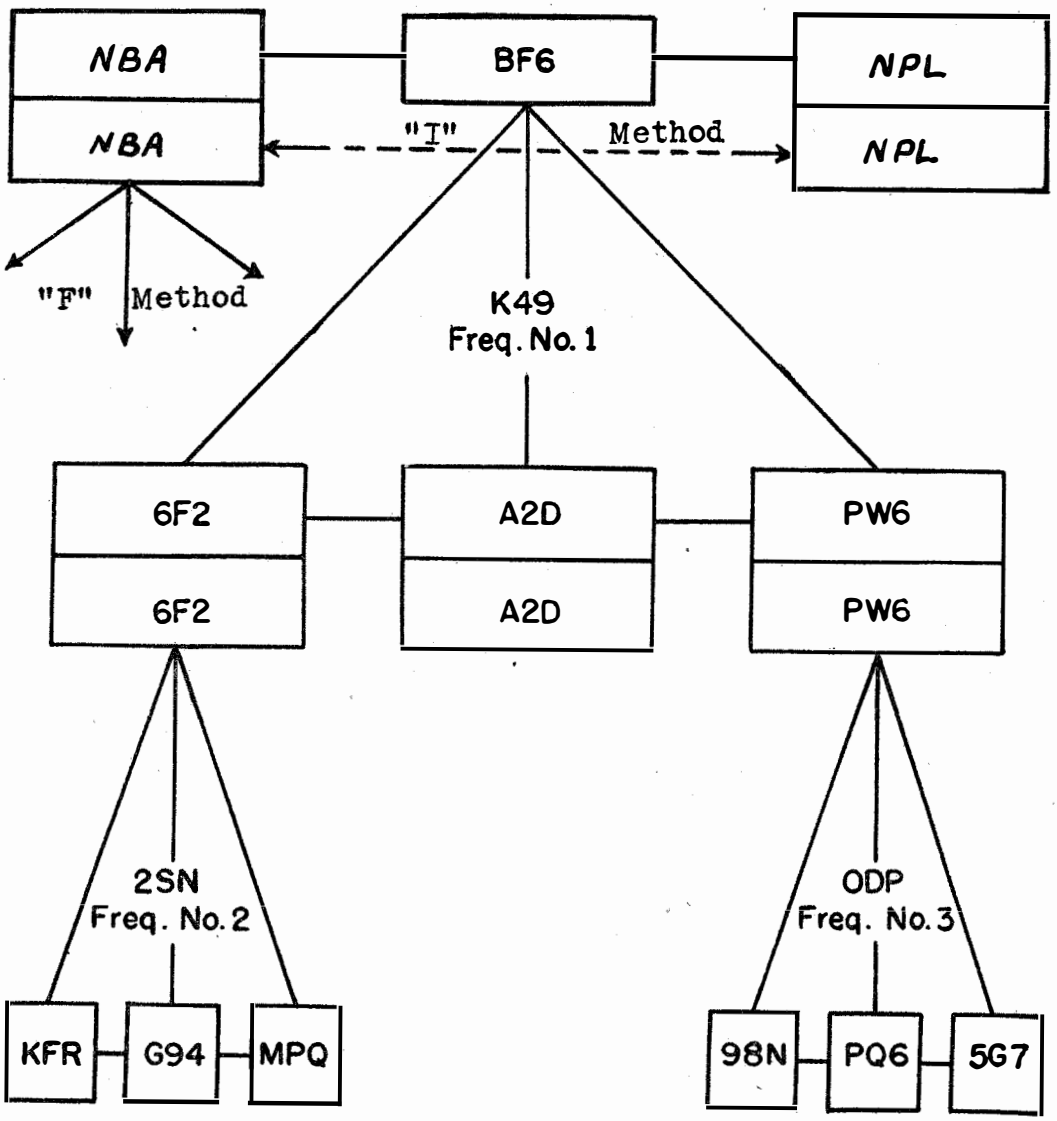
NPL transmits:

NBA V NPL C AR

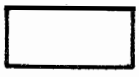
NBA remains silent.

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

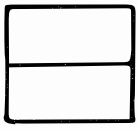
PLATE 1–6.—THE ORGANIZATION SHOWN IS USED AS A BASIS FOR ALL EXAMPLES IN THIS SECTION



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.

Chapter 7. VISUAL PROCEDURE

CONTENTS

Chapter 7. VISUAL PROCEDURE

SECTION A. FLASHING LIGHT AND SEMAPHORE PROCEDURE

7000. INTRODUCTION

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

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

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

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

7010. CALLING AND ANSWERING

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

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

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

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

B34 has called B33.
To answer, B33 makes:

By light **B34 K**
By semaphore **B34 C**

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

V B33 K

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

a. Precedence.

b. Transmitting instructions in the form of prosigns thus:

1. **F** (art. 6221)
2. **G** (art. 6222)
3. **N** (art. 6232)
4. **T** (art. 6238)

c. Operating signals if required.

7022. Special "Repeat Back" Procedure.—

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

Example A

DIVB2 transmits the following message to B34 by flashing light: *

DIVB2 (Transmitting station)	*B34 (Receiving station)*
****QVY→**	
	←Flash
$\overline{\text{BT}}$→	
	←Flash
COPO→	
	←**COPO**
C→	
BGFK→	
	←**BGFK**
C→	
QDIL→	
	←*****QDEL**
*****QDIL→**	
	←**QDIL**
C→	
$\overline{\text{BT}}$→	
	←Flash
K→	
	←**R**

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

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

***Note procedure when repetition is incorrect.

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

7030. MESSAGE ADDRESS

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

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

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

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

7040. MESSAGE INSTRUCTIONS AND MESSAGE ENDING

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

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

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

7050. IDENTIFICATION, VERIFICATION AND CORRECTIONS

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

~~YOUR BT~~ **TOR 1510** ---------.

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

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

7060. SPECIAL USES OF PROSIGNS BY VISUAL

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

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

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

Example A

B42, requesting permission from B44 to transmit, sends:

$\overline{\text{INT}}$ K

B44 makes:

R K or **R $\overline{\text{AS}}$** as appropriate

$\overline{\text{INT}}$, preceding a portion of a previous transmission, means, "Is my reception of this correct?"

Example B

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

Ø815 GR8 $\overline{\text{BT}}$ RECEIVED SHIPMENT TWENTYONE TRUCKS FROM PARIS (FRANCE) TODAY $\overline{\text{BT}}$ K

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

$\overline{\text{INT}}$ GR 9 K

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

GR 8 $\overline{\text{BT}}$ R S T T F P $\overline{\text{KK}}$ T $\overline{\text{BT}}$ K

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

C K.

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

$\overline{\text{INT}}$ PARIS K

B42 transmits:

C K

Note.—**$\overline{\text{INT}}$** *shall not be used to question the greater portion of a message. To accomplish this, a repetition of the entire message shall be requested.*

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

Example A

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

R26 makes	*R27 makes*
Ø245→	
	←Flash
$\overline{\text{AS}}$→	
	←Flash
(Counts groups, then) **GR 8**→	
	←Flash
Proceeds with message→	
	←Flash

Example B

R26 calls R27, who tells him to wait:

R26 makes	*R27 makes*
R27 R27 (until answered)→	
	←**AS**
(Waits)	
	←**R26 K**
Flash→	
Proceeds with message→	
	←Flash

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

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

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

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

a. The answer shall be made by flashing light, thus: (Originator's call sign) **SEM K**.

b. Wherever a flash is required, the semaphore answering sign is used.

c. The equivalent of the 5-second dash (if executive method) will be **AR** by semaphore.

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

7068. *The sign L*, meaning, "Message has been relayed to final addressee and a receipt has been obtained," is used only in visual procedure, as follows:

a. When a final relaying station has cleared her relay responsibility she is to make **L** to the ship from whom she received the message.

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

c. By this means the originator receives **L** from all first relaying ships, and this indicates that the message is cleared to all concerned. This sign shall *never* be used in a message heading.

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

L 1615 or **L TURN SIX**

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

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

f. **L** is not passed in for the executive signal; nor is it used in the F or FFFF methods.

g. Examples of the use of **L** by flashing light and by semaphore are shown in articles 7112 and 7225 respectively.

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

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

Examples

1. The SOPA, wishing to impose emergency silence on blinker, transmits by that means:
   HM HM HM AR
2. When ready to cancel emergency silence, he transmits:
   QQZ* HM HM HM AR

**QQZ is assumed to mean "Negative".*

Section B. FLASHING LIGHT

7100. GENERAL

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

7102. Exchanging Calls by Flashing Light When Entering Port.

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

C87 makes	*ØFØ makes*
V C87 (at frequent intervals)→	
	←**C87 V ØFØ K**
ØFØ { **B K** / or / **AR** } as appropriate→	
	← { **K** / Transmits message / **AR** } as appropriate

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

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

C87 makes	*C33 makes*	*ØFØ makes*
V C87 (at frequent intervals)→		
	←**C87 V C33**	
C33 K		
	←***QYP**	
Flash→		
	←**ØFØ**	
Flash→		
	←**AR**	
	ØFØ→	
		←**C33 K**
	****QYH**→	
		←Flash
	C87→	
		←Flash
	AR→	

**QYP—I will relay your call sign to SOPA, whose call sign is—.*
***QYH—Call sign of incoming vessel is—.*

7111. Nonexecutive Message Direct to One Ship.
DIVC3 originates and transmits to C32.

DIVC3 makes	*C32 makes*
C32 C32 (until answered)→	
	←**K**
$\overline{\text{BT}}$→	
	←Flash
ZEBRA→	
	←Flash
FOX→	
	←Flash
$\overline{\text{BT}}$→	
	←Flash
1515→	
	←Flash
K→	
	←**R**

7112. Nonexecutive Message to One Ship. Passed by Specific Relay.

DIVC3 makes	*C33 makes*	*C34 makes*
C33 C33 (until answered)→		
	←**K**	
T→		
	←Flash	
A→		
	←Flash	
DIVC3→		
	←Flash	
21ØØ→		
	←Flash	
C34→		
	←Flash	
	C34 C34 (until answered)→	
		←**K**
$\overline{\textbf{BT}}$→	←Flash	
	A→	
		←Flash
	DIVC3→	
		←Flash
ZEBRA→		
	←Flash	
	21ØØ→	
		←Flash
FOX→		
	←Flash	
	C34→	
		←Flash
$\overline{\textbf{BT}}$→		
	←Flash	
	$\overline{\textbf{BT}}$→	
		←Flash
K→		
	←**R**	
	ZEBRA→	
		←Flash
	FOX→	
		←Flash
	$\overline{\textbf{BT}}$→	
		←Flash
	K→	
		←**R**
	←**L**	
Flash→		

7113. Message to One Ship by Executive Method.
DIVC3 originates and transmits to C32 direct.

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

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

7114. Message to a Unit by Executive Method (Relay is Automatic). DIVC3 originates a message for CDIV3 (4 ships):

DIVC3 makes	*C31 makes*	*C32 makes*	*C33 makes*
CDIV3 CDIV3→			
	←K		
	CDIV3 CDIV3→		
		←K	
		CDIV3→	
			←K
$\overline{\text{IX}}$→			
	←Flash		
	$\overline{\text{IX}}$→		
		←Flash	
		$\overline{\text{IX}}$→	
			←Flash
$\overline{\text{BT}}$→			
	←Flash		
	$\overline{\text{BT}}$→		
		←Flash	
		$\overline{\text{BT}}$→	
			←Flash
NINE→			
	←Flash		
	NINE→		
		←Flash	
		NINE→	
			←Flash
TURN→			
	←Flash		
	TURN→		
		←Flash	
		TURN→	
			←Flash
K→			
	←*R		
	K→		
		←*R	
		K→	
			←*R
		←L	
	Flash→		
	←L		
Flash→			

*NOTE: When understood.

When ready to execute:

DIVC3 makes	*C31 makes*	*C32 makes*	*C33 makes*
CDIV3→			
	←K		
	CDIV3→		
		←K	
		CDIV3→	
			←K
$\overline{\text{IX}}$→			
	←Flash		
	$\overline{\text{IX}}$→		
		←Flash	
		$\overline{\text{IX}}$→	
			←Flash
(5 secs.)	(5 secs.)	(5 secs.)	(5 secs.)
$\overline{\text{AR}}$→			
	$\overline{\text{AR}}$→		
		$\overline{\text{AR}}$→	

7120. FFFF—"NO RESPONSE" METHOD

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

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

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

7124. When the **FFFF** method is used with a collective call, individual ships relay, by **FFFF** method, in accordance with their visual responsibility.

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

Example A

DIVB2 transmits a message direct, addressed to B34:

FFFF B34 V DIVB2 Ø745 GR8 BT Text **BT IMI B34 V DIVB2 Ø745 GR8 BT** Text **BT AR**

Example B

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

DIVB2 makes	*B33 makes*	*B34 makes*	*B35 makes*
FFFF→			
	FFFF→		
		FFFF→	
BDIV2→			
	BDIV2→		
		BDIV2→	
BT→			
	BT→		
		BT→	
SUGAR→			
	SUGAR→		
		SUGAR→	
YOKE→			
	YOKE→		
		YOKE→	
BT→			
	BT→		
		BT→	
Ø315→			
	Ø315→		
		Ø315→	
IMI→			
	IMI→		
		IMI→	
Repeats entire message, ending with **AR**			

NOTE: *No ship answers.*

7130. NONDIRECTIONAL OR "ALL-AROUND" PROCEDURE

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

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

b. Each receiving station answers by transmitting a continuous series of K's until the calling station, seeing that all receiving stations are answering, stops calling, waits a short time, then starts transmitting the message.

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

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

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

7140. ALARM PROCEDURE FOR ENEMY REPORTING

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

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

C33 makes	*J makes*
EASY 354 (until answered)→	←**R**
V C33 AR→	

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

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

C33 makes	*C34 makes*	*J makes*
EASY 354 (until answered)→		
	←**R**	
	EASY 354 (until answered)→	
		←**R**
V C33 AR→		
	V C33 – C34 AR→	

c. Amplifying report to *a* above:

C33 makes	*J makes*
J–O J–O (until answered)→	
	←**K**
O→	
	←Flash
$\overline{\text{BT}}$→	
	←Flash
2 BB 356→	
	←Flash
1Ø→	
	←Flash
22Ø→	
	←Flash
$\overline{\text{BT}}$→	
	←Flash
143Ø→	
	←Flash
K→	
	←**R**

Section C. SEMAPHORE

7200. GENERAL

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

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

7203. *Special signs* are used in semaphore as follows:

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

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

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

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

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

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

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

a. Message to be transmitted:

A J9 J1 GR 8 $\overline{\text{BT}}$ SEARC H AREA 12B COMPLETING NOT LATER THAN 18ØØ $\overline{\text{BT}}$ 125Ø

It is transmitted thus:

: – : A : – : J : NINE : – : J : ONE : GR : EIGHT: $\overline{\text{BT}}$: SEARCH : AREA : – : ONE : TWO : B : – : COMPLETING : NOT : LATER : THAN : – : ONE : EIGHT : ZERO : ZERO : – : $\overline{\text{BT}}$: # : 125Ø : # : K :

b. The following message is to be transmitted:

A J9 15ØØ J2 J3 $\overline{\text{BT}}$ VOLO SAPI NUMY TERA $\overline{\text{BT}}$

It is transmitted thus:

: – : A : – : J : NINE : # : 15ØØ : # : J : TWO : J : THREE : $\overline{\text{BT}}$: V : O : L : O : – : S : A : P : I : – : N : U : M : Y : – : T : E : R : A : $\overline{\text{BT}}$: K :

7210. CALLING, ANSWERING, RECEIPTING, REPETITIONS

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

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

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

b. Station called:

1. Hoists calling station's call sign over ANS at the dip immediately, and then watches the calling station.

2. Two-blocks the hoist, signifying readiness to receive.

**NOTE.—A signal is provided in the* General Signal Book *to facilitate the transmission of a semaphore message underway.*

7213. *Receipting.*—Receipt for a semaphore message is given by:

a. Making R by semaphore, which is answered by R in the transmitting station.

b. If flag-hoist calls have been used, by hauling down the hoist as a receipt for the message. Calling station hauls down after station(s) called has (have) hauled down. When a collective call is used, the transmitting station hauls down immediately after completion of the transmission.

7214. *Obtaining Repetitions.*—Repetition of part of a message before a receipt has been given is obtained as follows:

a. By interrupting the transmission by use of **IMI** and requesting the portion missed. If flag-hoist calls are being used (art. 7212) the receiving station dips the answering hoist until the required portion has been obtained.

b. Alternatively the transmitting station may be allowed to complete the transmission of the message, and the receiving station requests the necessary repetitions before giving a receipt for the message.

7220. SEMAPHORE PROCEDURE—EXAMPLES

7221. Establishing communication with one ship.

DIVC3 (in *C89*) *makes*	*C33 makes*
(1) **Attention sign**, or **C33** (if necessary)→	
	←**Answering sign.**
(2) Proceeds with message.	

In the above case, if the commanding officer of the flagship (C89) had originated the message, it would have been necessary to indicate such in Step 2, thus:

(2) **V C89**→
(3) Proceeds with message.

7222. Nonexecutive message to one ship.

DIVC3 transmits a nonexecutive message to C33:

DIVC3 makes	*C33 makes*
Attention sign or **C33** (if necessary)→	
	←**Answering sign**
Proceeds with message, making **K** on completion→	
	←**R**
R→	

7223. Nonexecutive Message—Collective Address.

DIVC6 transmits a nonexecutive message to all ships of his division, using the collective call (**CDIV6**).

DIVC6 makes	*C34 makes*	*C35 makes*
CDIV6→		
	←**Answering sign**	
	CDIV6→	
		←**Answering sign**
GR 12 $\overline{\text{BT}}$		
Request . . .		
(through text)→		
	$\overline{\text{BT}}$ Request . . .	
	(through text)→	
K→		
	←**R**	
R→		
	K→	
		←**R**
	R→	
	←**L**	
Answering sign→		

7224. Executive Message to One Ship.

DIVC3 transmits a message by executive method to C33.

DIVC3 makes	*C33 makes*
Attention sign or **C33** (if necessary)→	
	←**Answering sign**
$\overline{\text{IX}}$ $\overline{\text{BT}}$ **SAIL XRAY** } →	
K→	
	←**R** (when understood)
R→	
***$\overline{\text{IX}}$ $\overline{\text{IX}}$**→	
	←**$\overline{\text{IX}}$**
$\overline{\text{AR}}$→	
	←**Answering sign**

NOTE.*—The instant of execution is the instant DIVC3 completes the transmission of **$\overline{\text{AR}}$. C33 ceases transmitting **$\overline{\text{IX}}$** immediately and transmits the **ANSWERING** sign.

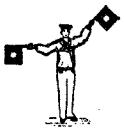
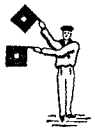
7225. Executive Message—Collective Address. DIVC6 transmits a message by executive method to all ships of his division, using the collective call (**CDIV6**).

DIVC6 makes	*C34 makes*	*C35 makes*
CDIV6→		
	←Answering sign	
	CDIV6→	
		←Answering sign
$\overline{\text{IX}}$ **$\overline{\text{BT}}$** **SPEED** **FOUR** →	**$\overline{\text{IX}}$** **$\overline{\text{BT}}$** **SPEED** **FOUR** →	
K→		
	←R (when understood)	
	K→	
R→		
		←R (when understood)
	R→	
	←L	
Answering sign→		
When ready to execute.		
$\overline{\text{IX}}$ $\overline{\text{IX}}$ $\overline{\text{IX}}$ $\overline{\text{IX}}$→		
	←$\overline{\text{IX}}$ $\overline{\text{IX}}$ $\overline{\text{IX}}$→	
		←$\overline{\text{IX}}$ $\overline{\text{IX}}$
$\overline{\text{AR}}$→		
	←Answering sign	
	$\overline{\text{AR}}$→	
		←Answering sign

NOTE.—The instant of execution is the instant DIVC6 ceases transmitting **$\overline{\text{IX}}$** *and transmits* **$\overline{\text{AR}}$**. *C34 transmits the* ***ANSWERING*** *sign to DIVC6 and at the same time transmits* **$\overline{\text{AR}}$** *to C35. C35 transmits the* ***ANSWERING*** *sign to C34.*

PLATE 1–7

THE SEMAPHORE ALPHABET

CHARACTERS	HAND FLAGS	CHARACTERS	HAND FLAGS	CHARACTERS	HAND FLAGS	CHARACTERS	HAND FLAGS
A *and* 1		I *and* 9		Q		Y	
B *and* 2		J *and* ATTENTION SIGN *and* Ø		R		Z	
C *and* ANSWERING SIGN *and* 3		K		S		ERROR SIGN	
D *and* 4		L		T		FRONT	
E *and* 5		M		U		NUMERALS	
F *and* 6		N		V			
G *and* 7		O		W			
H *and* 8		P		X			

557048°—44——32

Section D. FLAG-HOIST SIGNALLING

7300. GENERAL

7301. Flags and pennants to be used in flag-hoist signalling are shown on Plates 2–7 and 3–7. Their detailed dimensions in their standard sizes are given in the appendix to the *Flag Book* (H. O. 89).

7302. When under way in formation, flag-hoist signalling should be reserved primarily for the transmission of collective-address signals by unit commanders; and should be used for the transmission of non-collective-address signals only in the following cases:

a. Signals that directly pertain to current operations.

b. Reports transmitted at the request of a unit commander.

7303. A flag hoist is said to be at the dip when its top is about one-fourth of the way down from the point of hoist; and two-blocked or close up when its top is touching the block at the point of hoist. The originator shall always display the signal two-blocked.

7304. Order of Flag Hoists.

a. Signal flags of a single hoist are read from top down.

b. Adjacent hoists are read from outboard in or from forward aft.

c. When signals are hoisted at yardarms of different heights, those at the higher yardarm are read first.

d. When a series of hoists is made on a yardarm and on a fore-and-aft stay, the flags are to be read in the order outboard in, forward aft.

7305. Arrangement of Flags on Hoists.

a. When there are more flags in a signal than can be made on a single hoist, the signal should be broken into two or more hoists; the breaks being made only at points where TACK can be inserted without ambiguity.

b. When a display consists of two or more hoists, the hoists shall be run up successively in the order in which they are to be read, not simultaneously.

c. If the display cannot be displayed on three halyards simultaneously, it is usually advisable to make two or more displays. When this is done, the heading is hoisted on a separate halyard and kept flying two-blocked until the last hoist is hauled down. The text is transmitted by successive displays on one or more halyards.

7310. COMPONENT PARTS OF A FLAG-HOIST SIGNAL

7311. The component parts of a flag-hoist signal are the *heading* and the *text.*

7312. The *heading* precedes the text and usually consists of the action addressee(s). Provision is made, however, for special indication in the heading as follows:

a. FIRST REPEATER, over the call sign of the originator as the first element in the heading, means, "Intervening ships relay this signal to addressee(s)" or, if there is no address indicated, "Intervening ships relay this signal to the OTC."

b. THIRD REPEATER, over the call sign(s) of the addressee(s), means, "The originator of this signal is the commanding officer of the flagship, not the flag officer or his administrative officer."

c. FOURTH REPEATER, alone as the heading, means, "For general information—no specific address, no answer required."

d. WILLIAM and NEGAT are used in headings to indicate information addressees and exemptions as prescribed in the *U. S. Navy Visual Call Sign Book.*

7313. Omission of the Heading.

a. A signal *without a heading* hoisted by the OTC or SOPA is an *all-ships* signal.

b. A ship hoisting a signal of a general informatory nature such as "strange aircraft sighted," may omit the heading.

7314. The *text* consists of the signal flags conveying the meaning of the signal. Instructions with regard to the encoding of signals, with the uses of the repeaters as substitutes, are contained in the *General Signal Book*.

7320. ANSWERING AND ACKNOWLEDGING

7321. A flag hoist is normally *answered* by addressees repeating the entire hoist at the dip when seen. If this is not possible, then ANS alone, or under the call sign of the originator may be used.

7322. *A flag officer or unit commander* or his administrative flagship may answer a flag-hoist signal, addressed to him or to his administrative office from a ship or unit commander junior to him, by hoisting ANS at the dip, either alone or under the junior's call sign.

7323. *Two-blocking* a hoist constitutes *acknowledgment*. Hoists shall be two-blocked when understood and when addressees for whom responsible have two-blocked.

7324. When an addressee cannot determine the meaning of a hoist he shall not two-block it, but shall hoist the originator's call sign over INT on a halyard adjacent to it.

7325. A senior officer may *approve* a request made by flag signal from a ship by hoisting the call sign of the ship over AFIRM, or *disapprove* by hoisting NEGAT in the same manner. When a signal is answered in this manner the use of ANS by the senior is not required.

Example

C32, a ship of CRUDIV3, addresses a request by flag-hoist to the division commander (CDIV3) thus:

C32	*CDIV3*
Hoists: **p2**_____Heading (****)_____Text	
	Hoists: **C** **p3** **p2** **AFIRM**
Hauls down	
	Hauls down

7330. RELAYING

7331. The usual flag-hoist signal is relayed, and its acknowledgments are returned, automatically, in accordance with the system of responsibility, as set forth in articles 7401–05.

7332. A signal hoisted under FOURTH REPEATER is not required to be answered or relayed. Such a signal may, however, be relayed by repeating the signal with DESIG and the originator's call sign added to it.

7333. Signals addressed to the OTC are to be relayed by any ship in a position to do so. If a ship hoists a signal of general importance, e. g. "Enemy sighted," such signal should

be repeated by all ships. When repeated, the actual originator shall normally be shown by the addition, inferior to the signal, of DESIG followed by the call sign of the originator.

7334. If difficulty is experienced in relaying a signal by flag hoist, it should be relayed by flashing light. If an all-around light is used to expedite the passing of a flag-hoist signal, the text only will be flashed. In this special case, the all-around light is not to be answered, but ships are to answer by flag-hoist signal in the usual manner.

7340. EXECUTING

7341. Unless otherwise positively indicated, a flag-hoist signal is executed when it is hauled down by the originator. If it consists of two or more displays, it is not executed until the last display, with the heading, is hauled down.

7342. All addressees haul down with the originator, except when directed by a subordinate unit commander to delay execution. See one-letter signal QUEEN, *General Signal Book.*

7350. EXCHANGING CALLS BY FLAG HOIST

7351. When entering port, call signs are exchanged with the SOPA in port, if flag hoist is used, as shown in the examples which follow.

7352. C87, entering port, exchanges call signs with the SOPA, whose call sign is ØFØ

C87	*ØFØ*
Hoists: **C** **p8** **p7**	
	Hoists: **C** **p8** **p7** **ANS**
Hauls down.	
	Hauls down.
	Hoists: **pØ** **F** **2nd**
Hoists: **pØ** **F** **2nd** **ANS**	
	Hauls down.
Hauls down.	

7353. Ships in a position to do so shall expedite the exchange of call signs between ships by relaying, using the SECOND REPEATER in the following manner:

C87	*C33*	*ØFØ*
Hoists: **C** **p8** **p7**		
	Hoists: **2nd** **C** **p8** **p7**	
Hauls down.		
		Hoists: **C** **p8** **p7** **ANS**
	Hauls down.	
		Hauls down.
		Hoists: **pØ** **F** **2nd**
	Hoists: **2nd** **pØ** **F** **2nd**	
		Hauls down.
Hoists: **pØ** **F** **2nd** **ANS**		
	Hauls down.	
Hauls down.		

7361. Flag-Hoist Signal to One Ship.—From a commander to a subordinate commander or ship, or between two ships.

DIVC3 transmits a flag-hoist signal to C33.

DIVC3	*C33*
Hoists (two-blocked): **p3**, **1st** } Heading. **D**, **X** } Text	
	Hoists (at the dip): **p3** **1st** **D** **X**
	Two-blocks when understood, to receipt.
Hauls down.	
	Hauls down.

7362. From a Ship, or from a Subordinate Commander, to a Higher Command.

C33 transmits a flag-hoist signal to SOPA (p5).

C33	*SOPA (p5)*
Hoists (two-blocked): **p5** Heading. **D**, **X**, **AFIRM** } Text.	
	Hoists (at the dip): **ANS** (or **C33 ANS**)
	Two-blocks to receipt.
Hauls down.	
	Hauls down.

7363. Flag-Hoist Signal with Collective Address.

DIVC6 transmits a flag-hoist signal to his division.

DIVC6	*C34*	*C35*
(1) Hoists (two-blocked): **p1**_____ Heading. **SPEED**__ **1**_____ } Text.		
(2)	Hoists (at the dip): **p1** **SPEED** **1**	Hoists (at the dip): **p1** **SPEED** **1**
(3)		Two-blocks to receipt.
(4)	Two-blocks to receipt.	
(5) Hauls down to execute.	Hauls down.	Hauls down.

7364. Flag-Hoist Signal Addressed to Two or More Ships, Using Individual Call Signs.

DIVC6	*C34*	*C35*
(1) Hoists (two-blocked): First hoist { **p3** / **p4** / **2nd** / **p5** } Heading. Second hoist { **T** / **G** / **U** } Text.		
(2)	Hoists (at the dip): First hoist { **p3** / **p4** / **2nd** / **p5** } Second hoist { **T** / **G** / **U** }	Hoists (at the dip): First hoist { **p3** / **p4** / **2nd** / **p5** } Second hoist { **T** / **G** / **U** }
(3)		Two-blocks to receipt.
(4)	Two-blocks to receipt.	
(5) Hauls down to execute.	Hauls down.	Hauls down.

7365. Specific Instructions for Relaying a Flag-Hoist Signal.

a. To the OTC.

C34 originates a signal to be relayed to the OTC (**J**).

C34	*C33*	*J (OTC)*
(1) Hoists (two-blocked): **1st**----Relay indicator. **C**, **p3**, **p4**: Call sign of originator. **AFIRM** / **POSIT**: Text.		
(2)	Hoists (two-blocked): (1st hoist) **1st**, **C**, **p3**, **p4** (2nd hoist) **AFIRM** / **POSIT**	
(3) Hauls down.		
(4)		**ANS** (or **C34 ANS**) (at dip)
(5)		Two-blocks to receipt.
(6)	Hauls down.	
(7)		Hauls down.

b. To an addressee other than OTC.

DIVC6 originates a signal to be relayed to C34.

DIVC6	*C33*	*C34*
(1) Hoists (two-blocked): First Hoist { **1st** ____ Relay indicator. **DIV** **C** **p6** } Call sign of originator. Second Hoist { **C** **p3** **p4** } Call sign of addressee. { **D** **X** } Text. } Heading		
(2)	Hoists (two blocked): First Hoist { **1st** **DIV** **C** **p6** Second Hoist { **C** **p3** **p4** **D** **X** } Text.	
(3) Hauls down.		
(4)		Hoists (at dip): First Hoist { **1st** **DIV** **C** **p6** Second Hoist { **C** **p3** **p4** **D** **X** } Text.
(5)		Two-blocks to receipt.
(6)	Hauls down.	
(7)		Hauls down.

INTERNATIONAL FLAGS AND PENNANTS

ALPHABET FLAGS

Afirm 

Baker 

Charlie 

Dog 

Easy 

Fox 

George 

How 

Int 

Jig 

King 

Love 

Mike 

Negat 

Option 

Prep 

Queen 

Roger 

Sugar 

Tare 

Uncle 

Victor 

William 

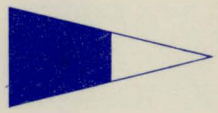
Xray 

Yoke 

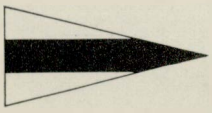
Zebra 

REPEATERS

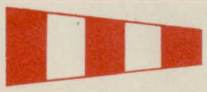
1st Repeat



2nd Repeat

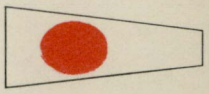


3rd Repeat

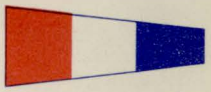


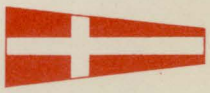
CODE

NUMERAL PENNANTS

1 

2 

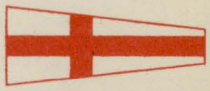
3 

4 

5 

6 

7 

8 

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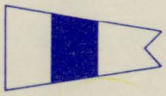
SPECIAL FLAGS AND PENNANTS OF U. S. NAVY

SPECIAL FLAGS AND PENNANTS

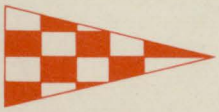
Corpen

Deploy

Desig



Emerg



Form

Posit

Speed

Turn

Div

Sect

Squad

Flot

Ans

Sopus

4th, Repeat

NUMERAL FLAGS

One

Two

Three

Four

Five

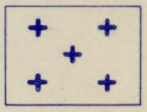
Six

Seven

Eight

Nine

Zero



Section E. MISCELLANEOUS

7400. THE CHAIN OF VISUAL RESPONSIBILITY

7401. In any disposition or formation the chain of visual responsibility shall normally, unless otherwise directed, be as indicated on the diagram prescribed by the officer ordering the disposition. When a diagram of a disposition or formation does not exist, or if existent and no chain of visual responsibility is indicated thereon, the rules as set forth in the paragraphs following shall normally apply.

7402. *The general rule* for determining the responsibility for any situation is that each addressee is responsible for the delivery of the messages to addressees beyond himself in the general direction away from the originator. It is the duty of any ship to expedite the transmission of a message by relay when it is evident that she is in a better position to effect the necessary relay than the ship specifically responsible. No rule of responsibility set forth herein, or prescribed by responsible commanders, shall be interpreted as restricting the initiative of any ship in relaying a message to an addressee who does not respond when called.

7403. *Simple Formations.*—Any given ship is responsible for the ships beyond and in the direction away from the originating ship.

7404. *Compound Formations.*—Each *task force* (*group*) commander is responsible for his own task group (unit) commanders and also for other task force (group) commanders in a direction beyond and away from the originating ship. In turn each *task unit* commander is responsible for the division or column leaders of his own unit and for other unit commanders in a direction beyond and away from the task group commander. The *division or column leader* is responsible for the ships of his own division or column, and *each ship* of the division or column is responsible for the ships in the division or column in a direction beyond and away from the leader.

7405. During maneuvers which change the formation, the responsibility for relaying messages does not change until the maneuver is completed by all ships. In this situation, wherein units are rapidly changing their position in relation to the OTC, particular initiative and alertness must be exercised by all ships to insure rapid and effective delivery of collectively addressed messages.

7410. RELAYING INSTRUCTIONS

7411. Responsible commanders afloat will sometimes find it desirable to prescribe specific rules for relaying. Such action is authorized, and, when prescribed, such rules shall govern. In any case where any doubt may exist as to the automatic responsibility of certain units for relaying to an addressee, specific relay instructions should be given by the use of the prosign T in the heading as necessary. Normally, specific relaying instructions are not necessary for the following types of messages:

a. Messages addressed to a collective call sign.

b. Messages to the OTC.

c. Messages from a ship to the senior officer of her sub-unit.

7412. A message to be relayed should be passed on item for item, as it is being received. Minimum lag between the originator's transmission of each item and its accurate delivery to the last addressee is the object.

7420. ESTABLISHING COMMUNICATION OR EXCHANGING CALLS

7421. In the instructions which follow, it is assumed that in wartime, or when required under any other circumstances, the *friendly character* of the ship or station has first been definitely established by the prescribed system of recognition or emergency identification.

The procedure for then establishing communication or exchanging calls follows:

a. Identity of both stations unknown.

B33 (Calling Station)	*B34 (Station Called)*
AA AA AA→	
	←**V B34 K**
V B33 {**AR** (or proceeds with message)} →	

b. Identity of Calling Station unknown.

B33 (Calling Station)	*B34 (Station Called)*
B34 (until answered)→	
	←**AA V B34 K**
V B33→	
	←**B33 K**
AR→ (or proceeds with message)	

7422. A ship *entering port* shall exchange call signs with the senior officer present afloat in port, using procedure shown either in article 7350 or in article 7102. In the case of a flagship the commander's call sign shall be used. Only the senior of a group of ships shall exchange call signs with another ship or group of ships.

7430. VISUAL COMMUNICATION DUTY

7431. A ship having visual communication duty for a nest or group of ships in close company is considered as the communication guard for the group, insofar as visual communications are concerned. That ship shall answer, receipt for, and deliver all visual traffic addressed to the group, and shall transmit all visual traffic originated within the group. The use of prosigns to indicate relay or transmission to other ships of the group is not required.

7440. FLAGS AND PENNANTS—TRANSMITTED, WRITTEN, AND SPOKEN

7441. *Transmitted.*—Alphabet flags, numeral flags, or special flags and pennants are transmitted telegraphically by their prescribed names which appear on Plates 2–7 and 3–7. The tack-line is transmitted as TACK. Numeral pennants are transmitted using the International Morse Code numeral equivalent. Numeral flags are transmitted using their equivalent word designation such as "one," "two," or "three."

7442. *Written.*—Alphabet flags, numeral flags and pennants, and special flags are written as follows:

a. Alphabet flags, other than the five governing flags, as single capital letters, or as transmitted.

b. Special flags and pennants and governing flags by their prescribed names, as CORPEN, ANS, PREP, INT, etc.

c. TACK as a dash (—) or as transmitted.

d. Numeral flags as Ø, 1, 2, etc., or as transmitted.

e. Numeral pennants as pØ, p1, p2, etc.

f. Repeaters as 1st, 2nd, 3rd, 4th.

7443. *Spoken.*—Alphabet flags, numeral flags, or special flags and pennants are spoken of by the names appearing in Plates 2–7 and 3–7—except that ANS, FORM, INT, and TACK are spoken "Answering," "Formation," "Interrogatory," and "Tack-line," respectively. Numeral pennants are spoken by prefixing the word "pennant" to the numeral, such as "pennant one," to distinguish them from numeral flags.

7450. MISCELLANEOUS INDICATORS

7451. The tables inserted as plates 4–7 and 5–7 provide a ready reference for the miscellaneous indicators—flag and light. Such of these indicators as are not discussed in other publications are explained herein.

7452. Nature of Operations.

a. Speed Trials.—AFIRM displayed continuously at the foretruck of a naval ship at sea means, "I am undergoing a speed trial." Although it accords with the *International Code of Signals*, this display of AFIRM does not relieve the ship in any way from complying with the rules of the road at sea. Naval ships engaged in full power, smoke-prevention, endurance, or standardization runs, shall display AFIRM as prescribed above.

b. Dangerous Operations.—BAKER displayed during daylight at the foretruck of a naval ship or in the bow of a naval boat means, "I am engaged in a dangerous operation." While BAKER is displayed by a ship, the flags indicating guide, guard, ready duty, visual communication duty shall not be displayed by that ship. The purpose of BAKER is to warn other naval ships and boats in order that they may not hamper the conduct of the operation, endanger the ships or personnel engaged in the operation, or expose themselves unnecessarily to hazard. BAKER shall be so displayed by naval ships and boats engaged in the following operations:

1. Ships taking aboard, discharging, or handling in exposed spaces large quantities of explosives or inflammables. (A red all-around light shall be displayed at the foretruck when such operation is in progress between sunset and sunrise.)
2. Boats transporting explosives or inflammables in large quantities.
3. Ships or boats tending divers.
4. Ships laying mines or engaged in mine practices.
5. Ships engaged in gunnery practices. BAKER is two-blocked at the foretruck from the order to *commence firing* until firing is completed; dipped at other times while on the range or between phases. BAKER may be used at the yardarm instead of at the foretruck, when prescribed, to indicate the side on which firing is to be conducted.
6. Ships engaged in depth-charge practices or in any practice or exercise when a submerged submarine is employed as the target.
7. Ships acting as targets or towing targets for gunnery or torpedo practices and for other practices or exercises when directed by competent authority. BAKER is dipped while range is foul or target not ready.
8. Other operations when directed by competent authority.

c. The following use of BAKER is prescribed for ships engaged in two-ship coordinated antisubmarine attack.

At the dip	Two-blocked	Dipped after being two-blocked
I am attacking vessel and have contact and am preparing to attack.	I am attacking.	I am dropping depth charges.

7453. *Progress of Operations.*—AFIRM shall be displayed at the foretruck to indicate the progress of individual ships of a formation in carrying out an operation as indicated below:

Operation	At the dip	Two-blocked	Hauled down
Getting underway	Hove short	Anchor aweigh	Ready to proceed.[1]
Mooring in formation	First anchor let go	Second anchor let go	Mooring shackle on and chain secured.
Streaming paravanes	Ready to stream	Streamed and riding clear	Ready to proceed.[1]
Picking up paravanes	Ready to pick-up	Both paravanes hoisted clear.	Ready to proceed.[1]
Ships engaged in 2-ship coordinated antisub attack.	I am assisting vessel and have contact.	You are crossing my bearing of sub.	Operation completed.
Other operations requiring report of completion.	Ready to commence operation.	Operation completed	Ready to proceed.[1]

[1] Unit commanders shall not haul down until all ships of their units have hauled down.

7454. Recalls.

a. General recall.—ZEBRA at the foretruck is the daylight "general recall" signal. It recalls all personnel, boats, and aircraft, with their equipment, that are away from the ship. A gun may be fired to call attention to it.

b. Aircraft recall.—SIX FLAG at the foretruck recalls all aircraft. Under a call sign it recalls the aircraft addressed. Six long flashes may be used as the flashing light equivalent of the aircraft recall.

c. Boat recall.—EIGHT FLAG at the foretruck recalls all boats. Under a call sign it recalls the boat addressed. Eight long flashes may be used as the flashing light equivalent to the boat recall.

7455. *Flag Directions for Boats.*—The flag-hoist signals listed below, normally hoisted without a heading at the foretruck, are authorized for use by a ship in directing a lifeboat. They may be used to direct boats in situations other than man overboard.

ONE flag —Steer to RIGHT of line looking from ship to boat.
TWO flag —Steer to LEFT of line looking from ship to boat.
THREE flag—Steer straight AWAY from ship.
FOUR flag —Steer straight TOWARD ship.

7456. *Flag Lights.*—A flagship flying a broad command pennant or personal flag shall, unless otherwise directed by responsible authority, display, between sunset and sunrise, two white lights in a horizontal line 6 feet apart approximately halfway up the mainmast when the official whose flag is flying is on board. Flag lights shall not be displayed when a flagship is underway not in company with other naval vessels.

7457. Absence Indicators.

a. When an officer or official whose flag or command pennant is flying from a ship of the Navy is absent from his flagship for a period of 72 hours or less, the following absence indicators are prescribed.

1. *Sunrise to sunset.*

Indicator	Officer or official absent
First REPEATER at starboard yardarm	Officer or official whose personal flag or command pennant is flying in this ship.
Second REPEATER at port yardarm	Chief of staff.
Third REPEATER at port yardarm	Captain (executive officer if captain is absent for a period exceeding 72 hours).

2. *Sunset to sunrise*—by not displaying the flag lights prescribed in article 7456.

b. *Intention to depart officially.*

Indicator	Officer or official departing
SPEED under personal flag or broad command pennant.	Official or officer under whose personal flag or broad command pennant SPEED is displayed will leave the ship officially in about 5 minutes. SPEED will be hauled down at the moment of his departure.

7460. SPEED INDICATORS

7461. In addition to the signals provided in the *General Signal Book* the following signals are prescribed to indicate speed of naval vessels underway in the vicinity of other naval vessels.

7462. *Speed Cones.*—Speed cones shall be used when prescribed by competent authority, during daylight when getting underway, leaving port, or entering port in company with other naval ships, and at such other times as required. When entering port they shall be hoisted following the motions of the senior officer of the formation. When leaving port they shall be hauled down on signal from the formation commander. They shall be painted bright yellow. Multiple-screw ships shall display two cones, one on each outboard signal halyard, each indicating the setting of the engine-room telegraph on the side on which it is hoisted. Single-screw ships shall display only one cone, at a point where it can best be seen. Each cone indicates the *setting of the engine room telegraph*, as follows:

Hoisted	Apex up	Apex down
Two-blocked	Ahead, standard, full or flank	Back, full.
⅔ way up	Ahead, two-thirds	Back, two-thirds.
⅓ way up	Ahead, one-third	Back, one-third.
Hauled down	Stop	Stop.

7463. *The pennant SPEED* shall be displayed at the yardarm during daylight to indicate the *setting of the engine room telegraphs* at *ahead full* and *ahead flank* when both engine room telegraphs are at one of those settings, except when the entire formation is steaming at full or flank speed in response to a signal. In the latter case it need not be used but may be used at the discretion of the senior officer of the formation, whose motions in this respect shall be followed. At the dip it indicates ahead full; two-blocked it indicates ahead flank.

7464. *Speed flags* are small international alphabet flags. They shall be displayed during daylight by naval ships underway in company when prescribed by competent authority. Their points of display shall be sufficiently clear of the signal yardarms to avoid possible confusion with signals. Large ships shall display two speed flags, both indicating the same speed, one on each side of the bridge. Small ships may display only one speed flag at a point where it can be seen readily from either side and from astern. Speed flags shall indicate the speed of the ship to the nearest knot, in accordance with the revolutions telegraphed to the engines, regardless of any existing differences in engine speeds. Following is the table of meanings of speed flags:

D—4 or 24 knots.
E—5 or 25 knots.
F—6 or 26 knots.
G—7 or 27 knots.
H—8 or 28 knots.
I—9 or 29 knots.
J—1Ø or 3Ø knots.
K—11 or 31 knots.
L—12 or 32 knots.
M—13 or 33 knots.
N—14 or 34 knots.
O—15 or 35 knots.
P—16 or 36 knots.
Q—17 or 37 knots.
R—18 or 38 knots.
S—19 or 39 knots.
T—2Ø or 4Ø knots.
U—21 or 41 knots.
V—22 or 42 knots.
W—23 or 43 knots.
X—Slowing radically. (To be displayed momentarily to indicate speed reduction when the indicator might otherwise not be clear.)
Y—Backing.
Z—Less than 4 knots; or stopped

7465. *Speed lights*, when prescribed by competent authority, shall be displayed by naval ships underway in company, to indicate the *setting of the engine room telegraphs* when both engine room telegraphs are at the same setting. If both engine room telegraphs are not at the same setting, the speed light shall indicate as closely as practicable the mean between the settings of the engine room telegraphs. The meanings of the speed light displays are as tabulated below:

Ahead, flank	Groups of FIVE WHITE flashes.
Ahead, full	Groups of FOUR WHITE flashes.
Ahead, standard	STEADY WHITE LIGHT.
Ahead, two-thirds	Groups of TWO WHITE flashes.
Ahead, one-third	SINGLE WHITE flashes.
Stop	STEADY RED LIGHT.
Back (one-third or two-thirds)	SINGLE RED flashes.
Back, full	Groups of TWO RED flashes.

PLATE 4–7

TABLE OF SINGLE FLAG INDICATORS

Line No.	Flag	Indication	Where displayed	At dip	Two blocked	Hauled down
1	AFIRM	Getting underway	Foretruck	Hove short	Anchor aweigh	Ready to proceed.
2		Mooring in formation	Foretruck	First anchor let go	Second anchor let go	Mooring shackle on and chain secured.
3		Streaming paravanes	Foretruck	Ready to stream	Streamed and riding clear.	Ready to proceed.
4		Picking up paravanes	Foretruck	Ready to pick up	Both paravanes hoisted clear.	Ready to proceed.
5		Fueling: Vessel delivering fuel or vessel towing for fueling operation.	Forward yardarm on side rigged for fueling.	On fueling course and speed.	Ready to receive vessel.	Tow line secured or when both vessels ready to fuel.
6		Vessel receiving fuel or vessel making approach.	Forward yardarm on side rigged for fueling.	Preparing to come alongside; tow line desired. Display Afirm TACK Negat if tow line not desired.	Ready to come alongside.	Tow line secured.
7		Fueling: "Astern method". Oiler.	Foretruck		Ready for receiving vessel's approach.	
				When receiving vessel ready to cast off.		When tow line clear of vessel receiving fuel.
8		Receiving vessel	Forward yardarm	Commencing approach.	Tow line secured	
				Ready to cast off		Tow line clear.
9		Ships engaged in 2 ship coordinated anti-sub attack.	Foretruck	I am the ASSISTING vessel and have contact.	You are crossing my bearing of sub.	Operation completed.
10		"Baker," "Charlie," and "Dog" method aircraft recovery (USF 75).	Main yardarm	As prescribed in USF 75.		
11						
12						

TABLE OF SINGLE FLAG INDICATORS—Continued

Line No.	Flag	Indication	Where displayed	At dip	Two blocked	Hauled down
13	BAKER	Gunnery Practices: By firing vessel.	Foretruck (may be displayed at yardarm to indicate side on which firing).	While on the range or between phases.	From commence firing until firing completed.	Firing completed.
14		By target vessel	Foretruck	Target not ready or range is foul.	Target ready. Range clear.	Firing completed.
15		Fueling: "Broadside method."	Foretruck		Fuel oil being transferred.	Fueling completed.
16		Fueling: "Astern method": Oiler.	Starboard yardarm		Commencing to pump	Fueling completed.
17		Receiving vessel	Starboard yardarm	To order oiler to stop pumping.	Ready to receive fuel	Fueling completed.
18		Two ship coordinated anti-sub attack.	Foretruck	I am the ATTACKING VESSEL and have contact and am preparing to attack.	I am ATTACKING Dipped after being two blocked to mean "I am dropping depth charges."	Operation completed.
19		"Baker" method aircraft recovery.	Foretruck	As prescribed in USF 75.		
20						
21	CHARLIE	"Charlie" method aircraft recovery.	Foretruck	As prescribed in USF 75.		
22	DOG	"Dog" method aircraft recovery.	Foretruck	As prescribed in USF 75.		
23	FOX	Carriers conducting flight operations.	Foreward yardarms	Preparations being made for—or temporary delay in flight operations.	Am turning into wind	Flight operations completed.
24	HOW	Stretcher patient embarked.	Bow of boat			
25	MIKE	Medical Guard Duty	Foretruck			
26	ROGER	Ready duty	Foretruck			
27	SUGAR	Visual Comm. duty	Foretruck			
28	PREP	Fueling	Foretruck		15 min. prior to casting off.	When clear.
29		Shore patrol boat	Bow of boat			
30	ZEBRA	General recall	Foretruck		Recalls all personnel, boats and aircraft.	

TABLE OF SINGLE FLAG INDICATORS—Continued

Line No.	Flag	Indication	Where displayed	At dip	Two blocked	Hauled down
31	SOPUS	SOPA when no distinctive flag or pennant is flyiug.	After starboard yardarm.			
32		Fleet Guide	Foretruck underway	As prescribed by *General Tactical Instructions.*		
33	SPEED	Speed indicator	Yardarm	As prescribed in Art. 7463.		
34		Crew at meal	Yardarm			
35		Intention to depart officially.	Below personal flag or broad command pennant.		Official or officer under whose personal flag or broad command pennant SPEED is displayed will leave the ship officially in about 5 minutes.	Official has left ship.
36	ZERO	Guard boat duty	Bow of boat			
37		Formation Guide	Foretruck underway	As prescribed by *General Tactical Instructions.*		
38		Military Guard	Foretruck at anchor			
39	ONE	Directing ship's boat	Yardarm		Steer to RIGHT of line looking from ship to boat.	
40	TWO		Yardarm		Steer to LEFT of line looking from ship to boat.	
41	THREE		Yardarm		Steer straight AWAY from ship.	
42	FOUR		Yardarm		Steer straight TOWARD ship.	
43	FIVE	Breakdown	Foretruck		Breakdown or not under control.	
44		Man overboard	Foretruck	Man overboard		
45	SIX	Aircraft recall	Foretruck		Recalls all aircraft	
46	SEVEN	Unit guide	Foretruck	As prescribed by *General Tactical Instructions.*		
47	EIGHT	Boat recall	Foretruck		Recalls all boats	
48	NINE	Aircraft	Foretruck		Allied aircraft operating overhead.	
49	1st	Absence of an official from his ship for a period 72 hours or less.	Starboard yardarm		Officer or official whose personal flag or command pennant is flying in this ship.	
50	2d		Port Yardarm		Chief of Staff	
51	3d		Port Yardarm		Captain (executive officer if captain is absent for a period exceeding 72 hours).	
52	BLACK PENNANT.	Enemy submarine attack.	Yardarm	Contact lost	Have submarine contact.	Operation completed.

PLATE 5–7

TABLE OF MISCELLANEOUS LIGHT INDICATORS

Underway

Where displayed	Number	Color	Nature	Meaning
Foremast or aftermast	(vertical) 2	Red	Steady	"Breakdown" or "Not under control."
Foremast or aftermast	(vertical) 2	Red	Flashing	"Man overboard."
Aftertruck or foretruck	1	White	Group flashing or steady.	Speed light (ahead) (art. 7465).
Aftertruck or foretruck	1	Red	Group flashing or steady.	Speed light (stopped or backing).
Aftermast	(horizontal) 2	White	Steady	Flag lights (art. 7456).
Foremasthead and at each yardarm.*	3	Green	Steady	Engaged in minesweeping operations or exercises.
At anchor				
Foretruck or aftertruck	1	Red	Steady	Dangerous operation (art. 7452b).
Aftermast	(horizontal) 2	White	Steady	Flag lights (art. 7456).
Foretruck or aftertruck	1	Red	Steady	Ship has both military and medical guard duty.
Foremast (smaller ships having 2 horizontal red lights installed).**	1	Red	Steady	Ship has medical guard duty.
At all trucks†	1	Red	Steady	Night flying operations being conducted.

*Exhibited only when necessary to warn approaching ships.
**Used only in cases where medical guardship differs from military guardship.
†Upon order or request.

INDEX TO COMMUNICATION INSTRUCTIONS, 1944

NOTE

This index contains a few general references to each appendix but no specific references by article number and no comprehensive topical coverage. It is believed that these general entries, together with the table of contents at the beginning of each appendix, will suffice.

In using this index, it is important to note that most of the article numbers ending in zero are *topics* and that such numbers are used *in lieu of one or more article references within the topic.* The index was constructed in such a way as to provide many cross references and at the same time reduce the number of references to a single article or topic number at any one place.

Abbreviations are used quite extensively in the interest of brevity, particularly for titles like Chief of Naval Operations and Director, Naval Communications.

557048°—44——35

INDEX TO COMMUNICATION INSTRUCTIONS, 1944

A

G

557048°—44——36

N

O

P

S

T

TOP SECRET CLASIFICATION, 2040
CONSIDERATIONS GOVERNING

U

RESTRICTED

SERVICE PLAN, U. S. NAVAL SHORE COMMUNICATION SYSTEM

Appendix I
to Communication Instructions

1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

557048°—44——37

APPENDIX I

TABLE OF CONTENTS

APPENDIX I

100. GENERAL INSTRUCTIONS FOR SHORE RADIO STATIONS

101. Changes to Appendix I. Certain information contained in this Appendix is subject to change frequently. It shall be the responsibility of the authority concerned to report to the Chief of Naval Operations (DNC) any errors and all changes not subject to prior approval.

102. Frequency usage. When it becomes necessary or desirable for responsible commanders to set up frequencies, other than in connection with fleet tactical plans, at a location, or for a purpose, not indicated in DNC–1, prior authority shall be obtained from the Chief of Naval Operations (DNC) for such use. If circumstances are such as to make it impracticable to obtain this authority in advance, then the concurrence of the Chief of Naval Operations (DNC) will be requested as soon as possible thereafter. See article 6502.

103. Operating schedules. The officer in charge of all active shore radio stations listed in *U. S. Navy Radio Call Sign Book*, Part VI, shall prepare and keep up to date a daily operating schedule indicating time (GCT), purpose, and frequencies employed (receiving and transmitting) for all circuits, broadcasts, and guards for which the shore radio station is responsible in accordance with existing fleet and sea frontier communication plans and the service plan contained herein. Copies of these schedules shall be submitted in triplicate to the Chief of Naval Operations (DNC) via the district commandant the first of each quarter. These schedules shall be classified "restricted."

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

596962*—44——9

110. POINT TO POINT SERVICE

111. Circuit Designations.

For convenience in correspondence and discussion, the following designations may be used for the radio circuits shown:

*B1	BALBOA to Washington.
D2	SAN DIEGO, San Pedro, San Nicolas, San Clemente, Imperial Beach, Pt. Arguello.
*F1	SAN FRANCISCO to Honolulu.
F2	SAN FRANCISCO, San Diego, Puget Sound.
**F3	SAN FRANCISCO to Washington.
F4	SAN FRANCISCO, Adak.
F5	SAN FRANCISCO, Chungking.
F6	SAN FRANCISCO, Noumea.
F7	SAN FRANCISCO, Balboa.
G1	GUANTANAMO, Great Exuma, Portland Bight, Miami.
**H1	HONOLULU to Canberra.
H2	HONOLULU to Kwajalein.
*H3	HONOLULU to San Francisco.
**H4	HONOLULU to Noumea.
H5	HONOLULU to Melbourne.
*H6	HONOLULU to Washington.
*J1	SAN JUAN to Washington.
J2	SAN JUAN, Guantanamo, Balboa, Trinidad, Curacao.
J3	SAN JUAN, St. Thomas, Antigua.
**L1	LONDONDERRY to Washington.
M1	MIAMI, Key West, Air Stations (7th District).
O1	NEW ORLEANS, Air Stations (8th District).
P1	PUGET SOUND, Dutch Harbor, Kodiak, Adak.
*T1	TRINIDAD to Washington.
T2	TRINIDAD, Georgetown.
T3	TRINIDAD, Recife, Rio de Janeiro, Belem.
**W1	WASHINGTON to San Francisco.
*W2	WASHINGTON to Balboa.
W3	WASHINGTON, Great Lakes, New Orleans, Miami, Charleston, Bermuda.
W4	WASHINGTON, Philadelphia, New York, Boston, Norfolk, Charleston.
*W6	WASHINGTON to Honolulu.
*W7	WASHINGTON to San Juan.
*W8	WASHINGTON to Trinidad.
**W9	WASHINGTON, Recife.
**W10	WASHINGTON, Oran.
**W11	WASHINGTON to Londonderry.
**Z1	CANBERRA to Honolulu.
Z2	KWAJALEIN to Honolulu.
**Z3	NOUMEA to Honolulu.
Z4	MELBOURNE to Honolulu.

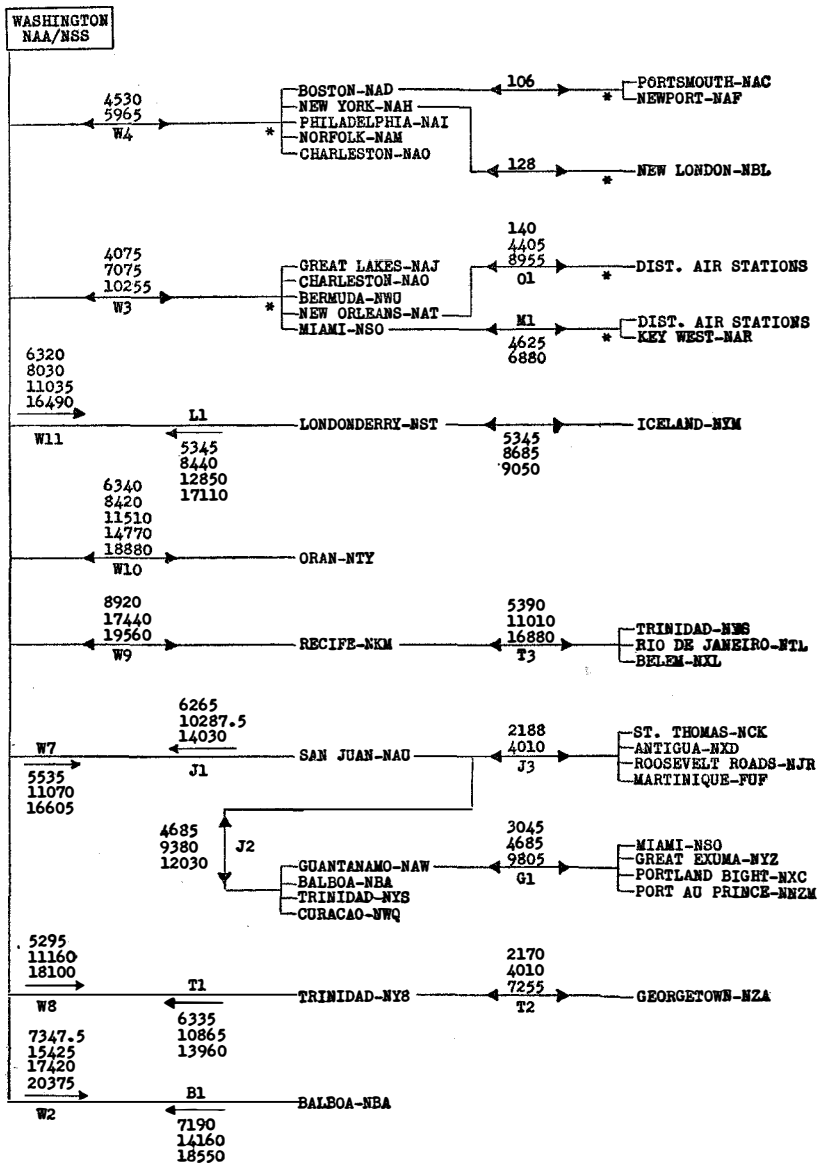
*Radio teletypewriter, Boehme high speed and manual.
**Boehme high speed and manual.

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

APPENDIX I

112.

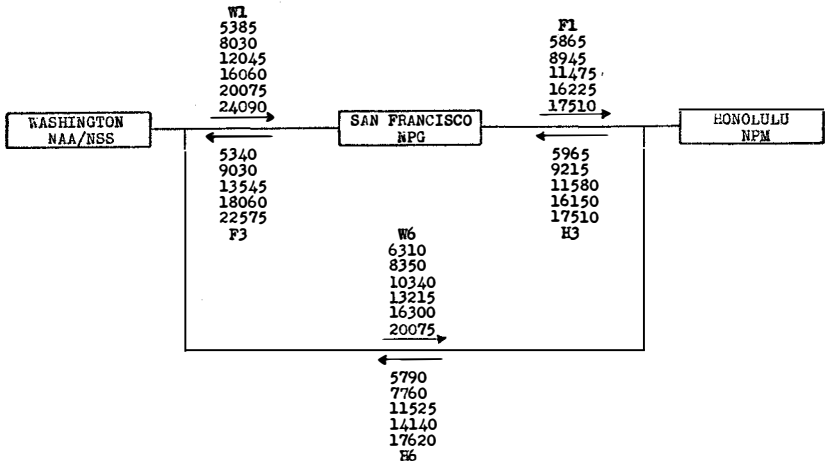
ATLANTIC CIRCUITS



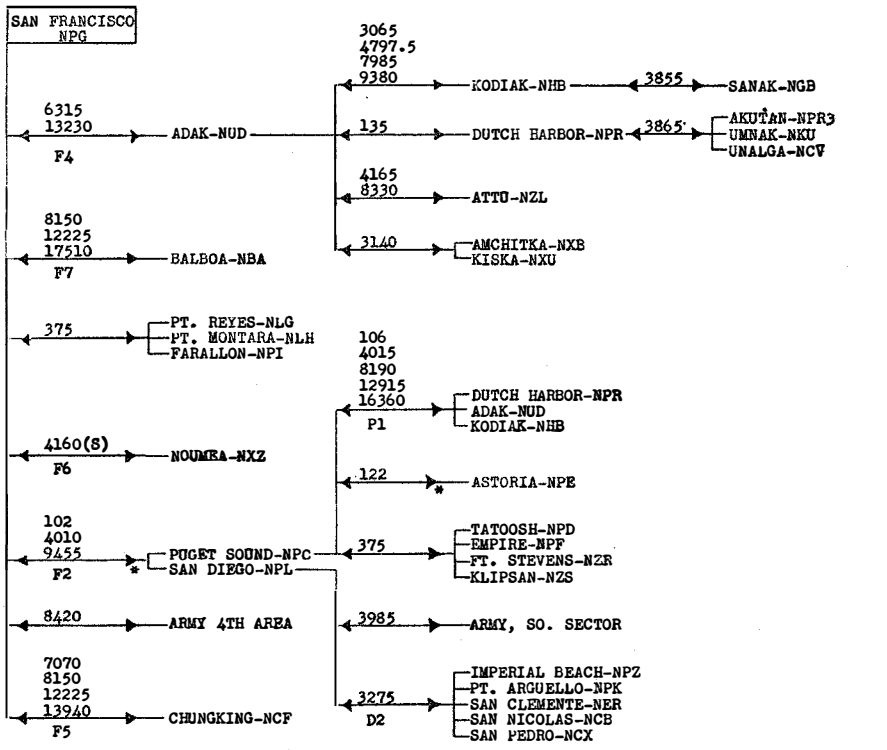
* RADIO STANDBY IN LIEU OF, OR OVERFLOW TRAFFIC FROM NAVY LEASED TELETYPEWRITER CIRCUITS.

APPENDIX I

113. TRANSCONTINENTAL & OCEANIC CIRCUITS



114. PACIFIC CIRCUITS

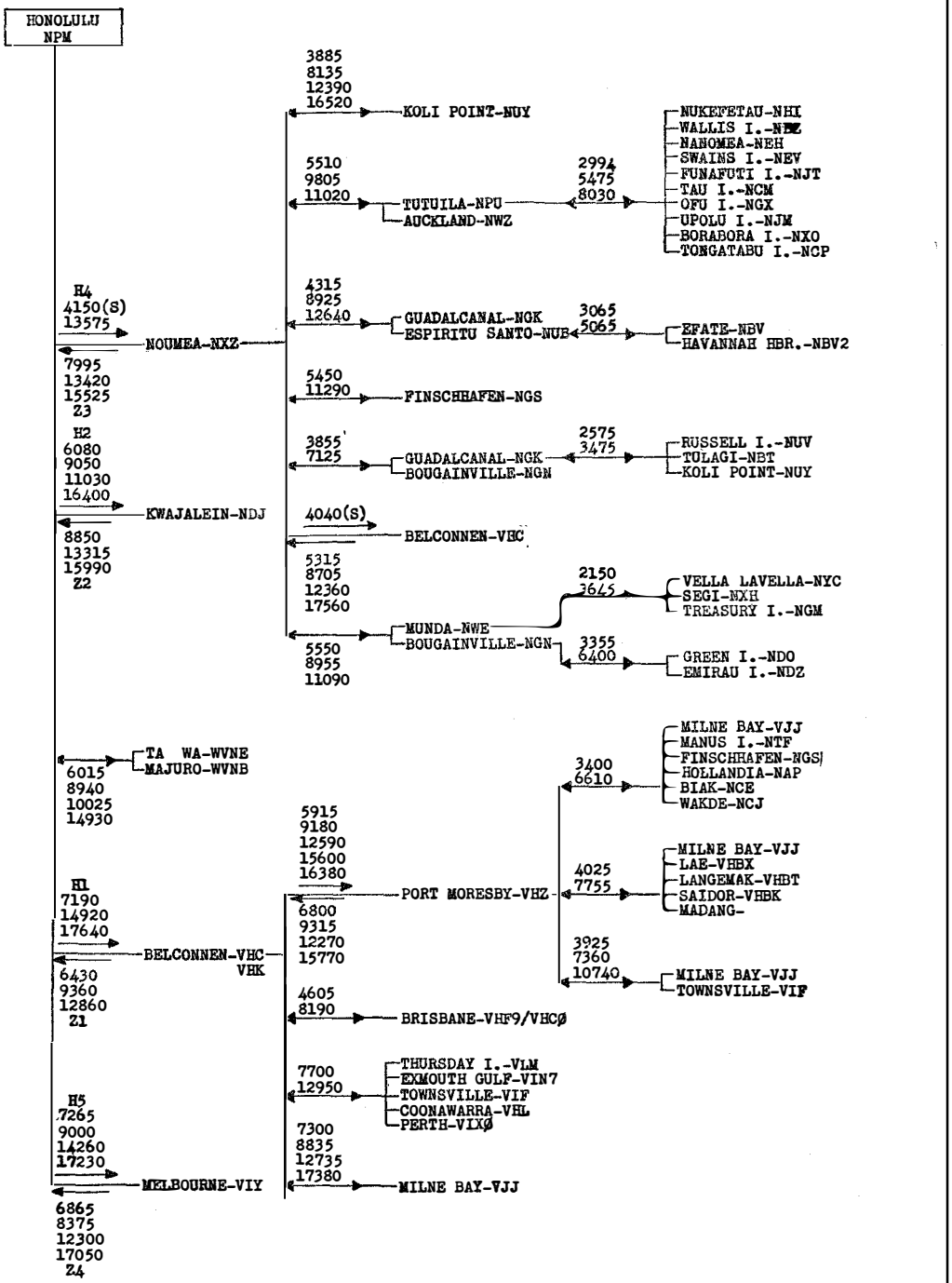


* RADIO STANDBY IN LIEU OF, OR OVERFLOW TRAFFIC FROM NAVY LEASED TELETYPEWRITER CIRCUITS.

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

APPENDIX I

115. SOUTH & SOUTHWEST PACIFIC CIRCUITS



(ALL TIMES GCT UNLESS OTHERWISE NOTED)

116. Foreign point to point circuits

Station	Call Sign	Schedule	Frequency (kc)	
			Trans.	Rec.
a. BALBOA	NBA			
LIMA	OBE	0200, 1430, 1800, 2300	10035	12307
b. MIAMI	NSO			
NASSAU	----------	Continuous	2956, 4625, 6880, 9960	
c. CORPUS CHRISTI	NWF			
VERA CRUZ	XBTG2	0900,1100,1900	8000	
d. RECIFE	NKM NZX			
FREETOWN	VPU	Continuous	5475	58ØØ
FREETOWN	VPU		11090	11090
ASCENSION, IS	ZBI			
e. WASHINGTON*	NSS			
LONDON	GYC	0000	8440	9060
LONDON	GZZ6	0600	6320	4485
LONDON	GYC5	1000	11175	11430
LONDON	GYJ5	1600	16860	16255
f. WASHINGTON	NSS			
DAKAR	FZK2	1630, 2100	14770	15470
g. WASHINGTON	NSS			
RIO DE JANEIRO	PWZ	0500	8350	8445, 11190
h. WASHINGTON*	NSS			
OTTAWA	CFF	2015	8920	8824
OTTAWA	CFF	1215	6340	4850
i. WASHINGTON*	NSS			
HALIFAX	CFH	2000	8920	8645
HALIFAX	CFH	1200	6340	6600

*Standby circuits to be used in case of cable or landline failure.

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

APPENDIX I

120. SHIP-SHORE SERVICE

121. Primary fleet broadcast schedules. These schedules are for the delivery of traffic by the F method to all U. S. naval vessels via primary area stations. Unless otherwise directed, the plan set forth below establishes the areas, shore stations, schedules, and procedure for vessels directed to comply with this plan and/or modifications thereto.

a. Vessels traversing areas not covered by this plan shall guard the appropriate area station for the area concerned as set forth in Appendix II.

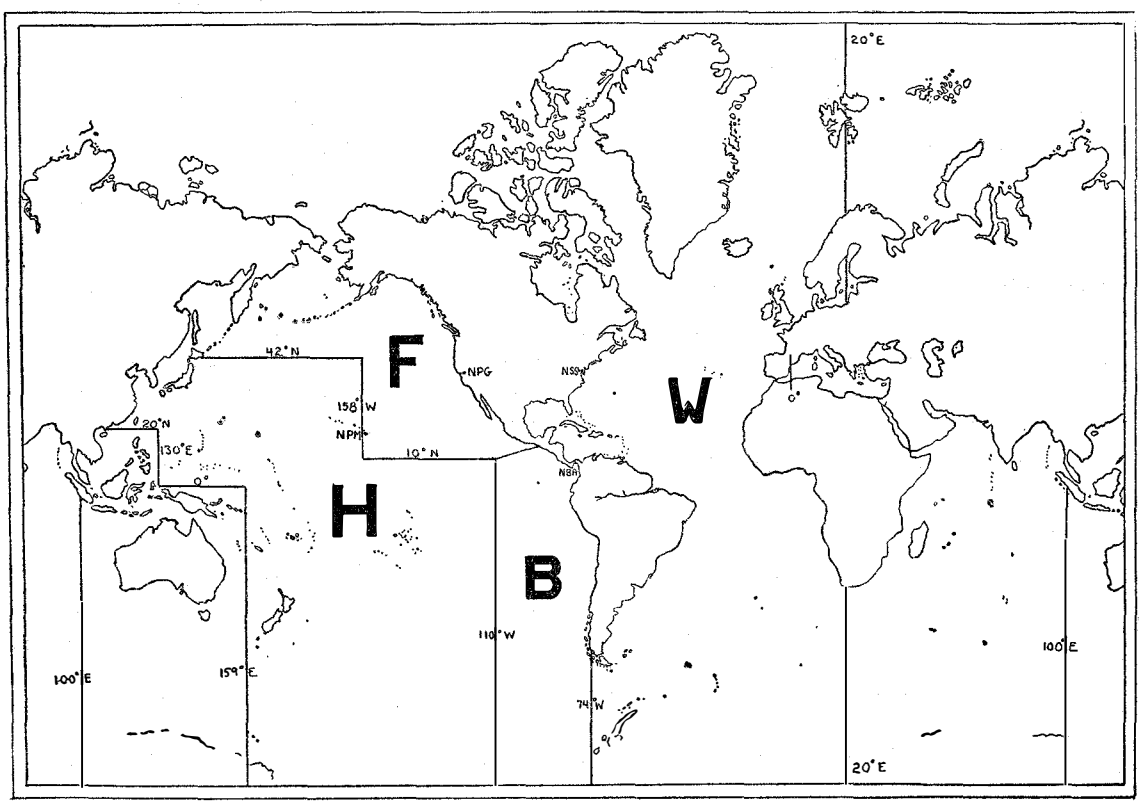
b. Vessels when required to shift the guard for these schedules from one area station (U. S. or British) to another while en route shall execute this shift at zero hours GCT.

c. Commanding officer of the vessel or the senior officer of vessels proceeding in company, when required, shall *prior to departure* insure that their area station (U. S. or British) has been advised of dates and area stations to which the guard will be shifted while en route.

d. Seniors diverting vessels at sea shall include this information in their orders in addition to insuring that the area stations concerned have been advised.

e. U. S. area stations shall exchange the information reported in accordance with paragraph *b.* once a day only, when necessary, by dispatch. (Note use of operating signal QWD.)

f. The following plan is now in effect.



(ALL TIMES GCT UNLESS OTHERWISE NOTED)

f.—Continued.

	*Designator	Area station	Frequency (kc)	Schedule
1	W	WASHINGTON—NSS Area—In Atlantic west of 20° east longitude. In Mediterranean west of zero longitude.	18 4045 16180 8090 and 12135	Continuous. From 2330 to 1130. From 1130 to 2330. Continuous.
2	F	SAN FRANCISCO—NPG Area—In Pacific Ocean north of 42° north latitude and the area bounded by 158° west longitude 10° north latitude to 110° west longitude and thence along the line forming the northern boundary of the SOEASTPAC area.	19.8 4725 17740 7065 and 14150 66	Continuous. From 0400 to 1000. From 1700 to 2400. Continuous. Stand by for 19.8.
3	H	HONOLULU—NPM Area—In Pacific Ocean except SOEASTPAC area, SOWESPAC area, and Radio San Francisco area, unless otherwise directed.	26.1 56 8230 and 12345 4115 16460	Continuous except from 2200 each Thurs. to 0300 Fri. Standby for 26.1. Continuous. From 0900 to 1800. From 1500 to 0900.
4	B	BALBOA—NBA Area—In SOEASTPAC area. In Caribbean and South Atlantic areas upon specific arrangements in lieu of NSS.	24 8480 16470 13080	Every odd hour on the hour until clear. From 2100 to 0900 (odd hours only). From 1300 to 2300 (odd hours only). Every odd hour on the hour until clear.

**To provide ships a quick and positive means of identifying fleet broadcasts, the designator indicated will be prefixed to the station's serial number of each message and transmitted as one group. Example: NR W167.*

122. Secondary fleet broadcast schedules. These schedules are for the delivery of traffic by the F method to U. S. naval vessels via secondary area stations and are established for small units operating in a local area. Authorities establishing these schedules will prescribe the area, stations, and direct whenever they may be guarded in addition to or in lieu of the primary fleet broadcast schedules.

	*Designator	Area station	Frequency (kc)	Schedule
a	K	KEY WEST—NAR (GSF)	215	Hourly on the hour.
b	G	GUANTANAMO—NAW (GSF)	215	Hourly at 40 after the hour.
c	O	NEW ORLEANS—NAT (GSF)	215	Hourly at 20 after the hour.
d	C	BALBOA—NBA (PSF)	2052, 5005, 9285, 11190	Hourly on the hour.
f	R	RECIFE—NKM (SOLANT)	4295, 8590, 12885	Odd hours on the hour.
g	D	WASHINGTON—NAA (SUBLANT).	15.6	Even hours at 20 after the hour.

**To provide ships a quick and positive means of identifying fleet broadcasts, the designator indicated will be prefixed to the station's serial number of each message and transmitted as one group. Example: NR W167.*

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

APPENDIX I

	*Designator	Area station	Frequency (kc)	Schedule
h	N	NOUMEA—NXZ (LOTE)	3575, 4975, 8660, 12780	From 0600 to 0900.
			3575, 4975, 8660	From 0900 to 1700.
			3575, 4975, 8660, 12780	From 1700 to 2000.
			3575, 4975, 8660, 12780, 14290	From 2000 to 2200.
			4975, 8660, 12780, 14290	From 2200 to 0600.
i	J	HONOLULU—NPM (JUMP)	106, 8250, 12375	Continuous.
			4125	From 0600 to 1930.
			16500	From 1930 to 0600.
j	P	HONOLULU — NPM (SUBPAC).	16.68, 9090	Continuous.
			6380	From 0600 to 2300.
			4525	From 0800 to 2000.
			14390	From 1900 to 0800.
			17370	From 2200 to 0600.
k	V	NORFOLK — NAM (COMFIVE).	102	Even hours on the hour.

**To provide ships a quick and positive means of identifying fleet broadcasts, the designator indicated will be prefixed to the station's serial number of each message and transmitted as one group. Example: NR W167.*

123. Primary and secondary general broadcast schedules. These schedules are for the dissemination of hydrographic reports, major and local weather and time signals to vessels via primary (general coverage) and secondary (local coverage) stations. Current schedules are published once a month in the weekly Hydrographic Bulletin; also, consult H. O. 206. These same stations and frequencies are employed for the delivery of BAMS traffic by the F method. See Appendix VIII.

124. Ship-Shore Communications. The facilities established for handling short and long distance ship-shore communications are listed in article 125.

a. The 4235 kc (NERK) series is employed for long distance communication. Except as indicated below, the stations handling this service normally guard the fundamental and second harmonic only and answer only on the frequency called. The following stations key the fundamental, second, third and fourth harmonic simultaneously except that during daylight hours (LCT) 4235 kc is not normally keyed unless ships are known to be within daylight range. Also, to assist ships in selecting the proper harmonic, these stations transmit V's and the radio call sign every hour for thirty seconds commencing as indicated.

WASHINGTON (NSS)	On the hour.
SAN FRANCISCO (NPG)	Two minutes after the hour.
BALBOA (NBA)	One minute after the hour.
HONOLULU (NPM)	Three minutes after the hour.
NOUMEA (NXZ)	Four minutes after the hour.

Ships relying on the NERK series for delivery of traffic should keep a receiver and transmitter tuned to the best frequency as determined by these transmissions. In cases where the above stations cannot establish communication with a ship heard on the NERK series, an operating signal will be sent on the primary fleet broadcast schedule of the station called directing the ship to send blind on the frequency heard. Receipt and request for repetition will be transmitted on the primary fleet broadcast schedule if communication on NERK frequencies is not established after receipt of the message. In order to avoid

any ambiguity in the receipt of messages by shore stations, which may result from the use of the same indefinite call by two ships transmitting at approximately the same time on the same frequency, the date-time group will be repeated in the receipt for all traffic.

b. 2716 kc is employed for short distance communications and also as a port frequency for local communications, when required. Article 141, note 3, should be consulted regarding the use of this frequency by ships of the frontier forces and district activities.

125. Ship-shore facilities and services. The table below indicates the facilities established for ship-shore services. Consult current fleet and sea frontier communication plans for additional information.

SEE NOTES BELOW													SEE NOTES BELOW										
DISTRICT	STATION	CALL SIGN	1 2716 KC	2 500 KC	3 4155 KC	4 4235 KC	5 FRI. FLT.	6 SEC. FLT.	7 FRI. GEN.	8 SEC. GEN.	9 PT. FREQ.	DISTRICT	STATION	CALL SIGN	1 2716 KC	2 500 KC	3 4155 KC	4 4235 KC	5 FRI. FLT.	6 SEC. FLT.	7 FRI. GEN.	8 SEC. GEN.	9 PT. FREQ.
1	BOSTON	NAD	X							X			NOUMEA	NXZ	X	X		#		X		X	B
1	PORTSMOUTH	NAC	X										TUTUILA	NPU	X	X						X	B
1	NEWPORT	NAF	X								A		GUADALCANAL	NGK				X					B
3	NEW YORK	NAH	X							X			BOUGAINVILLE	NGN	X								B
3	NEW LONDON	NBL			X								BORA BORA	NXO	X	X						X	B
4	PHILADELPHIA	NAI	X										ESPIRITU SANTO	NUB	X	X						X	B
4	CAPE MAY	NCR	X										ESPATE	NBV	X	X							B
5	NORFOLK	NAM	X					X		X			SUVA	NCN	X	X							B
6	CHARLESTON	NAO	X	X						X			MANUS	NTF	X	X							B
7	MIAMI	NSO	X	X	X																		
7	KEY WEST	NAR	X		X			X		X		U. S. COAST GUARD STATIONS											
8	NEW ORLEANS	NAT	X		X			X		X			BOSTON	NMF		X							
10	SAN JUAN	NAU	X		X					X			NEW LONDON	NOU		X							
10	GUANTANAMO	NAN	X	X	X			X		X			AMAGANSETT	WSL		X						X	
10	ST. THOMAS	NGK	X	X									NEW YORK	NMY		X							
10	CURACAO	NWQ	X	X									NORFOLK	NMN		X							
10	TRINIDAD	NYS	X	X	X								CHARLESTON	NMB		X							
11	SAN DIEGO	NPL	X	X			X			X			JACKSONVILLE	NMV		X							
12	SAN FRANCISCO	NPG	X		X	#	X		X				FT. LAUDERDALE	NOL		X							
13	ASTORIA	NPE	X							X			MIAMI	WAX		X						X	
13	PUGET SOUND	NPC	X			X				X			ST. PETERSBURG	NOF		X							
14	HONOLULU	NPM	X			#	X	X	X				MOBILE	NOQ		X							
15	BALBOA	NRA	X	X	X	#	X	X	X				NEW ORLEANS	WNU		X						X	
17	ADAK	NUD	X										GALVESTON	NOY		X							
17	DUTCH HARBOR	NPR	X	X		X				X			SAN JUAN	NMR		X							
17	KODIAK	NHB	X	X		X				X			LONG BEACH	NMQ		X							
17	AMCHITKA	NXB	X										SAN FRANCISCO	NMC		X						X	
	ARGENTIA	NWP	X	X									EUREKA	NPW		X						X	
	WASHINGTON	NSS	X			#	X	X	X				PORTLAND	KEK		X							
	LONDONDERRY	NST	X										SEATTLE	NMW		X							
	RECIFE	NKM	X	X	X			X					WESTPORT	NOV		X							
	BERMUDA	NWU	X										KETCHIKAN	NRJ		X						X	
	RIO DE JANEIRO	NTL								X			HONOLULU	NMO		X						X	
	CASABLANCA	NJO	X	X									PALO ALTO	KPS		X							

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

APPENDIX I

(1) SECONDARY SHIP-SHORE AND PORT FREQUENCY, short distance communications ---------- 2716 kc
(2) INTERNATIONAL DISTRESS, emergency communications ---------- 500 kc
(3) SHIP-SHORE FOR SUBMARINE AND SEA FRONTIERS, long distance communications ---------- 4155 kc (S)
(4) PRIMARY SHIP-SHORE (NERK) long distance communications ---------- 4235 kc (S)#
(5) PRIMARY FLEET BROADCASTS.
(6) SECONDARY FLEET BROADCASTS.
(7) PRIMARY GENERAL BROADCASTS.
(8) SECONDARY GENERAL BROADCASTS.
(9) PORT FREQUENCIES ESTABLISHED BY FORCES AFLOAT, A–2844 kc, B–355 kc (outside continental U. S.).

#Key and guard harmonics simultaneously. See article 124*a*.

130. BASEGRAM DELIVERY AUTHORITIES

131. The following basegram delivery authorities are now in effect: (See article 5350)

a. Commandants of following naval operating bases:

Londonderry	Bermuda	Rio de Janeiro
Oran	Key West	San Diego
Iceland	Guantanamo	San Pedro
Argentia	Trinidad	Kodiak
Newport	St. Thomas, V. I.	Dutch Harbor
Norfolk	Balboa	

b. Senior officer present afloat at:

Casco Bay (Fleet Signal Station, Fort McKinley).
Greenland (USCG Radio Greenland).

c. Commandants of following naval districts:

First	Eighth	Fourteenth
Third	Ninth	Fifteenth (Cristobal area)
Fourth	Tenth	
Sixth	Twelfth	Seventeenth
	Thirteenth	

d. Commanding officers of following submarine bases:

New London.
Midway.

e. Commandants of following navy yards:

Portsmouth, N. H.
Washington, D. C.

f. Commander, Moroccan Sea Frontier (Radio, Casablanca).
g. Commander, South Atlantic Force (Radio, Recife).
h. Commander, South Pacific Force (Radio, Noumea).
i. Commander, Southwest Pacific Force.
k. Commander, Forward Area Central Pacific.

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

140. FACILITIES FOR LOCAL DISTRICT ACTIVITIES

141. Local naval district activities and ships attached thereto including those of the sea frontier forces that are based and operate within the district shall employ only those frequencies indicated in the table below for ship-shore communications while operating within their respective districts. These frequencies are authorized for "A3" only unless otherwise indicated. Consult current sea frontier and district communication plans for further information.

Frequency (kc)	Naval Districts													
	1	3	4	5	6	7	8	10	11	12	13	14	15	17
2058		X				X					X			
2090	X[1]				X									
2150	X							X						
2166														X
2170								X					X	
2188								X						X
2196									X		X			X
2240	Army frequency (See Note 1).													
2252					X									
2268			X											
2276				X[2]		X								
2436				X										
2530										X		X[3]		
2550									X			X		X
2572														X
2670	Coast Guard frequency (See Note 2).													
2716	Navy frequency (See Note 3).													
2738	Non-Govt. Coastal Harbor and ship calling.													
2780											X		X	
2830		X				X				X	X			
2838				X								X		
2854		X					X		X					
2902						X				X		X		
2916	X[4]													
2956			X			X				X				
3000	Scene of action frequency (See Note 4).													
3855														X
3865														X
3905														X

[1] Less Argentia. [2] Bermuda also. [3] Midway I. only. [4] Less Argentia.

Note 1—Assigned by the U. S. Army for general use in harbor defense operations. May be employed by the Navy and Coast Guard for establishing initial communications with Army units. Authorized for A1 and A3.

Note 2—Assigned by the U. S. Coast Guard for general use and emergency traffic only. May be employed by the Army and Navy for establishing initial communications with Coast Guard units. Authorized for A1 and A3.

Note 3—Assigned by the U. S. Navy for local ship-shore communications. May be employed by the Army and Coast Guard for establishing initial communications with Navy units. Ships assigned district frequencies may temporarily employ this frequency only when operating outside the district to which attached or based where equipment limitations prevent employing the proper frequency to communicate with these activities. Authorized for A1 and A3.

Note 4—Adopted as the combined joint and intra-Navy scene-of-action coordinating frequency. The following restrictions govern its employment and use:

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

(*a*) This frequency shall be employed only as an emergency or last resort frequency for intercommunication at *scenes of action* where it has been impossible to arrange a coordinated intercommunication plan of action in advance.

(*b*) This frequency is not to be used for any required communications for which an operational plan has been established except where equipment limitations permit no alternative.

150. FLEET SHORE SIGNAL STATIONS

151. With few exceptions all Coast Guard stations, naval harbor entrance control posts, and section bases maintain a visual signal service utilizing international code flags, blinker, and semaphore. The Army also maintains a limited number of coastwise signal stations, locations, and calls, which are indicated in the *U. S. Navy Visual Call Sign Book.*

The naval signal stations indicated below will accept traffic to be forwarded via the naval communication system in addition to their regular function. The call for any government shore signal station or a lightship is G. From a shore station or a lightship G calls any, or the senior, man-of-war. The designating letter H with numerals (1 to 99) is assigned locally by competent authorities to naval shore signal stations.

Dist.	Location
1	Newport, R. I. (West of War College). Casco Bay, Maine, Fort McKinley.
5	Norfolk, Va. (NOB, Top Building, No. 138). (NOB, Top Building, No. 143).
8	New Orleans, La. (roof, Unit 1, Port of Embarkation, opposite naval station).
10	Guantanamo Bay, Cuba, McCalla Hill. San Juan, P. R. (Naval Air Station).
11	San Diego, Calif. (Dist. Hdqtrs. Bldg.). San Clemente, Calif. (FTB). San Pedro, Calif. (NOB, Tower Administration Building).
12	San Francisco, Calif., Yerba Buena Island.
14	Pearl Harbor, T. H. (Navy Yard). Pearl Harbor, T. H. (Sub. Base). Pearl Harbor, T. H., Ford Island (Naval Air Station).
15	Balboa, C. Z. (NOB). Coco Solo, C. Z. (Sub. Base).
Sev.	Annapolis, Md. (U. S. S. Reina Mercedes, Naval Academy).
NOB	Bermuda.
NOB	Reykjavik, Iceland. Hvalfjordur, Iceland.
NOF	Recife (Top Headquarters Building). (Top Docks Administration Building).

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

160. DF CALIBRATING SERVICE

161. Detailed arrangements for the use of the following radio direction-finder calibrating facilities shall be made in advance with the commandant of the respective district or his local representative. All stations in this list can furnish service for calibrating DF on frequencies from about 150 to 1500 kc. Stations marked with an asterisk can furnish service for calibrating on high frequencies. Additional stations in this list will be equipped for high-frequency service.

Dist.	Target location	Target description
	ARGENTIA, NFLD. (H5) Lat. 47°17′55.4″ north. Long. 53°59′35.3″ west.	Harbor Entrance Control Post tower.
1	CASCO BAY, MAINE Lat. 43°37′27″ north. Long. 70°12′41″ west.	Harbor Entrance Control Post, Fort Williams, white flagpole. 300 yds., 300° true from Portland Head Lighthouse.
1	NARRAGANSETT BAY, R. I. (NAF8) Lat. 41°30′27.2″ north. Long. 71°19′51″ west.	Signal Tower, Coasters Harbor Island. Adjacent Naval War College. Steel self-supporting tower with observation room at top.
1	DEER ISLAND, MASS. (NAD8) Lat. 41°21′06″ north. Long. 71°25′00″ west.	Harbor Entrance Control Post, 70-foot signal mast with yard arm and masthead light located on highest point of land.
3	STATEN ISLAND, N. Y. (H3) Lat. 40°36′18″ north. Long. 74°03′18″ west.	Harbor Entrance Control Post, Fort Wadsworth. Absolute target is a point 20′ east of signal tower.
3	FISHERS ISLAND, N. Y. (H4) Lat. 41°15′22″ north. Long. 72°01′20″ west.	Harbor Entrance Control Post, Fort Wright. Absolute target is signal mast top of Harbor Entrance Control Post.
3	STRATFORD SHOALS, N. Y. (NNFX) Lat. 41°03′36″ north. Long. 73°06′06″ west.	Coast Guard lookout tower on top of Middleground Lighthouse.
4	CAPE MAY, N. J. (NCR) Lat. 38°56′00″ north. Long. 74°57′40″ west.	Lighthouse, gray tower, red lantern, two white dwellings.
5	CAPE CHARLES CITY, VA (NAM6) Lat. 37°16′26.02″ north. Long. 76°01′14.35″ west.	2 75-foot lattice towers 150 feet apart. Absolute target is tower closest water. Both towers fly FIVE flag during daylight.
6	FOLLY ISLAND, S. C. (NAO8)* Lat. 32°40′59.89″ north. Long. 79°53′21.91″ west.	3-foot lattice wood square, painted black, secured to seaward side of structural steel antenna tower.
7	KEY WEST, FLA. (NAR) Lat. 24°33′22″ north. Long. 81°48′23″ west.	300-foot steel masts 600 feet apart. Absolute target flying FIVE flag during daylight hours.
8	BURWOOD, LA. (NAT1) Lat. 28°57′41.05″ north. Long. 89°23′04.60″ west.	1 85-foot wood pole with antenna sloping down to building 150 feet distant. Will fly FIVE flag when calibrating.
10	GUANTANAMO BAY, CUBA (NAW) Lat. 19°54′37″ north. Long. 75°11′51″ west.	

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

APPENDIX I

Dist.	Target location	Target description
10	SAN JUAN, P. R. (NAU)* Lat. 18°28′03.9″ north. Long. 66°05′38.8″ west.	Center of NAU flat top antenna between supporting towers.
11	SAN DIEGO, CALIF. (Z8N) Lat. 32°42′22.009″ north. Long. 117°14′46.510″ west.	Elevated water tank southeasterly portion of Point Loma Radio Station reservation.
11	SAN CLEMENTE, CALIF. (Z8O) Lat. 33°00′09.663″ north. Long. 118°33′8.223″ west.	Transmitter building located on side hill above Wilson Cove. Absolute target 4-foot diamond on top of east wall of transmitter building.
11	TERMINAL IS., CALIF. (Z8J) Lat. 33°45′24.05″ north. Long. 118°14′01.69″ west.	150-foot standard steel radio tower on Roosevelt Base. Absolute target is 12-inch flood light on top of tower facing seaward.
12	SO. SAN FRANCISCO, CALIF. (NPG1). Lat. 37°39′41″ north. Long. 122°23′03″ west.	White water tank on Point, San Bruno, approximately 4¼ miles south of Hunter's Point.
12	POINT REYES, CALIF. (NLG1) Lat. 37°59′29″ north. Long. 122°58′15″ west.	Coast Guard lookout tower consisting of small white building mounted on 16-foot steel tower overlooking Drake's Bay.
13	NEW DUNGENESS, WASH. (NNYT) Lat. 48°10′55″ north. Long. 123°06′31″ west.	3 80-foot wooden masts, set at the corners of an equilateral triangle. Target is center of triangle.
13	PORT ANGELES, WASH. (NOW) Lat. 48°08′03″ north. Long. 123°24′48″ west.	Small red brick building located between a yellow barracks building to the east and a green barracks building to the west.
13	POINT NO POINT, WASH. (NNYX) Lat. 47°54′07″ north. Long. 122°31′05″ west.	Coast Guard lighthouse.
14	HONOLULU, T. H. (NMO) Lat. 21°15′32″ north. Long. 157°48′44″ west.	Coast Guard lighthouse on Diamond Head, Oahu, T. H.
15	COCO SOLO, C. Z. (NBA3) Lat. 09°22′27.1″ north. Long. 79°53′08.5″ west.	Signal tower on elevated water tank, NOB, Coco Solo, C. Z.
15	TABOGUILLA IS., GULF OF PANAMA (NBA4). Lat. 08°48′29″ north. Long. 79°31′20″ west.	Lookout tower atop Taboguilla Island. Absolute target (visible only from seaward side during calibration) is horizontal white panel on left hand side of tower's base.

162. The following locations are provided with mobile calibrating facilities in small boats and can furnish service from 1500 kc to 20,000 kc.

CASCO BAY*	NORFOLK	NEW ORLEANS
BOSTON	BERMUDA**	GALVESTON
NEW YORK	CHARLESTON	SAN JUAN

*Arrangements to be made with COMDESLANT.
**Arrangements to be made with COTCLANT.

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

170. LANDLINE FACILITIES AND SERVICES

171. Administration. The Chief of Naval Operations (DNC) maintains direct administrative control over all leased landline facilities over 100 miles. Commandants of the districts and river commands represent the Chief of Naval Operations (DNC) in administering control over all other facilities and services.

172. Approval. All new landline facilities and services and additions or modifications thereto shall be subject to prior approval by the Chief of Naval Operations (DNC) with the following modifications:

a. In case of emergency where the military situation will not permit any delay. In such cases, approval will be requested as soon as possible thereafter.

b. In case no basic change in a circuit is involved and only moves or minor rearrangements are necessary, where time does not permit prior approval.

173. Leased facilities. The naval communication system embraces leased landline facilities interconnecting Washington and the headquarters of districts 1, 3, 4, 5, 6, 7, 8, 9, and 12. The headquarters of districts 11, 12, and 13 are likewise connected. All district headquarters are in turn connected with their respective major activities. Supplementing these facilities, special telephone, teletypewriter, and telegraph terminations can be made available at certain shore establishments, located so as to permit the use of these facilities alongside or aboard ship. The temporary use of these instruments, portable connections, and installation of same, while in port, will be supplied by the commandant. Information requesting their availability is to be made through the commandant concerned.

174. Teletypewriter services. The term "teletype" and "teleprinter" are trade names for landline printing instruments used by the American Telephone & Telegraph Co., and the Western Union Telegraph Co. The term "teletypewriter" is a general term not directly associated with any particular company or instrument. These terms do not describe the kind of instrument or service; therefore, the model number of the printer shall be used to describe the instrument, and the terminology as indicated below for the particular service. There are five separate kinds of landline printing services, differing in rates as well as in communication usefulness. These services are:

a. Leased teletypewriter service (TWL) (12 or 24 hours per day)	AT&T or WU.
b. Limited leased teletypewriter service (Telemeter)	WU.
c. Teletypewriter exchange service (TWX)	AT&T.
d. Teletypewriter tie line (Delivery service)	WU.
e. Aeronautical service (C. A. A.)	
Schedule A (weather)	AT&T.
Schedule C (weather)	WU.
Above either transmit and receiving or receiving only	
Schedule F (Airways control, voice only)	AT&T.

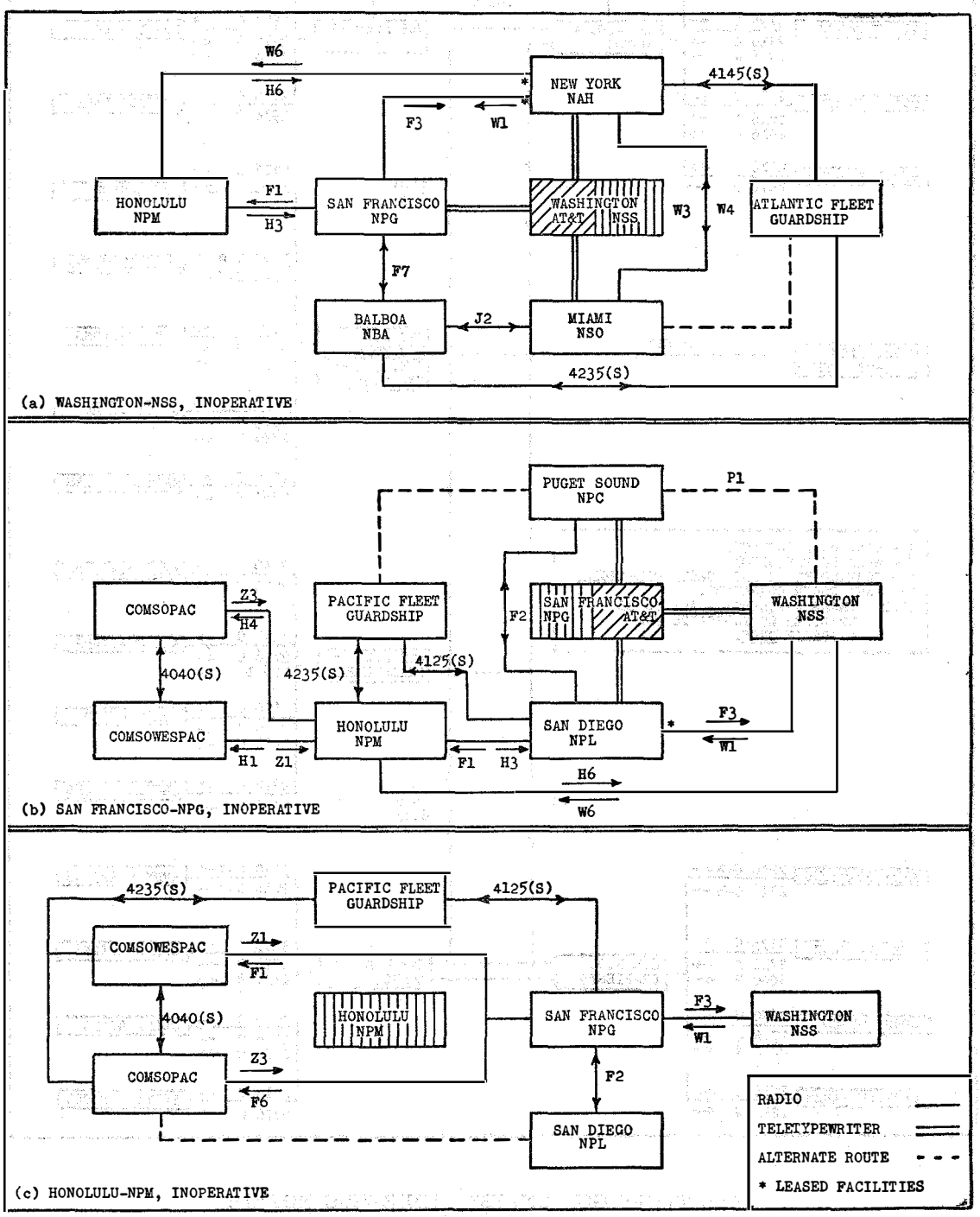
175. Navy-owned telephone facilities. Requests for these facilities shall be forwarded to the Chief of Naval Operations (DNC) via the Bureau of Yards and Docks and should include a detailed plant design print indicating the proposed cable or wire construction, the estimated working lines by sections of cable or wire, the type and route of telephone company facilities, the switchboard location, and the telephone requirements by buildings.

176. Navy-owned teletypewriter facilities. Requests for these facilities shall be forwarded to the Bureau of Ships via the Chief of Naval Operations (DNC) and should include the equivalent information that is to accompany requests for government-owned telephone facilities.

APPENDIX I

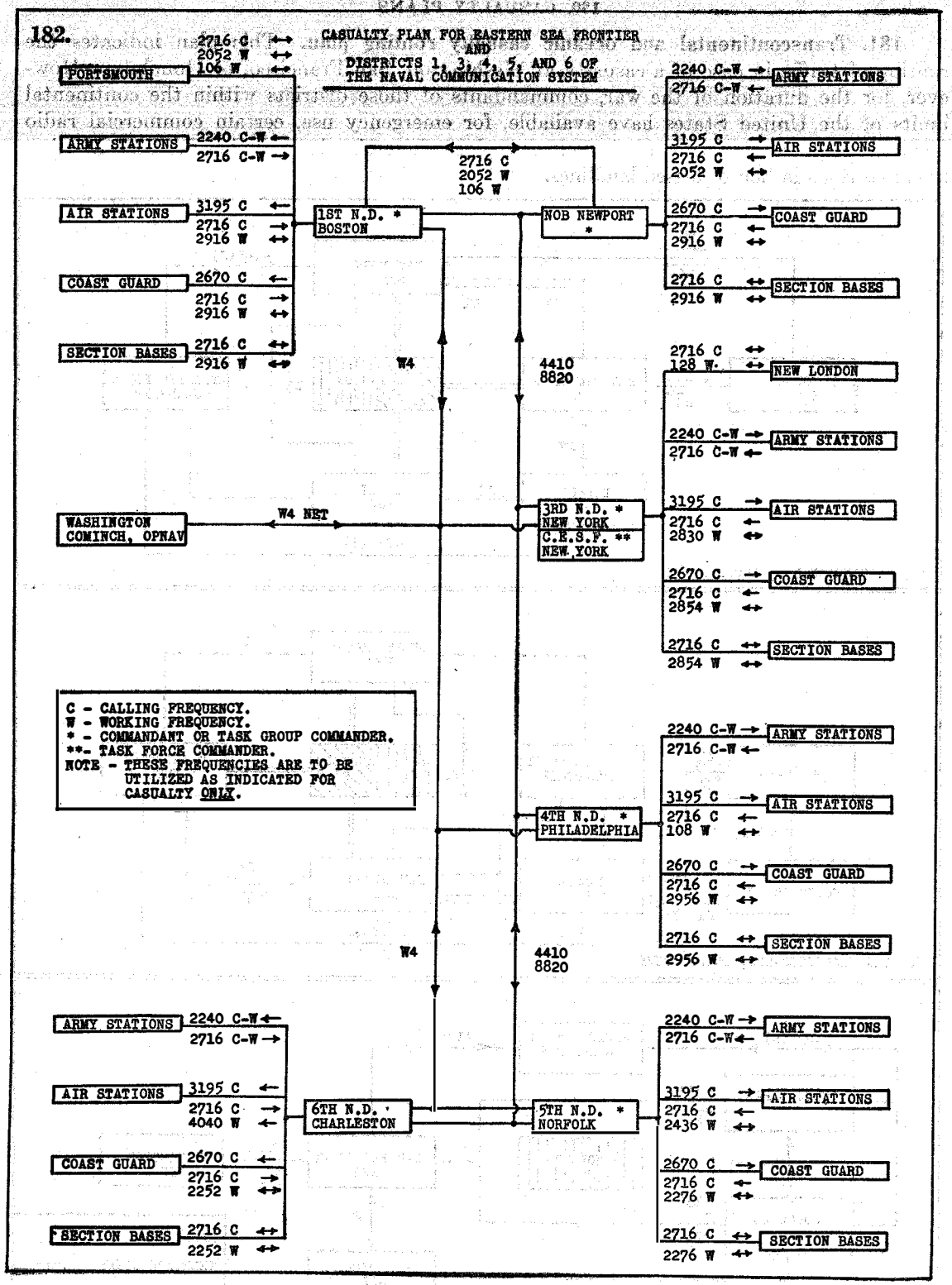
180. CASUALTY PLANS

181. Transcontinental and oceanic casualty routing plan. This plan indicates the routing of traffic in case of a casualty at Washington, San Francisco, or Honolulu. However, for the duration of the war, commandants of those districts within the continental limits of the United States have available, for emergency use, certain commercial radio facilities prepared either to supplement or replace these circuits and those of certain other naval stations in lieu of leased landlines.



(ALL TIMES GCT UNLESS OTHERWISE NOTED)

182. CASUALTY PLAN FOR EASTERN SEA FRONTIER AND DISTRICTS 1, 3, 4, 5, AND 6 OF THE NAVAL COMMUNICATION SYSTEM



(ALL TIMES GCT UNLESS OTHERWISE NOTED)

RESTRICTED

EXTRACTS FROM BRITISH NAVAL RADIO ORGANIZATION

Appendix II
to Communication Instructions
1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

(I)

557048°—44——40

APPENDIX II

TABLE OF CONTENTS

(All times GCT unless otherwise stated.)

APPENDIX II

100. GENERAL INTRODUCTION

101. Purpose.—Appendix II has been included in Communication Instructions in order to furnish pertinent information regarding the British Naval Radio Organization and other miscellaneous related information to U. S. ships and authorities which may at times be required to make use of these facilities. The data contained herein has been taken from the effective British Admiralty Fleet Orders ("S" series) which are not generally distributed to the U. S. Navy.

102. Supersedes DNC 8.—The information contained in Appendix II supersedes the publication DNC 8.

103. Changes to Appendix II.—Certain information contained in Appendix II is subject to frequent change and will be corrected periodically. Since the lag between changes effected by the Admiralty and corresponding changes issued to this appendix is often great, it is intended that this information be used for reference purposes only.

104. Arrangement of data.—The data contained herein has been arranged to effect the most practical usage. The charts and tables are for the most part self-explanatory. Additional information is included when necessary.

110. GENERAL INSTRUCTIONS ON BRITISH NAVAL (W/T) ORGANIZATION

111. Relaying of messages.—Many of the ship-to-shore waves are common to several Naval Stations. Any Naval W/T Station hearing a call on a ship-to-shore wave will accept the message and relay it by fixed (point-to-point) service to its destination.

112. Answering practice.—

a. When calling shore stations on a common ship-to-shore high-frequency wave, a ship must be prepared to receive an answer:

1. On calling frequency.
2. On appropriate broadcast or intercept.

b. Normal practice is for the shore station to give an answer on the calling frequency and this will always be done when necessary transmitter is available.

c. An answer on broadcast or intercept will be made:

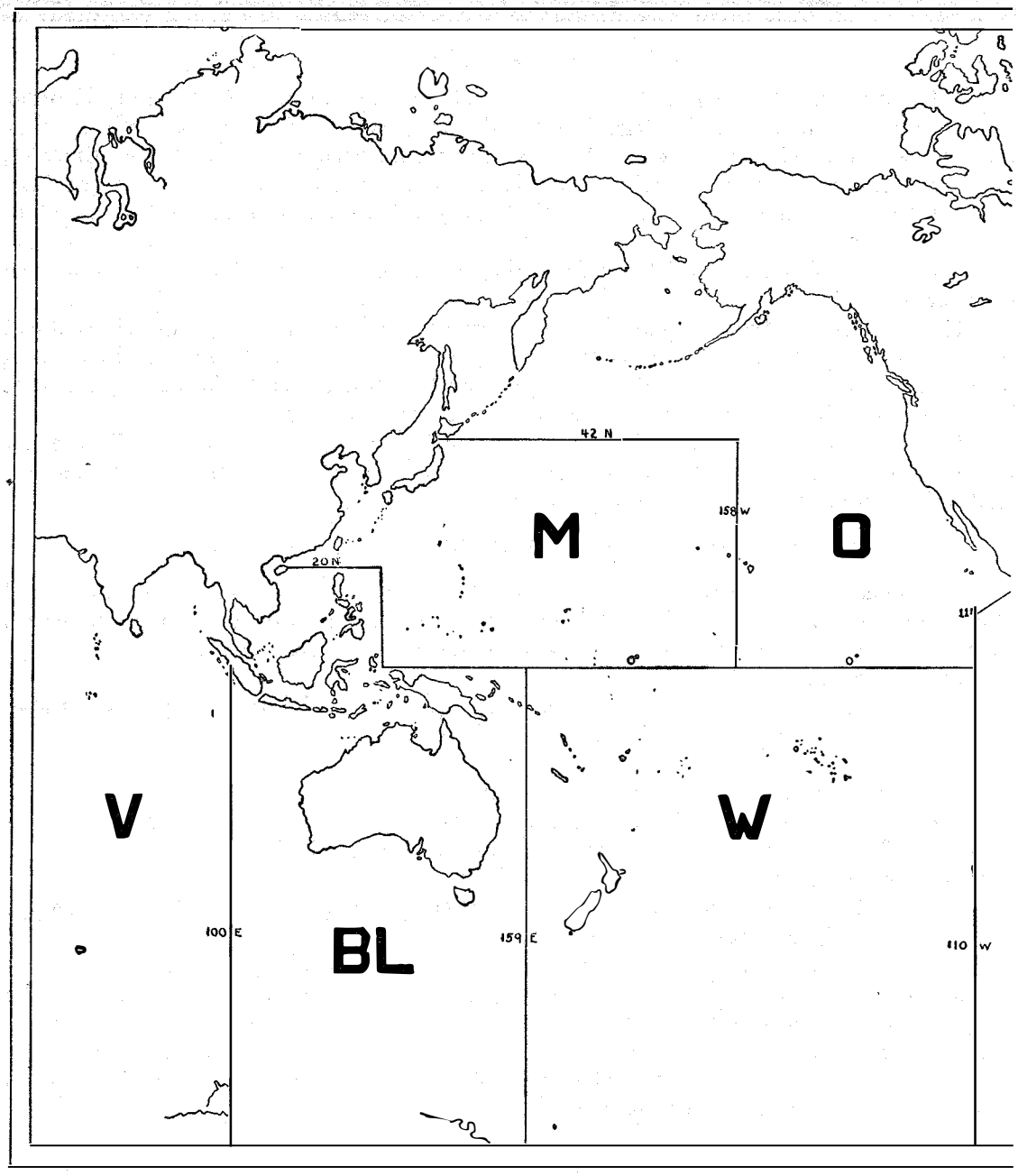
1. Where shore station has no transmitter available on calling frequency.
2. When requested by the ship.
3. When ship does not appear to hear answer on calling frequency.

d. In the event of a ship not receiving an immediate answer to a call on the H/F, the message should always be broadcast (once through), but this in no way relieves the transmitting ship of the responsibility of obtaining an "R" in the normal manner. It does provide, however, for the contingency of a shore station hearing the ship while the latter is unable to hear the shore station answering.

596962*—44——11

200. LIMITS OF

Chart 1. GENERAL CHART SHOWING THE



Mediterranean areas not included on this

W/T AREAS

LIMITS OF BRITISH RADIO (W/T) AREAS

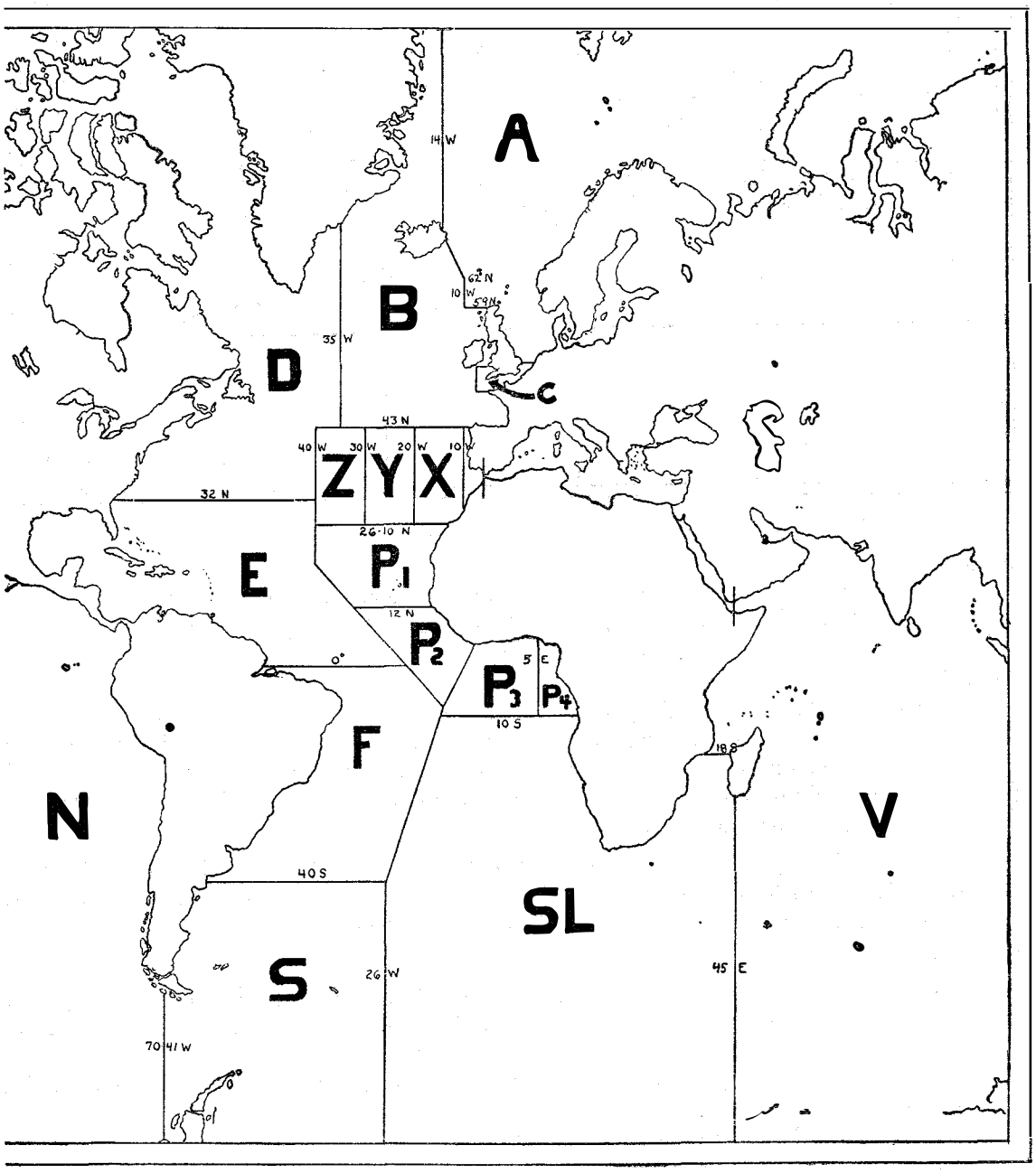
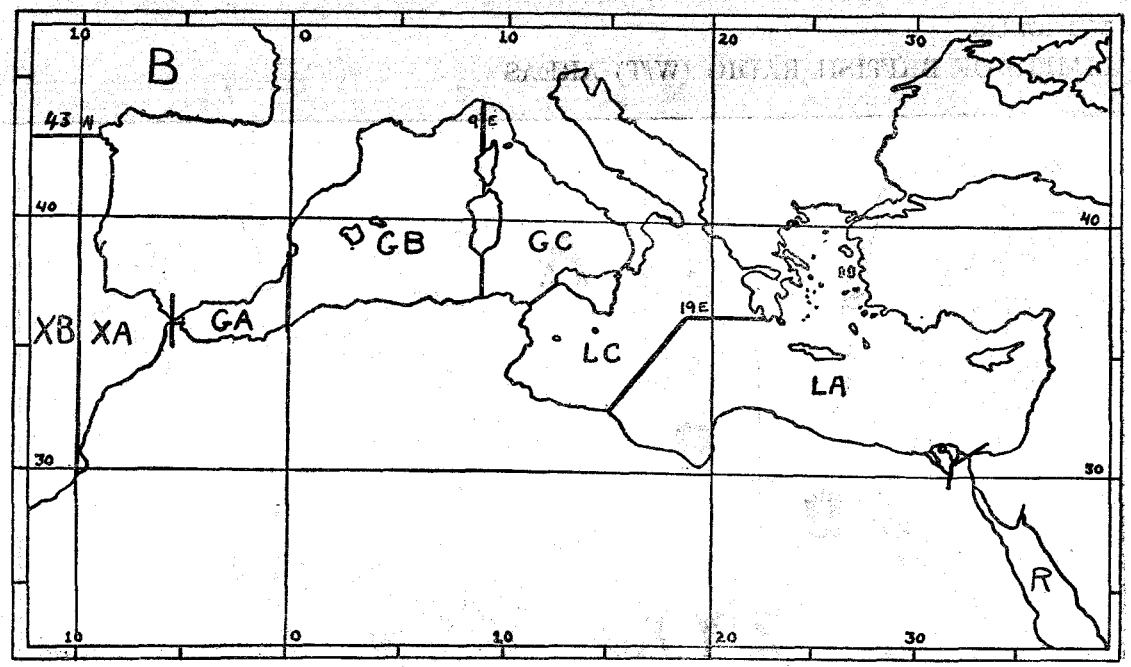


chart are shown on a separate chart.

Chart 2. AREA LIMITS OF MEDITERRANEAN W/T STATIONS



210. DEFINITION OF LIMITS OF BRITISH W/T AREAS

Area A:

Consists of that portion of the Orkneys and Shetlands Command to the east of the northerly dividing line*, the Rosyth Command and that portion of the Nore Command lying to the north of 51° 40′ North.

Area B:

Consists of the Western Approaches Command (except that portion in the Bristol Channel and Irish Sea Area lying to the south of the latitude of Milford Haven); Iceland; that portion of the Orkneys and Shetlands Command lying to the west of the northerly dividing line* and that portion of the Plymouth Command south and west of 48° north and 7° west.

*The northerly dividing line between Areas "A" and "B" is a line from Dunnet Head due north to 59° North, thence due west to longitude 6° West, thence due north to 62° North, thence to Seydisfjord, Iceland, and thence due north.

Area BL:

North_____ From Cape Kami, south to latitude 20° North, a line east to longitude 130° East, thence south to Equator, along Equator to longitude 159° East.

West_____ The meridian of 100° East from the coast of Sumatra to the south pole.

South_____ The pole.

East_____ The meridian of 159° East.

Area C:

Consists of the Portsmouth and Dover Commands; that portion of the Plymouth and Western Approaches Commands in the Bristol Channel and Irish Sea south of the latitude of Milford Haven and bounded on the west and south by the meridian of

7° West and the parallel of 48° North; and that portion of the Nore Command lying to the south of 51° 40′ North.

Area D:

North..... The pole.
West..... East coast of North America.
South..... Parallel of 32° North.
East..... Meridian of 40° West to a point 43° North, thence to meridian of 35° West, thence due north.

Area E:

North..... Parallel of 32° North.
West..... Coast of North and Central Americas.
South..... Coast of South America and the Equator.
East..... Meridian of 40° West to a point 20° North, thence down the limits of Area P1 and P2 to the Equator.

Area F:

North..... The Equator.
West..... The coast of South America, along the coast to 40° South.
South..... Parallel of 40° South.
East..... Line drawn from position 40° South and 26° West, to Ascension, thence along the limits of Area P2 to the Equator.

Area G:

North..... Mediterranean coast of Europe.
West..... Meridian of Gibraltar.
South..... Mediterranean coast of Africa.
East..... Line joining Cape Bon to Marsala and in a direction 9° across the Strait of Messina.

This area is divided from west to east into three areas, GA, GB and GC, by the meridian of Greenwich and the meridian of 9° East.

Area L:

North..... Mediterranean coast of Europe and Asia.
West..... Line joining Cape Bon to Marsala and in a direction 9° across the Strait of Messina.
South..... Mediterranean coast of Africa.
East..... Suez.

This area is divided from west to east into two areas, LC and LA, by a line drawn from Misrata in Tripolitania to join a line drawn due west from Cape Matapan in longitude 19° East.

Area M:

North..... The parallel of 42° North.
West..... East coast of Asia from 42° North to 20° North, thence down meridian of 130° East.
South..... The parallel of 20° North from coast of Asia to 130° East, thence along Equator to 110° West, due north to 11° North, thence to the border of Mexico-Guatemala.
East..... The meridian of 158° West.

Area N:

North_____ Line joining position 11° North and 110° West to border of Mexico-Guatemala.
West_____ Meridian of 110° West.
South_____ The pole.
East_____ West coast of South America, thence down meridian of 70°41′ West.

Area O:

North_____ The pole.
West_____ The north and east coasts of Asia.
South_____ The parallel of 42° North to 158° West, due south to the Equator, along the Equator to 110° West, due north to 11° North, thence to the border Mexico-Guatemala.
East_____ The west coast of North America to the border of Mexico-Guatemala.

Area P:

North_____ The parallel of 26°10′ North.
West_____ A line drawn from a point 26°10′ North and 40° West due south to 20° North, thence to Ascension, and thence to the parallel of 10° South along a line which joins Ascension to a point 40° South and 26° West.
South_____ The parallel of 10° South.
East_____ The coast of Africa.

Area P is further subdivided into areas which are bounded by the limits of Area P and as follows:

P1_____ On the south by the parallel of 12° North.
P2_____ On the north by the latitude of 12° North. On the southeast by line joining Cape Palmas to Ascension.
P3_____ On the west by a line joining Cape Palmas to Ascension.
On the east by the meridian of 5° East.
P4_____ On the west by the meridian of 5° East.

Area R:

From Suez to the meridian of 45°05′ East in the Gulf of Aden.

Area S:

North_____ The parallel of 40° South.
West_____ The coast of South America to 70°41′ West thence due south.
South_____ The pole.
East_____ The meridian of 26° West.

Area SL:

North_____ Parallel of 10° South in South Atlantic from west coast of Africa to a line which joins Ascension to a point 40° South 26° West. On the east coast of Africa by the parallel of 18° South in the Mozambique Channel.
West_____ Line joining Ascension and a point 40° South 26° West, and the meridian of 26° West.
South_____ The pole.
East_____ The meridian of 45° East from Coast of Madagascar to South Pole.

APPENDIX II

Area V:

That portion of the Indian Ocean, east of the meridian of Aden, and including the Persian Gulf, bounded on the west by the coast of Africa, and the limits of the South Atlantic station, SL, and on the east by the meridian of 100° East from the coast of Sumatra to the South Pole.

Area W:

North..... The Equator.
West..... The meridian of 159° East.
South..... The pole.
East..... The meridian of 110° West.

Area X:

North..... The parallel of 43° North.
West..... The meridian of 20° West.
South..... The parallel of 26°10′ North and the coast of Africa.
East..... The meridian of Gibraltar.

This area is divided by the meridian 10° West into areas XB to the westward and XA to the eastward.

Area Y:

North..... The parallel of 43° North.
West..... The meridian of 30° West.
South..... The parallel of 26°10′ North.
East..... The meridian of 20° West.

Area Z:

North..... The parallel of 43° North.
West..... The meridian of 40° West.
South..... The parallel of 26°10′ North.
East..... The meridian of 30° West.

300. BRITISH RADIO ORGANIZATION

310. PRINCIPAL RADIO (W/T) AREAS

311. Table of principal radio (W/T) areas.—The following table shows an alphabetic listing of the radio (W/T) areas as shown in the general chart with the broadcast methods serving each area and the stations taking part in the service. Explanatory notes follow the table.

TABLE 1

Area	Broadcast	Stations
A	GA H′ HD CN′	RUGBY WHITEHALL
B	H′ BN GA	WHITEHALL RUGBY
BL	BL BAKERS	BELCONNEN PERTH
C D	CN L GA#	WHITEHALL ~~[illegible]~~ HALIFAX RUGBY
E	NSS GM GA	WASHINGTON RUGBY RUGBY
F	~~NSS~~ NKM GM	~~[illegible]~~ RECIFE RUGBY
GA	G GD	GIBRALTAR
GB	X XD	ALGIERS
GC	X XD	ALGIERS
LA	LV	ALEXANDRIA
LC	M	MALTA
M	NPM	HONOLULU
N	NBA	BALBOA
O	NPG	SAN FRANCISCO
P	FT GM	FREETOWN RUGBY
R	R	ADEN
SL	SL	SIMONSTOWN
S	FI	FALKLANDS
V	V GM	CEYLON RUGBY
W	WV″	~~[illegible]~~ WAIOURU SUVA
X	G	GIBRALTAR
Y*	G BN	GIBRALTAR WHITEHALL
Z**	G BN GA	GIBRALTAR WHITEHALL RUGBY

NOTES ON TABLE 1

′For the purpose of these broadcasts see table 5.
″Intercept. (See table 3.)
*Ships in Area Y have a choice of Gibraltar or BN broadcasts.
**Ships in Area Z have a choice of Gibraltar, BN or Rugby GA broadcasts.
#Ships in Area D read Rugby GA only if broadcast L is unreadable.

APPENDIX II

320. PRINCIPAL BROADCAST SCHEDULES

321. Table of principal broadcast schedules.—The following table shows the principal British broadcast schedules. The schedules are listed alphabetically by broadcast designations, showing the station, call sign, frequencies, and time. The last column contains further explanatory remarks concerning each schedule.

TABLE 2

Broadcast	Station	Call sign	Frequency	Time	Remarks
BAKERS	PERTH	VIXØ	437Ø 925Ø 1263Ø	Continuous	Ships proceeding from EI W/T area to southwest Pacific Area are to shift to Bakers broadcast. Subsequent shift to BL broadcast will be ordered by NOi/c Freemantle.
BL	BELCONNEN	VHB VHP	44. Ø 4Ø5Ø 56ØØ 843Ø 1217Ø 1641Ø	Continuous Ø7ØØ–22ØØ Continuous 22ØØ–Ø7ØØ 22ØØ–Ø1ØØ	"Bells" broadcast to call sign GB5 for ships in area BL. VHB (44 kc.) is not used between 22ØØ-Ø1ØØ. During this period an additional frequency of 1641Ø kc. is used.
FI	FALKLAND ISLANDS	VPC	47ØØ 8555 1711Ø	23ØØ–Ø145 Ø23Ø–Ø33Ø Ø53Ø–Ø8ØØ 1ØØØ–11ØØ * 133Ø–143Ø 181Ø–19ØØ 1945–2Ø3Ø	Broadcast to call sign GBXZ for ships in area S. * Frequencies used between 1 October and 31 March.
		VPC	47ØØ [redacted] 8555 125ØØ 1711Ø	1ØØØ–11ØØ 23ØØ–Ø145 Ø23Ø–Ø33Ø Ø53Ø–Ø8ØØ 133Ø–143Ø 181Ø–19ØØ ** 1945–2Ø3Ø 133Ø–143Ø	** Frequencies used between 1 April and 30 September.
FT	FREETOWN	VPU	375 5175 845Ø 1328Ø	Continuous 2ØØØ–Ø8ØØ Continuous Ø8ØØ–2ØØØ	Broadcast to call sign GB3 for ships in area P.
G	GIBRALTAR	GYU	44. 8 16Ø 556Ø or 9975	Continuous	Broadcast to ships in areas G, X, Y, and Z.

TABLE 2—Continued

Broadcast	Station	Call sign	Frequency	Time	Remarks
L	HALIFAX [illegible]	CFH	1Ø5 9Ø4Ø 55Ø2. 5	Continuous 12ØØ–22ØØ 22ØØ–12ØØ	Broadcast to ships in area D. Messages broadcast to call sign GB7A. Broadcast of messages once through first transmission; repetition 4 hrs. later. Headings of all messages of 24 hrs. previous at Ø5ØØ daily.
LV	ALEXANDRIA	MSA	425 525Ø or 1162Ø	Continuous	Broadcast to ships in area LA.
M	MALTA	GYZ	153 5ØØØ or 112ØØ	Continuous	Broadcast to ships in area LC.
R	Aden	GZQ	95 7Ø5Ø or 124ØØ	Continuous	Red Sea broadcast to ships in area R.
SL	SIMONSTOWN	GYK	859Ø 12831	Continuous Ø4ØØ–Ø8ØØ 16ØØ–2ØØØ	Broadcast to call sign GBXZ for ships in area SL.
		ZSC	90 [illegible] 6415 1712Ø	Continuous 2ØØØ–Ø4ØØ Ø8ØØ–16ØØ	
V	CEYLON	GZH	44Ø3 88Ø6 132Ø9 17612	Continuous Continuous Continuous Ø13Ø–143Ø	Indian Ocean broadcast to ships in areas NU and V.
X	ALGIERS	BRF	135 534Ø or 1ØØ85	Continuous	Broadcast to ships in areas GB and GC.

322. Additional broadcasts.—The following broadcasts are supplemented by additional broadcasts beginning at Ø1ØØ and every 4 hours for ships and auxiliaries with less than 3 operators: Gibraltar (GD); Malta (MD); Aden (RD) Alexandria (LVD); and Algiers (XD).

323. Gaspe Broadcast for ships in St. Lawrence Area. During the navigational season only, Gaspe will broadcast continuously on 174 and 3490 kc. with call sign CFL to ships in the St. Lawrence Area.

APPENDIX II

330. PRINCIPAL INTERCEPT SCHEDULES

331. Table of principal intercept schedules.—The following table shows the principal British intercept schedules. The schedules are listed alphabetically by intercept designation, showing station, call sign, frequencies, and time. The last column contains further explanatory remarks concerning each schedule.

TABLE 3

Intercept	Station	Call sign	Frequency	Time	Remarks
BN	WHITEHALL LIVERPOOL ICELAND	GYM MAD MAS	10Ø	Continuous	For ships in Area B. To be used in event of the failure of BN broadcast only. Messages from Liverpool and Iceland are to be repeated back once by Whitehall. Messages from Whitehall are to be repeated back once by Iceland.
FT	DAKAR ASCENSION TAKORADI	FUW ZBI VPG	375 5175 845Ø	Continuous 2ØØØ–ØSØØ ØSØØ–2ØØØ	To be used in event of the failure of FT broadcast. Takoradi is continuous on 375 kc only during FX periods.
WV	WAIOURU ~~WELLING~~ ~~TON~~	ZLO ~~ZLP~~	6872.5 13745 16Ø3Ø	ØTØØ–17ØØ 18ØØ–ØSØØ 18ØØ–ØSØØ	For ships in SoPac area. Ships maintaining watch are to continue to keep receiving watch during the two periods each of an hour when group is normally silent. General periods will be at Ø2ØØ and every four hours.
	SUVA	ZGN	6872.5 13745	ØTØØ–17ØØ 18ØØ–ØSØØ	

340. RUGBY GENERAL BROADCAST

341. Table of Rugby schedules carried out on V. L/F transmitters.—The following table shows the time of schedules on the GBZ and GBR transmitters for submarines in Home, Mediterranean, and Gibraltar areas.

TABLE 4 A

Routine	Time	Transmitter used
HS	First 2Ø min. of each hr. Long routines at: ØØØØ–Ø12Ø 1ØØØ–1Ø4Ø 14ØØ–144Ø 2ØØØ–212Ø	GBZ (15.46 kc.): ØØØØ–Ø12Ø 12ØØ–14ØØ 2ØØØ–212Ø GBR (16 kc.): All routines outside above periods.
MS	Second 2Ø min. of each hr. Long routines at: Ø12Ø–Ø24Ø 112Ø–12ØØ 152Ø–16ØØ 212Ø–224Ø	Ø62Ø–Ø7ØØ
GS	Third 2Ø min. of each hr. Long routines at: Ø24Ø–Ø4ØØ 1Ø4Ø–112Ø 144Ø–152Ø 224Ø–ØØØØ	

342. Rules for transmission on Rugby V. L/F transmitters.—The following rules on transmission apply to Table 4A:

a. During the long routines, QRU, or new urgent operational traffic will be made at ØØ, 2Ø, and 4Ø minutes past each hour to the submarines whose routines normally start at these times, interrupting the long routines in progress for this purpose.

b. All routines start with traffic list.

c. Messages without precedence will be transmitted on next two long night routines after receipt.

d. Messages with precedence will be transmitted at first routine after receipt and repeated on short routines as often as time allows.

e. All messages transmitted first time at short routine will be repeated at the next long routine (day or night).

f. All messages originated after second long night routine will be repeated at both long night routines of the following night.

g. All messages originated between first and second long night routines to be repeated on first long night routine on the following night.

h. MS Long Routines at 0620–0700 is MS traffic previously transmitted on short routines since 0240 will be retransmitted during this routine.

APPENDIX II

343. Table of Rugby schedules carried out on L/F and H/F transmitters.—The following table shows the schedules of the transmitters used on the Rugby GA and GM broadcasts. The frequencies of the transmitters shown will be found in paragraph 344.

TABLE 4B

Time	Broadcast	1 Mar. to 31 Oct.	1 Nov. to 28 Feb.
~~1500-1800~~ ~~0800-1000~~			
0200–0300	GA	GBZ, GIC, GID, GIH	GBZ, GIC, GIH, GYD
0300–0400	GM		
0600–0700	GA	GBZ, GAD, GID, GIH	GBZ, GIC, GIH, GYD
1000–1100	GA	GBZ, GAD, GID, GIH	
1400–1500	GA		
1500–1800	GM		
1800–1900	GA	GBZ, GIC, GID, GIH	GBZ, GIC, GIH, GYD
2200–2300	GA		

344. Frequencies of transmitters.—The frequencies of the transmitters shown in Table 4 B are as follows:

GBZ	15.46 kc.
GYD	4,775 kc.
GIC	8,640 kc.
GIH	10,650 kc.
GID	13,555 kc.
GAD	19,480 kc.

345. Rules of transmission on Rugby GA and GM broadcasts.—The following rules apply to Table 4 B:

a. The following sequence will be followed at each routine—

1. New priority traffic general message.
2. New non-basegram general messages.
3. Second run general messages.
4. Basegram general messages.

b. Messages (non-basegram) will be transmitted once through at one a. m. and one p. m. transmission.

c. Messages (basegram) will be made at one transmission only.

d. QRU with the last series number is made on the completion of 2, 3, and 4 of note *a* above.

346. Failure of transmitters.—In the event of the failure of the GBR and GBZ transmitters, the broadcast schedules will be as follows:

a. Failure of GBR transmitter—

1. All submarine schedules will be carried out on GBZ, except during BAMS schedules, at ØØØØ–Ø12Ø, 12ØØ–13ØØ, 2ØØØ–212Ø, and between Ø8ØØ–1ØØØ, when there will be no schedules. HS and MS will be continued at 212Ø and Ø12Ø and will overlap GS at these schedules if necessary.

2. GA schedules will be carried out at Ø2ØØ–Ø3ØØ and every four hours, being interrupted as required for submarine schedules.

3. GM schedules will be carried out on H/F only.

b. Failure of GBZ transmitter—

1. Submarine schedules normally on GBZ will not take place. HS and MS schedules will be combined at 212Ø and Ø12Ø and will overlap GS at these schedules if necessary.

2. GA schedules will be carried out on GBR, being interrupted as required for submarine schedules.

3. GM schedules will be carried out on H/F only.

APPENDIX II

350. WHITEHALL GENERAL BROADCAST FOR HOME STATION

351. Table of Whitehall general broadcast.—The following table shows the Whitehall general broadcasts, showing call sign, frequency and time of each broadcast. Additional information is found in the last column. The BN broadcast will be supplemented by the BN intercept (as shown in table 3) in the event of failure of the broadcast.

TABLE 5

Broadcast	Call sign	Frequency	Time	Remarks
BN	GYE	107 6845 9305 14820	Continuous (Continuous when ordered).	Ships in Area B. See notes 1 and 2. Repetition of 24 hours previous will be made at 0500.
CN	GYB	100	Continuous	Ships in Area C. See note 1 a. and 2c
H	GYB	95 plus H/F	Continuous or as ordered.	For CinC, Home Fleet or other Senior Officers when ordered by Adm. See note 3.
HD	GYB	78	Continuous	Ships in Area A. See notes 1 and 2.

NOTES ON TABLE 5

1. Transmission rules:

a. Messages of a general nature will be made or repeated from 0100 to 0230 and every 4 hours. These transmissions will be concluded with "QNG." Greenwich time signal is emitted every hour as traffic permits. At 0100 and every 4 hours, the heading of all messages during the preceding 4 hours will be repeated.

b. If broadcast BN goes out of action due to damage, it will be replaced without orders by BN intercept. If broadcast HD goes out of action shift will be automatic to 138 kc. This procedure is to be carried out, also, if broadcast HD becomes unreadable due to enemy jamming.

2. Repetition of transmissions:

a. BN broadcast: at 0230 and every 4 hours, repetitions of all signals made during the preceding 4 hours on 107 kc. will be transmitted on 46.9 kc.

b. HD broadcast: at 0230 and every 4 hours, repetitions of all signals made during the preceding 4 hours will be transmitted on 51.5 kc.

3. H/F waves to be used by H broadcast: When so ordered by Admiralty, the following H/F waves will be used by H broadcast:

14, 100 kc.—Day.
11, 150 kc.—Day.
6, 805 kc.—Night.
4, 605 kc.—Night.

Time of change from day to night frequency will be as ordered by signal.

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c. CN Broadcast: at 0230 and every 4 hours, repetitions of headings of all messages made during the preceding four hours will be transmitted on 145 kc.

352. Organization of the Whitehall broadcast for Special Operations.—

During large scale Fleet operations in which ships from several commands may be co-operating, Admiralty may promulgate details of the W/T organization in the following form:

a. Messages for ships taking part in current operation are being routed on broadcast "HD." Intercommunication waves are Fleet wave and 4740 kc. Enemy reports affecting ships on convoy duty will be repeated on broadcast "BN" by CinC Western Approaches, in cases where this has not already been done by the W/T station receiving the original report. CinC Western Approaches will then be responsible for routing on broadcast "HD" any signals to convoys which may affect ships taking part in current operations.

b. If Plymouth W/T station or any other shore W/T station is ordered to set watch on the Fleet wave the fact will be promulgated and such W/T stations will send call sign MTA a few times in a manner similar to Scapa W/T station.

c. Once the enemy is being reported regularly retransmission of such reports on Fleet wave by shore W/T stations is to cease as they are liable to "jam" original reports.

APPENDIX II

360. PRINCIPAL SHIP-TO-SHORE FREQUENCIES

361. Table of principal ship-to-shore frequencies.—Table 6 A contains the principal British ship-to-shore frequencies. It is subdivided *by frequencies* into five tables. Each table lists alphabetically the stations keeping watch, with their call signs and the schedules of the watch. Additional information is given in the notes following each table. Rules for the transmission of call signs on each frequency are given in article 362. Australian and New Zealand are listed separately in table 6 B of article 363.

TABLE 6 A

1. 474Ø kilocycles:

Station	Call Sign	Periods keeping W/T watch		
		August	September	October
Alexandria	MSA	Continuous	Continuous	Continuous
Algiers	BRF	Continuous	Continuous	Continuous
Ascension	ZBI			22ØØ–Ø8ØØ
Bermuda	GYG	ØØØØ–1ØØØ	ØØØØ–1ØØØ	22ØØ–12ØØ
Bombay	VWF	16ØØ–Ø4ØØ	14ØØ–Ø2ØØ	14ØØ–Ø2ØØ
Canada	CZP CGE	Continuous	Continuous	Continuous
Ceylon	GZH	16ØØ–Ø2ØØ	14ØØ–Ø2ØØ	14ØØ–Ø2ØØ
Falklands	VPC	2ØØØ–12ØØ	22ØØ–12ØØ	22ØØ–1ØØØ
Gibraltar	GYU	Continuous	Continuous	Continuous
Iceland	MAS	Continuous	Continuous	Continuous
Kilindini	MXT			16ØØ–Ø2ØØ
Malta	GYZ	Continuous	Continuous	Continuous
Mauritius	VRS		14ØØ–Ø4ØØ	16ØØ–Ø2ØØ
Naples	GQT	Continuous	Continuous	Continuous
N. Russia	MGD	16ØØ–Ø6ØØ	16ØØ–Ø8ØØ	18ØØ–Ø6ØØ
South Africa	ZSD ZSC	16ØØ–Ø6ØØ	14ØØ–1ØØØ	14ØØ–1ØØØ
St. Helena	ZHH			22ØØ–Ø8ØØ
United Kingdom	GYD	Continuous	Continuous	Continuous
West African	MTD	22ØØ–Ø8ØØ	2ØØØ–Ø8ØØ	2ØØØ–Ø8ØØ

Notes.—Stations answer on calling frequency. West African stations answer on Broadcast "FT" in addition. 42Ø5 kc. will be available in the Mediterranean; otherwise it will not be manned at shore W/T stations.

TABLE 6 A—Continued

2. 63ØØ kilocycles:

Station	Call Sign	Periods keeping W/T watch		
		August	September	October
Aden	GZQ	16ØØ–Ø6ØØ	16ØØ–Ø4ØØ	14ØØ–Ø6ØØ
Alexandria	MSA	Continuous	Continuous	Continuous
Algiers	BRF	Continuous	Continuous	Continuous
Ascension	ZBI	2ØØØ–Ø8ØØ	18ØØ–Ø8ØØ	
Canada	CGX CZP	Continuous	Continuous	Continuous
Falklands	VPC	Continuous	22ØØ–12ØØ	22ØØ–1ØØØ
Gibraltar	GYU	Continuous	Continuous	Continuous
Iceland	MAS	2ØØØ–Ø8ØØ		
Kilindini	MXT	18ØØ–Ø4ØØ	16ØØ–Ø4ØØ	
Malta	GYZ	Continuous	Continuous	Continuous
Mauritius	VRS	14ØØ–Ø4ØØ		
N. Russia	MGD		Ø8ØØ–16ØØ	Ø6ØØ–18ØØ
South Africa	ZSC ZSD	16ØØ–Ø6ØØ	18ØØ–Ø6ØØ	18ØØ–Ø6ØØ
St. Helena	ZHH	2ØØØ–Ø8ØØ	18ØØ–Ø8ØØ	
United Kingdom	GZZ	Continuous	Continuous	Continuous
West Africa	VPU FUW VPG	22ØØ–Ø8ØØ	2ØØØ–Ø8ØØ	2ØØØ–Ø8ØØ

Notes.—Stations answer on calling frequency. West African Stations answer on Broadcast "FT" in addition.

APPENDIX II

TABLE 6 A—Continued

3. 8290 kilocycles:

Station	Call Sign	Periods keeping W/T watch		
		August	September	October
Alexandria	MSA	Continuous	Continuous	Continuous
Ascension	ZBI	0800–2000	0800–1800	0800–2200
Awarua	ZLB	Continuous	Continuous	Continuous
Bermuda	GYG	Continuous	Continuous	Continuous
Bombay	VWF	Continuous	Continuous	Continuous
Canada	CGX CZP	Continuous	Continuous	Continuous
Ceylon	GZH	Continuous	Continuous	Continuous
Falklands	VPC		1200–2200	1000–2200
Gibraltar	GYU	Continuous	Continuous	Continuous
Iceland	MAS	0800–2000	0800–2000	0800–1800
Kilindini	MXT	0400–1800	0400–1600	0200–1600
Malta	GYZ	Continuous	Continuous	Continuous
Mauritius	VRS	Continuous	Continuous	Continuous
N. Russia	MGD	0600–1600		
South Africa	ZSC ZSD	Continuous	Continuous	Continuous
St. Helena	ZHH	0800–2000	0800–1800	0800–2200
United Kingdom	GZZ	Continuous	Continuous	Continuous
West Africa	FUW VPG VPU	Continuous	Continuous	Continuous

Notes.—Stations answer on calling frequency. West African stations answer on Broadcast "FT" in addition. Awarua answers calls on 8250 kc.

Table 6A—Continued

4. 12685 kilocycles:

Station	Call Sign	Periods keeping W/T watch		
		August	September	October
Aden	GZQ	Ø6ØØ–16ØØ	Ø4ØØ–16ØØ	Ø6ØØ–14ØØ
Awarua	ZLB	18ØØ–Ø4ØØ	18ØØ–Ø4ØØ	18ØØ–Ø4ØØ
Bermuda	GYG	1ØØØ–ØØØØ	1ØØØ–ØØØØ	12ØØ–22ØØ
Bombay	VWF	Ø4ØØ–16ØØ	Ø2ØØ–14ØØ	Ø2ØØ–14ØØ
Canada	CGX CZP	1ØØØ–ØØØØ	1ØØØ–ØØØØ	12ØØ–22ØØ
Falklands	VPC	12ØØ–2ØØØ	12ØØ–22ØØ	1ØØØ–22ØØ
Gibraltar	GYU	Ø8ØØ–2ØØØ	Ø8ØØ–18ØØ	Ø8ØØ–18ØØ
Mauritius	VRS	Ø4ØØ–14ØØ	Ø4ØØ–14ØØ	Ø2ØØ–16ØØ
South African	ZSC ZSD	Ø6ØØ–16ØØ	Ø6ØØ–18ØØ	Ø6ØØ–18ØØ
United Kingdom	GZZ	Ø6ØØ–ØØØØ	Ø6ØØ–22ØØ	Ø8ØØ–22ØØ
West Africa	FUW VPG VPU	Ø8ØØ–22ØØ	Ø8ØØ–2ØØØ	Ø8ØØ–2ØØØ

Notes.—Stations answer on calling frequency. West African Stations answer on Broadcast "FT" in addition. Awarua answers calls on 126ØØ kc.

5. 16845 kilocycles:

Station	Call Sign	Periods keeping W/T watch		
		August	September	October
Bombay	VWF	Ø4ØØ–16ØØ	Ø2ØØ–14ØØ	Ø2ØØ–14ØØ
Canada	CGX		12ØØ–ØØØØ	12ØØ–2ØØØ
Ceylon	GZH	Ø2ØØ–16ØØ	Ø2ØØ–14ØØ	Ø2ØØ–14ØØ
Gibraltar	GYU	Ø8ØØ–2ØØØ	Ø8ØØ–18ØØ	Ø8ØØ–18ØØ
South Africa	ZSC ZSD	Ø6ØØ–16ØØ	1ØØØ–14ØØ	1ØØØ–14ØØ
United Kingdom	GKS	1ØØØ–2ØØØ	12ØØ–2ØØØ	12ØØ–2ØØØ
West Africa	VPU	Ø8ØØ–22ØØ	Ø8ØØ–2ØØØ	Ø8ØØ–2ØØØ

Notes.—Stations answer on calling frequency. West African Stations answer on Broadcast "FT" in addition. Ceylon W/T answers on Area Broadcast and not on calling frequency.

APPENDIX II

362. Transmission of call signs on ship-to-shore frequencies.—Call signs transmitted on the ship-to-shore frequencies, as given in table 6 A, are to be made in accordance with the following table. They are not to be made more than five times except on 16845 kc. when they may be transmitted for not more than 1 minute.

Frequency	W/T Station	Times of transmission
4740 12685 16845	United Kingdom	00 and 30 minutes past each hour
	Mediterranean	25 and 55 minutes past each hour
	West African	50 minutes past each hour
	Canadian	15 and 45 minutes past each hour
	South African	20 and 40 minutes past each hour
	East Indies	As ordered by C-in-C E. F.
6300 8290	United Kingdom	00 each hour
	Mediterranean	30, 90, 105 minutes past each EVEN hour
	West African	45 minutes past each EVEN hour
	Canadian	15, 75 minutes past each EVEN hour
	South African	10, 50, 85 minutes past each EVEN hour
	East Indies	As ordered by C-in-C E. F.

363. Table of Australian and New Zealand ship-to-shore frequencies.—The following table contains the Australian and New Zealand ship-to-shore frequencies. The notes in article 361 correspond to table 6 B, also.

TABLE 6 B

Station	Call sign	4235	847Ø	127Ø5	1694Ø
AUCKLAND [4]	ZLE	N	X		D
BELCONNEN	VHC	X	X	X	22ØØ to 1ØØØ
COONAWARRA	VHL	1ØØØ to 22ØØ	X	22ØØ to 1ØØØ	
DARWIN RADIO [1]	VID	1ØØØ to 2ØØØ			2ØØØ to 1ØØØ
ESPERANCE RADIO [1]	VIE		1ØØØ to 22ØØ	22ØØ to 1ØØØ	
FLINDERS NAVDEP	VHJ	X	X		
GARDEN ISLAND	VHD	1ØØØ to 22ØØ			22ØØ to 1ØØØ
HOBART RADIO [1]	VIH	1ØØØ to 22ØØ	22ØØ to 1ØØØ		
PORT MORESBY (BRAND RDO)	VHZ	1ØØØ to 22ØØ	22ØØ to 1ØØØ		
SYDNEY RADIO [1]	VIS	1ØØØ to 22ØØ	X	22ØØ to 1ØØØ	
THURSDAY ISLAND [2]	VLM	X			
THURSDAY ISL RDO [1]	VII		X		
TOWNSVILLE	VIF		X		
TOWNSVILLE RDO [1]	VIT	X			
SUVA [3] [4]	ZGN	N		D	
WAIOURU [3]	ZLO				

NOTES ON TABLE 6 B

[1] Commercial station.

[2] Shifts to fixed service at ØØØØ and every 2 hours.

[3] Answers on intercept WV.

[4] "N" represents a night schedule as follows:
Ø43Ø to 183Ø—1 April to 31 October.
Ø6ØØ to 17ØØ—1 November to 31 March.

"D" represents a day schedule as follows:
183Ø to Ø43Ø—1 April to 31 October.
17ØØ to Ø6ØØ—1 November to 31 March.

APPENDIX II

370. BRITISH "PORT WAVES"

371. Table of principal British "Port Waves."—The British "Port Waves" correspond in general to "Harbor Frequencies" used in some U. S. areas. The following table shows the station, call sign, and frequencies of the principal "Port Waves" in the listed areas. Stations marked with an asterisk (*) have additional notes following the table. The use of the frequencies listed are subject to local regulations which should be obtained by U. S. ships. Guards are continuous unless otherwise stated.

TABLE 7

Area and stations	Call sign	Frequency
Western Approaches:		
Aultbea	GXB	
Belfast*''	MSF	
Greenock	GXU	
Holyhead	MFN	174Ø
Liverpool	MAD	
Londonderry*''	MGK	
Milford Haven	MAE	
Portrush*''	MGP	
Australia and New Zealand:		
Adelaide*	VIA	425
Auckland	ZLD	294Ø
Brisbane	VHF	425
Darwin	MTH	425
Hobart	VHA	425
Newcastle	VHE	425
Freemantle	VIXØ	425
Melbourne	VHH	425
Sydney	VHD	425
Port Moresby	VHZ	425
Townsville	VIF	425
Waiouru	ZLO	3ØØØ
West Africa:		
Ascension	ZBI	5ØØ
Dakar	FUW	22ØØ
Pointe Noire	FHH	5ØØ
Takoradi	VPG	22ØØ
Western Atlantic:		
Gaspe*'	CFL	425
Halifax	CFH	425
Louisberg	VAS	143
Quebec*'	CFI	425
Sydney*'	CZE	425
St. John, N. B.*	CZC	425
St. John, N. F.	CZP	174Ø
Rimouski	CZR	425
Trinidad	MHK	165Ø

Area and stations	Call sign	Frequency
Mediterranean:		
Ajaccio	FUY	
Alexandria	MSA	
Algiers	BRF	
Beirut*''	MIB	
Benghazi*''	MJF	
Bone	BRH	
Bougie	BRF	
Bizerta	BRG	
Casablanca	NJC	
Gibraltar	GYU	215Ø
Haifa*''	MAT	
Malta	GYZ	
Messina	GQW	
Oran	BRD	
Palermo	NZH	
Philippeville	FAZ	
Port Said*''	MIP	
Tripoli	MIR	
Salerno	NXG	
Suez	MID	
East Indies and South Atlantic:		
Bombay	VWF	3ØØØ
Capetown	ZXQ	1579
Calcutta	VTF	3ØØØ
Ceylon	GZH	3ØØØ
Chittagon	VVE	3ØØØ
Cochin	VTN	3ØØØ
Diego Suarez	MXX	3ØØØ
Durban	ZSD	2333
Karachi	VTD	3ØØØ
Kilindini	MXT	2333
Madras	VUS	3ØØØ
Simonstown	ZSC	425
Trincomalee	MTR	3ØØØ
Vizagapatam	VTO	3ØØØ
Zanzibar	GXV	3ØØØ
St. Helena	ZHH	5ØØ
Walvis	QAO	1579

NOTES ON TABLE 7

*Adelaide and St. John, N. B., answer calls on 5ØØ kc.

*'Gaspe, Quebec, and Sydney keep guard during the summer only.

*''Beirut, Haifa, Benghazi, and Port Said keep R/T watch only.

*'''Londonderry and Belfast are remote controlled by Portrush.

380. BRITISH MEDITERRANEAN W/T ORGANIZATION

381. The following articles are in amplification of details listed previously and are published to assist U. S. ships temporarily entering the Mediterranean on Convoy Escort duty. Details of the broadcast schedules and limits of W/T areas are listed in articles 220–322; ship-to-shore frequencies are listed in article 361 and table 6 A; Port Waves are given in Table 7.

382. Waves for Convoy Escorts.—The following table shows waves for convoy escort listing the type of ship, the normal watch they keep and the watch that will be kept in the event of U-Boat or aircraft attack. The signification of the letters used are explained in the notes following the table.

TABLE 8 A

Unit	Normal	U-Boat or Aircraft attack
Destroyers and above	L, R/TS, G	L, R/T, G.
Sloop, frigate	L, R/TS, G	L, R/T, G.
Corvette, trawler, minesweeper	L, R/TS	L, R/T.
Ship with less than 3 operators	R/TS	R/T.

NOTES TO TABLE 8 A

L: Area broadcast (see table 2).
R/T: Convoy R/T (voice wave): on 241Ø kc. continuous.
R/TS: Convoy R/T (voice wave): on 241Ø kc. loudspeaker watch.
G: W/T guard on one of the following:

1. Port Wave.
2. Commercial wave (5ØØ kc.)
3. Convoy H/F
4. Adjacent area broadcast.
5. Coastal guard.

APPENDIX II

383. Additional frequencies.—The following table shows additional frequencies in use in the Mediterranean which may be required by Convoy Escorts.

TABLE 8 B

Frequency	Use	Remarks
215Ø kc.	Port Wave	Additional watch is to be maintained for 2 hours before entering and 1 hour after leaving harbor at ports where this wave is kept. (See table 7.) Watch is kept also at Fighter Sector H. Q's.
241Ø kc.	Convoy R/T	Watch is to be set for A/S hunting if not already kept. A/S A/C may cooperate in hunt on this wave.
3925 kc. 6666 kc.	Convoy H/F (Night) (Day)	A/C on convoy escort keep watch on this wave and transmit direct to their ground stations who repeat back the messages. Any enemy reports are retransmitted on naval waves.
1Ø3.725 mc.	Inter Fighter Directory Officers Wave	In addition to normal function this wave may be used by day and night for passing Radar reports.
112.86 mc.	Coastal Guard VH/F	For communication with shore based fighters.
116.1 mc.	VH/F World Guard	
124.02 mc.	Naval Guard	
65.74 mc.	TBS Convoy R/T	Watch kept in convoys (except central Mediterranean) when all escorts and the Commodore's ships are suitably equipped. It may be kept in addition to 2410 kc.
60 mc.	Central Mediterranean TBS Convoy R/T	

384. Fighter control.—The fighter control rooms controlling day fighters on 112.86 mc./s. are established as follows:

Location	*R/T Call Sign*	*W/T Call Sign*
Ajaccio	Foodshop	48Q
Alghero	Colgate	73Y
Algiers	Oxter	Ø1G
Bastia	Blacktop	87H
Benghasi	Beeswing	QP5
Bizerta	Whipsnade	47S
Bone	Label	39G
Cagliari	Bunting	32J
Casablanca	Brightside	5ØG
Catania	Porpoise	94L
Djidjelli	Cousin	98P
Foggia	Cardclub	52J
Malta	Gondar	GFZ
Misurata	Carpet	1MM
Naples	Chaprone	28Y
Oran	Bradshaw	29K
Palermo	Doorkey	66P
Taranto	Larboard	62G
Tobruk	Firmer	3KR
Tripoli (L)	Berlin	KN8

TRAFFIC INVOLVING TOLLS

Appendix III
to Communication Instructions
1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

557048°—44——41

APPENDIX III

TABLE OF CONTENTS

APPENDIX III

Appendix III. TRAFFIC INVOLVING TOLLS

Section A. GENERAL INFORMATION AND DEFINITIONS

100. GENERAL INFORMATION

101. Traffic involving tolls.—Traffic handled by the Naval Communication Service which involves tolls is considered separately, viz:

Section B—Class D traffic (commercial).
Section C—Class E traffic (including commercial).
Section D—Press traffic (commercial).
Section E—Class A and B traffic (Government).

102. Classification.—Messages handled by the Naval Communication Service are, for administrative purposes, classified as shown in article 2200, "Administrative Categories."

103. Determining classification.—Naval Communication offices will, unless sender specifies the class, determine the class of service to be used and will forward messages filed with them by the cheapest method consistent with the proper precedence.

104. Handling instructions.—The instructions contained in this appendix are intended in a general way to cover the handling of all traffic involving tolls. Detailed instructions are based upon the following, the provisions of which shall be generally observed:

International Telecommunications Conference, Cairo, 1938.
The Communications Act of 1934, as amended.
Rules and Regulations of the Federal Communications Commission.
Cable, radio, and domestic telegraph rules contained in the Western Union tariff books.

105. Stations authorized to handle.—All Naval ships and shore stations are authorized to handle Government and press traffic involving tolls. All Naval ships and certain Naval shore stations (see Appendix I) are authorized to handle commercial traffic. All Naval ships are authorized to handle traffic involving tolls, except class E, with any coastal stations or ships operated by a commercial company or by a foreign government for commercial purposes.

106. Security and censorship in wartime.—Since the headings of traffic in commercial form may yield considerable information, the use of commercial facilities should be critically judged. The release of messages carrying ship's name in plain language in the heading, signature or the text is prohibited. If possible, file such traffic ashore in such manner as to conceal ship's name and location. If necessary to release at sea, substitute *Sansorgine** for name of ship. In time of war, whether or not the United States is a belligerent, the establishment of censorship regulations by belligerents and neutrals, the suspension of certain international regulations pertaining to certain classifications of cable and radio circuits will modify materially certain of the instructions contained herein (see *Censorship Regulations, U. S. Navy, 1942*, and revisions thereto). To cover such eventualities the commercial communication companies will issue due notice and instructions which, to the extent that they are inconsistent with any of the provisions of Appendix III, will govern.

107. Mail relative to traffic.—Mail relative to traffic involving tolls shall be addressed to Chief of Naval Operations (DNC), Navy Department, Washington 25, D. C.

**Sansorgine as used indicates without origin.*

110. DEFINITIONS

111. Commercial traffic.—The term "commercial traffic" as used refers generally to all traffic handled in international or domestic commercial form, involving tolls for transmission at *commercial rates*, and handled in accordance with commercial practice and requirements.

112. International form.—A message in international form consists of the following parts: preamble; address; text; and signature. The preamble includes everything from the beginning of the message to the long break sign, $\overline{\text{BT}}$, which separates it from the address and contains the following items: station serial number; office of origin; check; service indicator; date and hour of filing (GCT).

113. Domestic form.—A message in domestic form differs from one in international form in the composition of the preamble and in method of count. The preamble of a message in domestic form contains the following items: station serial number; check; message and service indicators; office of origin; month, date, year, and hour of filing (LCT). The time of transmission (TOT) is usually transmitted after the signature.

114. Radiotelegram.—A radiotelegram is a message transmitted from ship to ship, ship to shore, or shore to ship, in international form by means of radio over all or part of its route.

115. Cablegram.—A cablegram is a message transmitted from point to point in international form, by means of cable, over all or part of its route.

116. Domestic telegram.—A domestic telegram is a message originating on shore, addressed to a point on shore, within the continental limits of the United States, Canada, Mexico, or Alaska, and transmitted in domestic form, by means of wire or radio over all or part of its route. By international agreement, domestic telegrams as such cannot be addressed or transmitted to a ship at sea.

Section B. CLASS D TRAFFIC (COMMERCIAL)

200. GENERAL

201. Class D messages.—Class D messages handled by the Naval Communication Service are commercial messages upon which all tolls are paid; i. e., the ship charge, the coastal station charge, and the charge for the landline or cable transmission. The charges must be prepaid by the sender, except in the case of certain press messages.

202. Acceptance of traffic.—(*a*) Class D messages may be filed during peace by any person, whether in the naval service or not, at any naval radio station ashore open to commercial traffic, or on board any naval ship. In consequence of the establishment of the Class E privilege, Class D messages are seldom used by naval personnel.

(*b*) On naval ships the procedure for filing commercial traffic is as follows: The message is first approved by the commanding officer, or officer designated by him, and duly released. It is then filed with the Navy mail clerk or other designated person, who counts the words and determines and collects the charges. (The Navy mail clerk shall consult the communication officer or radioman in charge when necessary.) The Navy mail clerk then delivers the message to the communication office for transmission. After transmission two copies of the message with proper servicing data entered thereon are returned to the Navy mail clerk for filing and abstracting. The original of each message abstracted shall be forwarded to the Chief of Naval Operations (DNC) and a copy kept on file for reference.

(*c*) At naval shore radio stations open to commercial traffic all Class D messages offered by the public shall, if practicable, be accepted by the officer or radioman in charge. If such a message is offered for transmission to a ship at sea which must be routed first through another coastal station, the naval station cannot accept it, and the sender shall be referred to the nearest telegraph office. If a message is offered to a naval radio station not open to commercial traffic, the sender shall be referred to the nearest commercial station or telegraph office.

(*d*) If a Class D message either originates at, or is relayed by, a naval ship or a naval shore station open to commercial traffic, the message shall be kept in international form.

(*e*) On naval ships, in the event there is any doubt as to the proper rate, the maximum charge shall be collected and the name and address of the sender entered on the message form in order that the proper refund may be made when account is audited.

(*f*) The naval stations (ship and shore) open to commercial traffic may be directed to suspend or curtail this service during wartime.

220. COMPONENT PARTS OF MESSAGE IN INTERNATIONAL FORM

221. Parts of preamble.—The following parts are taken up in the order of transmission after the call:*

(*a*) *Station serial numbers.*—The station serial number shall be transmitted immediately after the call sign of the calling station. Ordinarily NR precedes the station serial number, although on fast commercial circuits with experienced operators NR is sometimes omitted. Naval ships and shore stations shall maintain daily series of numbers on messages sent to each non-naval ship, shore station, or commercial office, giving each message its consecutive number in the preamble.

(*b*) *Office of origin.*—The "office of origin" means the place at which a message originates. It may be a ship, a coastal station, or a land telegraph or cable office and shall be transmitted by name. Where ambiguity may be caused by the ship's name, it is permissible to add her

**Transmitting instructions using naval procedure shall be used on naval circuits when required, but the commercial form of the message shall not be changed (see examples).*

call signal after the name. Where there is a chance of confusion between the name of a ship and the name of an office on shore, the name of the ship shall be preceded by the letters SS, USS, as appropriate. The names of offices on shore shall ordinarily be followed by the name of the state in which the office is located.

(*c*) *Destination.*—The destination is indicated only in the case of a message without an address that refers to safety of life, service message, or acknowledgment of receipt of a message.

(*d*) *Check.*—The check CK consists of the number of words included in the address, the text, and the signature, counted in accordance with rules given in article 240. Both receiving and sending operators shall carefully verify the check in accordance with existing instructions. If the number of words received does not correspond with the check, it shall be challenged immediately. In case the office of origin insists that the check is correct, or for any reason it is impracticable to obtain a change of check, the message shall be forwarded with a double check. For example, if the original check was 21 and the apparent check is 19—"21/19 subject to correction" would be used when forwarding. Notations shall be made on the message blank to explain a double check. The check shall not be changed unless authorized by the office of origin or by these instructions.

(*e*) *Service indicator.*—The service indicator shall be transmitted, when required, to indicate the nature or special type of message for handling purposes (see art. 250).

(*f*) *Date and hour of filing.*—The date and hour of filing shall always be transmitted in a commercial message. This applies to official Government dispatches in international commercial form as well as to other commercial dispatches. The date is expressed by the day of the month as a numeral group followed by the time (GCT) as a four-numeral group. (Example: 29 1Ø3Ø.)

222. Address and parts thereof.—(*a*) The address and the parts thereof shall be transmitted in the following order:

(1) Paid service indicators when required to indicate supplementary instructions (see art. 250).

(2) Name of addressee.

(3) Name of ship or point of destination.

(4) Name of coast station, if forwarded to a ship via a coast station, followed by the word RADIO. Both are sent and charged for as one word. Where there is a choice of routes or systems which the message may follow, the originator may designate the one he prefers.

(*b*) The address must contain at least two words, the first designating the addressee and the second the name of the ship, or point of destination.

(1) In case the surname only is offered in an address, the possibility of other persons of the same name being at the destination of the message shall be pointed out to the sender.

(2) If there are two or more ships of the same name, the call sign shall follow the name and, together, counted and charged as one word. In the case of large towns, unless the address is registered, it must include the name of the street and the number.

(*c*) If a message is accepted at a naval station, the name and the address of the sender shall be recorded on the message blank for the purpose of forwarding notice in case of nondelivery, and for use in making out receipt for tolls collected.

223. Text and signature.—(*a*) The text of the message, and the signature, if any, shall be sent as drafted (written) by originator, including marks of punctuation, abbreviations, etc. As marks of punctuation are counted as words, however, originators should be advised to write them as words.

(*b*) The signature is not obligatory, but, if given, immediately follows the text—from which it is separated by $\overline{\text{BT}}$. In any case, the signature should be recorded on the message blank.

(*c*) In the case of a message whose text is framed from the *International Code of Signals*, the code group INTCO shall be inserted as the first group of the text.

230. INSTRUCTIONS FOR HANDLING

231. Establishing communication.—To establish communication, the calling station shall make the call by transmitting not more than three times the call signal of the station called and the word DE, followed not more than three times by its own call signal. See *International Telecommunications Conferences, Cairo, 1938.*

232. Transmission of messages.—As a general rule, long radiotelegrams in plain language, code or cipher, shall be transmitted in sections, each containing 50 groups of plain language or 20 groups of code or cipher. At the end of each section, the question mark, IMI, shall be transmitted, meaning, "Have you received the radiotelegram correctly up to this point?" When the section has been correctly received, the receiving station shall send K and the transmission of the radiotelegram shall be continued. Necessary repetitions may be obtained by means of the repeat sign, IMI. The transmission of a radiotelegram (or a series of radiotelegrams) shall be terminated by AR followed by the call signal of the transmitting station and K.

233. The receipt.—Acknowledgment of the receipt of a radiotelegram shall be sent by means of R. For example, NAFT receipts for radiotelegram NR 1 transmitted by KSE:

KSE DE NAFT R NR 1

234. Relaying instructions.—(*a*) Relaying of messages by radio is authorized under certain conditions. Therefore, whenever these conditions prevail, in order to assist in the forwarding of radiotelegrams, a naval ship or coastal station open to commercial traffic should relay commercial messages. In the case of naval ships proceeding in company, the senior officer present may, if the circumstances warrant it, refuse to relay radiotelegrams. The Naval Communication Service does not usually make any charge for relaying. The distinction between relaying with and without charges is closely drawn. No charge is made for two relays between ships, between a ship and one coastal station to reach another ship, or between a coastal station and one ship to reach a ship—but relaying between a ship and two coastal stations carries charges for the two coastal stations and the landline charges between the coastal stations.

(*b*) Messages are entitled to be relayed under the following conditions:

(1) In case direct communication cannot be established between the stations of origin and destination.

(2) In case the relaying is solely for the purpose of reaching the nearest coastal station (if message originates in a ship).

(3) In case the total number of relays does not exceed two.

(*c*) The regular ship or station charge is by international convention permitted to be made for relaying messages, there being but one charge for relaying (the reception and retransmission is made a single, not a double, charge). All relay charges shall be prepaid the same as all other charges on radiotelegrams.

(*d*) To assist in the forwarding of radiotelegrams, relays without charge are allowed in certain circumstances by the Naval Communication Service and some commercial companies. Before forwarding a message requiring relay, it is advisable to ascertain from the relaying agency whether or not a charge is made for the service.

(*e*) Traffic originating on shore and filed on board a naval ship acting in the capacity of a shore station shall not be relayed through another *system* when destined to a point on shore unless so routed and regular relay charges are authorized.

(*f*) Relayed messages shall be abstracted the same as messages which are originated or received, but no charge shall be entered unless such relays carry charges. Naval coastal stations report relayed messages on Form N. NCS 200 and naval ships on Form N. NCS 234.

235. Emergency relaying by Navy.—In order that commercial and Government communications shall not be interrupted, when all other communications fail except that between naval radio stations, such naval radio stations may accept without charge or accounting to the Chief of Naval Operations (DNC), traffic to be relayed by Navy radio between points involved in the break. It shall show after the check the name of the system from which received for transmission over the break, such as "Western Union" (WU), etc., and this traffic shall be returned after transmission to the system from which received. This service is not intended to cover Alaskan traffic or delivery by the receiving station to any system but the one originating as shown in the check.

236. Transferring messages to commercial systems by naval shore stations.—(*a*) The original form shall not be changed when transferring Class D traffic received from a ship to the connecting landline or cable company system.

(*b*) Except when a particular commercial company is designated by the sender, those stations which have connections with more than one commercial company shall divide their traffic between the companies available when satisfactory service is rendered by each company, if rates are the same between points concerned. If a difference in rates exists, the cheaper service shall normally be selected, if service is equally satisfactory. If proper service is not being rendered by any company, a report shall be made to the Chief of Naval Operations, who may designate the company or companies to receive preference.

(*c*) Replies to messages shall normally be forwarded through the same system from which the original message was received, unless otherwise designated by the originator in the address.

(*d*) As the Chief of Naval Operations (DNC) is charged with all arrangements regarding the forwarding of commercial traffic through other systems, no private arrangements of any kind with other systems shall ordinarily be executed by anyone in the naval service without authority from that office.

(*e*) In case of an emergency, the Chief of Naval Operations (DNC) shall be informed promptly relative to any private arrangements made concerning the forwarding of traffic through a particular system and the charges in relation thereto, as such arrangements are subject to approval by the Chief of Naval Operations (DNC).

(*f*) All shore stations shall check daily by service message with the connecting landline or cable companies all business exchanged between them in order that all records may be made to agree. At the end of each month a statement of all business exchanged shall be rendered by the local landline and cable offices, which shall be checked by the officer or radioman in charge, and any errors corrected with the sanction of the local offices. The statements shall then be forwarded with the station abstracts endorsed by commanding officer to the Chief of Naval Operations (DNC).

237. Delivery of messages.—(*a*) When, for any reason, a message to or from a ship at sea cannot be delivered to the addressee, the office or station of origin shall be informed, by service message, which office shall deliver a copy of the service message to the sender.

(*b*) Should the sender desire to add to or alter the address, he may do so by paid service message only. (See art. 259.)

(*c*) In general, all complaints relative to the nondelivery, mutilation, delay, etc., on commercial traffic which cannot be satisfactorily handled locally and which involve possible refunds shall be referred for consideration to the Chief of Naval Operations (DNC), during the period of retention of records, as prescribed in the *International Telecommunication Conferences, Cairo, 1938.*

APPENDIX III

240. COUNTING OF WORDS

241. General.—(*a*) The word system of count shall be observed when determining the check CK of radiotelegrams and cablegrams and all words in the address (except the name of state or country), text, and signature shall be counted and charged for. This is termed "radio (or cable) count."

(*b*) No item in the preamble shall be included in the check. This includes service indicators. However, service indicators in the address (in radiotelegrams and cablegrams of special types listed in art. 250) shall be counted in the check, and (if abbreviated as herein shown) are counted and charged for as one word.

(*c*) A message may contain any number of words at the option of the sender. Messages which contain only an address are not allowed. A signature (not compulsory) may be written by the sender in any form.

(*d*) When a radio message is transferred to a connecting system as a radiotelegram, it carries the radio (or cable) count to destination and is so charged.

(*e*) Since Roman numerals cannot be produced by the International Morse Code, senders shall be requested to substitute Arabic figures or words therefor.

242. Language.—(*a*) The text of cablegrams and radiotelegrams may be expressed in plain language or in secret language, the latter being divided into code language and cipher language.

(*b*) *Plain language* is that which presents an intelligible meaning in one or more of the languages authorized for international telegraphic correspondence, each word and each expression having the meaning normally assigned to it in the language to which it belongs. Combinations, abbreviations, or contractions of plain language words are not permitted.

(*c*) *Code language* is composed either of artificial words or of real words not used with the meaning normally assigned to them in the language to which they belong and consequently not forming intelligible phrases in one or more of the languages authorized for international correspondence in plain language, or a mixture of real words as defined and artificial words. See Art. 244*a*

(*d*) *Cipher language* is formed (1) of Arabic figures, groups, or series of Arabic figures with a secret meaning; (2) of words, names, expressions, or combinations of letters, with the exception of accented characters, not fulfilling the conditions of plain language or code language. Combinations or alterations of words contrary to the usage of the language to which they belong are not allowed. See exceptions in art. 243 (*b*).

(*e*) The combination of figures and letters with a secret meaning in one group is not allowed. However, this prohibition does not include commercial marks. See art. 244.

243. Plain language.—(*a*) In a message written entirely in plain language, words of more than 15 characters are charged for at the rate of 1 word for every 15 characters or fraction thereof. Numerals are counted in groups of five or less per word.

(*b*) Family names of more than one word, the full names of places, streets, names of ships, designations of aircraft, compound words, whole numbers, fractions, decimal or fractional numbers written in words, may be grouped as a single word and counted in accordance with the plain-language practice, namely 15 characters or fraction thereof to the chargeable word. Commercial marks, groups of figures, and ordinal numbers composed of figures and letters are counted at the rate of five characters or fraction thereof to the word. For example, "23rd" counts as one word and "31Ø746" counts as two words. For the purpose of charging, banking and similar messages expressed in plain language, but which contain a code check word or check number placed at the beginning of the text and not exceeding 5 letters or 5 figures, are plain-language messages.

(*c*) Periods, commas, colons, dashes, and fraction bars are counted as a figure or a letter in the group in which they appear. The same rule applies to letters or figures added to a street number in an address, even when the address is in the text or signature of the message. Every *isolated* character, letter or figure, or sign of punctuation, apostrophe, hyphen, or fraction bar transmitted at the request of the sender, is charged for as one word.

244. Code language.—(*a*) Code words must not exceed five letters in length. There will be no restrictions as to the formation of these five-letter code words, with the exception that accented characters will not be admitted. Both code and cipher language cannot be included in any one message filed for handling at code (CDE) rates. Such messages automatically become cipher messages, to be charged at cipher rates. See art. 245.

(*b*) Every code message must bear the indicator CDE *in the preamble after the check.* This indicator will be transmitted free of charge, and is not to be included in the check (word count). While CDE is thus not counted, note that in special class radiotelegrams (see art. 250) abbreviated supplementary instructions *in the address* are counted in the check as one word and are charged.

(*c*) *The charge per word* for CDE messages is 60 percent (three-fifths) of the total ordinary rate of the message, rounded up to the next full cent, with a minimum charge of five words for each message, address, and signature included in that minimum count. For CDE Government messages the charge is 60 percent (three-fifths) of the total ordinary Government rate of the message and where a fraction results it will be rounded up to the next half cent or full cent as the case may be.

(*d*) *Commercial marks composed of letters and figures,* groups of figures, or isolated figures will be admitted in CDE messages, but all such groups of characters, groups of figures, and/or groups of letters and figures, must not exceed one-half of the number of chargeable words in the text and signature. They will be counted on the basis of 1 chargeable word for each 5 figures and/or characters, or fraction thereof, in each group.

(*e*) Where one-half of the total chargeable words in the text and signature results in a fraction, the number of commercial marks and figure groups permissible will be rounded up to the next whole number.

(*f*) *Words in the address and bona fide signature* of CDE messages, while chargeable at the reduced code rate outlined above, will be counted at 15 characters or fraction thereof to the word.

(*g*) *Urgent* CDE messages will be charged at double the CDE rate, plus one word for the service indicator "Urgent" written before the address and following the free indicator CDE.

(*h*) The charge for special or supplementary services on CDE messages, such as acknowledgements of receipt (PC), or paid service messages (ST), etc., will be the ordinary full rate.

(*i*) *In mixed text CDE (code) messages,* containing both code and plain-language words, the plain-language words in the text will be charged at the rate of five characters or fraction thereof to the word. The chargeable number of words in the following example would be 10, the term CDE being transmitted without charge, the 2 words in the address being carried at the count of 15 letters to the word, and the text words, including both the code words and the plain-language expressions, being counted at the rate of 5 characters or fraction thereof to the word.

Example

(1) (2)

CDE/SHIPYARDS/LONDON/

(3) (4) (5) (6) (7) (8) (9) (10)

XGYPB/YOBTA/MAILI/NG/FACTO/RY/INVOI/CES

245. Cipher language.—(*a*) Messages which contain words in secret language exceeding 5 letters in length and those which contain more than the specified proportion of figure groups or commercial marks, will not be eligible for CDE handling and will be chargeable at full ordinary rate, such groups being counted each at the rate of 5 letters or figures, or fraction thereof to the word.

(*b*) *Mixed text messages containing cipher and plain language* are charged at the full ordinary rates—the words in plain language are counted at the rate of 15 characters or fraction thereof to the word, and those in cipher language, as well as commercial marks and figures, or groups of figures, at the rate of 5 characters or fraction thereof to the word.

250. SPECIAL TYPES OF CLASS D MESSAGES

251. General.—(*a*) In addition to the regular types of commercial prepaid messages, the special types listed in the table below are authorized. This list gives the names of these special types and also the abbreviated service indicator by which they are known. The service indicators are transmitted in the preamble after the check and as the first word in the address unless otherwise indicated and are termed "supplementary instructions."

(*b*) On all special types of messages, the service indicators transmitted as the first item in the address are counted as one word and included in the check and charge—for example, "RP$1.8Ø" and "Express." If these instructions are spelled out in full, however, each word counts in the check and is charged for. For example, "reply prepaid" is checked as two words and "$1.8Ø" as one word. As no item in the preamble is counted in the check, service indicators in the preamble are transmitted without charge.

(*c*) Urgent telegrams are allowed on European systems and a number of cable systems, but not as domestic telegrams on the landline systems in the United States.

(*d*) Telegraph money orders are not allowed as commercial radiotelegrams.

No.	Type of message or service	Indicator	Reference Article
1	Government messages (Class A or B)	GOVT	512 (a)
2	Messages with answer prepaid (on landlines "Reply prepaid").	RP——	253
3	Messages calling for repetition (on landlines "Repeat back").	TC	255
4	Special delivery messages (express)	XP	256
5	Multiple messages	TM——	257
6	Messages calling for acknowledgment of receipt	PC (Dispatch)	258
		PCP (Mail)	258
7	Acknowledgment of PCP or PC	CR*	**
8	Paid service message	ST*	259
9	Service message	SVC*	260
10	Night letter	NLT	**
11	Deferred message	LC	**
12	Franked message	(NAME) FRANK*	261
13	Press message	DPR or PRESSE	421
14	Code messages	CDE*	244 (b)
15	Messages to be delivered by mail	POSTE	262 (a)
16	Messages to be delivered by registered mail	PR	262 (b)
17	General delivery at telephone office	TR	**

* *Transmitted in preamble after the check only.*
** *See tariff books.*

252. Duplicate messages.—In the event the office of destination requests the office of origin by service message to duplicate any message, the office of origin may forward such

duplicate message in the same manner as when forwarding the original message, but the word "Duplicate" shall be placed immediately after the check. The duplicate message carries no charges. Such messages shall be abstracted without charges being entered, and under the "Remarks" column on the abstract the notation "Duplicate" shall be made.

253. Messages with answers prepaid (RP).—(*a*) These contain the abbreviated instructions "RP----------," the amount shown standing for the amount already paid for return message. This expression is transmitted in two places—(1) as supplementary instructions in preamble (indicated after the check) and (2) as supplementary instructions (as the first item) in the address.

(*b*) See art. 251 *(b)*.

(*c*) By international convention the value of the reply message is usually to be expressed in francs, and in sending by radio to *foreign ships* it shall be so expressed. In sending to United States ships it shall be expressed in dollars and cents. For conversion a franc shall be taken as equal to 2Ø cents United States currency. For example, "RP fr 14" would be sent in a message to a foreign ship and "RP$2.8Ø" to a United States ship. Fractional amounts in francs are expressed thus, "fr. 18.6Ø"; in United States currency this amount would be expressed thus, "RP$3.72."

(*d*) When a reply prepaid message is received at a United States coastal station from a ship in transmission to the landlines, the value of the reply message shall be expressed in dollars and cents. In case of doubt as to the rate, a service message shall be sent to the office of origin to ascertain it.

(*e*) The receiver of a reply prepaid message is given a voucher (Form NSE No. 61a) equal in value to the amount prepaid for reply. This voucher is good for 3 months only. The receiver of such a message on shipboard is not bound to send a reply to the sender of the original message, but may apply the value of his voucher to the payment of any message he wishes to send. Should the expression "Reply prepaid" or, on foreign messages, "Response payee" be used instead of RP, the operator shall transmit it by the abbreviation RP, but it is to be noted that in cases where the full expression is transmitted by other stations each word in it is charged. *The prepaid answer to such a message is, in reality, a paid message and is so treated.* On landlines in the United States the indicator "Answer to RP" is used by the Western Union Co.

(*f*) The answer to a commercial (Class D) message carrying an RP indication is handled in the same manner as a straight commercial message, except instead of cash being paid for tolls thereon sender presents an RP receipt. See art. 254 (*b*).

(*g*) Example of an RP message: A commercial ship, SS. *Admiral Farragut,* sends to NAR a reply paid message to Omaha, Nebr.

NR 1 SS ADMIRAL FARRAGUT CK 13 RP$1.8Ø 12 173Ø
BT RP$1.8Ø W P SHERMAN OMAHANEBR BT CAN YOU MEET ME NEWORLEANS MONDAY TENTH BT WILSON AR

(*h*) Charges are computed in the same manner as for paid messages carrying the same check plus the added amount to prepay a reply, as noted in the preamble and address.

Example: The charges on a 10-word message filed in U. S. S. *Wyoming,* sent via Norfolk Naval Radio Station, addressed to Chicago would consist of the ship's radio charge of 8 cents + the Norfolk Radio Station charge of 12 cents + the landline charge of 6 cents = 26 cents total charge per word, or $2.6Ø for 10 words; and if the sender desired a prepaid reply of 10 words he would pay $5.2Ø charges on this message. The special indicator would be "RP$2.6Ø."

254. RP receipts.—(*a*) If a message carrying a prepaid reply—i. e., with "RP--------" as the first word in the address—is received and delivered to addressee by a naval radio sta-

tion (ship or shore), a receipt on Form NSE No. 61a shall be issued to the addressee immediately, and a duplicate copy of this receipt shall be attached to the copy of the message to be forwarded to the Chief of Naval Operations (DNC).

(*b*) An RP receipt is accepted in lieu of an equivalent sum in cash for payment of charges on a message filed by the holder at the station of issue within 3 months from the date of issue. If the charges on the message to be sent are greater than the amount of this receipt, the holder may pay the excess in cash. If the charges are less than the value of the receipt, the receipt must be surrendered, and the balance can be refunded only on a claim by the office of origin of the first message.

(*c*) An RP receipt shall not be increased in value without authority from the office of origin.

(*d*) Books containing RP receipts in duplicate are issued to the naval service for use in connection with such special traffic. Receipts are numbered serially and must be accounted for. They shall be attached to the message which authorizes the issuance of this receipt. If a receipt becomes mutilated or is canceled, it shall be forwarded to the Chief of Naval Operations (DNC) with an explanatory note. The person in charge of the radio accounts on board ship and at naval radio stations is held responsible for these receipts.

255. Messages calling for repetition of message (TC).—(*a*) A repetition (repeat back) is for the purpose of verification only. To request a repetition, the indicator TC (or "Repeat back") is transmitted as supplementary instructions (indicated after the check), and also as the first item of the address, in the same manner as described for the expression "RP----------." This expression in the address is counted in the check as one word and is charged for. In this case *the message is repeated back by each station that relays it* to the one before. Should the expression "Repeat back" be written by the sender it shall be transmitted by the abbreviation TC.

(*b*) Charges are computed in the same manner as for a paid message carrying the same check plus one-half additional.

256. Special delivery messages (XP).—(*a*) These are messages which involve delivery beyond the limits of a telegraph office. Such delivery is accomplished by messenger or telephone. The *International Telecommunications Conferences* stipulates, "A sender who wishes to pay the fixed charge specified for EXPRESS delivery writes before the address of the telegram the paid service instruction EXPRESS PAID or XP.

(*b*) If the sender wishes the "express" charge to be collected from the addressee, he enters on his telegram the paid service instruction EXPRESS. The indicator for this class of message is sent as supplementary instructions after the check and again as the first item of the address.

257. Multiple messages (TM).—(*a*) A multiple message is one message addressed either to several persons or to the same person at several addresses in the same locality or in different localities served by the same telegraph office. Multiple telegrams are not recognized as such by landline companies in the United States. Therefore such messages are charged for as so many different messages and shall be so put on the landlines. For example, a multiple message may be received by radio, the various addresses being followed by one text. When put on the landlines each message must be complete; i. e., the text shall accompany each address and each message shall be on a separate blank.

(*b*) Charges are calculated in two parts: first, the radio-transmission charge (ship and coastal station), which is the same as that of a paid message carrying the same check; second, the landline or cable charge on each message forwarded. The message starts as a multiple message—i. e., more than one address or more than one addressee and but one text—but when placed on the landline the original message is broken up into as many separate messages as there are addresses or addressees, each message being a unit.

Example: A multiple message carrying a check of 20 words filed on the U. S. S. *Wyoming* sent via St. Augustine radio station addressed to Tom James, 60 South Street, and to Wiley Nelson, 80 Monroe Street, New Orleans, would have, first, a ship (8) and station (12) radio charge for 20 words, i. e., 20×20 cents=$4; and, second, a landline charge on two messages of 14 words each, i. e., 14×6 cents=84 cents, and 14×6 cents=84 cents. Explanatory: The indicator TM2 is dropped in placing this message on the landline, and on the first message the following words are dropped in the address, "Wiley Nelson, 80 Monroe Street"; hence six words are dropped. Likewise, on the second message, to Nelson, six words would be dropped. Consequently, each landline message would contain a 14-word check. Total charges $4+84 cents+84 cents=$5.68.

258. Messages requiring acknowledgment of receipt (PC).—Abbreviated designation PC or PCP. This type applies only to messages originating on shore.

On PC messages the charge is the same as for a paid message carrying the same check plus the charge of a 5-word message from the coastal station to the office of origin. By this 5-word message the coast station informs the telegraph office of origin of the hour and date of transmitting the message to the ship. On PCP messages in which the acknowledgment of receipt is mailed the charge is the same as on a paid message carrying the same check, as the mail acknowledgment is sent free by the coastal stations to the office requiring the acknowledgment of receipt.

259. Paid service message (ST).—(*a*) "Paid service messages" differ from "service messages" in the fact that they are transmitted at the request of a sender or recipient of a regular message, are paid for at the regular rates, carry a distinctive indicator, and follow the general form of a regular message. They shall ordinarily be forwarded over the same system which handled the message referred to as in the case of service messages. However, as paid service messages are charged for at the regular rates, the sender may choose his route, as in the case of regular messages. Paid service messages are indicated by ST. To promote uniformity, the phraseology of the text of paid service messages should follow the examples given below when they will serve the purpose. They shall be addressed to the office or station concerned and signed by the office originating the traffic, followed by the date filed.

(*b*) Example of a paid service message. The sender, on board the ship *King William*, desires to correct the address of a message sent to New Orleans by means of a paid service message via NAR:

NR 1 SS KING WILLIAM NEWORLEANSLOU CK 1Ø ST 13
1145 $\overline{\text{BT}}$ SEE OURS TWELFTH SIGNED JONES MAKE
ADDRESS READ 179 INSTEAD 175 $\overline{\text{AR}}$

(*c*) A sender may correct the text of a message by sending a paid service message.

Example

SEE OURS FOURTEENTH JONES SIGNED SMITH
CHANGE SECOND WORD IN TEXT FROM DUPLEX TO SIMPLEX.

(*d*) A sender may endeavor to cancel a message before it is delivered to the addressee by sending a paid service message, but no charges will be refunded in such a case.

Example

CANCEL OURS FOURTEENTH JONES SIGNED SMITH AT REQUEST OF SENDER CHARGES STAND.

(*e*) If the message has already been delivered, the addressee shall be notified of its cancelation. Should the sender wish to know whether his original message was delivered he must send a paid service message with a prepaid reply.

Examples

YS* TENTH YOURS JONES SIGNED SMITH CANCELED CHARGES STAND.

YS TENTH YOURS JONES SIGNED SMITH ALREADY DELIVERED.

*NOTE.—YS means, "See your service notice."

(*f*) In accordance with the ruling of the International Telegraph Bureau, paid service messages either with or without prepaid replies are excluded from accounts. Therefore, the only paid service messages which shall be abstracted by the Naval Communication Service are those which originate at naval stations. All tolls in connection with such paid services, including prepaid replies, if any, shall be credited to "This station" on Form N. NCS 200.

(*g*) The charge is the same as for a paid message carrying the same check.

260. Service messages (SVC).—(*a*) There is need for certain inquiries, instructions, and information regarding commercial messages. In general, this need is met adequately by the system of procedure signs, communication operating signals, and the international radio abbreviations. Prosigns and operating signals shall be used between naval radio stations, whether handling naval or commercial traffic. With radio stations other than naval, the international procedure and abbreviations only shall be used. See art. 263 for Q code signal information.

(*b*) When it is impossible to convey the meaning desired by the use of international radio abbreviations to a commercial radio station, or whenever it is necessary to make inquiry, convey instructions or information regarding messages to a cable or landline office, a properly framed service message shall be used.

(*c*) The exchange of notes, conversation, unauthorized abbreviations, or any transmissions in other than the authorized forms is prohibited.

(*d*) Complaints have been received from connecting landline companies that naval radio stations sometimes send irregular, unnecessary, or ambiguous service messages in regard to traffic. It is essential that all concerned use care to handle and word service messages in accordance with standard communication practice.

(*e*) Service messages may be sent on any subject connected with the handling or routing of commercial messages, tariffs, charges, etc., and may be sent to any ship, coast station, or telegraph office with which a station has communicated in the transmission of messages.

(*f*) Such messages use the indicator SVC (foreign ships sometimes use A). They shall be addressed to the office or station concerned and signed by the office originating the traffic, followed by the date filed. Such SVC messages may be forwarded via radio and landlines without charges, regardless of the route taken by the message referred to, provided both messages are forwarded over the same system.

(*g*) Service messages may be sent via any coastal station of the company or management operating the station through which the message to which the service message refers was forwarded. In exceptional cases ships (not coastal stations) of other U. S. Government administrations may be used to forward service messages.

(*h*) Since SVC messages are not charged for, they do not enter into the accounts but copies of all SVC messages relating to any commercial messages shall be forwarded with the copy of the commercial message to the Chief of Naval Operations (DNC), so as to present all facts bearing on the case and save further reference to the radio station concerned. The SRS number (see article 286) is the same as the message the service refers to, with the letter "a" for the first SVC, "b" for the second, and so on. Operators shall be careful to distinguish between service (SVC) messages and paid service (ST) messages. The latter are treated in every way as regular commercial messages, but are sent to radio

or telegraph offices only at the request of the sender of a regular commercial message, who pays for the paid service message.

(*i*) The text of a service message (SVC) contains—

1. The name of the addressee and the signature of the message to which it refers.
2. The date on which that message was sent.
3. In case of nondelivery, the full address.
4. The text followed by signature and date of filing.

(*j*) Service messages are sent in international (commercial) form, utilizing international procedure.

Example

NR 1 SS REGINA OMAHANEBR CK 8 SVC 15 1725 $\overline{\text{BT}}$ YOURS TWELFTH JONES SIGNED WILLIAM NOT ON BOARD $\overline{\text{AR}}$

(*k*) Should a ship receive a service indicating that an error had been made in transmitting the address, it shall send a service in reply correcting same.

(*l*) Coastal stations shall use the phrase "Ship out of range" in service messages sent inland to signify that a ship for which a message is received has already passed, and "Ship not signaled" to indicate a message has been held 5 days for a ship and she has not yet been communicated with. The office of origin shall be advised of nondelivery within 3 hours after receipt of message and message filed if not delivered within 5 days. If the message is delivered after the service is sent, the office of origin shall be so advised by SVC message.

261. Franks and other systems.—The Naval Communication Service recognizes the proper authority for free service over other systems in the forwarding of a message, provided the person filing same shows the proper credentials. In such cases the name of the system over which free service is authorized and the number of the frank of the sender shall be transmitted immediately after the check, but is not to be counted or charged for. On the following Class D message, for example, the sender, a civilian passenger, produced a frank over the Western Union lines, and accordingly the message (sent via Navy Radio Norfolk) is checked as follows:

NR 2 USS NEW YORK CK 9 WU FRANK 116 5 1315 $\overline{\text{BT}}$ JOHN DOE CHARLESTONSC $\overline{\text{BT}}$ WILL MEET YOU IMPERIAL HOTEL $\overline{\text{BT}}$ MEYERS $\overline{\text{AR}}$

All charges on the above message are collected, except the Western Union charges from the Norfolk station to destination.

262. Messages to be delivered by mail (POSTE, PR.)—(*a*) These are Class D messages distinguished by the service instruction POSTE transmitted as supplementary instructions in preamble (indicated after the check), and again as the first item of the address. Such messages shall be sent by mail to the addressee by the coastal station receiving them, or, if the name of some other place follows the word POSTE, shall be forwarded by landline to that place with the instruction POSTE. It is then mailed to the addressee by the telegraph office to which forwarded. An additional charge of one word is made for the instruction POSTE in address (and it is counted in the check) and 5 cents per message for postage. The designation PR used instead of POSTE signifies that the letter is to be forwarded by *registered* mail. In this case the charges shall include 2Ø cents for postage instead of 5 cents.

(*b*) Foreign ships may use POSTE RECOMMANDEE or REGISTERED POST in lieu of PR. In such case each word of the expression is counted and charged for.

(*c*) The franking stamp on POSTE messages shall not be used except on messages of an official nature. The postage shall be obtained on other messages to be forwarded by mail as required by the check, the officer in charge purchasing postage stamps from funds on hand and showing such expenditures on N. NCS Form No. 235 submitted at the end of each month.

(*d*) Charges are computed in the same manner as for a paid message carrying the same check to the point where the message is to be mailed plus 5 cents for postage, or 2Ø cents for postage if it is to be sent by registered mail.

Example: The charges on a 1Ø-word message from the U. S. S. *Wyoming* to the Norfolk radio station to be mailed to San Francisco would consist of the ship's radio charge of 8Ø cents (1Ø x 8 cents)+the Norfolk coastal station charge of $1.2Ø (1Ø x 12 cents)+5 cents, or a total charge of $2.Ø5 if to be mailed; or $2.2Ø if to be sent by registered mail.

263. Special signals—Q code.—Attention is invited to the use of international Q code and other authorized abbreviations. Whenever, in commercial practice, they serve the purpose, they shall be used in all communications with radio stations, coastal or ship, as the operators of all countries signatory to the convention are required to be familiar with them. The Q signals form complete messages in themselves and do not need to be embodied in service messages. *See International Telecommunications Conference, Cairo, 1938.*

270. COMPONENT PARTS AND GENERAL INSTRUCTIONS FOR MESSAGES IN DOMESTIC FORM

271. Parts of preamble.—The following parts are taken up in the order of transmission:

(*a*) *Station serial number.*—Same as international form (see art. 221(*a*)).

(*b*) *Check.*—A single addressee and signature are not charged for in domestic telegrams. Therefore, the domestic check consists of the total number of words in the text, figured in accordance with the rules set forth in the *Western Union Tariff Book*.

(*c*) *Service indicator.*—These indicators are used to indicate supplementary instructions or the class of service that is requested by the originator, such as NL (night letter) DL (day letter), etc. Consult the *Western Union Tariff Book* for other forms of service. If the originator fails to designate the class of service, it should be assumed that he desires full-rate service.

(*d*) *Office of origin.*—Commercial companies show the local office, city or town, where the domestic telegram was filed, or refiled if transferred from another system, as the office of origin.

(*e*) *Month, day, year, and hour of filing.*—It will be noted that in domestic form the month and year are transmitted in addition to the day and hour. The hour is indicated in LCT followed by "a" or "p" to express "a. m." or "p. m."

272. Address.—The address of a message, that is to say, whatever matter is required to afford the necessary information to enable the company to identify and locate the addressee, is transmitted free of charge. Importance of complete address cannot be overestimated. Code addresses are not accepted. Alternative addressees (telephone numbers are not alternative addressees) or supplementary delivery instructions are charged for. A message to more than one person will be treated as a separate message to each of the persons addressed.

273. Text and signature.—(*a*) The body of the message and chargeable matter in the address and signature will be counted according to the rules as set forth in the *Western Union Tariff Book*, and the message charged for accordingly.

(*b*) One signature will be transmitted free, unless it is a code signature, which will be charged for. Where there is more than one signature, all signatures except the first will be counted and charged for. This applies only to messages signed jointly by a number of individuals or concerns. It should not be confused with cases where a title appears in connection with a name or where the name of an individual or a department and company appears in connection with the name of a firm or organization. Unless it is well known, request originator's full name (if not contained in the signature of the message) and address and record it in a space at the bottom of the message blank.

APPENDIX III

Plate 1–III.—COMMERCIAL RADIOTELEGRAMS

	Preamble								Address			Text		Signature		Example No.
	Serial NR	Trans. Inst.*	Office of origin	Destination†	Check	Service indicator	Date and time	Long break	Service indicator	Addressee	Long break	Text	Long break	Signature	Ending	
E NARC	NR 1		USS Maryland		CK 11		12 Ø845	BT		BLANTON SS RUTHALEXANDER.	BT	CAN YOU MEET ME SANPEDRO SUNDAY FOURTEENTH.	BT	Jordan	AR NARC K	1
ARC		-T- WADW	USS Maryland		CK 11		12 Ø845	BT		BLANTON SS RUTHALEXANDER.	BT	CAN YOU MEET ME SANPEDRO SUNDAY FOURTEENTH.	BT	Jordan	K	2
ARC			USS Maryland		CK 12		12 Ø845	BT		BLANTON SS RUTHALEXANDER SANFRANCISCORADIO.	BT	CAN YOU MEET ME SANPEDRO SUNDAY FOURTEENTH.	BT	Jordan	K	3
NARC	NR 1		USS Maryland		CK 13	RP$2.ØØ	12 Ø845	BT	RP$2.ØØ	BLANTON SS RUTHALEXANDER SANFRANCISCORADIO.	BT	CAN YOU MEET ME SANPEDRO SUNDAY FOURTEENTH.	BT	Jordan	AR NARC K	4
ARC		-T- KPH	USS Maryland		CK 12		12 Ø845	BT		BLANTON SS RUTHALEXANDER SANFRANCISCORADIO.	BT	CAN YOU MEET ME SANPEDRO SUNDAY FOURTEENTH.	BT	Jordan	K	5
WSBW	NR 1		SS Virginia		CK 8		16 1440	BT		BROWN 175 KING ST NEWORLEANSLOU	BT	ARRIVE THURSDAY	BT	Jones	AR WSBW K	6
NAR	NR 1		New York NY		CK 16	CDE	1Ø 1615	BT		KOSCI SS KRONSTADT KEYWESTRADIO	BT	HELAD GULIB FARID NORST HERMI ORUMA NEXCO DATUS DERAN EPNAS NAIBO.		Vassily	AR NAR K	7
NAR	NR 2		New York NY	SS Kronstadt	CK 12	ST	1Ø 2Ø45	BT				OURS TENTH 1615 KOSCI CHANGE THIRD WORD TEXT FROM FARID TO GARIB.			AR NAR K	8

NOTES

Ex. No. 1. Simple type of commercial message in international form, from naval ship USS *Maryland* (NARC) to merchant ship SS *Ruth Alexander* (WADW). Ships are in direct communication. See art. 281 *(f)* when filed by naval personnel.

Ex. No. 2. Same message as in 1, relayed via a naval guardship, USS *Tennessee* (NIDN).

Ex. No. 3. Same message relayed via shore naval radio station open to commercial traffic, Eureka, Calif. (NPW).

Ex. No. 4. Illustrating a reply prepaid message, as indicated by RP$2.ØØ following the check and as the first word of the address. This indicator is counted and charged for as one word. Message is being relayed via commercial shore radio station, KPH.

Ex. No. 5. Same message as in 3 relayed via naval guardship and commercial shore radio station.

Ex. No. 6. Simple type of commercial radiotelegram from merchant ship SS *Virginia* (WSBW) to naval shore radio station open to commercial traffic at Norfolk, Va. (NAM).

Ex. No. 7. Illustrating the use of a CDE message, as indicated by CDE appearing after the check. CDE is not included in the word count nor charged for. Message originated in New York and is transmitted to SS *Kronstadt* (OKAM) by naval shore radio station at Key West, Fla. (NAR).

Ex. No. 8. Illustrating the use of a paid service message, as indicated by ST appearing after the check.

*Used with naval ships or stations only.

†Used only in case of a radiotelegram without address referring to safety of life, a service telegram, a paid service message, or an acknowledgment of receipt.

557048—43 (Face p. 16)

280. CHARGES

281. General.—All messages involving tolls shall be prepaid. The following general instructions cover the computing of these tolls or charges:

(*a*) Charges for messages comprise the following:

(1) The charges which accrue to the land radio station.

(2) The charges which accrue to the mobile radio station.

(3) The charges for service over landlines or cable, if any.

(4) The transit charges of the intermediate land or mobile radio stations and the charges, if any, for special service required by the sender.

(*b*) The coastal rate and the shipboard rate are fixed in accordance with the tariff per word.

(*c*) The rate per word charged by any particular ship or shore station or forwarding company can usually be obtained from the *Berne List*, and in the case of messages having destination in the United States, such information is conveniently tabulated in the cable and radio tariff books of the Western Union. These rates include all delivery charges to the points shown in these tariff books, including other line tolls.

(*d*) In case the correct rate cannot be obtained from the information at hand, the operating signal (QSJ) or a service message shall be sent to ascertain the rate. See art. 282.

(*e*) On board naval ships and at naval shore radio stations the ship's sending or receiving charge and the shore station's sending or receiving charge is not collected from persons in the naval service when messages are filed in accordance with the instructions contained in article 322 (*b*). On radiotelegrams which do not come under the provisions of article 322 (*b*) originating at a naval shore radio station authorized to accept commercial traffic, or on board naval ships, or on radiotelegrams originating with other systems, destined to a naval ship or to a naval shore radio station open to commercial traffic, both the station and ship charges are collected.

(*f*) No ship transmitting tolls are collected on Class D messages destined to a commercial ship, filed by naval personnel on board a naval ship, *provided the ships are in direct communication.*

(*g*) See article 234 concerning charges for relaying Class D messages, if any.

(*h*) The charges to be collected on Class D messages shall be determined by the mail clerk or other designated person on board ship and by the radioman in charge at shore stations. Charges are computed by adding together the various separate rates per word, i. e., the coastal station rate; the ship rate; the landline or cable rate; the ship rate for each ship relaying where such transmission is involved, except for such systems as make no charge for relaying. If the rates are not listed in the cable and radio tariff books of the Western Union or in the *Berne List of Coastal Stations and Ship Stations*, or *Berne List of Fixed and Land Stations*, they should be obtained by service messages, if practicable, otherwise the charge of 8 cents per word for the ship rate shall be assumed and 12 cents per word for the coastal station rate. In the case of a ship-to-ship commercial message the charge consists of the ship charge per word for each ship. However, note exception in (*f*). For Class E traffic see Sec. C.

(*i*) Where the charges are shown in francs or centimes, the sum of 2Ø cents shall be collected for each franc and one-fifth of a cent for each centime.

(*j*) Having ascertained the rate per word for transmission over the entire distance involved, the charge for the message is determined by multiplying the rate per word by the number of words in the check.

(*k*) *Examples.*—

(1) The charges on a radiotelegram (Class D) sent via the Western Union Co. from Chicago to the U. S. S. *Wyoming* via the Key West radio station would be as follows:

11 cents Western Union charge from Chicago to Key West.
12 cents Key West radio station charge.
8 cents *Wyoming* ship charge.
31 cents per word (radio/cable count).

(2) The charges on a radiotelegram (Class D) from the U. S. S. *Wyoming* via the Key West radio station addressed to London would be as follows:

8 cents *Wyoming* ship charge.
12 cents Key West radio station charge.
34 cents Key West to London cable charge.
54 cents per word (radio/cable count).

282. Method of handling rate (QSJ) requests.—(*a*) The *International Telecommunications Conferences* provides that shipboard stations shall have the tariffs covering rates for correspondence, but that such stations always have the right to make inquiry without cost to coastal stations concerning the proper rates applicable to radiotelegrams for which they do not possess the necessary information.

(*b*) In order to fix the responsibility of erroneous information given in QSJ correspondence the coastal station shall record on the regular blank forms the message exactly as received from the shipboard station. It shall also record upon the same blank the reply given to the shipboard station covering the information requested.

(*c*) Naval radio stations open to commercial traffic, ship to shore, should exercise great care in preparing replies to the international radio signal QSJ. QSJ means, "What is the charge to be collected per word to —— including your internal-telegraph charge?" Many stations in replying to this signal give the station charge *only;* consequently the ship collects that charge only; and when debit is made to the responsible foreign administration of the station charge and the landline tolls, these administrations invariably disallow the landline tolls and refer to the answer received to the signal QSJ, which quoted only the station charge. In cases of foreign ships operated or controlled by foreign administrations answers to such QSJ signals will be made in francs and centimes as quoted in the *Berne List*.

(*d*) Copies of QSJ exchanges shall be forwarded to the Chief of Naval Operations (DNC) with the series of messages to which they pertain.

283. Receipt of payment for radiotelegram.—The receiving operator at shore stations or the mail clerk or other designated person on board ship shall make out a receipt for the amount collected in cash on Form N. S. E. 195a and deliver same to the sender.

284. Accounting.—(*a*) Whenever commercial traffic involving tolls is sent from, or received by, a ship or shore station during any calendar month, abstracts and a statement of account shall be forwarded to the Chief of Naval Operations (DNC) prior to the 10th of the succeeding month. If no such traffic is handled, no report is necessary in wartime.

(*b*) In the case of submarines, the reports, if required, shall be submitted by the tender or submarine base to which attached.

(*c*) In the case of ships attached to a naval district, the reports, if required, shall be submitted by the district commandant.

285. Abstracting.—(*a*) In abstracting traffic involving charges, care shall be exercised in crediting or debiting, as appropriate, the connecting system involved in the forwarding of the message—in order to avoid confusion in the accounts as well as needless correspondence. *Abstracts must balance.*

(*b*) *The universal system of tolls following the traffic* shall be followed throughout. The system from which the traffic is received shall be debited with the charges due the Naval Communication Service plus the forwarding charges due any system beyond the Naval Communication Service, and the system to which the traffic is forwarded shall be credited with charges due it for its service, plus the charges for services beyond such system, if any. In the case of traffic (involving tolls) originating on one naval ship, destined to another naval ship, and transmitted direct or through a relaying ship or station not making charge for such relaying, the ship of destination is credited with its tolls under the "Navy" column of the abstract.

(*c*) All telegraph, cable, and radio companies follow the same general system of accounting. The system on which a message originates becomes responsible for all the charges on said message, and that system collects the complete tolls and thereupon pays to the next connecting line its tolls plus all tolls due forwarding lines. In turn, the second system handling the message pays the third connecting line its tolls and all tolls due systems following that system. The *actual transfer and adjustment of funds* between the Naval Communication Service and other systems is accomplished by the Chief of Naval Operations (DNC).

(*d*) On Class D messages filed at a naval radio station open to commercial traffic or in a naval ship, the complete charges are collected, except as noted in article 281 (*f*). Following the general system outlined above, the Naval Communication Service credits the system to which the message is forwarded with its charges plus all charges collected for lines following that system.

(*e*) Examples of abstracting commercial (Class D) messages are shown in article 288 (*a*), (*b*).

(*f*) In case of communication with merchant ships of which there are more than one having the same name, the call signal of the particular ship communicated with shall, in all cases, be entered opposite the name of such ship on the regular monthly accounting forms, and a similar entry shall be made on the copy of the *message* which is forwarded to the Chief of Naval Operations (DNC).

(*g*) Call signals shall be shown on both the abstract and the message copies immediately following the name of the ship, whether from a naval or a merchant ship.

(*h*) When abstracting messages of all classes, the origin shall be abstracted as given to the landline.

(*i*) Radiotelegrams of any nature between naval and merchant ships are abstracted in the usual manner. See art. 288 (*a*), (*d*), (*g*), (*k*).

(*j*) Attention is especially directed to the necessity of reporting on abstracts (Forms N. NCS 233 and N. NCS 234) all commercial messages (whether or not charges are involved) together with any SVC or QSJ exchanges, exchanged between naval ships and merchant ships. Failure to make these reports in the case of messages received on board naval ships often results in financial loss to the Government, and the failure to make the required report of either sent or received messages usually results in needless correspondence and delay in settlement of accounts. See art. 293 (*e*).

286. Information required concerning serial numbers.—In addition to submission of the forms required in the accounting work of radio stations, ship and shore, the following instructions shall be carried out at all such stations:

(*a*) Every commercial message shall be given a serial number in addition to the regular sending or receiving number on it. The additional number is known as the SRS number *which is used in accounting only.* The SRS number is never transmitted by radio or by telegraph, but is written on each copy made of each message. Every commercial message and every paid-service message handled by radio at a naval radio station is given an SRS number by that station, whether the message is one received, relayed, or transmitted. SRS numbers are continuous up to 1Ø,ØØØ and do not start again each day or each month. Relayed messages have the capital letter R added to the SRS number; thus, "SRS 102R."

(*b*) When service messages concerning a message are sent, such service messages shall be given the SRS number of the message to which they refer, followed by "*a*" for the first service, "*b*" for the second, etc. Paid service messages are not numbered in *this* manner, but have separate SRS numbers, the same as regular commercial messages.

(*c*) As is apparent from the above instructions, the same message will bear different SRS numbers at the various stations handling it.

(*d*) Copy of each commercial message, together with all service messages showing all information available thereon, handled during each month by a station, shall accompany the abstract forwarded in accordance with article 284. Each copy shall be filled out, showing all items in the preamble as well as the remainder of the message, including full transmission and receiving data. Copies shall be neat and legible, and preferably typed. Duplicates shall be retained in ship or station files for at least 18 months.

(*e*) The copies forwarded and the duplicate in station's files shall show any *discrepancy* in the counting of words; any delays exceeding 1 hour, and explanation thereof; the charges collected, if any, and any other pertinent information which might be of use later, as, for example, the failure to obtain acknowledgment of receipt.

(*f*) All correspondence from ships to the Chief of Naval Operations (DNC) concerning commercial traffic shall be signed and forwarded direct by *the commanding officer.*

287. U. S. Government tax.—(*a*) As authorized by the Revenue Act of 1942, effective November 1, 1942, the Government imposes the following taxes:

> Fifteen percent on amounts paid in the United States for messages between points in the United States and between points in the United States and Alaska or Hawaiian Islands.
>
> Ten percent on amounts paid in United States for telegraph, cable, and radio messages to and from Canada, Mexico, and other points outside the United States, except Alaska and Hawaiian Islands; also for radio messages to ships (shore-ship).

This tax is based on the total amount charged for each message, including other line charges. The tax is applicable on all such messages originating in the United States, Hawaii, and Alaska, and applies to all Class E traffic which is to be refiled at a naval shore station.

APPENDIX III

287. U. S. Government tax.—(a) As authorized by the Internal Revenue Code, Section 3465, as amended, effective April 1, 1944, the Government imposes the following taxes:

Twenty-five percent on amounts paid in the United States for messages between points in the United States and between points in the United States and Alaska or the Hawaiian Islands.

Ten percent on amounts paid in United States for telegraph, cable, and radio messages to and from Canada, Mexico, and other points outside the United States, except Alaska and Hawaiian Islands; also for radio messages to ships (shore-ship).

This tax is based on the total amount charged for each message, including other line charges. The tax is applicable on all such messages originating in the United States, Hawaii, and Alaska, and applies to all Class E traffic which is to be refiled at a naval shore station.

The following table indicates the tax to be collected for each message at the rate of 25 percent only:

Total amount charges	Tax to be collected	Total amount charges	Tax to be collected
$0.22 or less	$0. 05	$1.31 to $1.34	$0. 33
$0.23 to $0.26	. 06	$1.35 to $1.38	. 34
$0.27 to $0.30	. 07	$1.39 to $1.42	. 35
$0.31 to $0.34	. 08	$1.43 to $1.46	. 36
$0.35 to $0.38	. 09	$1.47 to $1.50	. 37
$0.39 to $0.42	. 10	$1.51 to $1.54	. 38
$0.43 to $0.46	. 11	$1.55 to $1.58	. 39
$0.47 to $0.50	. 12	$1.59 to $1.62	. 40
$0.51 to $0.54	. 13	$1.63 to $1.66	. 41
$0.55 to $0.58	. 14	$1.67 to $1.70	. 42
$0.59 to $0.62	. 15	$1.71 to $1.74	. 43
$0.63 to $0.66	. 16	$1.75 to $1.78	. 44
$0.67 to $0.70	. 17	$1.79 to $1.82	. 45
$0.71 to $0.74	. 18	$1.83 to $1.86	. 46
$0.75 to $0.78	. 19	$1.87 to $1.90	. 47
$0.79 to $0.82	. 20	$1.91 to $1.94	. 48
$0.83 to $0.86	. 21	$1.95 to $1.98	. 49
$0.87 to $0.90	. 22	$1.99 to $2.02	. 50
$0.91 to $0.94	. 23	$2.03 to $2.06	. 51
$0.95 to $0.98	. 24	$2.07 to $2.10	. 52
$0.99 to $1.02	. 25	$2.11 to $2.14	. 53
$1.03 to $1.06	. 26	$2.15 to $2.18	. 54
$1.07 to $1.10	. 27	$2.19 to $2.22	. 55
$1.11 to $1.14	. 28	$2.23 to $2.26	. 56
$1.15 to $1.18	. 29	$2.27 to $2.30	. 57
$1.19 to $1.22	. 30	$2.31 to $2.34	. 58
$1.23 to $1.26	. 31	$2.35 to $2.38	. 59
$1.27 to $1.30	. 32	$2.39 to $2.42	. 60

(*b*) No tax is collected for official United States Government messages, press messages, or ship-to-ship messages transmitted direct.

ABSTRACTING THE TAX

(*c*) In abstracting, ships and stations will enter tax items in a separate column headed "United States tax," indicating the amount of tax collected on each message, and the total thereof. In forwarding funds, indicate on Form N. NCS 235 the total tax collected as a separate item. Payment of tolls and tax will be included in one check or money order by each ship or station when forwarding abstracts and remittances.

288. (*a*) Example of completed form N. NCS 233

U. S. NAVAL COMMUNICATION SERVICE

Sheet No.----------

Abstract of messages sent, U. S. S. "Blank" during the month of Jan. 1944

JOHN GREEN, *U. S. N.*
Communication Officer or
Navy Mail Clerk.

Forwarded Feb. 1, 1944

Forwarded approved:
JOHN DOE, *Commander, U. S. Navy,*
Commanding.

[*NOTE.—Charges entered herein are not to be used in determining charges for actual messages]

Srs. No. (1)	Date (2)	Addressee (3)	Destination (4)	Transmitting data (use call signals only): Sent to— (5)	Relayed via— (6)	Do not use this column (7)	Number of words (8)	Credit: Ship sending charge (9)	Navy (10)	R. C. A. (11)	Mackay (12)	Belgium (13)	France (14)	U. S. Tax (15)	Debit: R. P. acct. (16)	(17)	Cash (18)	Remarks (19)
1	8	Smith	Chicago, Ill	NAM			8		$0.60					$0.06			$0.66	Class E (1).
2	10	Baker	Chevy Chase, Md	NAH			5		.36					.04			.40	Class E (2).
3	11	Brown	Washington, D. C	NPG			8		1.20					.12			1.32	Class E (3).
4	12	Blanton	SS *Ruth Alexander*	WADW			9				$0.72						.72	Class D (4).
5	14	Pallera	Manila	NPO			13		.39								.39	Class E (5).
6G	16	American Consul	Amsterdam	OST			12					$1.32		See art. 287			1.32	GOVT (6).
7	17	White	New York, N. Y	NPW			20	$1.60	4.60								6.20	Class D (RADIO) (7).
8P	20	ASSOCIATED PRESS	New York	NAA			75DPR Col											Sender: John Smith, Assd. Press (8).
9G	23	Compass	Ouessant	FFU			Compass bearing						1.20				1.20	(9).
10	27	Smith	Des Moines, Iowa	NAO			30NL		.53					.05			.58	Class E (10).
11	27	Registrar	San Francisco, Calif	WSA			10	.80		2.10					2.90			Class D, ANS. R. P. (11).
12	28	Davis	Paris, France	NAM			10		3.10								3.10	Class E (12).
		Totals						2.40	10.78	2.10	.72	1.32	1.20	.27	2.90		15.89	
		Totals brought forward from sheet No.																
		Grand total																

EXAMPLES

(1) **D–A–NADK Ø816ØØ NAM GR 24 BT**

MSG CK 8 MRS JOHN SMITH ONE THREE FIVE MADISON AVE CHICAGO ILL SHIP ARRIVES NEWYORK TUESDAY WILL BE HOME THURSDAY JAMES USS NEVADA BT K

EXPLANATION

This is a Class E message sent to Navy Radio, Norfolk, Va., and refiled at domestic rate. Inasmuch as this message was transmitted by the ship of origin to a naval shore station, a credit of the landline tolls involved must be made to "Navy" and entered on abstract under column (10) headed "Navy." Collection of cash to cover tolls must be made from sender; therefore a debit entry should be made under column (18) provided for this purpose. The result is that credit entry equals and balances with debit entry.

(2)

(1) D-A-NISM 101845 NAH GR 18 BT
MSG CK 5 NL MRS JOSEPH BAKER CHEVYCHASE MD (SUB) PLEASE FORWARD SUIT CASE BROOKLYN JOHN USS MILWAUKEE BT K

This is the same class of message as (1) but routed to Navy Radio, New York. In computing tolls on this message it is noted that Western Union Tariff Book shows rate to Chevy Chase, Md., as follows: "35-0 Washington, D. C. (Tel. Sub. free)." This indicates that the message takes the rate to Washington, D. C., plus a 35-cent delivery charge. If addressee is a telephone subscriber, the additional 35 cents is not collected and the word "Sub" in parentheses will follow the address.

(3) D-A-NIRF 111725 NPG GR 25 BT
MSG CK 8 MRS BROWN ONE THREE ONE TWO EYE ST NORTHWEST WASHINGTON DC KEEP ME INFORMED ANY CHANGE OF YOUR CONDITION FRANK USS DUPONT BT K

This is the same class of message as (1) but routed via Navy Radio, San Francisco, Calif.

(4) WADW DE NARC NR 2 USS MARYLAND CK 9 12 1745 BT BLANTON SS RUTHALEXANDER BT HAVE NO NEWS AT PRESENT BT WALTER AR NARC K

This is a Class D ship-to-ship message. Inasmuch as the ship of destination is controlled by the Mackay Radio Co., a credit to that company is made of 8 cents per word ship receiving charge in accordance with the Berne List, under a column so headed.

(5) D-A-NISQ 141340 NPO GR 16 BT
MSG CK 13 JOSE PALLERA THIRTEEN ALICANTE STREET MANILAPI EXPECT TO SELL STORE DIAZ USS RICHMOND BT K

This is a Class E message routed to Navy Radio, Cavite. The Bureau of Posts rate sheet shows the rate to Manila from Cavite to be 3 cents per word (radio count).

(6) OST DE NACT NR 4 USS ARKANSAS CK 12 USGOVT 16 0845 BT AMERICAN CONSUL AMSTERDAMHOLLAND BT ACCEPT KIND INVITATION FOR OFFICERS AND MEN BT ADMIRAL JONES AR NACT K

This is a Government message forwarded through a foreign radio station. In the *Berne List of Fixed Stations*, under Belgium, the station rate (OST) is shown to be 40 centimes per word, and the Belgium land-line tolls to Amsterdam are shown as 15 centimes per word, making a total of 55 centimes per word, or 11 cents (U. S. currency) per word. In computing tolls the gold franc is used, based on exchange of 5 to 1 in accordance with the *International Telecommunications Conferences*. Such tolls are collected from the supply officer of the ship. (See p. 632, *Manual of Supply Corps*.) The entries are as follows: Credit column headed "Belgium", and debit "Cash" column (18).

(7) NPW V NISM USS MILWAUKEE CK 20 17 1425 BT WHITE COMPANY 38 BROADWAY NEWYORKNY BT WIRE ME INFORMATION EXPECTED TREND MARKET DURING COMING WEEK DO YOU ADVISE HOLDING CONSOLIDATED BT BROWN K

This is a Class D message forwarded to Navy Radio, Eureka, Calif., and is not entitled to the privilege of refiling at domestic rate. Traffic through this station takes the radio count and radio rates.

(8) NAA V F7T USS WYOMING CK 75 DPR COLLECT 20 1145 BT (Text 72 words) K

In the case of PRESS sent by a naval vessel to a naval shore station, the correct rate is $0.01 per word ship sending charge, and $0.02 per word handling charge of the shore station. The tolls involved need not be entered, as they will be taken care of by the naval shore station receiving the message. All such traffic should be checked DPRCOLLECT (*see art.* 421 (a), and care should be taken to indicate under column headed "Remarks" (column 19) the name of the press correspondent filing the message and the company responsible for the tolls.

(9) See Radio Aids to Navigation and Direction Finder Codes. Use QSJ signal for charges.

Foreign administrations generally make a charge for each compass bearing furnished. This charge can always be ascertained by use of QSJ (rate request). In this example there is a charge of 6 francs, or $1.20 at the rate of 5 francs to one dollar. This being a Government message, the tolls are collected from the supply officer. Inasmuch as bearings were received from a French radio station, a credit is made to France under a column so headed, and debit made to "Cash."

(10) D-A-NISQ 271640 NAO GR 48 BT
MSG CK 30 NL SMITH COMPANY SIX SEVEN NINE FIRST STREET DESMOINES IOWA SELL FIFTY SHARES STOCK AFIRM AT OPENING BID TOMORROW TWENTY EIGHT JUNE PERIOD BUY TWENTY SHARES STOCK BAKER AT NOON TWENTY NINE JUNE AND HOLD FOR FURTHER INSTRUCTIONS FROM ME A B SMITH USS RICHMOND BT K

This is a Class E message to Navy Radio, Charleston, S. C., carrying check "Night letter."

(11) WSA DE NIRV NR 12 USS CONCORD CK 10 ANSTORP 27 1725 BT REGISTRAR BLANK COLLEGE SANFRANCISCOCALIF BT THIRTY MAY NINETEEN FORTY BT ENSIGN BLACK AR NIRV K

This is an answer to Class D message received on board carrying indication "RP $2.90." See example of original message carrying this indication on Sample Form N. NCS 234 (example (4)).

(12) A-NACT 281915 NAM GR 13 BT
MSG CK 10 DAVIS FOURTEENTWELVE RUEALGERIQUE PARISFRANCE ARRIVE PARIS SECOND JOHN USS ARKANSAS BT K

This is a Class E message sent to Navy Radio, Norfolk, and refiled at radio count.

288. (*b*) Example of completed Form N. NCS 234:

Sheet No.----------

[All commercial messages received on board ship or relayed should be entered on this form]

U. S. NAVAL COMMUNICATION SERVICE

Abstract of all commercial messages received and delivered on board or relayed by the U. S. S. "Blank" during the month of July 1943. Forwarded August 1, 1943.

JOHN GREEN, *U. S. N.,*
Communication Officer or
Navy Mail Clerk

Forwarded approved:
JOHN DOE, *Commander U. S. Navy,*
Commanding.

Srs. No. (1)	Day of month received (2)	Office of origin (3)	Addressee (4)	Destination (5)	Radio station received from (6)	Radio station sent to (7)	Name of coastal station routed via (8)	To be used by supt. (9)	Number of words (10)	This ship receiving charge (11)	Amount R. P. (12)	Charges due naval radio service from— Navy (13)	Marconi Shore (14)	Marconi Ship (15)	R. C. A. (16)	Belgium (17)	(18)	Remarks (19)
1	8	New York	Smith	USS *Blank*	WSA				10	$0.80					$0.80			(1)
2	10	London	Jones	USS *Blank*	OST				11	.88						$0.88		(2)
3	13	SS *San Lorenzo*	Brown	USS *Blank*	WFCE				12	.96					.96			(3)
4	18	San Francisco	Black (RP $2.90)	USS *Blank*	WSA				10	.80	$2.90				3.70			(4)
5G	20	Messina		USS *Blank*	ICF				9G									(5)
		Totals								3.44	2.90				5.46	.88		
		Brought forward from sheet No.																
		Grand totals																

EXAMPLES	EXPLANATION
(1) NABC DE WSA NR 2 NEWYORK CK 10 8 1015 BT SMITH USS BLANK NEWLONDONRADIO BT WILL MEET YOU NEWPORT FRIDAY BT MOTHER ARWSA K	This message was received from WSA (New London, Conn.), which is controlled by the R. C. A.; therefore enter a credit of 8 cents per word to "This ship receiving charge" (column 11) and a debit to the R. C. A. in any column so headed.
(2) NABC DE OST NR 1 LONDON CK 11 10 1845 BT JONES USS BLANK OSTENDRADIO BT YOUR LETTER TWENTYSECOND HAS BEEN RECEIVED BT WILLIAM AR OST K	This message was received from station OST (Ostend, Belgium), and a credit of 8 cents per word is entered under column headed "This ship receiving charge" (column 11) and a debit made against Belgium entered in any column so headed.
(3) NABC DE WFCE NR 2 SS SANLORENZO CK 12 13 1900 BT BROWN USS BLANK BT WHEN MAY I EXPECT REPLY MY LETTER TENTH BT JONES AR WFCE K	This message was received from a commercial ship, controlled by the R. C. A. Enter a credit of 8 cents per word under the column headed "This ship receiving charge" (column 11) and a debit made against the R. C. A. in any column so headed.
(4) NABC DE WSA NR 1 SANFRANCISCO CK 10 RP $2.90 18 1100 BT RP $2.90 ENSIGN BLACK USS BLANK NEWLONDONRADIO BT ADVISE DATE APPOINTMENT BT REGISTRAR AR WSA K	In this case there is an R. P. indication of $2.90 which will be passed to this service as a credit, together with the amount of ship receiving charge, which is 80 cents (8 cents per word), making a total of $3.70. A credit entry of 80 cents is made under column 11, "This ship receiving charge," and credit of R. P. indication $2.90 is made under column 12, "Amount R. P." Inasmuch as this message was received from a commercial station controlled by the R. C. A., a debit of $3.70 will be made against that company under any column so headed.
(5) NABC DE ICF NR 2 MESSINA CK 9 USGOVT 20 1235 BT USS BLANK MESSINARADIO BT PRATIQUE HAS BEEN GRANTED BT AMERICAN CONSUL AR ICF K	This message received from station ICF (Italian). Message being prefixed GOVT this service will not claim ship receiving charges. Abstract as a matter of record, leaving entries blank.

NOTE.—Relayed messages are not charged for by Naval Communication Service; hence, relayed messages should have entries only in columns 1 to 8 inclusive, and column 10. Place letter R after SRS number on relays.

INSTRUCTIONS.—To be in duplicate, original to be forwarded to the office of the Director, Naval Communications, Washington, D. C., on the second day of each month for the preceding month, duplicate to be placed in the ship's files. Ship's file copy should be corrected upon receipt of notice of errors from the Director, Naval Communications.

For list of abbreviations and instructions for their use, see Section F.

289. Local charge accounts.—In localities where it is advisable to accept local business at naval shore stations from persons, firms, or corporations on a monthly charge account, authority for such accounts shall be requested from the district commandant.

290. Fleet transmitting and receiving ship (radio guardship).—(*a*) When one ship is designated to receive all Class D traffic for the fleet and such traffic is delivered by boat or otherwise to the ship of destination, such ship of destination shall be credited with the tolls due it. The ship acting in the capacity of radio guardship for this traffic shall treat same as a relay and take no money credit whatever when abstracting same. Copies of messages relayed by the guardship, however, are not required to be forwarded with the guardship's abstracts. Such traffic shall be delivered to the radio station of the ship of destination and from there to the mail clerk or person authorized to act for him for record and delivery. Both the relaying ship and ship of destination shall show under the "Remarks" column of the abstract, data as to method employed in effecting delivery, for reference in case of complaints. *In the case of any ship acting in an emergency as a land station,* such ship shall receive credit for traffic received by it for delivery ashore by messenger or means other than radio.

(*b*) When a radiotelegram is received for a nonnaval ship whose radio installation cannot be used and is delivered to such ship by boat or otherwise, such ship of destination shall receive credit for its tolls in the same manner as if the radiotelegram had been forwarded by radio. Care shall be exercised to have such delivery made to the radio station of the ship of destination.

(*c*) Radiotelegrams originating on board a ship that is not permitted to use its radio apparatus and which are forwarded to a transmitting ship by boat or otherwise shall carry the designation of the originating ship, and the tolls due for forwarding same shall be collected by the originating ship from the sender in the same manner as required for messages transmitted on such ship, the radio-transmitting ship treating same as a relay only. *If a message originates on a ship not fitted with radio,* and is delivered to a radio-transmitting ship by boat, visual signal, or otherwise, the message shall be considered as originating on the radio-transmitting ship and all necessary tolls shall be collected on the radio-transmitting ship. If the sender desires to further indicate the ship in which the sender is located, this may be done in the text of the message or after the signature, if counted and charged for.

291. Forwarding of money.—(*a*) All money collected at a naval radio station (ship or shore) shall be forwarded, accompanied by N. NCS Form 235 (in duplicate), together with abstracts and message copies, to the Chief of Naval Operations (DNC) from ships by the 2nd and from shore stations by the 10th of the following month. The total amount of tolls collected during any month shall be forwarded by means of a Navy supply officer's check, when same can be obtained, or a money order (when a Navy supply officer's check cannot be obtained) drawn on Washington, D. C. Credit for money order fee shall be shown on N. NCS Form 235; i. e., "Money-order fee ----------." Postage stamps cannot be accepted in lieu of a supply officer's check or money order.

(*b*) The attention of all persons designated to collect charges on radiotelegrams is especially directed to N. NCS Form 235 (statement of account). This statement is required by the General Accounting Office. Statement of account shall be *signed,* and *forwarded, in duplicate.* A third copy shall be retained for file at the office of preparation. "Collections for previous months" and "refunds," when occurring, are those made pursuant to notices from the Chief of Naval Operations (DNC). The total of the debit (left) side must agree with the total of the credit (right) side of the statement. The item "Remittance herewith" shall show only the actual money forwarded as per check or money order noted. If part of the collections have been made in the form of reply prepaid (RP) receipts, such

RP receipts have been accepted in payment of charges in lieu of cash, receipts so surrendered shall be attached and forwarded with the statement and message copies. In order to balance the account, a separate entry of such RP receipts shall be made on the credit side of the statement below any entries relating to refunds, entry to be as follows: "RP receipt No. —, $_____."

(*c*) Example: A message is received addressed to John Doe with the prefix "RP $3.2Ø." John Doe should be given an RP receipt for $3.2Ø. If he sends a reply within 90 days his RP receipt should be accepted and $3.2Ø applied as payment of the charges on his reply. If the charges on his reply are greater than $3.2Ø he would have to pay the difference in cash, $3.2Ø being indicated opposite the RP receipt entry and any difference in cash included with other cash collected in the item "Remittance herewith." If, on the other hand, the charges on the reply amounted to $2.4Ø only, memo to that effect should be noted on the bottom of the RP receipt forwarded with the monthly returns. In the latter case the entry on the statement opposite RP receipt would be $2.4Ø. The original sender may request the originating system for refund of the difference if made within three months of the date of issue and if the difference is at least forty cents ($Ø.4Ø). Under no circumstances shall the person handling the tolls make a refund of the difference between the RP voucher and the tolls involved in the reply.

(*d*) Especial attention is invited to the instructions on the back of Form N. NCS 235 and to *Navy Regulations*, art. 2071 (3), which prescribe the method for forwarding remittances of communication funds. The use of checks drawn on the Treasury is a protection to the Navy mail clerk or other persons handling the Naval Communication Service funds. In case of the loss of a check drawn in favor of a Government department or office, a second original can be issued without the necessity of filing a bond. If a Treasury check is drawn in favor of an individual, a bond will be required before a duplicate can be issued.

(*e*) All supply officer's checks and money orders sent to the Chief of Naval Operations (DNC) shall be made payable to order of Naval Communication Service. Money orders shall be drawn on Postmaster, Washington, D. C.

292. Refunds.—(*a*) Requests for refund of charges paid on radiotelegrams shall be addressed to the Chief of Naval Operations (DNC).

(*b*) Refunds are not in order on account of the nondelivery of a radiotelegram due to such reasons as "addressee unknown," "addressee deceased," "addressee not aboard ship," "addressee left town," and similar causes, for the reason that service has been properly performed.

(*c*) The ship or station of origin may refund charges collected on a radiotelegram direct to the sender only when the ship or station is unable to get the message in question to the next common carrier, or when a service message is received stating the inability of another common carrier to get the message through to its destination, on account of the break-down of some system, such as cable break, landline down, ship out of range, etc. Such messages shall, however, be forwarded to the Chief of Naval Operations (DNC) with an explanation on the message form showing why canceled. SRS numbers shall be assigned to such messages.

293. Mail clerk.—(*a*) The communication officer shall supervise the mail clerk in connection with communications. He should insure that the mail clerk has all instructions relating to the handling of commercial traffic, rate sheets, bulletins, and forms corrected to date, and that he understands them; that he handles such traffic in the prescribed manner, collects the proper charges; and that he submits correct reports and abstracts on time. The communication officer shall handle no money. The accounts of the mail clerk are audited by a board appointed by the commanding officer, of which the communication officer and the supply officer are members. See *Navy Regulations*, art. 2071.

(*b*) The communication office shall not accept radio messages involving charges for transmission without an appropriate notation of the mail clerk duly entered thereon—either "Paid" or "No charges involved." In addition, such messages must be duly "released."

(*c*) After transmission, two copies of each Class D message will be delivered to the Navy mail clerk, one for abstracting purposes and one for his file. See art. 202.

(*d*) Incoming commercial messages and incoming official government messages received from other than United States naval stations are handled in the same manner as United States naval messages of similar character, except that the mail clerk shall be furnished necessary copies for accounting purposes.

(*e*) Unless all incoming messages which involve charges are reported on Form N. NCS 234, the Naval Communication Service will lose the tolls therefrom which are due it, as bills against the connecting systems which have the money in hand cannot be prepared until the naval ships concerned report the messages in question.

(*f*) Owing to the many necessary details in connection with accounting for communication funds, with which a Navy mail clerk is required to be familiar, the disadvantages of a rapid turnover in his assignment are obvious.

294. Bonding of personnel designated to handle communication funds.—(*a*) As commercial traffic accepted on board a naval ship or at a naval shore station involves certain traffic charges, the person designated to handle the funds for same shall be held responsible for proper accounting.

(*b*) At shore stations this person shall preferably be the officer or radioman in charge. At ship stations this person shall be the Navy mail clerk or other person designated by the commanding officer. See *Navy Regulations*, art. 2064 and 2071.

(*c*) It is left to the discretion of the commanding officers of ships how large a sum of Naval Communication Service funds should be allowed to accumulate, except that this sum should not exceed $1ØØ. All funds above the amount designated by the commanding officer shall be deposited with the supply officer of the ship for safekeeping, to be available for withdrawal as occasion may demand.

(*d*) Due to the isolated situation of some shore radio stations, it may be desirable not to adhere to the $1ØØ limit prescribed for ship stations. This matter is left to the discretion of the commandant, who may, if he so desires, demand a bond for amounts in excess of $25Ø.

295. Additional instructions applicable to Alaska.—(*a*) Commercial traffic handled by naval radio stations in Alaska, other than that for local delivery, will be transferred to the nearest Army station for transmission to destination.

(*b*) *Domestic traffic.*—The following rates will be charged by the Naval Communication Service for domestic traffic between the points noted below (plus tolls beyond, if any):

[The rate shown in each column is in cents per word]

From—	To—			
	Kanakanak (nearest Army station)		Anchorage nearest Army station)	
	Day	Night	Day	Night
Dutch Harbor	5	4	----------	

The minimum charge is 10 times the word rate shown.

The Naval Communication Service's charge on local traffic between naval radio stations and other line radio stations in Alaska is $Ø.5Ø–5 day; $Ø. 4Ø–4 night. This charge will not apply when the Naval Communication Service receives tolls on account of through traffic.

(*c*) *Ship-to-shore traffic.*—The Navy coastal station charge in all cases is 12 cents per word, without minimum.

(*d*) The coast station receiving or transmitting radiotelegrams shall retain the coastal station charge.

(*e*) The rate of radiotelegrams between points in Alaska and between Seattle and points in Alaska, handled by the Naval Communication Service, is 5 cents per word, without minimum. When both the Navy and Army systems are involved in the transmission or delivery of a radiotelegram, the Navy shall receive the coastal station charge and the Army the 5-cent point-to-point charge.

(*f*) *Foreign cablegrams and foreign radiotelegrams.*—The rules and tariffs published in the tariff books of the commercial telegraph companies will be adhered to in handling foreign cablegrams.

(*g*) The rate on ordinary foreign cablegrams and radiotelegrams destined to points in Alaska is 25 cents per word beyond Seattle; no minimum between Seattle, Wash., and points in Alaska. When both Naval Communication Service and Signal Corps are concerned, the line first handling an ordinary foreign cablegram will receive 15 cents per word and credit the other 10 cents per word. When the Signal Corps and the Navy and a commercial company, or the Navy, the Signal Corps, the Alaska Railroad, and a commercial company are involved, the Government lines will be considered as one and the Government line first handling the cablegram will receive the Government's proportion of the tolls and the commercial line will receive its proportion of the tolls, either 10 or 15 cents per word, as the case may be. The rate on foreign radiotelegrams or foreign cablegrams to or from ships will be 25 cents per word between Seattle, Wash., and the ship as follows: 5 cents, cable, landline, or radio point-to-point charge; 12 cents, coastal station charge; 8 cents, ship charge.

296. Cable night messages (Alaska).—Cable night-letter service is available to and from all points in Alaska. The Alaska rate beyond Seattle on cable night letters is 8⅓ cents per word, with a mininum charge of $2.09. When other lines in Alaska participate, 4⅓ cents per word, with a minimum charge of $1.09, will accrue to such other lines and 4 cents per word, with a minimum charge of $1.00, to this system. The rules prescribed in the Western Union tariff books pertaining to cable night-letter service will apply. Cable night letters must be in plain language of the country of origin or destination. Cable count will apply. The prefix NL will be written immediately before the address and will be counted and charged for as one word.

Section C. CLASS E TRAFFIC (INCLUDING COMMERCIAL)

300. GENERAL

301. Class E messages.—Class E messages are unofficial personal messages. They may be sent to or from any person in the naval service and may be handled free of charge over that part of the circuit which is under control of the Navy. Where charges are involved, these charges must be prepaid.

302. Acceptance of traffic.—Subject to the rules set forth in article 2210, the Chief of Naval Operations, commandants of naval districts, senior naval authority at outlying activities at which there is a naval radio station, and all naval ships are authorized to accept Class E messages, which shall be handled in accordance with the instructions set forth in the following articles.

310. COMPONENT PARTS OF MESSAGE IN NAVAL FORM

311. Heading.—Class E messages which involve tolls shall be handled over naval circuits in naval (plaindress) form. The form for handling messages not involving tolls is set forth in article 2215. See Plate 2–III.

312. Text.—The text shall be transmitted as follows:

(*a*) The Class E message indicator MSG shall be transmitted as the first word in the text of all messages.

(*b*) The commercial check CK---- shall be transmitted after the MSG indicator.

(*c*) The domestic service indicator such as NL, DL etc., if used, shall be transmitted after the CK----. Special care must be exercised with regard to this indicator, as the omission of such will require increased charges from the originator, since the absence of such indicates that the message is a full rate telegram.

(*d*) The address, actual text, and signature to which is added the station or ship of origin is then transmitted. The use of X to separate the address from the text or the text from the signature is optional. However, if used in messages involving tolls, the X must not be included in the commercial check and must be removed when the message is refiled with a commercial system.

313. Message ending.—The date-time group which normally follows the $\overline{\text{BT}}$ after the text in this form may be omitted. This is to preclude its being transmitted to the commercial system and thus being charged for.

320. INSTRUCTIONS FOR HANDLING

321. Messages that do not involve tolls.—The following types of Class E messages are handled free of charge either direct, or via other naval ships, or via any naval radio station unless otherwise indicated:

(*a*) NAVAL SHIP TO ANOTHER SHIP.

(*b*) NAVAL SHIP TO SHORE, ADDRESSED TO A PERSON AT A NAVAL STATION AT WHICH THERE IS A NAVAL RADIO STATION. (No relay permitted via circuits within the continental United States unless the radio station of destination is outside the continental United States.)

(*c*) SHORE TO SHIP.

(*d*) SHORE TO STATIONS OUTSIDE CONTINENTAL UNITED STATES ADDRESSED TO A PERSON AT A NAVAL STATION AT WHICH THERE IS A NAVAL RADIO STATION. Messages to persons on Army or other Government department stations in local communication with these radio stations may be accepted under the same conditions.

322. Messages involving tolls.—(*a*) Class E messages which require forwarding via commercial systems may be sent only to the following naval stations for refiling:

(1) Within the continental United States:

Boston.	Washington.	Key West.	Puget Sound.
New London.	Norfolk.	San Diego.	Astoria.
New York.	Charleston.	New Orleans.	San Francisco.

(2) Outside the continental United States:

Balboa.	Honolulu.	Dutch Harbor.	Sitka.
San Juan.	Guantanamo.	Tutuila.	Kodiak.

(*b*) The following types of messages involve tolls and may be sent only to one of the stations listed above, either direct, or via other naval ships, or via the stations listed above, unless otherwise indicated.

(1) *Naval ship to shore, addressed to a person within the United States, Canada, or Mexico, and not at a naval station.*—May be sent, either direct or via other naval ships, or via naval radio stations outside the continental United States only. In the latter case, message must be action addressed to naval radio station, San Francisco, San Diego, or Washington, depending upon which is the appropriate refiling point. Charges at domestic telegram rates are made from the naval radio station refiling to destination. See Plate 2–III.

(2) *Naval ship or shore to shore addressed to a person outside the continental United States, Canada, or Mexico, and not at a naval station.*—May be sent, either direct, or via other naval ships or via naval radio stations outside the continental United States only. Messages addressed to a person in Panama (via Balboa), Puerto Rico (via San Juan), or Hawaiian Islands (via Honolulu) are charged at prevailing commercial rates from the naval radio station refiling to destination. In all other cases, charges are made at commercial radiotelegram or cablegram rates, depending upon the system used, from the naval radio station refiling to destination. See Plate 2–III.

(3) *Naval ship to merchant ship, not in direct communication.*—May be sent, either direct, or via other naval ships or via naval radio stations outside the continental United States only. Charges at commercial radiotelegram rates are made from the naval radio station refiling to destination. The commercial station via which the radiotelegram is to be refiled for delivery to the merchant ship must be stated in the address together with the indicator RADIO. Naval ship to merchant ship direct or by relay via naval ship or by commercial shore station can only be sent as a Class D message. See Plate 2–III.

(4) *Shore outside the continental United States to shore within United States, Canada, or Mexico.*—Messages from radio stations in the Atlantic area must be action addressed to Naval Radio Station Washington, and those from the Pacific area action addressed to Naval Radio Stations San Francisco or San Diego for refiling as domestic telegram to destination. In no case shall such messages be relayed by naval circuits within the continental United States.

323. Delivery.—Personal messages should not be condensed or altered in transit without authority of the originator, and once accepted must, if practicable, be forwarded and delivered. If delivery is not effected, or if the message is rejected, the office of origin shall be advised. See article 237.

330. CHARGES

331. Refiling address.—In no case shall the addressee indicated in the heading of a message which requires refiling with a commercial system be changed without notifying the originator as the charges collected from the sender are computed from this point to destination.

332. Rates.—(*a*) The Naval Communication Service does not publish a rate sheet covering forwarding charges on Class E traffic. In lieu thereof, consult article 270 and the *Western Union Tariff Book and Rate Sheets*, which are issued by the Chief of Naval Operations (DNC) to most naval ships and shore stations.

(*b*) The rates for the Canal Zone may be obtained by inquiry addressed to the Panama National Telegraph Co., Panama City, R. P., and those for the Hawaiian Islands by consulting the rate sheets which are furnished by the Mutual Telephone Co., Honolulu, T. H. In the event that charges cannot be determined on board, the appropriate operating signal may be used preceding GR to request charges from the naval shore station. The ship shall collect the correct charge. The shore station shall be assumed to be correct in the determination of the correct charge.

PLATE 2-III.—EXAMPLES OF CLASS E MESSAGES

Heading	Text	Ending	Ex. No.
F7T V NITR – T – A – NITR 231615 NISQ GR 9 BT	MSG LT SMITH CANNOT ARRANGE DINNER PARTY ENS JONES BT	K	1
NPL V F5L – A – NADV 131756 DOVE GR 12 BT	MSG COMDR BROWN EXPECT YOU TO DINE ON BOARD THIS EVENING DAVIS BT	K	2
NPM V NSS NR 742 – D – T – A – NSS 1Ø1715 NEMW GR 18 BT	MSG CHICAGO ILL TENTH 1Ø45 JOHN NOLAN S2C FATHER OPERATED ON TODAY DOING WELL KEEP YOU INFORMED BILL BT	K	3
NAU V NSS NR 165 – D – A – NAH Ø3Ø94Ø KONA GR 11 BT	MSG WHITE RM1C WILL ARRIVE SANJUAN MONDAY FOURTEEN OCTOBER LOVE MARY BT	K	4
NSS V NBA NR 72 – D – A – MATE Ø1123Ø STAR GR 14 BT	MSG A W RUSSELL CY CAN SELL CAR FOR FIVE HUNDRED ADVISE IMMEDIATELY BUTCH BT	K	5
NPL V NADV – D – Ø118ØØ GR 22 BT	MSG CK 7 MRS W W GRAHAM 1ØØ1 FLORA AVE LONGBEACH CALIF ARRIVING ABOUT ELEVENTH ADVISE MAILING ADDRESS LOVE BILL USS TEXAS BT	K	6
NSS V A6Ø – D – A – NBAS Ø51415 NSS GR 17 BT	MSG CK 14 JOHN GREEN 12 RALEIGH SOUTHEAST LONDONENGLAND ADVISE DATE HELENS ARRIVAL CAIRO KEYDON USS KENTUCKY BT	K	7
NPO V NISR – D – 17Ø945 GR 18 BT	MSG CK 15 JOSEPH DOMENICO 135 DEWEY BLVD MANILA BUY FIFTY SHARES STOCK ZEBRA IMMEDIATELY JIM USS TRENTON BT	K	8
NSS V NADT – D – A – NADV Ø116ØØ NSS GR 19 BT	MSG CK 15 RCA MARY K JONES SS NORMANDIE NEWYORKRADIO WHAT WILL BE YOUR FORWARDING ADDRESS RICHARD USS TEXAS BT	K	9
NSS V NAU NR 675 – D – A – NAW 2813Ø5 NSS GR 17 BT	MSG CK 6 MRS ROBERT HEMINGWAY LEESBURG VIR PLEASE SHIP RADIO AND GOLF EQUIPMENT BOB NAVSTA GUANTANAMO BT	K	1Ø

Example

1. Naval ship to another naval ship, no charges involved. May be relayed via other naval ships or naval shore radio stations.
2. Naval ship to shore, addressed to a person at a naval station where there is a naval radio station. DOVE is assumed to be COM 11. No charge is made when ship is in direct communication, or when ship is in communication via other naval ships, or, in any case if the naval radio station of destination is outside the continental limits of the United States.
3. From shore to naval ship, message originated in Chicago at 1Ø45 on the tenth and had been forwarded to Naval Communications, Washington, D. C., by commercial landline. Washington forwards message to USS *Alabama* (NEMW) via naval circuits without charge.
4. From shore to stations outside the continental limits of the United States. KONA assumed to be COM 1Ø. No charges are involved while message is transmitted over naval circuits.
5. From shore station outside the continental limits of the United States to shore station within the continental limits addressed to a person at a naval station where there is a naval radio station. No charges are involved providing message does not require relay within the continental limits of the United States.
6. Naval ship to shore, in direct communication. Message is addressed to a person within the United States and not at a naval station. Charges at domestic rates are made from Radio San Diego (NPL) to destination.

Example

7. Naval ship to shore, addressed to a person outside the continental limits of the United States, Canada or Mexico. Charges at radiotelegram rates (cable count) are made from the naval radio station addressed, NSS, to destination. This is regarded as a Class E message until transferred at Washington to a commercial system for delivery to London. It then becomes a Class D message.
8. Naval ship to Naval Radio Station Cavite, addressed to a person not at naval station. May be relayed, if necessary, via naval ships and naval shore radio stations. Charges are the prevailing rates of delivery from naval radio station addressed to destination, using radio count.
9. Naval ship to merchant ship via naval radio station. May be sent as Class E only to stations listed in art. 3Ø2, either direct or via naval ships, or via naval radio stations outside the continental United States only. Charges at commercial radiotelegram rates (cable count) are made from naval station addressed to destination. The commercial radio station via which the radiotelegram is to be handled to the merchant ship must be stated in the address.

1Ø. From shore outside the continental limits of the United States to shore within the United States, addressed to a person not at naval station. Charges at domestic rates are made from station addressed, NSS, to destination. No relay via naval circuits permitted within the continental limits of the United States.

Section D. PRESS TRAFFIC (COMMERCIAL)

400. GENERAL

401. Press representatives.—(*a*) Duly accredited representatives of newspapers published in the United States, its Territories or possessions, or published by citizens of the United States in foreign countries or representatives of press associations of the United States who have been granted permission by proper authority to take passage on ships of the Navy for the purpose of reporting naval activities are authorized to file press messages on board, provided that the press associations or newspapers concerned have authorized their representatives to send in reports by this means.

(*b*) Naval personnel attached to ships and acting as correspondents of press associations, newspapers, or other periodicals under the provisions of *Navy Regulations*, article 114, may be permitted to file press messages upon producing the necessary authorization from the associations, newspapers, or periodicals which they represent.

(*c*) All other requests for permission to file press messages on board naval ships will be referred to the Chief of Naval Operations (Director of Naval Intelligence) for action.

402. Press originated on board.—The amount of press which each correspondent is permitted to file will be dependent upon the circumstances, but the commanding officer will take the necessary steps to insure equitable treatment for all, without encroaching upon the requirements of official traffic.

410. INSTRUCTIONS FOR HANDLING

411. Acceptance and relaying instructions.—(*a*) Accredited press representatives who are authorized to forward press messages from naval ships may do so either via Navy shore radio stations or via commercial shore radio stations. Any naval shore radio station will accept press dispatches from a naval ship whether or not such shore station is open to commercial radio traffic. However, in order to avoid competition with commercial communication companies, it is the policy of the Navy to forward ship-to-shore press messages via commercial shore radio stations whenever practicable.

(*b*) In the case of press messages forwarded from naval ships via *commercial* (domestic or foreign) shore radio stations, such messages shall be checked "Paid," as the forwarding of "Collect" radio traffic through *commercial* radio stations is prohibited. The collection of all charges on such messages will be made by the Chief of Naval Operations (DNC).

(*c*) In the case of press messages forwarded "Collect" from naval ships via naval shore radio stations, such messages will be checked "Collect." In all such cases, the Navy's proportion of the tolls, both ship and shore, will be billed by the Chief of Naval Operations (DNC) to the newspaper service concerned and landline tolls only will be collected at the destinations.

(*d*) To facilitate accounting, it is preferable for correspondents not to pay for their messages when filed. However, should they desire to do so, payment may be accepted, the proper amount chargeable, in addition to the tolls of the Naval Communication Service, to be ascertained by means of a QSJ request to the station to which the message is to be forwarded. In case payment is actually made on a message sent via a naval shore radio station, the message will be checked as "Paid."

(*e*) *Example:*

NR 1 USS TEXAS CK 216 DPR PAID 1ø øø93ø BT
DPR EXAMINER LOS ANGELES CALIF BT - - - -
ETC - - - - (for abstracting see art. 285)

(*f*) Press messages received by a naval radio station within the continental limits of the United States from a naval ship must be given to a commercial landline company for transmission to destination.

412. Queries and orders.—(*a*) The leading landline companies in the United States accept at press rates over their lines queries and orders between newspapers or news associations and their regular authorized correspondents under rules, in substance, as follows:

(1) A *query* is a message in plain language (not in code or cipher) sent by a correspondent to a newspaper or press association, containing a brief description of item(s) of news and specifying the number of words offered to be sent, and nothing further. By a newspaper correspondent is meant a person or press association whose regular business is to transmit news matter to newspaper or press associations for publication.

(2) An *order* is a message from a newspaper or press association to a correspondent accepting or rejecting matter offered in a query, or containing a brief description of an item or items of news to be transmitted by the correspondent to the newspaper or press association and specifying the number of words to be sent.

(3) Messages offering news or articles for sale, or quoting a price for news or articles, or accepting an offer of news or articles offered at a stipulated price, or specifying a price at which news or newspaper articles will be submitted, shall be paid for at commercial rates. These are neither queries nor orders.

(4) Queries and orders, as defined above, shall be charged for at press rates.

(5) No query or order shall be rated as containing less than 10 words.

(6) The check of queries and orders, as well as of special dispatches, shall always be transmitted and contain the designation DPR (indicating "day press rate"), so as to prevent confusion in checks between sending and receiving offices.

(*b*) Where the entire transmission is over lines positively known to handle query and order service at press rates, either by reason of a definite contract or published rules, the Naval Communication Service may accept and transmit such messages at press rates. The following lines connecting with the Naval Communication Service handle query and order service at day press rates:

(1) Western Union Telegraph Co.
(2) Alaska Communication System.
(3) RCA Communications, Inc.
(4) Mackay Radio & Telegraph Co.

420. CHARGES

421. Press rates.—(*a*) Messages enjoying press rates via radio and landlines may be forwarded to points in the United States if accepted in accordance with the rules of the landline companies as set forth in their respective tariff books, but it shall be noted that press rates on radiotelegrams are computed at the day press rate regardless of the time of handling. Such tariff shall be checked DPR (day press rate) to avoid any contention about the rate. DPR shall follow the check and shall also be the first word in the address. In the address it is counted (and charged for) when determining the check. The data relative to the time of filing shown in the tariff books shall be disregarded. In the case of persons filing such messages in which the collection of charges is not to be made by the Chief

of Naval Operations (DNC), a service message shall be sent to the coastal station through which it is intended to forward such dispatches, requesting the rate to the point to which the press dispatch is addressed.

(*b*) The cable system of counting shall apply, and such traffic shall be treated in all other respects as a radiotelegram. In case of press dispatches from a ship, a charge of 1 cent per word is made for the transmission from the ship and a charge of 2 cents per word for the handling by the naval shore station which first received the message. These charges are in addition to the regular point-to-point charges (if any) referred to below.

(*c*) The press rates charged by the landline companies for day press messages are one-third of what the tolls would be on the same message at full commercial day rates, at commercial (cable or domestic) count.

(*d*) Press messages addressed by a newspaper or press agency to a press correspondent on board a ship enjoy press rates. In addition to the regular landline tolls or point-to-point rates referred to below, the shore station rate of 2 cents per word and the ship rate of 1 cent per word is charged for handling on board ship.

(*e*) Rates have been established and are published from time to time in circular letters covering point-to-point press transmission between certain designated shore naval radio stations.

Press Rates Via Alaskan Stations (over lines of Naval Communication Service)

From—	Kanakanak (nearest Army station)	Anchorage (nearest Army station)	Minimum cost per message *Cents*
Dutch Harbor to	½ cent per word		25 plus tolls beyond.

422. Abstracting.—(*a*) Press messages are given regular SRS numbers, with the capital letter P after the number—for example, SRS 116P.

(*b*) Ship and shore stations handling this class of traffic shall submit separate reports monthly on Form N. NCS 233 (ship) and Form N. NCS 200 (shore stations), marking such reports "press," accompanied by message copies showing complete transmitting data.

(*c*) Particular care must be used in abstracting press messages. Enter in the "Remarks" column of Form N. NCS 233 the name of the press association or newspaper to which tolls are chargeable, or, if payment was made at time of filing, enter the amount of such payment in the "Cash" column. Similar entries should be made by a shore station reporting such traffic handled by heading a column with the name of the association or newspaper to whom debit is made. The routing of the message, whether by a naval or commercial shore radio station, must be shown and the message copy must show whether forwarded with check "Collect" or "Paid."

(*d*) The same entries shall be entered in full on Form N. NCS 234 as are made for a commercial message with a ship rate of 1 cent per word.

(*e*) Remittances to cover cash received for such traffic will be forwarded with abstracts, accompanied by Form N. NCS 235, in accordance with the instructions contained in article 291.

Section E. CLASS A AND B TRAFFIC (GOVERNMENT)

500. GENERAL

501. Class A and B messages.—A Government message (domestic, cable, or radio) is a message sent by a duly authorized Government official, as well as the reply to such messages when requested in original message, the subject matter of which is in furtherance of strictly public business, and on which the tolls are payable from Government funds at Government rates when such rates are allowed by commercial carriers, or at commercial rates when Government rates are not allowed by such carriers. The Naval Communication Service makes no charges on any messages on official business of the United States.

502. Government collect and paid messages.—(*a*) Radiotelegrams originated by government officials shall not be accepted or forwarded with charges "Collect," but shall be handled as if they were "Paid" messages. When such messages are forwarded via a commercial station (ship or shore), charges thereon will be handled as designated in article 531 in case of ship stations and article 532 in case of shore stations. Other line charges, if any, shall be reported on the monthly abstract by the naval radio station transferring such messages to other systems, and the Chief of Naval Operations (DNC) will render bills and collect these charges from the departments concerned.

(*b*) As Government radiotelegrams originating at a radio station (ship or shore) of the Navy carry no charges until transferred to another system, they shall be reported only by the radio station (ship or shore) that transfers them to another system. In the case of traffic originating in a ship and relayed via another naval ship to reach a commercial shore station, the ship of origin only will submit such report.

(*c*) In the case of an official Government message (which requires or requests a reply) being sent by a naval office to a civilian or commercial establishment located at a point where there is no naval communication office—the reply may be a GOVT NAVY COLLECT message, sent at no expense to the sender. If, however, such a civil sender should originate a message addressed to a naval office (which had not requested or required such a message) the entire cost thereof at full commercial rates must be borne by the civil sender, and such a message cannot be sent as a GOVT NAVY COLLECT message.

(*d*) Under certain conditions naval personnel are authorized to file domestic telegrams collect. This authorization will be limited to persons traveling where naval communication facilities cannot be readily utilized, or to aviators engaged in cross country flights. Persons authorized to avail themselves of this privilege will be required by the telegraph office to identify themselves properly. Navy identification cards or travel orders are usually required. Collect messages may be addressed ONLY to a naval activity and must be sent GOVT NAVY COLLECT. The privilege of filing collect domestic telegrams is to be exercised in emergencies only and is not to be used customarily in lieu of filing domestic telegrams prepaid for which reimbursement can be made.

(*e*) In order that the station reporting the transfer to another system may know the proper department of the Government chargeable with "other line tolls," the station of origin shall indicate the account chargeable by one of the special abbreviations. See Sec. F, Appendix III, for list of special abbreviations. For example, a message of the Department of Justice carries GOVT JUS as the first two words of the address.

503. Filing of traffic.—Naval communication officers will, unless sender specifies the class, determine the class of service to be used and will forward messages filed with them

by the cheapest method consistent with the proper precedence and satisfactory service if they have to be sent over commercial lines.

(*a*) Messages originating at points in the United States other than Washington, D. C., may be filed with a local naval communication office or with a landline or cable company. Although there are certain apparent disadvantages connected with the filing and receipt of dispatches by telephone, this method may be used where local conditions permit. In all cases of telephonic reception and delivery, however, all dispatches should be carefully checked by repetition.

(*b*) As an example of this class of message, a Government message originating in Albany, N. Y., and destined to Belize, British Honduras, would be filed as a domestic telegram with a commercial company at Albany, addressed "Govt Naval Communications, New York City" with the words "For (Government agent) Belize, British Honduras," as the first part of the text. Charges would be paid by the originating office from Albany to New York City. The naval communication office, New York, would put the message in the naval communication system at this point and it would go free of charge from there to Balboa, Canal Zone. At Balboa it would be transferred to the Tropical Radio Telegraph Co. for transmission to their station at Belize for delivery. The Naval Communication Service would pay the Tropical Radio Telegraph Co. the tolls due on this message and then collect the charges involved from the department of the Government which originated the message. An answer from the Govermnent agent at Belize could similarly be sent to the Government office of origin at Albany, N. Y., via naval radio station at Balboa. See (*d*) below.

(*c*) Complaints are sometimes received from the various branches of the Government service relative to the filing of messages by persons who are unauthorized. Any person filing a Government dispatch shall be required to furnish full identification and also particulars of the office to which the bills are to be presented for payment in case any charges arise for transmission over commercial lines.

(*d*) For messages originating outside the continental United States, it is impossible to promulgate definite rules for the transmission of Government messages from foreign countries or overseas possessions in order to effect a maximum saving. When a United States Government department has a representative in the vicinity of an overseas United States naval radio station or a foreign radio station in regular communication with a United States naval radio station, a considerable saving of funds can sometimes be effected. *Tolls from the point of origin to the United States naval communication representative who refiles the message* must be prepaid. See example in (*b*) above.

(*e*) The Naval Communication Service is also available for handling official Government traffic between certain points within the United States continental limits. Traffic *from* field offices of Government departments to naval communication offices must be prepaid. Traffic *for such* field offices not in communication with a naval communication office by a Government circuit will be handled by the Naval Communication Service or other Government station (i. e. Army, Coast Guard, etc.) to the nearest naval communication office and at this point put on the commercial landline to destination. The Naval Communication Service will pay the charges incurred on such messages and bill the departments concerned therefor.

(*f*) Whenever possible, Government radiotelegrams from naval ships shall be sent via naval radio stations.

(*g*) Telegrams sent to enlisted men or officers on leave regarding extensions of leave or other official matters are considered Government business and will be sent at Government expense. The text of such telegrams shall indicate the port in which the ship will be when the leave expires (in peacetime only).

(*h*) The American Red Cross is not entitled to free service over Government circuits or to Government rates over commercial lines. However, if a Red Cross message concerns

personnel of the Army, Navy, Marine Corps, or Coast Guard, the district commandant or senior officer present at the place where the message is filed may forward it to destination, provided there is some naval activity at destination to make delivery and that it does not involve forwarding over commercial lines. Such a message, including address and signature, will be incorporated in the text of a Class A naval dispatch in which the naval origin in the heading will be the commandant or other officer with whom the message is filed and the naval address will be the naval activity that is to make delivery at destination.

(*i*) When emergencies or disasters occur involving relief work by the Red Cross, the district commandant or senior officer in the area affected may forward Red Cross messages over naval circuits whether in the interest of Army-Navy-Marine Corps-Coast Guard personnel or not, provided such messages will not involve other line charges and are handled as directed in (*h*) above. If other line charges would be involved, instructions shall first be requested from the Chief of Naval Operations.

510. INSTRUCTIONS FOR MESSAGES HANDLED IN COMMERCIAL FORM

511. Form for handling.—Articles 2202 and 2204 set forth the rules governing the form to be used in handling Class A and B messages. Examples of Class A and B messages are indicated in Plate 3–III.

512. Supplementary instructions.—The following instructions supplement those for handling traffic in commercial form and apply to Government traffic only.

(*a*) When a message is sent on official business of the United States (Navy or other department, independent office, etc.) through a station (Government or private), it shall be designated "Govt," the special indicator "Govt" appearing in the check and also as the first word in the address, except Weather Bureau messages addressed to "Observer," which shall not carry the indicator "Govt" in the address, but only following the check. The designation "Govt" should, however, be made "US Govt" in the check and address in messages sent to or via foreign radio stations.

(*b*) When it is necessary to embody the complete naval message in the text of a message in commercial form, the procedure signs may be drafted as follows:

Prosign		*Prosign*	
A	**Originator.**	**O**	**Urgent.**
AA	**All after.**	**OP**	**Operational Priority.**
AB	**All before.**	**P**	**Priority.**
$\overline{BT}$	**Break.**	**R**	**Received or Routine.**
C	**Correct.**	**SOS**	**Distress.**
D	**Deferred.**	**T**	**Transmit.**
GR	**Group.**	**V**	**From.**
II	**Space.**	**W**	**Info.**
J	**Verify.**	**WA**	**Word after.**
N	**Exempt.**	**$\overline{XE}$**	**Slant.**

(*c*) Where call signs in the naval heading of messages consist of pronounceable 4-letter groups, they should be transmitted as such groups. Those call signs not pronounceable should be spelled out by the names of the letters comprising the call signs. For example, call sign NIDF becomes NAN ITEM DOG FOX. See art. 6403.

(*d*) Messages in international form handled on naval circuits will use radio (or cable) count. The domestic count will only be used when messages are forwarded to the domestic company for delivery to points in the United States, Canada, or Mexico.

(*e*) Since naval messages in international form acquire a new point of origin when refiled with domestic commercial system, the original point of origin shall be added to the signature by the station refiling. This is considered a part of the signature and is not charged for.

(*f*) It frequently happens that messages by cable may be transmitted direct to Washington, D. C. (or other point in continental United States), at a lower rate than if they are transmitted by cable to a naval radio station at a point outside the continental United States, and thence by naval radio to Washington. This is due, in general, to the fact that cable companies will not allow Government rates except on messages directly to and from the United States. Information as to rates should be ascertained from local cable offices.

520. HANDLING INSTRUCTIONS

521. Transferring messages to commercial systems.—(*a*) All Government (including Navy) radiotelegrams, except priority dispatches, which have a destination that can be reached by Navy radio direct (or by relaying by naval radio) shall nevertheless (if practicable) be put on landline to destination by a Navy radio station receiving them which cannot forward same by Navy radio within 3 hours. Under the above circumstances priority dispatches shall be placed on the landline if unable to forward within 15 minutes. It is not the intention to authorize a long delay on a message at each Navy radio relaying station. Due regard must be given to the necessity for rapid communication in deciding when to forward a message by landline. The officer in charge must take into consideration the character of each message and the length of time which has elapsed since it was filed at the originating office.

(*b*) All Government (including Navy) messages destined to inland points within the continental United States shall be transferred to the landlines (domestic count) when they cannot be delivered by a naval radio station. When landline charges are the same from the first station receiving such messages as from the last station requiring delivery to be made by other systems, the first station handling will make transfer to the landline.

(*c*) Naval radio stations outside the United States continental limits shall, if possible, send official Government radiotelegrams destined to points within the continental United States, direct (or by relaying) to a naval radio station situated within the continental United States.

(*d*) All Government radiotelegrams destined to points outside the United States continental limits shall, if possible, be sent (direct or relayed) by Navy radio to that naval radio station from which the rates to point of destination are cheapest. This last station shall transfer the message to the forwarding line.

(*e*) Naval coastal stations shall, for the purpose of handling messages, and accounts relating thereto, consider the local telegraph office the same as a ship or radio station.

522. Instructions applicable to Alaska and Panama.—(*a*) Naval radio stations in Alaska are not permitted to handle traffic for other Government departments except to pass it to the nearest Army station.

(*b*) Government (Navy) messages are handled in accordance with the usual Navy procedure.

(*c*) Other Government department messages in Alaska are transferred with domestic count, unless otherwise directed by office of origin. As stated in (*a*) above, such messages must be transferred to the nearest Army station for transmission to destination.

(*d*) In view of the agreement existing between the Republic of Panama and the United States in regard to radio, the Naval Communication Service does not make any charge for its proportion of service in handling official dispatches of the Panama Government.

530. CHARGES

531. Abstracting—Ships.—(*a*) When *Government radiotelegrams* are forwarded *from naval ships through naval shore stations*, no report shall be made by ships, as all charges are collected by the Chief of Naval Operations (DNC) from the departments concerned.

(*b*) Ships shall make report on Form N. NCS 233 of all Government (including Navy) messages transmitted to a radio station (ship or shore) *of another system.* These messages shall be given regular SRS numbers followed by the capital letter G, and two copies of such messages forwarded to the Chief of Naval Operations (DNC). For abstracting see art. 288 (*a*) (6).

(*c*) The shore transmission includes the commercial shore station charges at full rates plus forwarding charges computed at Government rates over landlines. If transmission is to a ship other than a Government ship, the full charges of the ship of destination plus any relaying charges shall be paid.

(*d*) Government radiotelegrams received on board ships from naval radio stations (ship or shore) shall not be reported.

(*e*) Government (including Navy) radiotelegrams received on board ship from another system shall be reported on Form N. NCS 234 and two copies of messages forwarded to the Chief of Naval Operations (DNC). No receiving charges shall be entered on the abstracts. For abstracting see art. 285.

(*f*) The method of accounting for tolls involved on a radio direction finder bearing obtained from a foreign radio direction finder station is shown in article 288 (*b*) (5).

532. Abstracting—Shore stations.—(*a*) Reports of Government messages transferred to forwarding lines shall be made independently of regular commercial messages and shall be shown on a separate form (N. NCS 200) and marked "Government." See art. 533 (*k*).

(*b*) Copies of all Government messages in duplicate, original and carbon, shall be mailed with the abstracts to the Chief of Naval Operations (DNC) by the 10th of the month following the month during which the traffic occurred. A separate series of SRS numbers shall be maintained for Government traffic, a new series being used for every 1Ø,ØØØ messages. Carefully typed copies shall be retained in the station's files, which shall be complete, showing all items in preamble as well as remainder of the message.

(*c*) Government (including Navy) radiotelegrams forwarded to other than Government ships by naval shore stations shall be reported by such stations on Form N. NCS 200. The Government department or landline concerned shall be held accountable for the ship's charges and the company or government (in the case of foreign ships) operating the radio installation of the ship of destination shall be credited with these charges. See art. 533 (*l*).

(*d*) Government (including Navy) radiotelegrams filed locally and destined to other than Government ships shall be reported on Form N. NCS 200 and all other line charges collected from the sender. See art. 533 (*l*).

(*e*) Government radiotelegrams from ships transferred to forwarding lines shall be given by the station so transferring them regular SRS numbers, with the capital letter G after same and entered on Form N. NCS 2ØØ. The forwarding lines shall be credited with the charges computed at Government rates, if any. The company (or Government in the case of foreign ships) operating the radio installation on the ship shall be debited when the message is from a merchant ship. The department concerned as indicated by the special prefix shall be debited.

533. Summary of abstracting and accounting.—*Summarizing the above*, the method of accounting, including payment or collection of charges on all kinds of Government messages involving tolls, is shown in the following table:

Government messages

From—	To—	Class traffic	Method of handling	Abstracted by—	Method of payment or collection
(*a*) Naval ship	Naval shore station	A	No "other line" tolls involved; transmission entirely via Naval Communication Service.	None	None.
(*b*) Naval shore station.	Naval ship	A–B	No "other line" tolls involved; transmission entirely via Naval Communication Service.	do	Do.
(*c*) Naval ship	Naval shore station	A	"Other line" tolls involved. Within the continental limits of the United States refiled by shore station as "GOVT domestic." Outside continental limits transferred to cable or point-to-point radio (cable count).	do	Same as (*f*).
(*d*) Naval ship	Commercial ship or shore station (foreign).	A	When transmitted direct in commercial form.	Ship origin	Supply officer ship.
(*e*) Commercial ship or shore station (foreign).	Naval ship	A	When received in commercial form	Ship receiving	D. N. C.
(*f*) Naval shore station.	Naval shore station involving transfer to "other line."	A	Traffic originating at a naval shore station, transmitted via Naval Communication Service, last shore station handling transferring "other line" to effect delivery.	None	Supply officer of district transferring O. L. From dist. allot. "Misc. Exp. Navy, Subhead 7"
(*g*) Naval shore station.	"Other line"	A	Traffic originating within a naval district, or such tra c originating in one district and handled by another district within continental limits United States.	do	Do.
(*h*) Naval ship	Naval shore station	B	No "other line" tolls involved, delivery being effected by Naval Communication Service.	do	None.
(*i*) Naval ship	do	B	"Other line" tolls involved	Shore station transferring to O. L.	D. N. C.
(*j*) Naval ship	Commercial ship or shore station (foreign).	B	Transmitted direct in commercial form.	Ship origin	Do.
(*k*) Naval shore station.	Naval shore station	B	When handled via Naval Communication Service involving transfer to "another line" for final delivery.	Shore station transferring to O. L.	Do.
(*l*) Naval shore station.	Commercial ship (United States or foreign).	A–B	Received from Naval Communication Service or landline. Transmitted direct by radio.	Shore station transmitting.	Do.

534. Payment of services.—(*a*) When billing commercial concerns for messages handled by United States naval or consular representatives, such concerns shall under no circumstances be furnished check code copies of the messages involved. The bill shall include only the date of transmission, the originator, the addressee, the toll-carrying group count and the total amount due.

(*b*) In order that the limited funds available may be sufficient for essential needs, the entire service must cooperate in reducing to a minimum the number and length of official dispatches handled by commercial systems, particularly by cable or radio.

(*c*) The detailed method of payment or collection of charges on Government messages involving tolls is shown in the table, article 533. Attention is invited to the fact that the tolls on messages which are "abstracted" are either paid or collected by the Chief of Naval Operations (DNC).

(*d*) When a Government (official Navy) radiotelegram is filed at a naval radio station, shore or ship, and forwarded through a commercial radio station, shore or ship, *all* necessary charges should be paid at point of origin to the Navy mail clerk, or other authorized person representing the Naval Communication Service. If no supply officer is on board, submit for payment to supply officer having the accounts of the ship. See art. 533 (*d*).

(*e*) All Class A traffic originating in a district, including traffic received from naval ships, which requires transfer to a commercial system to effect delivery to destination will be paid from the district allotment out of the appropriation "Miscellaneous Expenses, Navy, Subhead 7." See art. 533 (*f*) (*c*).

(*f*) Public vouchers covering payments made direct to telegraph companies for telegraph, radio, or cable messages shall be accompanied in all cases by the original of messages sent or by the carbon or tissue copy of collect messages received. By "original" of message is meant that copy from which transmission was actually made, the Navy "original" being submitted with vouchers in all cases where transmission is made at a naval communication office. When messages are transmitted by printer, the copy from which the message is actually sent and which bears the transmitting data is considered the "original." The amount paid for the transmission must be noted on each message (in United States currency). When reimbursement is made to an agent of the ship (mail clerk) for amounts expended in sending official messages, public vouchers will be substantiated by sundry expense account (S. & A. Form 326) and certified receipted copies of all telegrams sent. Each telegram shall be plainly marked "Sent at Government rates." All file copies should be exact copies of those submitted for audit.

(*g*) In the case where one naval district is put to expense in rendering service to another district or naval ship, when a Class A dispatch is received which must be transferred to a commercial system in order to deliver to destination, the expense of delivery in such a case is borne by the district effecting the transfer. See art. 533 (*c*), (*f*), and (*g*). Class B traffic is handled in accordance with article 533 (*k*).

(*h*) In order to facilitate accounting, officers, filing Government messages with commercial systems *abroad* destined to Washington, should avail themselves of the privilege (if accorded) of filing such traffic collect.

(*i*) The payment for telephone service obtained from the commercial telephone companies is covered by annual contracts, there being a standard form therefor.

(*j*) The several district commandants are allotted lump sums annually from appropriation "Miscellaneous Expenses, Navy, Subhead 7" for their particular districts, and they are held responsible for the amount of equipment in use and the local expenditures.

(*k*) No funds from the appropriation "Miscellaneous Expenses, Navy, Subhead 7" shall be used for private or personal telephone calls. In order to prevent use of telephones for personal calls involving charges, it is suggested that each page of the telephone directory shall have printed at the bottom in block type: USE PAY TELEPHONES FOR PERSONAL CALLS.

535. Cable addresses.—(*a*) When naval ships are in foreign ports, the senior officer present is responsible for registering the proper address and making local arrangements for the delivery of messages addressed to naval ships in company. See (*e*) below.

(*b*) The following specific cable addresses will be kept registered at all times by the Chief of Naval Operations:

Secretary of the Navy	SECNAV	Washington
Commander in Chief, United States Fleet	COMINCH	Washington
Chief of Naval Operations	OPNAV	Washington
Commander, Tenth Fleet (Convoy and Routing)	CONNAV	Washington

(*c*) All specific cable addresses (except those for bureaus and offices of the Navy Department) will be registered locally by the authority concerned—after approval of a request when any charge is involved.

(*d*) Dispatches for United States consular officers should be addressed "American consul (name of place)."

(*e*) United States naval communication offices of a permanent nature in foreign ports and naval ships in foreign ports for a prolonged stay will, unless already done, register the cable address, "USNAVCOM (name of place)."

(*f*) The following cable addresses are in general use:

United States Naval Attaché	ALUSNA (Name of place)	
United States Naval Observer	ALUSNOB (Name of place)	
United States Naval Liaison Officer	ALUSLO (Name of place)	
United States Sea Frontier Commanders	SEAFRON (Name of headquarters)	
Bureau of Naval Personnel	BUPERS	Washington
Bureau of Supplies and Accounts	SANDA	Washington
Bureau of Medicine and Surgery	BUMED	Washington
Bureau of Ships	BUSHIPS	Washington
Headquarters, United States Marine Corps	MARCORPS	Washington
Hydrographic Office	HYDRO	Washington

Plate 3–III.—EXAMPLES OF CLASS A AND B MESSAGES

Heading	Address	Text	Signature	Ex. No.
NPG V NADX USS PENNSYLVANIA CK 2ø NL* GOVT 15 14øø BT	GOVT NAVY JAMES JOHNSON 1227 EAST TENTH ST SANDIEGO CALIF BT	YOUR LEAVE EXPIRES ON BOARD øsøø 2ø MARCH BT	USS PENNSYLVANIA K	1
NR 157 CK 8 NL* GOVT SANFRANCISCO CALIF 93ø P MARCH 15	JAMES JOHNSON 1227 EAST TENTH ST SANDIEGO CALIF	YOUR LEAVE EXPIRES ON BOARD øsøø 2ø MARCH	USS PENNSYLVANIA	2
NPG V NSS NR 168 WASHINGTON DC CK21 GOVT ø3 172ø BT	[redacted] GOVT NAVY SUPERVISOR OF SHIPBUILDING ALAMEDA CALIF BT	ADVISE IMMEDIATELY EXPECTED DATE VESSELS WILL BE READY FOR SEA BT	BUREAU OF SHIPS K	3
NR 94 CK 1ø GOVT SANFRANCISCO CALIF 445 P APRIL 3	PRIORITY** SUPERVISOR OF SHIPBUILDING ALAMEDA CALIF	ADVISE IMMEDIATELY EXPECTED DATE VESSELS WILL BE READY FOR SEA	BUREAU OF SHIPS WASHINGTON DC	4
NAU V NSS NR 387 WASHINGTON DC CK 15 GOVT 11 1342 BT	GOVT INT ACTING GOVERNOR SANJUAN PR BT	YOUR RADIO TWENTYONE RECEIVED EQUIPMENT HAS BEEN MAILED BT	JONES K	5
NPG V NSS NR 834 –D ***–WASHINGTON DC CK 31 GOVT ø6 1215 BT	GOVT CIV JOHN DOE REGIONAL DIRECTOR TENTH CIVIL SERVICE REGION 1ø31 SOUTH BROADWAY LOSANGELES CALIF BT	REURTEL AUGUST 5 TRANSFER MAY BE AUTHORIZED IN ACCORDANCE WITH EXISTING INSTRUCTIONS BT	US CIVIL SERVICE COMMISSION K	6
NR 154 CK 12 GOVT SANFRANCISCO CALIF 215 P AUG 6	JOHN DOE REGIONAL DIRECTOR TENTH CIVIL SERVICE REGION 1ø31 SOUTH BROADWAY LOSANGELES CALIF BT	REURTEL AUGUST 5 TRANSFER MAY BE AUTHORIZED IN ACCORDANCE WITH EXISTING INSTRUCTIONS BT	US CIVIL SERVICE COMMISSION WASHINGTON DC	7
CWA DE NAGV NR 1 USS CLEVELAND CK 42 USGOVT 12 16øø BT	USGOVT USNAVCOM BALBOACZ BT	PRIORITY TRANSMIT ORIGINATOR FOX SEVEN LOVE 121535 TOPS GROUP TWENTYFIVE BREAK (TEXT) BT	(NO SIGNATURE) AR NAGV K	8
NSS V NBA NR 31 –P–T–A– F7L 121535 TOPS GR 25 BT		(TEXT) BT	121535 K	9
NR 4 CK 23 GOVT NEWYORK 91ø A MARCH 2ø	NAVAL COMMUNICATIONS WASHINGTON DC	TRANSMIT MIKE FIVE NAN ORIGINATOR ZONA 2ø1335 MIKE FIVE NAN INFO NAN EASY GEORGE TARE GROUP FOUR BREAK FOXO ABCD EFGH NUBO	NAVCOM NEWYORK	10
NSS V NAH NR 4–T– M5N –A– ZONA 2ø1335 M5N –W– NEGT GR4 BT		FOXO ABCD EFGH NUBO BT	2ø1335 K	11
UB DE NEDN NR 5 USS AYLWIN CK 14 CDE USGOVT 12 1735 BT	CDE USGOVT STATE AMERICAN MINISTER PANAMA VIA BALBOACZ	ABCDE FGHIK LMNOP QRSTU VWXYZ BT	SMITH AR NEDN K	12

NOTES

Examples

1. Simple type of Class A message in international form, to be refiled with commercial landline company as a night letter. This is indicated by domestic class-of-service designation NL in CK.
2. Same message as in 1, in domestic form, as transferred to commercial landline company by Radio San Francisco (NPG).
3. A[illegible] 3. Another Class A message in international form, to be refiled, using special war-time commercial circuit precedence (PRIORITY). [illegible]me [illegible]ss.
4. 4. Note that priority is first word of address and that Washington, D. C., is added to signature, without charge. Radio signa-
5. A Class B message originated by the Department of Interior, as indicated by the prefix INT appearing in the address, following GOVT.
6. Another Class B message originated by the Civil Service Commission, illustrating use of Navy circuit precedence, D for DEFERRED, appearing after station serial number.
7. Same message as in 6, as transferred to commercial landline company in domestic form by Radio San Francisco.
8. Naval ship transmitting a message, which embodies a message in naval form, to foreign radio station at Cerrito, Montevideo (CWA). USGOVT is used when message is handled by foreign systems.
9. Same message as in 8, showing BALBOA's (NBA) transmission by Navy radio to Washington (NSS).
10. Illustrating a naval message embodied in the text of a domestic form message.
11. Same message as in 10, transmitted in naval form.
12. Naval vessel transmitting a GOVT STATE (from a State Dept. representative on board) to a commercial shore radio station (UB), to be delivered to United States Minister to Panama via Balboa (NBA).

*Domestic class-of-service designation.
**Special wartime commercial circuit precedence.
***Navy circuit precedence.

557048—43 (Face p. 48)

Section F. ABBREVIATIONS FOR CLASS B (GOVERNMENT) TRAFFIC

600. General.—Abbreviations may be employed in the text of a message if the subject is clear and no confusion will result. Normally, however, their use is confined to the address of Class B traffic. In order that the station reporting the transfer of Government traffic to another system may know the originating and responsible authority of the Government chargeable with "other line tolls," the station of origin shall use one of the special indicators given below. This special indicator must appear as the first two words of the address in all Government traffic handled in commercial form over United States Government or commercial communications systems. Upon transfer of such traffic to any foreign system, the letters US should be added by the transferring station immediately preceding the word GOVT in the address.

601. Table of abbreviations.

Agriculture, Department of:	
Agricultural Conservation and Adjustment Administration	AAA
Agricultural Research Administration	ARA
Commodity Credit Corporation	COCO
Farm Credit Administration	FARM
Farm Security Administration	FSA
Rural Electrification Administration	REA
All other bureaus	AGR
American Red Cross	ARX
Civil Service Commission	CIV
Coast Guard	CG
Commerce, Department of:	
Census, Bureau of	CENSUS
Civil Aeronautics Administration	CAA
Inland Waterways Corporation	INWAT
National Bureau of Standards	STAN
Weather Bureau	WEA
All other bureaus	COM
Emergency Management, Office for:	
Alien Property Custodian, Office of	APC
Board of War Communications	BWC
Civilian Defense, Office of	OCD
Defense Health and Welfare Services, Office of	ODHW
Defense Transportation, Office of	ODT
Lend-Lease Administration, Office of	OLA
National War Labor Board	NWLB
Scientific Research and Development, Office of	OSRD
War Production Board	WPB
War Shipping Administration	WSA
All other offices	●EM
Employees' Compensation Commission	COMPEN
Federal Communications Commission	FCC
Federal Deposit Insurance Corporation	DEPINS
Federal Power Commission	FPC
Federal Security Agency:	
Education, Office of	EDU
Food and Drug Administration	FOOD
Public Health Service	PHS
Social Security Board	SSB
All other bureaus	SECU
Federal Trade Commission	FTC

Federal Works Agency:	
Public Buildings Administration	PBA
Public Roads Administration	PRA
Public Works Administration	PWA*
Work Projects Administration	WPA*
All other bureaus	FWA
General Accounting Office	GENACO
Government Printing Office	PRINT
House of Representatives	REP
Interior, Department of:	
Alaska Railroad	ALR
Alaska Road Commission	ARC
Bituminous Coal Division	NBCC
Division of Territories and Island Possessions	DTIP
Mines, Bureau of	MINES
Puerto Rico Reconstruction Administration	PRRA
War Resources Council	WRC
All other bureaus	INT
International Boundary Commission	IBC
Interstate Commerce Commission	ICC
Justice, Department of:	
Federal Bureau of Investigation	FBI
Immigration and Naturalization Service	INS
All other bureaus	JUS
Library of Congress	LIBCON
Maritime Commission	MAR
National Advisory Committee for Aeronautics	COMAER
National Archives	NARC
National Housing Agency:	
Federal Home Loan Bank System	HOME
Federal Housing Administration	FHA
Federal Public Housing Authority	PHA
Home Owners' Loan Corporation	HOLC
National Labor Relations Board	NLRB
National Mediation Board	NMB
Navy Department:	
Hydrographic Office	HYDRO
Marine Corps	MARCOR
All other bureaus	NAVY
Panama Canal (Transferred to PRR)	CANAL
Panama Government	PG
Panama Railroad	PRR
Post Office Department	PO
President (The White House)	EXEC
Budget, Bureau of	BUDGET
Emergency Management, Office for	OEM
National Resources Planning Board	NRPB
Railroad Retirement Board	RRB
Reconstruction Finance Corporation	RFC
Science Service	SCS
Securities and Exchange Commission	SECOM
Senate	SEN
State, Department of	STATE
Tariff Commission, United States	TAR

*NOTE.—Messages originating in other departments, incident to WPA or PWA programs, should be checked WD PWA or TRSY WPA, as appropriate.

Treasury, Department of:	
Accountant in Charge, U. S. Treasury	ACUSTA
Accounts, Bureau of	ACC
Customs, Bureau of (Bill TRSY)	CUS
Internal Revenue, Bureau of	REV
All other bureaus	TRSY
Veterans Administration	VET
War Department:**	
Citizens Military Training Camp	CMTC
National Guard Bureau	NGB
Officers' Reserve Corps	WDOR
Reserve Officers' Training Corps	ROTC
River and Harbor Board	RAH
All other bureaus	WD

**NOTE.—CCC activities in the War Department should be checked WDC.

557048°—44——45

RESTRICTED

INSTRUCTIONS FOR HANDLING MAIL

Appendix IV
to Communication Instructions
1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

(r)

557048°—44——46

RESTRICTED

AUTHORIZED ABBREVIATIONS

Appendix V
to Communication Instructions
1944

APP. V
ABBREVIATIONS

NAVY DEPARTMENT
Office of Chief of Naval Operations

(I)

557048°—44——47

APPENDIX V

AUTHORIZED ABBREVIATIONS

1. Use.—The abbreviations listed herein, those compounded in accordance with rules set forth in paragraph 3, and other commonly understood abbreviations are authorized for use in dispatches and official correspondence at the discretion of the originator.

2. Abbreviations Listed.—Abbreviations are listed as follows:

Part I—Abbreviations tabulated according to meanings:

Table 1—Basic list.

Table 2—Commands and organizations.

Table 3—Ranks, corps, and ratings.

Part II—Abbreviations listed in alphabetical order.

3. Standard Method for Forming Compound Abbreviations.—Compound abbreviations are normally made up by combining appropriate authorized abbreviations—for example, ACTSECNAV, COMCARIBSEAFRON, LANTFLT, URDIS. When no abbreviation is authorized for a component part, the full word is used—for example, COMEIGHTHFLT. Compound abbreviations should usually be pronounceable. When double letters occur, one letter is dropped. Plurals may usually be formed by adding "s." (see article 5*f*). The abbreviations for *force*, FOR, *fleet*, FLT or FLE, shall be eliminated when superfluous in compounded short titles, i. e., Commander Service Force Pacific—COMSERVPAC and Commander Submarines, Atlantic Fleet—COMSUBLANT.

4. Compound Abbreviations Not in Accordance With Standard Rules.—Some compound titles of commands and organizations authorized for use do not conform to the standard rules prescribed in paragraph 3, but are common to the naval service and shall be used in preference to other possible combinations. These short titles are listed in table 2. New abbreviations of this type may be authorized by the Chief of Naval Operations as need arises and, when authorized, will be added to this list.

5. Unlisted Abbreviations.—Certain commonly recognized abbreviations, not listed herein, may be used if no ambiguity could result.

a. The customary or assigned short title of an authorized official publication, as USF, CSP, FTP, RPM, NRPM, CRPM, CSPM, SBCM, ORD, ENG, CCPB, etc.

b. Proper abbreviations for medals, badges, or other marks of distinction whenever used with proper names.

c. Any abbreviations for battle practices or engineering trials, if authorized in the *Orders for Gunnery Exercises*, or *Manual of Engineering Instructions*.

d. Abbreviations for points of the compass.

e. Abbreviations for types of clouds and weather phenomena, as given in the deck log, and such abbreviations for various other weather phenomena as are commonly used by aerologists may be used in weather reports.

f. Symbols for types of vessels and aircraft as given in the *Standard Nomenclature and List of United States Naval vessels* and *Ships Data Book*. In some cases the plural for the symbol of one type of vessel is equivalent to the singular of another type (e. g., AKS, AGS, ARS, etc.). Where ambiguity might result therefrom, symbols shall not be used in the *plural* in the text of messages. The word "type" following the symbol may be used to indicate the plural.

g. "Flight-plan" abbreviations authorized by the Civil Aeronautics Administration for use in aircraft movement reports may be used in the text of movement reports of naval aircraft making cross-country flights over civil airways.

h. Model designations for aircraft.

i. Commonly used and well-known abbreviations for large commercial, fraternal, Government, and other organizations—for example, ATANDT, AFL, KC, VFW, FHA, REA, etc.

j. Code word abbreviations or word condensers taken from the *Standard Stock Catalog, Bureau of Supplies and Accounts Manual* (money and appropriations), or the Bureau of Personnel Condensation Code, contained herein.

6. Notes on Authorized Abbreviations.—

a. Abbreviations marked (*) may never be used singly.

b. Abbreviations marked USMC or CG are mainly applicable to the Marine Corps and Coast Guard, respectively, but this does not preclude their use by the Navy.

Part I. ABBREVIATIONS TABULATED ACCORDING TO MEANINGS

Table 1.—BASIC LIST

A	
Absent over leave	AOL
Absent without leave	AWOL
Acknowledge	ACK
*Acting	ACT*
Advise all concerned	ADCON
Addressee	ADEE
Administration(ive)	ADMIN
*Advance (d)	ADV*
Aerograph observation	APOB
Aerological officer	AEROF
*Aeronautics	AER*
*Aircraft	AIR*
Aircraft trouble report	ATR
Aircraft, types of (See also article 5 f:	
Bombing landplane	BLP
Fighting landplane	FLP
Landplane	LP
Observation amphibian plane	OAP
Observation landplane	OLP
Patrol amphibian plane	PAP
Patrol seaplane	PSP
Scouting amphibian plane	SAP
Scouting landplane	SLP
Scouting seaplane	SSP
Seaplane	SP
Torpedo landplane	TLP
Torpedo seaplane	TSP
Transport landplane	TRLP
Transport seaplane	TRSP
Utility amphibian plane	UAP
Utility landplane	ULP
Utility seaplane	USP
Airmailgram	AMGM
Airport traffic control	ATC
*Alaska	ALAS*
Alaskan Territory	ALASKA
Aleutian Islands	ALUTS
Allotment	ALOT
*Alteration	ALT*
Altitude	ALT
*American	AM*
Ammunition	AMUN
*Amphibian(ious)	PHIB*
Antemeridian	AM
Antiaircraft	AA
*Antisubmarine	AS*
*Antisubmarine warfare	ASW*
Appropriation	APPN
Appropriation purchases account	APA
*Armament	ARM*
Armed guard	ARMGRD
Armor, armament, and ammunition (See RNV)	AAA
*Armored	ARMD*
Article	ART
Artillery	ARTY
*Assistant (to)	AST*
*Atlantic	LANT*
*Attack	ATAK*
*Authority	AUTH*
*Auxiliary or auxiliary craft	AUX*
Avenue	AVE
*Aviator, aviation	AV*
B	
Bad conduct discharge	BCD
Ballistic density	BALDNY
Ballistic wind	BALWND
*Barracks	BAKS*
Barrel	BBL
Basegram	BGM
Battalion	BN
Battery	BTRY
*Battle, battleship	BAT*
Bearing	BRG
Bill of lading	BLADING
*Boiler	BOI*
*Bombing	BOM*
Brigade	BRIG
British	BRIT
Broadcast to allied merchant ships	BAMS
*Bureau (of) (See Table 2 for list of Chiefs of Bureaus.)	BU*
C	
Caliber	CAL
*Canada, Canadian	CAN*
Captain of the port (CG)	COTP
*Caribbean	CARIB*
*Carrier	CAR*
*Center, central	CEN*
Certificate of deposit	CD
Chapter	CHAP
*Chief (of) (the)	CH*
*Chief of naval air	CNA*
Chief petty officer	CPO
Chinese	SINO
Clothing and small stores account	CSSA
Clothing and small stores fund	CSSF
*Coast(al)	CO*
Coast Guard	CG
Coded weather analysis	CODAN

Table 1.—BASIC LIST—Continued

*College	COL*
*Command	COMD*
Commandant	COMDT
*Commander	COM*
*Commander in chief	CINC*
Commanding	COMDG
Commanding general	CG or COMDGEN
Commanding officer	CO
*Communication(s)	COMM*
(and) company	ANDCO
Competition	COMPET
*Composite	COMP*
Connection fitting out	CFO
Construction	CONSTR
Construction and machinery (See RNV)	CM
Construction and repair, alteration	CONALT
*Consul	CON*
Convoy and routing	CANDR
Corporation	CORP
*Corps	COR*
Corps (See Table 3)	
Course	CUS
*Cruiser	CRU*
Cryptographic	CRYPTO
*Cutter	CUT*

D

Days of the week:	
Sunday	SUN
Monday	MON
Tuesday	TUES
Wednesday	WED
Thursday	THUR
Friday	FRI
Saturday	SAT
Dead reckoning	DR
*Defense	DEF*
Degree	DEG
Department	DEPT
*Depot	DEP*
*Deputy	DEY*
Destination	DESTN
*Destroyer	DES*
*Detachment, detail	DET*
*Development	DEV*
Diesel	DIES
Direction finder	DF
*Director	DIR*
Disbursing and transportation office	DATO
Disbursing officer's voucher	DOV
Discrepancy report	DISCREP
*Dispatch	DIS*
*Dispensary	DISP*
*District	DIST*
*Division	DIV*
Dollar	DOL
Duplicate	DUPE

E

East(ern)	EAST
Echelon	ECH
Embarkation	EMB
Emergency general account of advances	EGAA
*Engineering	ENG*
Equipment	EQPT
*Escort	CORT*
Estimated time of arrival	ETA
Estimated time of departure	ETD
Estimated time en route (for use of aircraft only—indicate delayed arrival)	ETE
*Europe	EU*
Evacuation	EVAC
*Examining board	EXAM*
Exclusive	EXCL
*Expedition(ary)	EXPED*
*Experimental	EX*
*Express	EXP*

F

*Factory	FAC*
*Federal	FED*
*Ferry	FER*
*Fighting	FIGHT*
*Finance	FIN*
Fleet	FLT
*Fleet	FLE*
*Fleet air	FAIR*
*Fleet utility	FUT*
*Flight	FLY*
*Flotilla	FLOT*
*Force	FOR*
Forecast	FCST
For further transfer	FFT
Free alongside	FAS
Free on board	FOB
Freight office	FROF
French	FREN
Frequency	FREQ
*Frontier	FRON*
Fuel and transportation	FANDT
Full power trial	FPT

G

Gallon	GAL
*Garrison	GARN*
Gasoline	GAS
*General	GEN*
General court martial	GCM
General supply schedule	GSS
Government	GOVT
*Governor	GOV*
*Greenland	GRE*
Greenwich Civil Time	GCT

Table 1.—BASIC LIST—Continued

Greenwich Mean Time	GMT
Group	GR
Group commander	GRUCOM
Guantanamo Bay (Cuba)	GTMO
*Gunnery, gunboat	GUN*
HAMPTON ROADS H	HRDS
Hawaiian	HAW
Hawaii, Territory of	TH
*Headquarters	HED*
*High	HI*
High explosive	HE
Honolulu, T. H	HONO
*Hospital	HOSP*
Household effects	HHE
Hydrographic (Office)	HYDRO
I	
*Iceland	ICE*
Inclusive	INCL
Incorporated	INC
*Industry(ial)	IND*
Infantry	INF
Information	INFO
*Inspection	INSP*
*Inspector (of)	INS*
*Instruction(s)	INST*
*Intelligence	INTEL*
*Interceptor	INCEP*
*Intermediate	INTERM*
*International	INT*
Island	IS
JOINT ARMY NAVY - J --- JAN	
Japanese	JAP
Judge Advocate	JA
JOINT INTELLIGENCE CENTER JIC	
K	
Kilocycles	KC
Knots	KN
L	
*Landing	LAN*
*Landing craft and bases	LANCRAB*
Latitude	LAT
Letter	LTR
*Liaison	LAIS*
Lighter than air	LTA
Limited	LTD
*Local	LO*
Longitude	LONG
M	
Machine gun	MG
*Machinery	MACH*
*Magazine	MAG*
Mailgram	MGM
Maintenance	MAINT
*Manager	MAN*
*Marine	MAR*
Mark	MK
*Material	MAT*
MARE ISLAND - .. .. MI	
*Mechanized	MECZ*
*Medcial	MED*
Megacycles	MC
*Merchant	MER*
Message	MSG
Mexico, Mexican	MEX
Mile(s)	MI
*Military	MIL*
*Mine, minecraft	MIN*
Minute	MIN
*Mission	MIS*
*Mobile	MO*
Months of the year:	
January	JAN
February	FEB
March	MAR
April	APR
August	AUG
September	SEP
October	OCT
November	NOV
December	DEC
*Moroccan	MOR*
*Motor	MOT*
Motorboat	MB
Motor launch	ML
Motorship	MS
Motor torpedo boat	MTB
Motor whaleboat	MWB
Movement report sheet	MRS
N	
*Naval, Navy, navigation (al)	NAV*
Naval supply account	NSA
Naval working fund	NWF
*Newfoundland	NEWFO*
New Orleans, Louisiana	NOLA
New York, New York	NYK
Night	NITE
Nipponese	NIP
Noncommissioned officer (USMC)	NCO
Norfolk, Virginia	NOR
*North(ern)	NOR*
*Northwest African Waters	NAW*
Number	NR
O	
*Observation	OBS*
Observatory	OBSY
*Officer	OF*
Officer conducting the exercise	OCE
Officer in charge	OINC
Officer in tactical command	OTC
Officer messenger	OM
*Operating, operator, operation(al)	OP*
*Ordnance	ORD*
Ordnance and ordnance stores	OANDOS
Originator	ORIG

Table 1.—BASIC LIST—Continued

P	
*Pacific	PAC*
Pacific Ocean Areas	POA
*Panama	PA*
Panama Canal Zone	CZ
Paragraph	PARA
Parenthesis (punctuation)	PAREN
*Patrol	PAT*
Pay and supply (CG)	PANDS
Pay, subsistence and transportation	PSANDT
*Paymaster	PAY*
Pearl Harbor, T. H	PEARL
*Personnel	PERS*
*Petroleum	PET*
Philadelphia, Pennsylvania	PHILA
*Philippine	PHIL*
Philippine Islands	PI
Photograph(er)(ic)	PHOTO
Port director	PD
Position	POSIT
Postmaster	PM
Postmeridian	PM
*Potomac	POT*
Pound	LB
*Powder	POW*
*Preparatory	PREP*
President	PRES
Press	PX
*Primary	PRIM*
*Prison	PRI*
Prisoner at large	PAL
*Proving grounds	PROV*
Puerto Rico	PR
Pulling whaleboat	PWB
*Purchase(ing)	PUR*
*Pursuit	PURS*
Q	
*Quartermaster	QUART*
Question mark (punctuation)	QUES
REINFORCED **R**	REINF.
Radio	RDO
*Radio	RAD*
Radio direction finder	RDF
Radio material officer	RMO
Radio meteorograph sounding	RAOB
Radio wind	RAWIND
Railroad	RR
Ranks (See Table 3).	
Ratings (See Table 3).	
*Receive(ing)	REC*
Received	RECD
Receiver only	RONLY
*Recognition	RECOG*
*Reconnaissance	RECON*
Recruiting officer	CRUIT
Red Cross	CROSS
*Refer(ence)	REF*
RESCUE	RESC.
Regiment	REGT
Registered publications	RP
Registered publication unit (CG)	RPU
Regulations	REGS
*Relief	REL*
Remaining over night	ROVNITE
*Repair	REP*
Replacement	REPL
Replacement naval vessels (See AAA and CM)	RNV
Report of unsatisfactory or defective material	RUDM
Requisition	REQN
*Reserve	RES*
Reserve on board	ROB
*Resident Inspector of Naval	RINS*
Revolutions per minute	RPM
SPEEDLETTER **S**	SPDLTR
Saint (when used as part of proper name)	ST
*Salvage	SAL*
San Francisco, California	SANFRAN
Scattered	SCTD
Schedule	SKED
*School	SCOL*
*Scouting	SCO*
Second	SEC
*Secretary (of) (to the)	SEC*
*Section	SECT*
*Semaphore	SEMA*
*Senior	SEN*
*Serial	SER*
Service	SVC
*Service	SERV*
Shaft horsepower	SHP
Shipment memorandum	SM
Ships, types of (See article 5f)	
*Shore	SHO*
*Signal	SIG*
*South(ern)	SO*
Specification	SPEC
Speed	SPD
*Squadron	RON*
Starboard	STBD
States	
Alabama	ALA
Arizona	ARIZ
Arkansas	ARK
California	CALIF
Colorado	COLO
Connecticut	CONN
Delaware	DEL
District of Columbia	DC
Florida	FLO
Georgia	GA
Idaho	IDA

Table 1.—BASIC LIST—Continued

States—Continued.

Illinois	ILL
Indiana	IND
Kansas	KANS
Kentucky	KEN
Louisiana	LOU
Maine	ME
Maryland	MD
Massachusetts	MASS
Michigan	MICH
Minnesota	MINN
Mississippi	MISS
Missouri	MO
Montana	MONT
Nebraska	NEBR
Nevada	NEV
New Hampshire	NHAMP
New Jersey	NJ
New Mexico	NMEX
New York	NY
North Carolina	NCAR
North Dakota	NDAK
Oklahoma	OKLA
Oregon	ORE
Pennsylvania	PENN
Rhode Island	RI
South Carolina	SCAR
South Dakota	SDAK
Tennessee	TENN
Texas	TEX
Vermont	VT
Virginia	VIR
Washington	WASHN
West Virginia	WESTVIR
Wisconsin	WIS
Wyoming	WYO
*Station	STA*
Steamship	SS
*Stores	STO*
Street	ST
*Striking	STRIK*
Submarine	SUB
Submarine chaser	SC
Subordinate	SUBOR
Summary court martial	SCM
Superintendent	SUPT
*Supply	SUP*
*Support	SPORT*
*Survey	SURV*

T

*Target	TAR*
Task force	TF
Task group	TG
Task unit	TU
*Technical	TECH*
*Telegram	TEL*
Telephone	PHONE
Time of delivery	TOD
Time of first call	TFC
Time of receipt	TOR
*Torpedo	TORP*
*Training	TRA*
*Transport(ation)	TRANS*
Transportation of dependents	TRANSDEP
Treasury	TRSY

U

United States (of America)	US
*Utility	UT*

V

*Vessel	VES*
Via first available government air transportation	FAGAIRTRANS
Via first available government transportation	FAGTRANS
Via first available transportation	FATRANS
Visibility	VIS

W

Washington, D. C	WASHNDC
Weather	WEA
Weather Bureau	WB
*West(ern)	WEST*
Western Union Telegraph Company	WUTELCO
Will comply	WILCO
Women's Reserve	WR

Y

*Your	UR*
Yukon Territory	YT

ADMIRALTY---ADMTY. DIRECTOR ADVANCED BASE PACIFIC UNITS DABPU
ADVANCED BASE CONSTRUCTION DEPOT---ABCD
" " DEPOT---ABD. Marine Corps air Facility---MCAF
ARMY-NAVY PETROLEUM BOARD ANPB Marine Corps Auxiliary air Facility---MCAAF
BASE SERVICE UNIT---BSU NAVAL OPERATING FACILITY---N.O.F.
BRITISH ADMIRALTY DELEGATION-B.A.D.

Table 2.—COMMANDS AND ORGANIZATIONS

DIRECTOR ADVANCED BASE OFFICE PACIFIC-DABOP

Administrative Command	ADCOMD
Aircraft Scheduling Unit	ASU
Alaskan Sector	ALSEC
Amphibious Training Command	PHIBTRAIN
Antisubmarine Development Detachment	ASDEV
Board of Inspection and Survey	INSURV
Bureau of Aeronautics General Representative	BAGR
Bureau of Aeronautics Material Officer	BAMO
Bureau of Aeronautics Representative	BAR
Bureau of Aeronautics Resident Representative	BARR
Carrier Aircraft Service Unit	CASU
Central Drafting Office, Navy Yard, N. Y	CENDRAFT
Chief, Bureau of Aeronautics	BUAER
Chief, Bureau of Medicine and Surgery	BUMED
Chief, Bureau of Ordnance	BUORD
Chief, Bureau of Ships	BUSHIPS
Chief, Bureau of Supplies and Accounts	BUSANDA
Chief, Bureau of Yards and Docks	BUDOCKS
Chief of Naval Operations	CNO
Chief of Naval Personnel	BUPERS
Commandant, _____ Naval District	COM (*Number spelled out*) Example: COMELEVEN
Commandant, Navy Yard	COMDTNY
Commander, All Forces, Aruba-Curacao	CAFAC
Commander, Eastern Sea Frontier	CESF or COMEASTSEAFRON
Commander, Fleet Operational Training Command	COTC
Commander in Chief, United States Fleet (Headquarters)	COMINCH
Commander, Task Force	CTF
Commander, Task Group	CTG
Commander, Task Unit	CTU
Director, Fleet Training	DFT
Director, Naval Communications	DNC
Director, Naval Intelligence	DNI
Director, Naval Officer Procurement	DNOP
District Coast Guard Officer	DCGO
District Communication Officer	DCO
District Intelligence Officer	DIO
Escort Scouting Squadron	ESCORON
Fleet Air Base Unit	FABU
Fleet Marine Force	FMF
Fleet Post Office	FPO
Harbor Entrance Control Posts	HECP
Headquarters, Department of the Pacific, USMC	MARPAC
Headquarters, U. S. Marine Corps	MARCORPS
Inshore Patrol	INSPAT
Inspector, Engineering Material	INSENG
Intelligence Center, Pacific Ocean Areas	INTELCENPAC
Judge Advocate General	JAG
Marine Corps Air Station	MCAS
Mobile Issuing Office	MIO
Movement Information Distribution Station	MIDS

Senior officer present US fleet---SOPUS

Table 2.—COMMANDS AND ORGANIZATIONS—Continued

Naval Advanced Base	NAB
Naval Air Facility	NAF
Naval Air Station	NAS
Naval Air Technical Training Center	NATECHTRACEN
Naval Air Transport Service	NATS
Naval Ammunition Depot	NAD
Naval Auxiliary Air Facility	NAAF
Naval Auxiliary Air Station	NAAS
Naval Aviation Cadet Selection Board	NACSB
Naval Gun Factory	NAVGUN
Naval Local Defense Forces	NLDF
Naval Operating Base	NOB
Naval Reserve Officer Training Corps	NROTC
Naval Supply Depot	NSD
Naval Transportation Service	NTS
Navy Yard	NYD
Office of Naval Officer Procurement	ONOP
Patrol Aircraft Service Unit	PATSU
Potomac River Naval Command	PRNC
Professor of Naval Science and Tactics	PNSANDT
Registered Publication Issuing Office	RPIO
Registered Publication Section	RPS
Research Laboratory	RESLAB
Resident United States Naval Officer	RUSNO
Scout Observation Service Unit	SOSU
Senior Officer Present Afloat	SOPA
Severn River Naval Command	SRNC
Special Task Air Group	STAG
Superintending Constructor	SUPCON
Supervisor of Shipbuilding	SUPSHIP
Surgeon General	SURGEN
Training Command, Submarine Force, Pacific, Fleet	SUBTRAINPAC
United States Army	USA
United States Army Transport	USAT
United States Coast Guard Academy	USCGA
United States Coast Guard Cutter	USCGC
United States Fleet Shore Radio Station	USRAD
United States Fleet Special Air Task Force	SATFOR
United States Marine Corps	USMC or MARCORPS
United States Marine Corps Reserve	USMCR
United States Naval Academy	USNA
United States Naval Attache	ALUSNA
United States Naval Liaison Officer	ALUSLO
United States Naval Observer	ALUSNOB
United States Naval Reserve	USNR
United States Navy	USN
United States Navy Routing Office	USRO
United States Ship	USS
Reporting officer	USREPOF

NAVAL AIR CENTER ~~NAF~~ N.A.C.

Table 3.—RANKS, CORPS, AND RATINGS

The following abbreviations of ranks, corps, and ratings are authorized for use in dispatches *only* when combined with proper names, except on wire circuits they may be used alone where confusion will result.

RANKS

Admiral	ADM
Vice	VADM
Rear	RADM
Aerographer	AER
Chief	CAER
Aviation cadet	AVCAD
Boatswain	BOSN
Chief	CHBOSN
Cadet (CG)	CDT
Captain	CAPT
Carpenter	CARP
Chief	CHCARP
Colonel (USMC)	COL
Lieutenant (USMC)	LTCOL
Commander	COMDR
Lieutenant	LTCOM
Commodore	CDRE
Electrician	ELEC
Chief	CHELEC
Ensign	ENS
General	GEN
Brigadier (USMC)	BRIGEN
Lieutenant (USMC)	LTGEN
Major (USMC)	MAJGEN
Gunner	GUN
Chief	CHGUN
Lieutenant	LT
Junior grade	LTJG
First (USMC)	1STLT
Second (USMC)	2NDLT
Machinist	MACH
Chief	CHMACH
Major (USMC)	MAJ
Midshipman	MIDN
Pharmacist	PHARM
Chief	CHPHARM
Photographer	PHO
Chief	CPHO
Radio electrician	RE
Chief	CRE
Ship's clerk	SCLK
Chief	CSCLK
Torpedoman	TORP
Chief	CTORP
Warrant officer (USMC)	WO
Commissioned (USMC)	CWO

CORPS

Chaplain Corps	CHC
Civil Engineer Corps	CEC
Dental Corps	DC
Medical Corps	MC
Nurse Corps	NC
Paymaster (USMC)	PM
Quartermaster (USMC)	QM
Supply Corps	SC

RATINGS

Petty officers' ratings are for ed by adding "1c," "2c," or "3c," as appropriate, to the regular abbreviations.

Chief petty officers' ratings other than in exceptions listed, are for ed by prefixing the abbreviations by the letter C.

Aerographer's mate	AERM
Airship rigger	AR
Apprentice seaman	AS
Aviation chief electrician's mate	ACEM
Aviation chief machinist's mate	ACMM
Aviation chief metalsmith	ACM
Aviation chief ordnanceman	ACOM
Aviation chief radioman	ACRM
Aviation chief radio technician	ACRT
Aviation electrician's mate	AEM
Aviation machinist's mate	AMM
C (Carburetor)	AMMC
F (Flight engineer)	AMMF
H (Hydraulic)	AMMH
I (Instrument)	AMMI
P (Propellor)	AMMP
Aviation metalsmith	AM
Aviation ordnanceman	AOM
B (Bombsight mechanic)	AOMB
T (Turret mechanic)	AOMT
Aviation pilot	AP
Aviation radioman	ARM
Aviation radio technician	ART
Baker	BKR
Boatswain's mate	BM
A (Master at arms)	BMA
Boilermaker	B
Buglemaster	BGMSTR
Bugler	BUG
Carpenter's mate	CM
Chief commissary steward	CCSTD
Cook	CK
Assistant (USMC)	ASTCK
Chief (USMC)	CHCK

Table 3.—RANKS, CORPS, AND RATINGS—Continued

Cook—Continued.	
Field (USMC)	FLDCK
Officer's (USMC)	CK
Corporal (USMC)	CPL
Field music (USMC)	FMCPL
Mess (USMC)	MESCPL
Coxswain	COX
Drum major (USMC)	DRMAJ
Electrician's mate	EM
Electrician's mate, telephone (CG)	EMT
Field music (USMC)	FM
Fire controlman	FC
R (Range-finder operator)	FCR
S (Submarine)	FCS
Fireman	F
Gunner's mate	GM
Hospital apprentice	HA
Machinist's mate	MM
E (Engineman)	MME
G (Industrial gas generating mechanic)	MMG
R (Refrigeration)	MMR
S (Shop)	MMS
Mess attendant (USMC)	ATT
Metalsmith	M
Mineman	MN
Molder	ML
Motor machinist's mate	MOMM
Musician	MUS
Painter	PTR
V (Aircraft)	PTRV
Parachute rigger	PR
Patternmaker	PM
Pharmacist's mate	PHM
Photographer's mate	PHOM
Printer	PRTR
L and M (Lithographer and multilith operator)	PRTRL (M)
Private (USMC)	PVT
First class (USMC)	PFC
Quartermaster	QM
Radarman	RDM
Radioman	RM
Radio technician	RT
Seaman	S
Sergeant (USMC)	SGT
Field music (USMC)	FMSGT
First (USMC)	1STSGT
Gunnery (USMC)	GUNSGT
Master gunnery (USMC)	MGUNSGT
Master technical (USMC)	MTSGT
Mess (USMC)	MESSGT
Paymaster (USMC)	PMSGT
Platoon (USMC)	PLSGT
Quartermaster (USMC)	QMSGT
Staff (USMC)	STFSGT
Sergeant—Continued.	
Supply (USMC)	SUPSGT
Technical (USMC)	TSGT
Sergeant Major (USMC)	SGTMAJ
Shipfitter	SF
Ship's cook	SC
Ship's service man	SSM
B (Barber)	SSMB
C (Cobbler)	SSMC
L (Laundryman)	SSML
T (Tailor)	SSMT
Signalman	SM
Soundman	SOM
H (Harbor defense)	SOMH
Special artificer	SA
D (Special synthetic training devices)	SAD
I (Instruments)	SAI
O (Optical)	SAO
Specialist	SP
Animal handler (CG)	SP (D)
Athletic instructor	SP (A)
Chemical warfare (CG)	SP (CW)
Classification interviewer	SP (C)
Communication security	SP (Q)
Control-tower operator	SP (Y)
Electric punched card accounting machine operator	SP (I)
Essential specialists who do not fit into any existing rating	SP (X)
Firefighter	SP (F)
Gunnery instructor	SP (G)
Inspector of naval material	SP (O)
Mail clerk	SP (M)
Photographer	SP (P)
Port security (CG)	SP (PS)
Public relations (CG)	SP (PR)
Recruiter	SP (R)
Shore patrol and security	SP (S)
Teacher	SP (T)
Transport airman	SP (V)
Transportation (CG)	SP (TR)
Utility (WR)	SP (U)
Welfare duty with chaplains	SP (W)
Steward	ST
Officer's (USMC)	STE
Technical (USMC)	STET
Steward's mate	STM
Storekeeper	SK
D (Disbursing)	SKD
V (Aviation)	SKV
Telegrapher	T
Torpedoman's mate	TM
E (Electrical)	TME
V (Aviation)	TMV
Turret captain	TC
Water tender	WT
Yeoman	Y

advanced Base construction depot --- A.B.C.D.
advanced Base Depot - - - - - - A.B.D.
admiralty - - - - - - - - - - - - A.D.M.T.Y.
army Navy Petroleum Board - - - - - - A.N.P.B.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER

A

AA	Antiaircraft.
AAA	Armor, armament, and ammunition (See RNV).
ACEM	Aviation chief electrician's mate.
ACK	Acknowledge.
ACM	Aviation chief metalsmith.
ACMM	Aviation chief machinist's mate.
ACOM	Aviation chief ordnanceman.
ACRM	Aviation chief radioman.
ACRT	Aviation chief radio technician.
*ACT	Acting.*
ADCOMD	Administrative command.
ADCON	Advise all concerned.
ADEE	Addressee.
ADM	Admiral.
ADMIN	Administration(ive).
*ADV	Advance(d).*
AEM	Aviation electrician's mate.
AER	Aerographer.
*AER	Aeronautics.*
AERM	Aerographer's mate.
AEROF	Aerological officer.
*AIR	Aircraft.*
ALA	Alabama.
*ALAS	Alaska.*
ALASKA	Alaska Territory.
ALOT	Allotment.
ALSEC	Alaskan Sector.
ALT	Altitude.
*ALT	Alterations.*
ALUSLO	United States Naval Liaison Officer.
ALUSNA	United States Naval Attaché.
ALUSNOB	United States Naval Observer.
ALUTS	Aleutian Islands.
AM	Antemeridian.
*AM	American.*
AM	Aviation metalsmith.
AMGM	Airmailgram.
AMM	Aviation machinist's mate.
AMMC	Aviation machinist's mate C (Carburetor).
AMMF	Aviation machinist's mate F (Flight engineer).
AMMH	Aviation machinist's mate H (Hydraulic).
AMMI	Aviation machinist's mate I (Instrument).
AMMP	Aviation machinist's mate P (Propellor).
AMUN	Ammunition.
ANDCO	And company.
AOL	Absent over leave.
AOM	Aviation ordnanceman.
AOMB	Aviation ordnanceman B (Bombsight mechanic).
AOMT	Aviation ordnanceman T (Turrent mechanic).
AP	Aviation pilot.
APA	Appropriation purchases account.
APOB	Aerograph observation.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

APPN	Appropriation.
APR	April.
AR	Airship rigger.
ARIZ	Arizona.
ARK	Arkansas.
*ARM	Armament.*
ARM	Aviation radioman.
*ARMD	Armored.*
ARMGRD	Armed guard.
ART	Article.
ART	Aviation radio technician.
ARTY	Artillery.
*AS	Antisubmarine.*
AS	Apprentice seaman.
ASDEV	Antisubmarine development detachment.
*AST	Assistant (to).*
ASTCK	Assistant cook (USMC).
ASU	Aircraft scheduling unit.
*ASW	Antisubmarine warfare.*
*ATAK	Attack.*
ATC	Airport traffic control.
ATR	Aircraft trouble report.
ATT	Mess attendant (USMC).
AUG	August.
*AUTH	Authority.*
*AUX	Auxiliary or auxiliary craft.*
*AV	Aviator, aviation.*
AVCAD	Aviation cadet.
AVE	Avenue.
AWOL	Absent without leave.

B

B	Boilermaker.
BAGR	Bureau of Aeronautics General Representative.
*BAKS	Barracks.*
BALDNY	Ballistic density.
BALWND	Ballistic wind.
BAMO	Bureau of Aeronautics Material Officer.
BAMS	Broadcast to allied merchant ships.
BAR	Bureau of Aeronautics representative.
BARR	Bureau of Aeronautics resident representative.
*BAT	Battle, battleship.*
BBL	Barrel.
BCD	Bad conduct discharge.
BGM	Basegram.
BGMSTR	Buglemaster.
BKR	Baker.
BLADING	Bill of lading.
BLP	Bombing landplane.
BM	Boatswain's mate.
BMA	Boatswain's mate A (Master at arms).
BN	Battalion.
*BOI	Boiler.*
*BOM	Bombing.*
BOSN	Boatswain.
BRG	Bearing.
BRIG	Brigade.
BRIGEN	Brigadier general (USMC).
BRIT	British.

BAD - -- British admiralty Delegation

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

BSU- - - - Base service unit.

BTRY	Battery.
*BU	Bureau (of).*
BUAER	Chief, Bureau of Aeronautics.
BUDOCKS	Chief, Bureau of Yards and Docks.
BUG	Bugler.
BUMED	Chief, Bureau of Medicine and Surgery.
BUORD	Chief, Bureau of Ordnance.
BUPERS	Chief of Naval Personnel.
BUSANDA	Chief, Bureau of Supplies and Accounts.
BUSHIPS	Chief, Bureau of Ships.

C

CAER	Chief aerographer.
CAFAC	Commander, all forces Aruba-Curacao.
CAL	Caliber.
CALIF	California.
*CAN	Canada, Canadian.*
CANDR	Convoy and Routing.
CAPT	Captain.
*CAR	Carrier.*
CARAIRGROUP	Carrier air group.
*CARIB	Caribbean.*
CARP	Carpenter.
CASU	Carrier aircraft service unit.
CCSTD	Chief commissary steward.
CD	Certificate of deposit.
CDRE	Commodore.
CDT	Cadet (CG).
CEC	Civil Engineer Corps.
*CEN	Center, central.*
CENDRAFT	Central Drafting Office, Navy Yard, N. Y.
CESF or COMEASTSEAFRON	Commander, Eastern Sea Frontier.
CFO	Connection fitting out.
CG	Coast Guard.
CG or COMDGEN	Commanding general.
*CH	Chief (of) (the).*
CHAP	Chapter.
CHBOSN	Chief boatswain.
CHC	Chaplain Corps.
CHCARP	Chief carpenter.
CHCK	Chief cook (USMC).
CHELEC	Chief electrician.
CHGUN	Chief gunner.
CHMACH	Chief machinist.
CHPHARM	Chief pharmacist.
*CINC	Commander in chief.*
CK	Cook.
CK	Cook (Officer's) (USMC).
CM	Construction and machinery (See RNV).
CM	Carpenter's mate.
*CNA	Chief of Naval Air.*
CNO	Chief of Naval Operations.
*CO	Coast(al).*
CO	Commanding officer.
CODAN	Coded weather analysis.
COL	Colonel (USMC).
*COL	College.*
COLO	Colorado.

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Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

*COM	Commander.*
COM (*number spelled out*) Example: COM-ELEVEN.	Commandant,_____Naval District.
*COMD	Command.*
COMDGEN	Commanding general.
COMDG	Commanding.
COMDR	Commander.
COMDT	Commandant.
COMDTNY	Commandant, Navy Yard.
COMINCH	Commander in Chief, United States Fleet (Headquarters).
*COMM	Communication(s).*
*COMP	Composite.*
COMPET	Competition.
*CON	Consul.*
CONALT	Construction and repair, alteration.
CONN	Connecticut.
CONSTR	Construction.
*COR	Corps.*
CORP	Corporation.
*CORT	Escort.*
COTC	Commander, Fleet Operational Training Command.
COTP	Captain of the port (CG).
COX	Coxswain.
CPHO	Chief photographer.
CPL	Corporal (USMC).
CPO	Chief petty officer.
CRE	Chief radio electrician.
CROSS	Red Cross.
*CRU	Cruiser.*
CRUIT	Recruiting officer.
CRYPTO	Cryptographic.
CSCLK	Chief ship's clerk.
CSSA	Clothing and small stores account.
CSSF	Clothing and small stores fund.
CTF	Commander, task force.
CTG	Commander, task group.
CTORP	Chief torpedoman.
CTU	Commander, task unit.
CUS	Course.
*CUT	Cutter.*
CWO	Commissioned warrant officer (USMC)
CZ	Panama Canal Zone.
DABOP director, advanced base office Pacific.	
DABP4 director advanced base, Pacific units.	
DATO	Disbursing and transportation office.
DC	District of Columbia.
DC	Dental Corps.
DCGO	District Coast Guard Officer.
DCO	District Communication Officer.
DEC	December.
*DEF	Defense.*
DEG	Degree.
DEL	Delaware.
*DEP	Depot.*
DEPT	Department.
*DES	Destroyer.*
DIES	Diesel.
DESTN	Destination.
*DET	Detachment, detail.*

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued.

*DEV	Development.*
*DEY	Deputy.*
DF	Direction finder.
DFT	Director, Fleet Training.
DIO	District intelligence officer.
*DIR	Director.*
*DIS	Dispatch.*
DISCREP	Discrepancy report.
*DISP	Dispensary.*
*DIST	District.*
*DIV	Division.*
DNC	Director, Naval Communications.
DNI	Director, Naval Intelligence.
DNOP	Director, Naval Officer Procurement.
DOL	Dollar.
DOV	Disbursing officer's voucher.
DR	Dead reckoning.
DRMAJ	Drum major (USMC).
DUPE	Duplicate.

E

EAST	East(ern).
ECH	Echelon.
EGAA	Emergency general account of advances.
ELEC	Electrician.
EM	Electrician's mate.
EMB	Embarkation.
EMT	Electrician's mate, telephone (CG).
*ENG	Engineering.*
ENS	Ensign.
EQPT	Equipment.
ESCORON	Escort scouting squadron.
ETA	Estimated time of arrival.
ETD	Estimated time of departure.
ETE	Estimated time en route (for use of aircraft only—indicate delayed arrival).
*EU	Europe.*
EVAC	Evacuation.
*EX	Experimental.*
*EXAM	Examining board.*
EXCL	Exclusive.
*EXP	Express.*
*EXPED	Expedition(ary).*

F

F	Fireman.
FABU	Fleet air base unit.
*FAC	Factory.*
FAGAIRTRANS	Via first available government air transportation.
FAGTRANS	Via first available government transportation.
*FAIR	Fleet air.*
FANDT	Fuel and transportation.
FAS	Free alongside.
FATRANS	Via first available transportation.
FC	Fire controlman.
FCR	Fire controlman R (Range-finder operator).
FCS	Fire controlman S (Submarine).
FCST	Forecast.
FEB	February.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

*FED	Federal.*
*FER	Ferry.*
FFT	For further transfer.
*FIGHT	Fighting.*
*FIN	Finance.*
FLDCK	Field cook (USMC).
*FLE	Fleet.*
FLO	Florida.
*FLOT	Flotilla.*
FLP	Fighting landplane.
FLT	Fleet.
FLY	Flight.
FM	Field music (USMC).
FMCPL	Field music corporal (USMC).
FMF	Fleet Marine Force.
FMSGT	Field music sergeant (USMC).
FOB	Free on board.
*FOR	Force.*
FPO	Fleet post office.
FPT	Full power trial.
FREN	French.
FREQ	Frequency.
FRI	Friday.
FROF	Freight office.
*FRON	Frontier.*
*FUT	Fleet utility.*

G

GA	Georgia.
GAL	Gallon.
*GARN	Garrison.*
GAS	Gasoline.
GCM	General court martial.
GCT	Greenwich Civil Time.
*GEN	General.*
GM	Gunner's mate.
GMT	Greenwich Mean Time.
*GOV	Governor.*
GOVT	Government.
GR	Group.
*GRE	Greenland.*
GRUCOM	Group commander.
GSS	General supply schedule.
GTMO	Guantanamo Bay (Cuba).
GUN	Gunner.
*GUN	Gunnery, gunboat.*
GUNSGT	Gunnery sergeant (USMC).

H

HA	Hospital apprentice.
HAW	Hawaiian.
HE	High explosive.
HECP	Harbor entrance control post.
*HED	Headquarters.*
HHE	Household effects.
*HI	High.*
HONO	Honolulu, T. H.
*HOSP	Hospital.*
HYDRO	Hydrographic (Office).

HRDS - - - - - - - - - - - - - - HAMPTON ROADS

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

I

*ICE	Iceland.*
IDA	Idaho.
ILL	Illinois.
INC	Incorporated.
*INCEP	Interceptor.*
INCL	Inclusive.
IND	Indiana.
*IND	Industry(ial).*
INF	Infantry.
INFO	Information.
*INS	Inspector (of).*
INSENG	Inspector, Engineering Material.
INSPAT	Inshore Patrol.
*INSP	Inspection.*
*INST	Instruction(s).*
INSURV	Board of Inspection and Survey.
*INT	International.*
*INTEL	Intelligence.*
INTELCENPAC	Intelligence center, Pacific Ocean areas.
*INTERM	Intermediate.*
IS	Island.

J

JA	Judge Advocate.
JAG	Judge Advocate General.
JAN	January.
JAP	Japanese.

J.A.N. Joint Army Navy.
J.I.C. Joint Intelligence Center.

K

KANS	Kansas.
KC	Kilocycles.
KEN	Kentucky.
KN	Knots.

L

*LAIS	Liaison.*
*LAN	Landing.*
*LANCRAB	Landing craft and bases.*
*LANT	Atlantic.*
LAT	Latitude.
LB	Pound.
*LO	Local.*
LONG	Longitude.
LOU	Louisiana.
LP	Landplane.
LT	Lieutenant.
LTA	Lighter than air.
LTCOL	Lieutenant colonel (USMC).
LTCOM	Lieutenant commander.
LTD	Limited.
LTGEN	Lieutenant general (USMC).
LTJG	Lieutenant (junior grade).
LTR	Letter.

MCAAF.... Marine Corp auxiliary air Facility.

M

M	Metalsmith.
MACH	Machinist.
*MACH	Machinery.*
*MAG	Magazine.*

MCAF.... Marine Corp. air Facility.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

MAINT	Maintenance.
MAJ	Major (USMC).
MAJGEN	Major general (USMC).
*MAN	Manager.*
MAR	March.
*MAR	Marine.*
MARCORPS	Headquarters, U. S. Marine Corps.
MARPAC	Headquarters, Department of the Pacific, USMC.
MASS	Massachusetts.
*MAT	Material.*
MB	Motorboat.
MC	Medical Corps.
MC	Megacycles.
MCAS	Marine Corps Air Station.
MD	Maryland.
ME	Maine.
*MECZ	Mechanized.*
*MED	Medical.*
*MER	Merchant.*
MESCPL	Mess corporal (USMC).
MESSGT	Mess sergeant (USMC).
MEX	Mexico, Mexican.
MG	Machine gun.
MGM	Mailgram.
MGUNSGT	Master gunnery sergeant (USMC).
MI	Mile(s).
MICH	Michigan.
MIDN	Midshipman.
MIDS	Movement Information Distribution Station.
*MIL	Military.*
*MIN	Mine, minecraft.*
MIN	Minute.
MINN	Minnesota.
MIO	Mobile Issuing Office.
*MIS	Mission.*
MISS	Mississippi.
MK	Mark.
ML	Motor launch.
ML	Molder.
MM	Machinist's mate.
MME	Machinist's mate E (Engineman).
MMG	Machinist's mate G (Industrial gas generating mechanic).
MMR	Machinist's mate R (Refrigeration).
MMS	Machinist's mate S (Shop).
MN	Mineman.
MO	Missouri.
*MO	Mobile.*
MOMM	Motor machinist's mate.
MON	Monday.
MONT	Montana.
*MOR	Moroccan.*
*MOT	Motor.*
MRS	Movement report sheet.
MS	Motorship.
MSG	Message.
MTB	Motor torpedo boat.
MTSGT	Master technical sergeant (USMC).
MUS	Musician.
MWB	Motor whaleboat.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

NOF. ... Naval operating Facility.

NAAF	Naval Auxiliary Air Facility.
NAAS	Naval Auxiliary Air Station.
NAB	Naval Advanced Base.
NACSB	Naval Aviation Cadet Selection Board.
NAD	Naval Ammunition Depot.
NAF	Naval Air Facility.
NAS	Naval Air Station.
NATECHTRACEN	Naval Air Technical Training Center.
NATS	Naval Air Transport Service.
*NAV	Naval, Navy, navigation(al).*
NAVGUN	Naval Gun Factory.
*NAW	Northwest African Waters.*
NC	Nurse Corps.
NCAR	North Carolina.
NCO	Noncommissioned officer (USMC).
NDAK	North Dakota.
NEBR	Nebraska.
NEV	Nevada.
*NEWFO	Newfoundland.*
NHAMP	New Hampshire.
NIP	Nipponese.
NITE	Night.
NJ	New Jersey.
NLDF	Naval Local Defense Forces.
NMEX	New Mexico.
NOB	Naval Operating Base.
NOLA	New Orleans, Louisiana.
NOR	Norfolk, Virginia.
*NOR	North(ern).*
NOV	November.
NR	Number.
NROTC	Naval Reserve Officer Training Corps.
NSA	Naval supply account.
NSD	Naval Supply Depot.
NTS	Naval Transportation Service.
NWF	Naval working fund.
NY	New York (State).
NYD	Navy Yard.
NYK	New York, New York.

NAC. --- NAVAL AIR CENTER

O

OANDOS	Ordnance and ordnance stores.
OAP	Observation amphibian plane.
*OBS	Observation.*
OBSY	Observatory.
OCE	Officer conducting the exercise.
OCT	October.
*OF	Officer.*
OINC	Officer-in-charge.
OKLA	Oklahoma.
OLP	Observation landplane.
OM	Officer messenger.
ONOP	Office of Naval Officer Procurement.
*OP	Operating, operator, operation(al).*
*ORD	Ordnance.*
ORE	Oregon.
ORIG	Originator.
OTC	Officer in tactical command.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

P

*PA	Panama.*
*PAC	Pacific.*
PAL	Prisoner at large.
PANDS	Pay and supply (CG).
PAP	Patrol amphibian plane.
PARA	Paragraph.
PAREN	Parenthesis (punctuation).
*PAT	Patrol.*
PATSU	Patrol aircraft service unit.
*PAY	Paymaster.*
PD	Port director.
PEARL	Pearl Harbor, T. H.
PENN	Pennsylvania.
*PERS	Personnel.*
*PET	Petroleum.*
PFC	Private, first class (USMC).
PHARM	Pharmacist.
*PHIB	Amphibian(ious).*
PHIBTRAIN	Amphibious Training Command.
*PHIL	Philippine.*
PHILA	Philadelphia, Pennsylvania.
PHM	Pharmacist's mate.
PHO	Photographer.
PHOM	Photographer's mate.
PHONE	Telephone.
PHOTO	Photograph(er) (ic).
PI	Philippine Islands.
PLSGT	Platoon sergeant (USMC).
PM	Postmaster.
PM	Paymaster (USMC).
PM	Patternmaker.
PM	Postmeridian.
PMSGT	Paymaster sergeant (USMC).
PNSANDT	Professor of naval science and tactics.
POA	Pacific Ocean Areas.
POSIT	Position.
*POT	Potomac.*
*POW	Powder.*
PR	Puerto Rico.
PR	Parachute rigger.
*PREP	Preparatory.*
PRES	President.
*PRI	Prison.*
*PRIM	Primary.*
PRNC	Potomac River Naval Command.
*PROV	Proving grounds.*
PRTR	Printer.
PRTRL (M)	Printer L and M (Lithographer and multilith operator).
PSANDT	Pay, subsistence and transportation.
PSP	Patrol seaplane.
PTR	Painter.
PTRV	Painter V (Aircraft).
*PUR	Purchase(ing).*
*PURS	Pursuit.*
PVT	Private (USMC).
PWB	Pulling whaleboat.
PX	Press.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

Q

*QUART	Quartermaster.*
QUES	Question mark (punctuation).
QM	Quartermaster (USMC).
QM	Quartermaster.
QMSGT	Quartermaster sergeant (USMC).

R

*RAD	Radio.*
RADM	Rear admiral.
RAOB	Radio meteorograph sounding.
RAWIND	Radio wind.
RDF	Radio direction finder.
RDM	Radarman.
RDO	Radio.
RE	Radio electrician.
*REC	Receive(ing).*
RECD	Received.
*RECOG	Recognition.*
*RECON	Reconnaissance.*
*REF	Refer(ence).*
REGS	Regulations.
REGT	Regiment.
*REL	Relief.*
*REP	Repair.*
REPL	Replacement.
REQN	Requisition.
*RES	Reserve.*
RESLAB	Research laboratory.
RI	Rhode Island.
*RINS	Resident inspector of naval*
RM	Radioman.
RMO	Radio material officer.
RNV	Replacement naval vessels (See AAA and CM).
ROB	Reserve on board.
*RON	Squadron.*
RONLY	Receiver only.
ROVNITE	Remaining overnight.
RP	Registered publication.
RPIO	Registered publication issuing office.
RPM	Revolutions per minute.
RPS	Registered publication section.
RPU	Registered publication unit (CG).
RR	Railroad.
RT	Radio technician.
RUDM	Report of unsatisfactory or defective material.
RUSNO	Resident United States Naval Officer.

REINF --- Reinforced

RESC --- Rescue

SOPUS --- Senior Officer Present U.S. Fleet.

S	Seaman.
SA	Special artificer.
SAD	Special artificer (Special synthetic training devices).
SAI	Special artificer (Instruments).
*SAL	Salvage.*
SANFRAN	San Francisco, California.
SAO	Special artificer (Optical).
SAP	Scouting amphibian plane.
SAT	Saturday.

SPD LTR --- Speed letter

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

SATFOR	United States Fleet Special Air Task Force.
SC	Submarine chaser.
SC	Supply Corps.
SC	Ship's cook.
SCAR	South Carolina.
SCLK	Ship's clerk.
SCM	Summary court martial.
*SCO	Scouting.*
*SCOL	School.*
SCTD	Scattered.
SDAK	South Dakota.
SEC	Second.
*SEC	Secretary (of) (to the).*
*SECT	Section*.
*SEMA	Semaphore.*
*SEN	Senior.*
SEP	September.
*SER	Serial.*
*SERV	Service.*
SF	Shipfitter.
SGT	Sergeant (USMC).
SGTMAJ	Sergeant major (USMC).
*SHO	Shore.*
SHP	Shaft horsepower.
*SIG	Signal.*
SINO	Chinese.
SK	Storekeeper.
SKD	Storekeeper D (Disbursing).
SKED	Schedule.
SKV	Storekeeper V (Aviation).
SLP	Scouting landplane.
SM	Shipment memorandum.
SM	Signalman.
*SO	South(ern).*
SOM	Soundman.
SOMH	Soundman H (Harbor defense).
SOPA	Senior Officer Present Afloat.
SOSU	Scout observation service unit.
SP	Seaplane.
SP	Specialist.
SP (A)	Specialist (Athletic instructor).
SP (C)	Specialist (Classification interviewer).
SP (CW)	Specialist (Chemical warfare) (CG).
SP (D)	Specialist (Animal handler) (CG).
SP (F)	Specialist (Firefighter).
SP (G)	Specialist (Gunnery instructor).
SP (I)	Specialist (Electric punched card accounting machine operator).
SP (M)	Specialist (Mail clerk).
SP (O)	Specialist (Inspector of naval material).
SP (P)	Specialist (Photographer).
SP (PR)	Specialist (Public relations) (CG).
SP (PS)	Specialist (Port security) (CG).
SP (Q)	Specialist (Communication security).
SP (R)	Specialist (Recruiter).
SP (S)	Specialist (Shore patrol and security).
SP (T)	Specialist (Teacher).
SP (TR)	Specialist (Transportation) (CG).

Part II. ABBREVIATIONS LISTED IN ALPHAAETICAL ORDER—Continued

SP (U)	Specialist (Utility) (WR).
SP (V)	Specialist (Transport airman).
SP (W)	Specialist (Welfare duty with chaplains).
SP (X)	Specialist (Essential specialists who do not fit into any existing rating).
SP (Y)	Specialist (Control-tower operator).
SPD	Speed.
SPEC	Specification.
*SPORT	Support.*
SRNC	Severn River Naval Command.
SS	Steamship.
SSM	Ship's service man.
SSMB	Ship's service man (Barber).
SSMC	Ship's service man (Cobbler).
SSML	Ship's service man (Laundryman).
SSMT	Ship's service man (Tailor).
SSP	Scouting seaplane.
ST	Street.
ST	Saint (when used as part of proper name).
ST	Steward.
*STA	Station.*
STAG	Special Task Air Group.
STBD	Starboard.
STE	Steward (Officer's) (USMC).
STET	Steward, technical (USMC).
STFSGT	Staff sergeant (USMC).
STM	Steward's mate.
*STO	Stores.*
*STRIK	Striking.*
SUB	Submarine.
SUBOR	Subordinate.
SUBTRAINPAC	Training Command, Submarine Force, Pacific Fleet.
SUN	Sunday.
*SUP	Supply.*
SUPCON	Superintending constructor.
SUPSGT	Supply sergeant (USMC).
SUPSHIP	Supervisor of shipbuilding.
SUPT	Superintendent.
SURGEN	Surgeon General.
*SURV	Survey.*
SVC	Service.

T

T	Telegrapher.
*TAR	Target.*
TC	Turret captain.
*TECH	Technical.*
*TEL	Telegram.*
TENN	Tennessee.
TEX	Texas.
TF	Task force.
TFC	Time of first call.
TG	Task group.
TH	Territory of Hawaii.
THUR	Thursday.
TLP	Torpedo landplane.
TM	Torpedoman's mate.
TME	Torpedoman's mate E (Electrical).

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

TMV	Torpedoman's mate V (Aviation).
TOD	Time of delivery.
TOR	Time of receipt.
TORP	Torpedoman.
*TORP	Torpedo.*
*TRA	Training.*
*TRANS	Transport(ation).*
TRANSDEP	Transportation of dependents.
TRLP	Transport landplane.
TRSP	Transport seaplane.
TRSY	Treasury.
TSGT	Technical sergeant (USMC).
TSP	Torpedo seaplane.
TU	Task unit.
TUES	Tuesday.

USREOF United States Navy Reporting Officer.

UAP	Utility amphibian plane.
ULP	Utility landplane.
*UR	Your.*
US	United States (of America).
USA	United States Army.
USAT	United States Army Transport.
USCGA	United States Coast Guard Academy.
USCGC	United States Coast Guard cutter.
USMC or MARCORPS	United States Marine Corps.
USMCR	United States Marine Corps Reserve.
USN	United States Navy.
USNA	United States Naval Academy.
USNR	United States Naval Reserve.
USP	Utility seaplane.
USRAD	United States Fleet Shore Radio Station.
USRO	United States Navy Routing Office.
USS	United States ship.
*UT	Utility.*

V

VADM	Vice admiral.
*VES	Vessel.*
VIR	Virginia.
VIS	Visibility.
VT	Vermont.

W

WASHN	Washington (state).
WASHNDC	Washington, D. C.
WB	Weather Bureau.
WEA	Weather.
WED	Wednesday.
*WEST	West(ern).*
WESTVIR	West Virginia.
WILCO	Will comply.
WIS	Wisconsin.
WO	Warrant officer (USMC).
WR	Women's Reserve.
WT	Water tender.
WUTELCO	Western Union Telegraph Company.
WYO	Wyoming.

Part II. ABBREVIATIONS LISTED IN ALPHABETICAL ORDER—Continued

Y

Y	Yeoman.
YT	Yukon Territory.
1STLT	First lieutenant (USMC).
1STSGT	First sergeant (USMC).
2NDLT	Second lieutenant (USMC).

BUREAU OF PERSONNEL CONDENSATION CODE FOR USE IN DISPATCH ORDERS TO PERSONNEL

In order to reduce the length of dispatch orders to personnel, the Bureau of Naval Personnel is authorized to use the following abbreviations for phrases, sentences or groups of sentences frequently employed. These phrase equivalents will be used only in dispatch orders. They are available to officers outside the Bureau, as appropriate.

Dispatch orders received in the abbreviated form shall be transcribed unabbreviated when quoted in other than dispatch form. Transcribing should be done in the executive officer's office and not in the communication office.

ADCASHAL	Advance men cash allowance for quarters and subsistence in accordance with current Bureau of Naval Personnel circular letter.
ARREPISC	Upon arrival report to immediate superior in command if present, otherwise by dispatch, for duty indicated.
BAGAIR	Total pounds indicated baggage authorized while in an air-travel status.
COMTEMDET	Upon completion of temporary duty detached.
COMTRANSUB	Commercial transportation and subsistence authorized.
CONASAERO	These orders constitute assignment to duty in part of the aeronautic organization of the Navy.
DELREP	A delay of number of days indicated or until date indicated in reporting in obedience to these orders is authorized. Delay to count as leave. Keep BuPers and new station advised of address.
DIRDET	When directed by the commanding officer or commander designated, detached from duty indicated and from such other duty as may have been assigned (date on or about which these orders are effective may be indicated).
DUFLY	For duty involving flying.
DUTOUT	For duty outside the continental limits of the United States.
FURAS	For further assignment by.
FURASPERS	For further assignment by the Bureau of Naval Personnel.
FURNARSER	Furnish full names, rates, and service numbers of men transferred in accordance with this directive.
HERDESNAVAV	Hereby designated as student naval aviator.
HERDET	Hereby detached from duty indicated and from such other duty as may have been assigned.
HERDUFLY	Hereby detailed to duty involving flying, upon reporting in obedience to these orders.
INSEREC	Indicate by appropriate entry pages 9–10 service records, and in orders, rating for which men have been trained, to insure assignment to appropriate duty.
INSERECAV	Indicate by appropriate entry pages 9–10 service record, and in orders, rating for which nonrated men have been trained, to insure assignment to aviation duty.
INSERECSUB	Indicate by appropriate entry pages 9–10 service record, and in orders, rating for which men have been trained, to insure assignment to submarine duty.
INSTFURASPERS	For course of instruction and further assignment by Bureau of Naval Personnel.
ONBOWCOM	On board when commissioned.
ORDMOD	BuPers (or commander indicated) orders identified by date or dispatch reference numbers following hereby modified.
ORDREV	BuPers (or commander indicated) orders identified by date or dispatch reference numbers following are hereby revoked. Officer(s) or other personnel concerned continue present duty or carry out orders following.
PROFAGAIR	Proceed by first available Government transportation including Government air.

BUREAU OF PERSONNEL CONDENSATION CODE FOR USE IN DISPATCH ORDERS TO PERSONNEL—Continued

PROFAGTRANS	Proceed by first available Government transportation (not including air).
PROFAIRREP	Same meaning as PROREP except proceed by *first available air transportation including commercial air.*
PROIMREP	Same meaning as PROREP except proceed *immediately.*
PROREP	Proceed to location of ship, commander, or station designated by group(s) immediately following and upon arrival report for duty or purpose indicated.
PROWDELREP	Same meaning as PROREP except proceed *without delay.*
RELDET	When relieved detached from duty indicated and from such other duty as may have been assigned (date on or about which these orders become effective may be indicated).
REPTRANS	Report for transportation to the port in which ship or commander designated may be, or to location designated. Upon arrival report for duty or purpose indicated.
SHORPUBINT	The Secretary of the Navy has determined that this employment on shore duty is required by the public interests.
SHOROUTPUBINT	The Secretary of the Navy has determined that this employment on shore duty beyond the seas is required by the public interests.
SIXPERDAIR	A per diem of six dollars in lieu of subsistence will be allowed while in air travel status.
SIXPERDOUT	A per diem of six dollars in lieu of subsistence will be allowed while in travel status outside the United States in obedience to these orders.
TEMDUFLYINS	Temporary duty involving flying under instruction.
TEMDUINS	Temporary duty under instruction.
TRAFOLRAT	Transfer following enlisted ratings as indicated.
TRAFOLRATGENDET	Transfer following enlisted ratings as indicated from general detail.
TRAFOLRATGRAD	Transfer following enlisted ratings as indicated from graduates (indicate school).
UNORDCAN	Uncompleted portion of BuPers (or commander indicated) orders identified by date or dispatch reference numbers following, hereby canceled. Proceed in accordance with orders following.

An example of the use of the abbreviated phrase equivalents follows:

DISPATCH AS TRANSMITTED

From: BUPERS.
To: USS JONES.
Info: CINCPAC ETC ETC.

COMDR JOHN DOE RELDET COMMAND USS JONES MAR FIFTEEN X PROFAIRREP COMFOURTEEN REPTRANS COMTWELVE FURASPERS X SIXPERDAIR

TRANSCRIBED FOR COMPLIANCE

Commander John Doe, U. S. N., when relieved on or about March 15, 1943, detached from duty as commanding officer, U. S. S. JONES, and from such other duty as may have been assigned you. You will proceed by first available air transportation, including commercial air, and report to the Commandant, Fourteenth Naval District, for transportation to headquarters of the Twelfth Naval District. Report to the Commandant, Twelfth Naval District, for further assignment by the Bureau of Naval Personnel.

A per diem of six dollars in lieu of subsistence will be allowed while in an air-travel status.

RESTRICTED

SPECIAL INSTRUCTIONS FOR AIRCRAFT INCLUDING REPORTS

Appendix VI to Communication Instructions 1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

557048°—44——49

TABLE OF CONTENTS

APPENDIX VI

Section A.—SPECIAL INSTRUCTIONS FOR AIRCRAFT COMMUNICATIONS

100. GENERAL

101. Nothing in these instructions shall be construed as altering in any way the basic policy for operating naval aircraft or the necessary authorization for flights as established by the Secretary of the Navy.

102. Unless specifically excepted herein, all aircraft communications will follow in general the principles and forms of communication by surface craft as prescribed in the *Communication Instructions, U. S. Navy, 1944.*

110. COMMUNICATIONS WITH AIRCRAFT NOT IN AIR

111. The ship, base, or other station is responsible for handling communications to and from aircraft which are at that ship, base, or other station. If communication personnel or material is not adequate for maintaining necessary communications, the commanding officer of the ship, base, or other station shall make such arrangements therefor as may be necessary and practicable. If necessary, the matter should be referred to the senior officer present.

120. COMMUNICATIONS WHILE IN AIR

121. *Local Flights.* A local flight is one in which an aircraft returns to its base, ship, or station on the same day the flight was started. Its limits will be defined by the officer authorized to grant extended flights, who will take into consideration the special local conditions; viz. type of plane, terrain, rescue and salvage considerations, etc.

122. No arrival or departure reports are required on *local* aircraft flights unless the aircraft intends to land at a naval ship or shore activity or Army or Civil Aeronautics field, before returning to the home base, in which case the same procedure as outlined for other than local flights shall be followed. If, however, a local flight is being conducted by radio-equipped planes or units which can maintain radio communication with their base, ship, or station, in lieu of the reports required above, such planes or units, upon taking the air, shall normally establish communication on a prearranged frequency with their own ship or base radio [illegible] from the take off. The ship or base will be responsible for guarding established communication. Reports from aircraft during local flights, and tower control communication will be in accordance with local regulations or as directed by local authorities.

123. Aircraft equipped with radio shall carry the proper communication publications or instructions essential for the duty being performed.

124. Normally, when planes are on local flights, communications between a plane and its base station will be in abbreviated procedure or in the authorized voice procedure. These procedures are contained in Chapter 6, *Communication Instructions, U. S. Navy, 1944.*

130. OTHER THAN LOCAL FLIGHTS

131. Prior to an extended or protracted flight not over civil airways, aircraft not equipped to communicate on the frequencies normally guarded by the stations with which they wish to communicate shall, if necessary, notify such stations and the commandant of the district concerned, designating the frequency they desire guarded. Whenever practicable, this frequency should be a naval calling and working frequency assigned for use between ship and naval air stations, or a common aircraft frequency.

132. Normally when planes are on other than local flights, communications between planes and ground stations will be conducted in normal procedure.

140. PLANES IN COMPANY FLIGHTS

141. During organized flights of aircraft units the communication organization should provide for interplane, interunit, and ground-unit or surface-unit circuits. Normally, frequencies are provided in the fleet frequency plans to accomplish the necessary liaison.

150. FERRY FLIGHTS WITHIN THE UNITED STATES

151. In the movements of aircraft between the east and west coasts, naval or Coast Guard air stations of original departure or ultimate destination on the east coast are controlling air stations for aircraft en route to or departing from such stations while such aircraft are east of the Mississippi River. Similarly, naval or Coast Guard air stations on the west coast are controlling air stations for these aircraft west of the Mississippi River.

152. East of the Mississippi River "remaining overnight" ROVNITE reports shall be addressed to the controlling air station on the east coast. Similarly, west of the Mississippi River pertinent reports shall be addressed to the west coast controlling naval air station.

153. In setting the Mississippi River as a dividing line, it should be understood that the responsibility of the controlling air station east or west continues until such time as the airplane is reported as having landed in the other station's territory. For example: An airplane en route Naval Air Station, Anacostia, to Naval Air Station, San Diego, departs Atlanta for Shreveport. The controlling air station is Anacostia until the airplane actually arrives at Shreveport or lands west of the Mississippi River. However, if the airplane has a forced landing at Monroe, La., the Naval Air Station, San Diego, immediately becomes the controlling air station and is responsible for taking proper action upon receipt of information.

154. All movement reports sent via teletype over CAA circuits will include the type designation and Navy serial number of the airplane. This is necessary in order for traffic control personnel to know the general characteristics of the airplane and its civil airways radio call. Without this information control personnel cannot fit the airplane properly into the traffic pattern. As the civil airways radio call of all naval aircraft is NAVY followed by the bureau number of the airplane, the word "serial" in aircraft movement reports will be replaced by the word NAVY. This will thus give cognizant airways personnel the radio call of all Navy airplanes flying the civil airways. Unless the modification number of the airplane is essential for revealing pertinent information, it will be omitted. Thus the "dash one" of a SB2U–1 need not be included in the movement report.

155. The initial departure report shall include the type and bureau number of the airplane, the rank or rating and surname of pilot, the rank or rating and surname of passenger(s) (if military conditions permit), first stop, and disposition of airplane. The final report need not include the "disposition" of the airplane, for it may be assumed that the disposition is known to all interested naval activities as a result of the initial departure report.

156. When ferry flights are made over established airways within the continental limits of the United States, it will not be necessary for pilots to notify U. S. Navy controlling air stations for each point-to-point movement en route, except overnight stops; provided the pilot files a flight plan at each point of take-off. Civil Aeronautics Administration will guard the flights and notify the nearest Navy or Army air station in case of accident or failure to arrive at destination, provided a flight plan along the airways is filed. The pilot shall clearly write on the face of each flight plan the U. S. Navy controlling station in order that Civil Aeronautics personnel may know whom to notify in case of accident. The pilot shall always notify the appropriate controlling air station of overnight stops.

Section B. SPECIAL AIRCRAFT DISPATCH REPORTS

200. CLASSES

201. Special aircraft dispatch reports are classed as follows:

a. Departure reports.
b. Arrival reports.
c. Position reports.
d. Movement reports.
e. Prospective flight notices.
f. Accident reports.
g. Weather reports.

202. When available and when Army, Navy, Coast Guard, or Civil Aeronautics Administration communication facilities will not directly reach addressees involved, the special aircraft dispatch reports listed above should be sent to the nearest naval communication office which such facilities can reach directly, with request to notify the addressees involved. In case such an office cannot be reached directly with available communication facilities, the dispatch should be filed to such office by commercial telegram (Government Navy collect).

203. Commanders of aircraft and aircraft units are required to be familiar with the details of each class of report. Aircraft wings, groups, squadrons, or individual planes shall be reported by their official titles excepting such units as are not involved in the movement.

210. FILING REPORTS

211. Special aircraft dispatch reports may be sent via the following communication service:

a. Navy.
b. Coast Guard.
c. Army. (It should be noted that 24-hour service is not maintained on some Army circuits. A pilot should check to insure that the circuit is manned before filing his report.)
d. Civil Aeronautics Administration teletype.
e. Commercial.

212. To avoid duplication, and if expected delays are not excessive, pilots should file departure and arrival reports only on the airways teletype when flying along established airways. The prescribed form for messages to be transmitted over airways teletype appears in *Civil Aeronautics Manual of Operations*, Chapter B, Part 1.

220. PRECEDENCE

221. Normally, special aircraft dispatch reports shall be sent *priority* to all action addressees. Reports to information addressees, in most cases, need not be sent priority.

230. CLASSIFICATION OF REPORTS

231. Departure and arrival reports will normally be unclassified unless the flight falls within the category of paragraph *a*, *b*, *c*, or *d* below, in which case the officer controlling the flight may direct encrypted reports if by encryption any advantage for the safety of the flight or the destruction of the enemy can thus be realized:

a. Flights which will traverse areas of known or suspected enemy air, surface, or submarine concentration.
b. Flights, the knowledge of which would provide the enemy with information concerning changes in tactical concentrations not previously known to him.
c. Flights carrying passengers of unusually high rank.
d. Flights of an operational nature.

232. Prospective Flight Notices, aircraft movement reports (i. e.: when necessary to inform higher authority of departure or completion of a movement), or any other dispatch not falling strictly within the category of departure and arrival reports will be classified according to their individual texts and *not* in accordance with instructions for the classification of arrival and departure reports.

240. RESPONSIBILITY

241. Responsibility for filing departure and arrival reports rests solely with the pilot commanding the flight, except when the point of departure or arrival is a ship or station under naval jurisdiction, in which case the responsibility rests with the commanding officer of the ship or station. In this latter event, it is the responsibility of the pilot commanding a flight to insure that the commanding officer of such ship or station is properly notified as to his proposed movement.

242. All aircraft equipped with radio shall make position reports as required by the officer authorizing the flight. Date-time group (GCT) shall serve as the time of the report, unless other time is included in the text, in which case it shall be expressed in the form prescribed by article 2039, *Communication Instructions, U. S. Navy, 1944.*

Accident reports (see art. 300 of this Appendix).

Weather reports (see art. 310 of this Appendix).

250. FORMS OF REPORTS

251. Since other government agency communication systems are not obliged to carry aviation messages in naval form, the naval pilot in charge of a flight should ascertain the form in which it will be transmitted, and, if necessary, so draft his proposed message that all necessary information will be clearly shown therein and all required addressees notified.

260. FLIGHTS TO OR FROM SURFACE VESSELS

261. All plain language radio transmissions must be carefully scrutinized for information which would reveal the location or identity of ships.

262. If the movement is known sufficiently far in advance, the departure report shall be encrypted. When time does not permit encryption, departure reports may be transmitted in plain language, *provided that no mention is made in the text* of the serial number of the plane, the rank, rate or surname of the pilot (and identity of passengers), the point of departure or the point of arrival. If the action addressee is not the point of landing, the landing point then shall be specified in the text, *provided* that no call signs are compromised and that the point of landing is ashore.

263. Plain language departure reports should normally contain only the following information:

a. Number of planes.

b. Abbreviated type designation of aircraft.

c. Estimated time of arrival, speed and altitude.

d. The phrase ADCON may be included to mean, "Advise all concerned."

e. The date-time group may serve as the time of departure.

f. Information concerning routes may be included when directed by competent authority.

264. The call sign of the originator will serve as the point of departure. The call sign of the action addressee will serve as the point of immediate destination, unless special circumstances require another shore-based activity to take action on the report.

(*a*) It will be the responsibility of the action addressee to notify other interested commands as local conditions require. Information addressees may not normally be employed.

265. Arrival reports (when made) shall contain only the following:

a. "Your ——— (referring to the date-time group of the departure report) arrived."

b. The call sign of the originator will serve as the point of arrival.

c. The date-time group will serve as the time of arrival.

d. When reference is made to an encrypted departure report, the arrival report must also be encrypted.

266. When radio silence is imposed on parent ship the departure report will be forwarded by one aircraft after launching and when at a distance that will not endanger parent ship.

270. DEPARTURE REPORTS

271. *When made.*—When an aircraft makes other than a local flight, a departure report shall be made unless war conditions or operation orders require otherwise. Local flight is defined in article 121 of this appendix. Departure reports on certain local flights may be required as indicated in article 122 of this appendix.

272. *Addresses.*—When the flight is to be made wholly within the continental limits of the United States, or when its terminal points are within the United States:

a. Initial departure reports shall normally be addressed.

FOR ACTION:

To ultimate destination.

To the first intermediate stop.

FOR INFORMATION:

To any surface guard ships, tenders, or other naval activities actually assisting in the flight.

b. Intermediate departure reports shall normally be addressed:

FOR ACTION:

To the next stop.

FOR INFORMATION:

To any surface guard ships, tenders, or other naval activities actually assisting in that phase of the flight.

273. When the flight is to include departures from or stops at points beyond the continental limits of the United States.

a. Initial departure reports shall normally be addressed:

FOR ACTION:

To ultimate destination.

To the first intermediate stop.

FOR INFORMATION:

To any surface guard ships, tenders, or other naval activities assisting in the flight.

To the Chief of Naval Operations, *only if prescribed by the order covering the operations.*

b. For continental ferry flights see article 150 of this appendix.

274. *Contents.*—Normally, a departure report contains the following items of information, in the order given.

a. Number of planes.

b. Abbreviated type designation of aircraft and Bureau number of Senior Pilots plane, if any. The model or serial number of new planes may be used if necessary.

c. Abbreviated rank or rate and surname of the pilot commanding the flight. Initials need be used only when their omission might lead to ambiguity.

d. If military conditions permit, the names and titles of officers of flag rank or public officials of importance embarked as passengers may be included in the departure report following the name of the senior pilot.

e. Point of departure, and point of destination separated by the word "for." The exact point of destination will be given. In this respect, it may be necessary to include the name of the landing field. For example: MINESFIELD LOSANGELES. When the point of departure or destination of a flight is a tender or parent vessel at a given port, it is normally preferable to use the name of the port rather than that of the tender.

f. Time of departure. The date-time group (GCT) in messages sent over naval systems may serve as the time of departure. When transmission will be via any other system, the time in texts shall be in the form illustrated in article 400 of this appendix. When necessary to file the report prior to actual take-off, the prescribed zone-time of departure in the text may be preceded by the word "about."

g. Other information may be included provided it concerns only the safety or convenience of the flight.

280. ARRIVAL REPORTS

281. *When made.*—When an aircraft or unit completes a flight or any leg thereof on which a departure report was made, an arrival report shall be made.

282. *Addressees.*—Final arrival reports normally shall be addressed:

FOR ACTION:

To initial point of departure.

To point of last departure.

FOR INFORMATION:

To any surface guard ship, tenders, or other naval activity provided initial departure reports were addressed to them.

283. Intermediate arrival reports normally shall be addressed:

FOR ACTION:

To point of last departure.

FOR INFORMATION:

To any surface guard ships, tenders, or other naval activities actually assisting in that phase of the flight.

To the controlling naval activity, if an overnight stop is intended.

284. *Contents.*—An arrival report normally contains the following items in the order given.

a. Number of planes.

b. Abbreviated type designation of aircraft and squadron, if any. Model or serial numbers of planes may be used if necessary.

c. Abbreviated rank or rate and surname of senior pilot. Passengers need not be mentioned in arrival reports.

d. When arriving at other than a naval or Coast Guard ship or station the word ARRIVED, followed by the name of the place. For example: ARRIVED MUNICIPAL AIRPORT CLEVELAND. When the point of arrival is a naval or Coast Guard ship or station the word ARRIVED is sufficient. Arrival reports originated by unit commanders, however, must state the point of arrival.

e. Time of arrival. The date-time group (GCT) in messages sent over naval systems may serve as the time of arrival. When transmission will be via any other system the time in texts shall be expressed in the form illustrated in article 410 of this appendix.

APPENDIX VI

285. AIRCRAFT MOVEMENT REPORTS

286. *a. Aircraft Movement Reports.*—Movement reports consist of those dispatches sent by a unit when necessary to inform other authorities of aircraft movements. Movement reports must not be confused or combined with arrival and departure reports. Movement reports will be sent only when necessary or as directed by higher authority. Normally addressees will be limited to that authority actually ordering the movement and, if such be the case, to the authority to whom reporting. Only when unable to carry out a directive according to schedule will it be necessary to inform all those addressees included in the directive; otherwise they will assume that orders are being properly carried out.

b. Movement reports will carry precedence and classification according to the requirements of each report.

288. PROSPECTIVE FLIGHT NOTICES

289. *a.* Prospective flight notices shall be sent only when necessary to make prior arrangements for the safety of the flight, special services required, or to inform guarding activities of frequency plan and/or aircraft calls. Normally they will be originated by the activity concerned addressed to the air stations concerned.

b. Prospective flight reports will carry precedence and classification according to the requirements of each report.

290. POSITION REPORTS

291. *General.*—All aircraft equipped with radio shall make position reports as required by the officer authorizing the flight. Date-time group (GCT) shall serve as the time of the report, unless other time is included in the text, in which case it shall be expressed in the form prescribed by article 2039 of *Communication Instructions, U. S. Navy, 1944.*

292. *Addressees.*—Aircraft position reports, if required, normally shall be addressed:

FOR ACTION:

To the next point of destination and last point of departure.

FOR INFORMATION:

To the organization under which the aircraft is operating.

To all tenders or guardships detailed to the flight.

300. ACCIDENT REPORTS

301. *General.—Navy Regulations* requires certain reports of accidents to aircraft by dispatch. Radio should be used for such reports only when the military situation permits.

302. Within the United States, in case of minor damage requiring no assistance, the pilot will report by other means than radio to the officer controlling the flight if a delay of more than 2 hours is involved.

a. Within the United States, in case of damage requiring assistance or injuries to personnel, the pilot commanding the flight or, if he is incapacitated, the senior naval representative in the vicinity of the accident will report by the best available means to the controlling unit or station, which shall in turn take immediate steps to relay the message to:

If Naval Aircraft	*If Coast Guard Aircraft*
The commandant of the district concerned.	Coast Guard Commandant.
The Chief of Naval Operations.	District Coast Guard Officer concerned.
The Bureau of Aeronautics.	The Bureau of Aeronautics.
The Bureau of Personnel.	Unit commander.
Unit commander.	

303. Subject to the restrictions of the military situation, forced landing of, or damages to, a plane at sea will be reported by an observing plane to nearest surface ship by radio or visual signal—flying several times across bow of nearest ship opening and closing throttle and then flying in the direction of the plane in distress. Repeat until ship has acknowledged by following the plane. A ship or base station receiving such a report will report the circumstances, if deemed necessary, to:

a. The senior officer present afloat if present in the general area.

b. Wing commander, type commander and force commander to which plane belongs, if known.

c. Unit commander to which plane belongs, if known.

304. In the case of accidents to aircraft attached to the Fleet, additional necessary instructions will be issued by the cognizant Air Force Commander.

305. *Contents.*—Accident reports shall include as much of the following information as is applicable and as can be determined at the time of reporting:

a. Bureau type and number of plane, and squadron designation, if any.

b. Full name and rank or rate of pilot and passengers.

c. Time and date of accident.

d. Location.

e. Cause of accident. If the cause is not known, the probable cause should be given.

f. Injuries to personnel.

g. Damage to plane.

h. Whether or not the plane should be repaired on the spot.

i. Service needed, if any, or steps taken to repair damage.

j. Spare parts needed to effect repairs.

k. Location of nearest airport or safe landing.

l. Address or telephone number of pilot.

m. If accident was at sea, whether or not personnel were recovered and a brief statement of search or salvage operations planned or in progress.

306. If obtaining any of the above items of information will delay the initial report, such information should be included in a later report.

307. The precedence of aircraft accident reports should normally be airmailgram, or deferred dispatch as appropriate to text and distance of addressees. Routine or priority dispatch should be used when the accident results from a failure indicating immediate general corrective measures or involves urgent need for salvage or replacement.

308. Classification of aircraft accident reports will normally be restricted; confidential if resulting from action with the enemy; secret only in unusual circumstances involving action with the enemy.

310. WEATHER REPORTS

311. *Ordinary Procedure.*—Landing weather reports from local stations will be transmitted on request in the clear within "in clear" areas and "limited security" areas. In areas defined as "complete security" areas, landing weather reports from local stations will be transmitted on request in appropriate cipher. (Maps designating security areas are available at local Aerology offices). One form in wide use is the ALACO-AIR-METCO in the following form:

a. Station name	In plain language.
b. Time	In plain language.

(Form W. B.–7 (ALACO):

c. Code number	In plain language.
d. Ceiling	In code letter.
e. Visibility	In code letter.
f. Wind direction	In code letter.
g. Wind velocity	In code letter.
h. Altimeter setting	In code letter.

Form W. B.–7A (AIRMETCO):

i. Sky condition	In code letter.
j. Weather	In code letter.
k. Temperature	In code letter.
l. Dew point difference	In code letter.
m. Remarks	In code letter.
n. Code number	In plain language.

312. The forms of landing weather codes vary with the geographic areas and in order to obtain landing weather it is necessary to know not only the form of the code, but the scramble table or cipher series in effect. The above information can be obtained from local aerological units, Army weather stations, or Weather Bureau offices.

313. Special weather reports from aircraft shall be made in the approved code in use, such as the WAF–2 or WOPIN series, or, if these are not available, then in the U. S. Navy Special Code for Weather Reports, which employs the following formula:

$$hN_hVW \quad PPDF$$

h=height of cloud base	In numerals from table.
N_h=Amount of cloud	In numerals from table.
V=Visibility	In numerals from table.
W=Current weather	In numerals from table.
PP=Pressure	In numerals from table.
D=Direction of surface wind	In numerals from table.
F=Force of surface wind	In numerals from table.

The time and location shall be given in the first part of the message; encipherment shall be in accordance with instructions contained in the code used.

314. Replies to requests for weather reports will normally be made in the same code and cipher as received. In case a vocabulary code is used, the following shall be the order of elements:

a. Date-time group (GCT).

b. Name of station.

c. Condition of sky.

d. Ceiling (base of the lowest stratum of clouds below 10,000 feet, the area of which, added to any cloudiness that may be present below this stratum, covers an area in excess of five-tenths of the entire dome of the sky).

e. Direction and velocity of surface wind in knots.

f. Visibility.

g. Condition of landing field.

h. State of sea for information of seaplanes.

315. During the spring, summer, or fall when ice is not present or probable, the state of the sea will be reported in accordance with the following scale:

Ø—Calm or glassy.
1—Calm (rippled).
2—Smooth (wavelets).
3—Slight.
4—Moderate.
5—Rough.

6—Very rough.
7—High.
8—Very high.
9—Precipitous or no reports.

316. During the winter, when ice is present or probable, one of the following terms may be used to implement the above:

Ø—Free—meaning local seaplane landing area is free from ice and favorable for landing.
1—Scattered ice—meaning that there is not enough ice to interfere with landing.
2—Heavy ice—meaning that ice conditions are dangerous for seaplane landing.

317. When no specific code is being employed for replies to requests for terminal and route forecasts, the elements in the reply shall be in the following order:

a. Terminal forecast—as per article 314. In this case the time and date group is the instance for which the forecast is prepared.

b. Route forecasts.

1. Date forecast is to begin (if necessary).
2. Time forecast is to begin (GCT).
3. Period covered by forecast.
4. Latitude and longitude of end point of forecast zone, i. e., point of departure to end point of first zone.
5. Visibility ..... First zone.
6. Low cloud and amount ..... First zone.
7. Base and tops of low clouds (hundreds of feet) ..... First zone.
8. Middle clouds and amount ..... First zone.
9. Height of tops (thousands of feet) ..... First zone.
10. Turbulence ..... First zone.
11. Weather ..... First zone.
12. Height of zero isotherm ..... First zone.
13. Type of icing ..... First zone.
14. Favorable altitude level in thousands of feet ..... First zone.
15. Wind direction and force in knots at favorable altitude ..... First zone.
16. Alternate levels if desired.
17. Repeat (4) through (16) for succeeding zones (if necessary).
18. Terminal conditions.

320. EMERGENCY WEATHER REPORTS

321. These instructions will be known as the "General Prudential Rule for Transmitting Emergency Weather to Aircraft."

a. *When weather is requested by pilot*: When an emergency exists requiring weather in the clear, the pilot will call for weather by stating his request:

Emergency

Request weather (or specified elements) in clear for ..... (Name of station)

The request will be repeated as necessary until acknowledged by flight control personnel.

322. Upon receipt of a request, EMERGENCY. REQUEST WEATHER IN CLEAR FOR ....., flight-control personnel addressed will immediately answer EMERGENCY WEATHER IN CLEAR, then give in clear the entire report or such elements as may be specifically requested. This request completed by pilot's name, flight, or ship number, is a specific order to the ground personnel to transmit weather in the clear to the person

making the request and must be complied with, unless the commander of a station or post considers the military situation too dangerous to make a weather broadcast. The request will be given immediate action.

323. *When weather report in clear is initiated by ground personnel.*—When the flight-control personnel considers an emergency to exist in connection with any particular flight, and delay in decoding a coded report may contribute to loss of life or damage to aircraft, they will immediately take the necessary steps to send in the clear the complete weather report or such elements as constitute the emergency, prefixing all broadcasts EMERGENCY WEATHER. Although authority to issue weather in the clear under emergency conditions is granted to ground personnel, such personnel are not to be held responsible for the omission of such broadcasts.

324. In order to effect immediate compliance with EMERGENCY requests, or to initiate EMERGENCY WEATHER, flight-control personnel will maintain the current local weather report ready for broadcast in the clear.

325. It is incumbent upon all pilots and ground personnel to exercise initiative and sound judgment in their administration of the General Prudential Rule for Transmitting Emergency Weather to Aircraft. Further, the attention of all pilots and ground personnel is directed to the broad scope of this rule which literally permits weather to be obtained in the clear, whenever it is necessary to the safety of operations or to avoid immediate danger.

330. METHODS OF FORWARDING REPORTS WHEN USING COMMERCIAL AIRWAYS

331. Where Navy, Coast Guard, or Army radio facilities are not available and the Civil Aeronautics Administration teletype system becomes the preferred means of transmission of arrival and departure reports, the following procedures should be followed:

a. File flight plan departure report to point of first intended landing.

b. Upon arrival, make proper report to field of last departure.

332. The civil airways teletype system furnishes a convenient method of filing arrival and departure reports. It should be borne in mind, however, that this system is primarily designed to handle flight traffic from field to field, and is not a long relay system. The Civil Aeronautics Administration cannot guarantee the delivery of such messages within fixed time limits. Time of delivery will depend upon such factors as weather, traffic, emergencies, etc. In bad weather or under heavy traffic conditions, long delays would undoubtedly be involved in delivery of such messages.

333. It should be noted that under existing civil airways procedure if a pilot files his flight plan report to his next point of landing as directed in article 210 of this appendix, the Civil Aeronautics Administration guards his flight from field to field and will take necessary steps to notify the nearest naval activity in case of his failure to arrive. This procedure is, therefore, an elementary safeguard for naval planes flying the civil airways. When this procedure is carried out, the need for priority delivery of movement reports to the controlling naval activity is not as great as when the flight is not being guarded along the civil airway—for the Civil Aeronautics Administration is actually guarding the plane and is the activity which will start inquiry if the plane does not arrive. Under these conditions, it is obviously just as much the pilot's responsibility to notify Civil Aeronautics of his arrivals and departures as it would be so to notify the appropriate naval activities if the flight were guarded by the Navy alone.

334. To insure delivery of aircraft reports, to make reasonable use of the teletype system, and to avoid unnecessary telegraph charges, the pilot, when filing a report, should discuss with the Civil Aeronautics operator conditions prevailing along the teletype circuit. Nothing in the above instructions is to preclude a pilot's filing a commercial telegram when the necessity therefor is indicated.

335. The determination of what constitutes a reasonable time delay in the delivery of a movement report is based on so many factors that it must be left to the judgment of the pilot. For example: A delay is not acceptable:

a. If the plane will reach an action destination before delivery of the departure report.

b. If early information of the arrival of distinguished passengers is required.

c. If early information of safe arrival is essential under flight conditions existing along the route. On the other hand, a pilot on a transcontinental or other protracted flight, having departed from his first intended landing point, and until last departure for final destination, might reasonably accept such delay as would not preclude the last report reaching the controlling naval activity by 2000 unless special circumstances warranted more rapid delivery. This, of course, is premised on the fact that Civil Aeronautics Administration is also guarding the flight and can be expected to notify the nearest naval activity immediately if the plane fails to reach a destination.

336. The attention of all pilots is invited to the fact that the above procedure in no way nullifies other provisions of these instructions or procedure, and applies only in the special case where Army, Coast Guard, or Navy radio facilities are not available, and the Civil Aeronautics Administration teletype system becomes the preferred means of transmission.

337. Nothing in these instructions shall be construed as abrogating the basic responsibility of the controlling air station for insuring the safety of naval planes. The controlling air station will take necessary emergency action when movement reports are not duly received.

Section C. EXAMPLES

*400. DEPARTURE REPORTS

401. Filed at a naval station (responsibility—commanding officer of the station):
From: NAVAIRSTA, San Diego.
Action to: NAVAIRSTA, San Pedro.
Date-time: 261645.
Precedence: Priority.

SLP SCORON 5 LT HOLMAN SANDIEGO FOR LONGBEACH

402. Filed on board naval vessel (responsibility—commanding officer of the ship):
From: USS PHILADELPHIA
Action to: NAVAIRSTA, Coco Solo
Information to: COMINCH (only if the aircraft operations orders require).
Date-Time: Ø51Ø4Ø
Precedence: Priority NAVAIRSTA, Coco Solo, deferred COMINCH
FOUR SSP CRUSCORON 8 LT MACKAY FOR COCO-SOLO ETA 13ØØR
(Cominch requested he be kept informed.)

403. Filed at Army station (pilot commanding responsible):
From: FORT BRAGG, NCAR
Action to: NAVAIRSTA, Norfolk
Precedence: Priority
SLP SCORON 3 COMDR THOMPSON FTBRAGG FOR NORFOLK AT Ø9ØØR

404. Filed at Airways Division teletype station (pilot commanding responsible):
From: PHOENIX, ARIZ
Action to: NAVAIRSTA, San Diego
Precedence: Priority
BLP COMDR SMOOT CRM HARRISON PHOENIX FOR SANDIEGO 14ØØT

405. Filed with commercial system:
GOVT NAVY PRIORITY
COMTWELVE
SAN FRANCISCO, CALIF.
FOUR SLP SCORON 6 BAKERSFIELD FOR VALLEJO AT 143ØU NOTIFY LANGLEY AND COMELEVEN COMDR CARLTON

406. For examples of reports made over Civil Aeronautics Administration system, refer to *Civil Aeronautics Manual of Operations*, Chapter B, Part 1.

*410. ARRIVAL REPORTS

411. Filed at a naval ship or station (responsibility—commanding officer of the ship or station); date-time group of departure report—291815.
From: USS COLORADO
Action: NAVAIRSTA, Norfolk
Date-time: 292Ø17
Precedence: Priority
YOUR 291815 ARRIVED

**The texts of all examples are shown in plain language. Refer to article 260 for instructions regarding encryption of reports of flights to and from surface ships.*

412. Filed at Army station (pilot commanding responsible):
From: KELLY FIELD, San Antonio, Tex.
Action to: NAVAIRSTA, San Diego
Precedence: Priority

FLP FIGHTRON 5 LTCOM WHITE ARRIVED KELLY FIELD 17ØØS

413. Filed with commercial system (pilot commanding responsible):
GOVT NAVY PRIORITY
COMTWELVE, SAN FRAN, CALIF.

SIX PSP PATRON 12 ARRIVED GRAYSHARBOR 173ØU

414. For examples of reports made over Civil Aeronautics system, refer to *Civil Aeronautics Manual of Operations*, Chap. B, Part 1.

420. POSITION REPORTS

421. Patrol Squadron 21, flying from San Francisco, California, to Pearl Harbor, T. H. Flight guarded by Commander Air Force Pacific Fleet and U. S. S. GANNET.
From: COMPATRON TWENTYONE
Action to: COMTWELVE
NAVAIRSTA, PEARL HARBOR, T. H.
COMAIRPAC
U. S. S. GANNET
Date-time: 171300
Precedence: Priority

POSIT THREE ZERO FIVE ZERO POSIT FOUR ZERO TWO FIVE

422. Patrol Squadron 11, flying from Magdalena Bay to Acapulco, Mexico. Guarded by Fleet Air Wing Two, in U. S. S. MEMPHIS at Acapulco, and U. S. S. SANDPIPER at Magdalena Bay.
From: COMPATRON ELEVEN
Action to: COMFAIRWING TWO
U. S. S. SANDPIPER
Date-time: 261130
Precedence: Priority

PASSING CAPE CORRIENTES

423. Patrol Squadron 12, flying from San Francisco, California, to Gray's Harbor, Oregon. No guardships or tenders.
From: COMPATRON TWELVE
Action to: COMTWELVE
Information to: COMAIRPAC
COMFAIRWING ONE
Date-time: 171400
Precedence: Priority

FIRST SECTION LAT FOUR ZERO ZERO FIVE LONG THREE FIVE TWO FIVE SECOND SECTION PASSING EUREKA

430. ACCIDENT REPORTS

431. Minor trouble—no assistance required—delay not in excess of 2 hours.

(Commercial telegram)

GOVT NAVY PRIORITY

NAVAIRSTA SANDIEGO CALIF

SOC DASH TWO SERIAL ZERO FOUR EIGHTEEN VCS–4 FORCED LANDING ELCENTRO ZERO NINE HUNDRED UNIT TODAY DUE CARBURETOR TROUBLE CAN REPAIR LOCALLY EXPECT PROCEED SANDIEGO ABOUT FOURTEEN HUNDRED LT JONES

NOTE.—No further report required.

432. Damage requiring assistance:

(Plane attached VB Squadron THREE)

(Commercial telegram)

GOVT NAVY PRIORITY

COMBOMRON THREE NAVAIRSTA SANDIEGO CALIF BG DASH ONE VB3 ENS DOE FORCED DOWN TEN HUNDRED UNIT TODAY EMERGENCY LANDING FIELD TWENTY MILES EAST YUMA DUE BROKEN OIL LINE NO INJURIES TO PERSONNEL RIGHT WHEEL DAMAGED IN LANDING REQUIRE RIGHT WHEEL COMPLETE WITH TIRE AND TUBE ALSO OIL LINE ADDRESS WESTERN UNION YUMA ENS DOE

433. Damage requiring assistance: (Plane on ferry flight Anacostia to San Diego)

From: BARKSDALE FIELD (Army)

Action to: NAS SANDIEGO (Controlling Station)

FLP 5–F–4 LT SMITH CRASHED ON TAKEOFF ZERO EIGHT HUNDRED TARE DUE ENGINE FAILURE MINOR INJURIES PILOT PLANE COMPLETE WRECK PILOT IN POST HOSPITAL UNTIL TOMORROW

NOTE.—NAS San Diego is responsible for filing a further report (or forwarding the original) as follows:

From: NAS San Diego

Action to: OPNAV

Information to: BUAER
BUPERS
BUMED
NAS Norfolk (Lt. Smith's home station)
NAS Anacostia (station of departure)

Date-time: 221630

Precedence: Priority

F3F3 ZERO SEVEN FIFTEEN 2–F–7 LT ROBERT M SMITH CRASHED ON TAKEOFF ZERO EIGHT HUNDRED TARE AT BARKSDALE FIELD DUE ENGINE FAILURE MINOR INJURIES TO PILOT PLANE COMPLETE WRECK

434. Plane crash at sea requiring assistance (Plane attached Patrol Squadron Eleven of Fairwing one):

From: 11P2 (Observing plane)
Action to: BASE STATION or SHIP (with which plane is in radio contact)
Date-time: Ø7173Ø
Precedence: Priority

11P3 Ø721 CRASHED LAT 321Ø LONG 213Ø APPARENTLY ON FIRE SEA ROUGH AM LANDING TO RENDER ASSISTANCE NO SHIPS IN SIGHT 1ØØØ

NOTES: *a.* Base Station is responsible for filing a further report as follows:

From: BASE STATION OR SHIP
Action: (S. O. P. A. in the area)
Information to: COMPATRON ELEVEN (unit commander)
Date-time: Ø718Ø5
Precedence: Priority

FROM 11P2 QUOTE 11P3 CRASHED APPARENTLY ON FIRE SEA ROUGH AM LANDING TO RENDER ASSISTANCE NO SHIPS IN SIGHT 1ØØØ

b. Compatron Eleven is responsible for filing a further dispatch as follows:

From: COMPATRON ELEVEN (unit commander)
Action to: OPNAV
Information to: BUAER
BUPERS
COMAIRLANT
COMFAIRWING ONE
Date-time: Ø71915
Precedence: Priority

PBY ONE SERIAL NINETY FOURTEEN CRASHED AT TEN HUNDRED NEGAT TODAY PILOTS LT RALPH JONES AND AVCAD ERNEST J DOE PASSENGERS GEORGE L SMITH ACMM SAM T JOHNSON RM2C ALL KILLED BODIES NOT RECOVERED COMINCH CONDUCTING SEARCH APPARENT CAUSE OF CRASH FIRE

440. FERRY FLIGHT REPORTS

441. The necessary reports and procedure for a pilot flying a SNJ–2 Bureau No. 2036 from San Diego to Anacostia via El Paso, Dallas, Memphis, with an overnight stop at Dallas, are herewith included:

a. Pilot informs operations officer, Naval Air Station, San Diego, of proposed route he intends to follow and files flight plan and following message:

To: NAS Anacostia, Elpaso

SNJ-NAVY 2Ø36 LT JONES PILOT ENS SMITH PASSENGER SANDIEGO FOR ANACOSTIA FIRST STOP ELPASO DISPOSITION DELIVERY Ø62ØU

b. On arrival El Paso, Lieutenant Jones files following arrival report to be sent over teletype back to Naval Air Station, San Diego.

To: NAS Sandiego.

SNJ NAVY 2Ø36 LT JONES ARRIVED ELPASO 155ØT

San Diego does not relay this message to Anacostia.

c. On departure El Paso, Lieutenant Jones files flight plan with Civil Aeronautics Administration or Army Air Corps. For details and examples refer to *Civil Aeronautics Manual on Operations*, Chapter B, Part 1.

Civil Aeronautics Administration (or Air Corps authorities if flight originated from Army field) will guard flight to Dallas and only in case of accident or failure of airplane to reach destination, will Naval Air Station, San Diego, or other nearer Army or Navy station, be notified.

d. On arrival Dallas, Lieutenant Jones decides to remain overnight, so he files the following message:

To: ELPASO—NAS Sandiego.

SNJ NAVY 2Ø36 LT JONES ARRIVED DALLAS ROVNITE 12Ø1S

e. On departure Dallas, Lieutenant Jones files flight plan in the same manner as at El Paso. (See *c*, above.) The flight is guarded in the same manner.

f. On arrival Memphis, Lieutenant Jones files arrival report by teletype. (See *c*, above.)

g. On departure Memphis, Lieutenant Jones files flight plan. (See *c*, above.) Civil Aeronautics will guard the flight as well as naval destination, Naval Air Station, Anacostia.

h. Upon arrival Anacostia, Lieutenant Jones files the following message:

To: MEMPHIS—NAS San Diego.

SNJ NAVY 2Ø36 LT JONES ARRIVED ANACOSTIA 182ØS

Anacostia will send this message to Memphis via teletype, and to San Diego via Navy radio.

442. In case of ferry pilots not proceeding over established airways, controlling air stations will be kept informed of all movements. For instance, if an SB2U–1, Bureau No. Ø758, Lt. Doe pilot, departs from San Diego for U. S. S. SARATOGA at sea, the following report would be sent over Navy circuits.

ONE SB2U ETA 17ØØ.

APPENDIX VI

SECTION D. SERVICE PLAN

500. NAVAL AIR STATIONS

Freq. (kc)	Trans. by	Rec'd by	Purpose and Remarks
a. 542 A1	Aircraft and NAS.	Aircraft and NAS.	General calling. When required.
b. 2972 A1	NAS Caribbean Area.	NAS Caribbean Area.	Alternate frequency for 7965 in Caribbean area, and other areas as directed.
c. 3105 A3	Aircraft	Control towers	Itinerant and ferry aircraft. Also used on civil airways and at Army Air Corps stations.
d. 3195 A1–A3	Aircraft and NAS.	Aircraft and NAS.	Air-Ground communications. A3 guarded continuously by NAS in continental U. S. A1 guarded continuously in Caribbean area, and other areas as directed.
e. 3295 A3	NAS	Aircraft	Airport traffic control.
f. 4385 A1–A3	NAS and patrol aircraft.	NAS and patrol aircraft.	Long-distance flights over water. Series up to and including fourth harmonic as directed.
g. 4550 A1	NAS	NAS	Adjacent base communications east of Mississippi River. (See Note 1 Page 24.)
h. 4790 A1	NAS	NAS	Adjacent base communications west of Mississippi River. (See Note 2 Page 24.)
i. 5235 A1	Aircraft and NAS.	Aircraft and NAS.	NATS aircraft, NAS Seattle and Kodiak.
j. 6290 A1–A3	Aircraft and NAS.	Aircraft and NAS.	Same as 3195 kc.
k. 6390 A3	NAS, crash boats, aircraft and ambulances.	NAS, crash boats, aircraft and ambulances.	Emergency communication as required.
l. 6420 A3	NAS and station aircraft.	NAS and station aircraft.	Local operations as required.
m. 6970 A3	NAS	Aircraft	Airport traffic control.
n. 7965 A1	NAS	NAS	Guarded by NAS in Caribbean, and other areas as required, as primary frequency for adjacent base communication. See *b* 2972 kc. Both frequencies may be used by surface vessels for direct communication with air stations for filing aircraft movement reports.
o. 11240 A1	NAS	NAS	Same as 4790 kc.
p. 11290 A1–A3	Aircraft and NAS.	Aircraft and NAS.	Long-distance flights NATS Caribbean and other areas as directed.
q. 11430 A1	NAS	NAS	Same as 4550 kc.

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

r. AIRPORT TRAFFIC CONTROL. The following air station control towers use low-power radio telephone transmission on the low and medium frequencies specified:

Station	Frequency (kc)
Alameda, Calif	257
Anacostia, D. C	251
Atlanta, Ga	356
Banana River, Fla	281
Cherry Point, N. C	323
Clinton, Okla	275
Corpus Christi, Tex	248
Dahlgren, Va	368
Daytona Beach, Fla	227
Deland, Fla	326
Edenton, N. C	272
Ft. Lauderdale, Fla	317
Gainesville, Ga	388
Glenview, Ill	236
Glynco, Ga	317
Grosse Ile, Mich	269
Hutchinson, Kans	323
Jacksonville, Fla	323
Key West, Fla	272
Lake City, Fla	281
Livermore, Calif	350
Los Alamitos, Calif	317
Melborne, Fla	272
Miami, Fla	382
New Orleans, La	323
San Pedro, Calif	338
Trenton, N. J	335
New York, N. Y	388
	368 (Roosevelt Field)
Norfolk, Va	323
Norman, Okla	288
Olathe, Kans	323
Pasco, Wash	278
Patuxent River, Md	347
Pensacola, Fla	275 (Saufley Field)
	341 (Corry Field)
	382 (Chevalier Field)
Philadelphia, Pa	251
Quonset Point, R. I	227
San Diego, Calif	266, 126180 kc
Sanford, Fla	317
Seattle, Wash	230
Shawnee, Okla	305
Squantum, Mass	323
St. Simon Isl., Ga	281
Traverse City, Mich	278
Vero Beach, Fla	224

s. LOW POWER LOOP RANGES (Localizers).

Station	Frequency (kc)	Identification
Argentia, Nfld	338	NPA
Banana River, Fla	524	NPB
Bunkerhill, Ind	236	NQU
Charleston, S. C	524	NWR
Cherry Pt. N. C	420	NKT
Corpus Christi, Tex	248	NGP
Dutch Harbor	209	SY
Glenview, Ill	269	NBU
Glynco, Ga	520	NEA
Kaneohe Bay, T. H	452	NGF
Lakehurst, N. J	520	NEL
Miami, Fla	227	NIG
New York, N. Y. (Floyd Bennett Fld)	379	FB
Moffett Field, Calif (Sunnyvale)	323	NUQ
Norfolk, Va	524	NGU
Olathe, Kans	233	NAY
Parris Isl., S. C	323	NQR
Patuxent River, Md	404	NHK
Quantico, Va	420	NYG
Quonset Point, R. I	524	NCO
Santa Ana, Calif	404	NTK
Squantum, Mass	404	NZW
So. Weymouth, Mass	420	NFR
Tillamook, Oreg	520	NFS
Unalga Isl., Alaska	269	NUL
Weeksville, N. C	404	NFG
Whidbey Island	404	NUW
Wildwood, N. J. (Cape May, N. J)	323	NYA

t. LOW POWER LOOP RANGES (Localizers for training purposes only).

Station	Frequency (kc)	Identification
Atlanta, Ga	323	NCQ
Beeville, Tex	365	BEE
Cedartown, Ga	404	IOU
Foley, Ala	263	FLE
Mathis, Tex	524	MAT
Lake Butler, Fla	224	LAB
Loxley, Ala	288	LXE
Rockport, Tex	323	ROC
Russell, Fla	365	RUS
Saufley Field, Fla	227	SAU

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

* *u.* RADIO RANGE STATIONS (400-watt SRA).

Station	Frequency (kc)	Identification	Station	Frequency (kc)	Identification
Argentia, Nfld	323	NWP	Palmyra Island	326	JY
Caton, Alaska	230	NAK	Sand Point, Alaska	329	CE
Chirikof Isl., Alaska	382	NCF	San Juan, P. R	254	NYP
Guantanamo, Cuba	323	NGJ	Sitka, Alaska	323	NQL
Kodiak, Alaska	242	OF			

v. AIRPORT TRAFFIC CONTROL:

1. All naval air stations guard or listen on any fleet air frequency as prescribed by local arrangement.
2. All naval air stations maintain a watch on the indicated frequencies when required and during flight operations which covers the period naval aircraft are operating in the area, or when an aircraft is en route to or departing from the air station concerned.

w. CIVIL AIRWAYS SYSTEM:

1. Naval aircraft traversing the civil airways will call Civil Aeronautics Administration radio stations on 3105 kc. Reply will be made on assigned radio range station frequencies where equipped for voice operation.
2. Airport traffic control stations normally reply on 278 kc.

NOTE.—See CAA "Air Navigation Radio Aids" and corrections thereto issued by the Civil Aeronautics Administration regularly.

x. ARMY AIR CORPS COMMUNICATION SYSTEM: (A. A. C. S.)

1. 3105 kc. aircraft frequency (commercial frequency).
   4495 kc. aircraft frequency.
   4220 kc. station frequency.
2. Stations normally operate from Ø7ØØ to 23ØØ daily local time. Many stations maintain continuous (24 hr.) watch.
3. Army Air Corps aircraft control stations (airport traffic control) will answer on their assigned frequencies.

NOTE.—See Handbook of Instructions, published by the Chief of Air Corps, U. S Army.

y. NAVY AERONAUTICAL PRIVATE LINE TELETYPEWRITER CIRCUITS.

A network of private line teletypewriter circuits has been installed covering the major air stations on the East and West coasts. These stations are connected by transcontinental circuits, utilizing civil airways' stations along the route in addition to such Navy facilities as are available. These circuits have been installed to handle aircraft movement reports and operational traffic.

*See CAA "Air Navigation Radio Aids," also Hydrographic Office confidential "Notice to Aviators" and Hydrographic Office Aviation Charts, restricted and confidential.

(ALL TIMES GCT UNLESS OTHERWISE NOTED)

500 z

ATLANTIC CIRCUITS - AIR-GROUND/GROUND-AIR

CIRCUIT	ROUTES	FREQUENCIES	STATIONS
402	New York-Newfoundland-Ireland New York-Bermuda-Ireland	2870 3285 6577 8554 11319	NEW YORK-WSY GANDER-YOAC (T) SHANNON-EIP (T) BERMUDA-VRT (T)
403	New York-Bermuda-Azores-Lisbon	2870 3285	NEW YORK-WSY 6563/8538/11306 BERMUDA-WFW 6523/8546/11319 HORTA-CTN (T) 6563/8538/11306 LISBON LOCAL ONLY (T)
405	New York-Bermuda-Port Lyautey New York-Bermuda-Trinidad	2870 3285 6523 8546 11319	NEW YORK-WSY BERMUDA-WFW PORT LYAUTEY-WFH SAN JUAN-WRW TRINIDAD-WFY
424	Ireland-Africa-South America	2870 3285 6543 11319	SHANNON-EIP (T) 8554 PORT LYAUTEY-WFH 8554 DAKAR-WFG 8554 BATHURST-MRU2 (T) 8554 FISHERMANS LAKE-ELFB (T) 8554 NATAL-WFM 8561 FORTALEZA-WMXT 8561 BELEM-WMXU 8561 TRINIDAD-WFY 8561
425	Miami-South America	2870 3195 6290 *11290	*MIAMI-WBR COCO SOLO-NES GUANTANAMO-WFT *SAN JUAN-WRW ANTIGUA-WYTF ST. LUCIA-WYTB CURACAO-NWQ *TRINIDAD-WFY *BELEM-WMXU *FORTALEZA-WMXT *NATAL-WFM RECIFE-WMXS BAHIA-WMXR CARAVELLAS-WMXQ RIO DE JANEIRO-WMXN *SANTA CRUZ-WFP 6765** PORTO ALEGRE-WMXJ 6765 *MONTEVIDEO-WMXF 6765

Notes: 1. Stations followed by (T) are available for the use of transport operators, including commercial carriers. Services at other stations are available to all aircraft.

2. 2870 KC - A-3 for local control operations only. May not be required at all points.

3. 3285 KC - A-1 for local control communication and approach control.

4. *11290 KC - This frequency is available only at stations marked with an "*".

5. 6765** KC- Alternate when 3195 is inoperative.

6. Stations south of Natal guard voice (A-3) only.

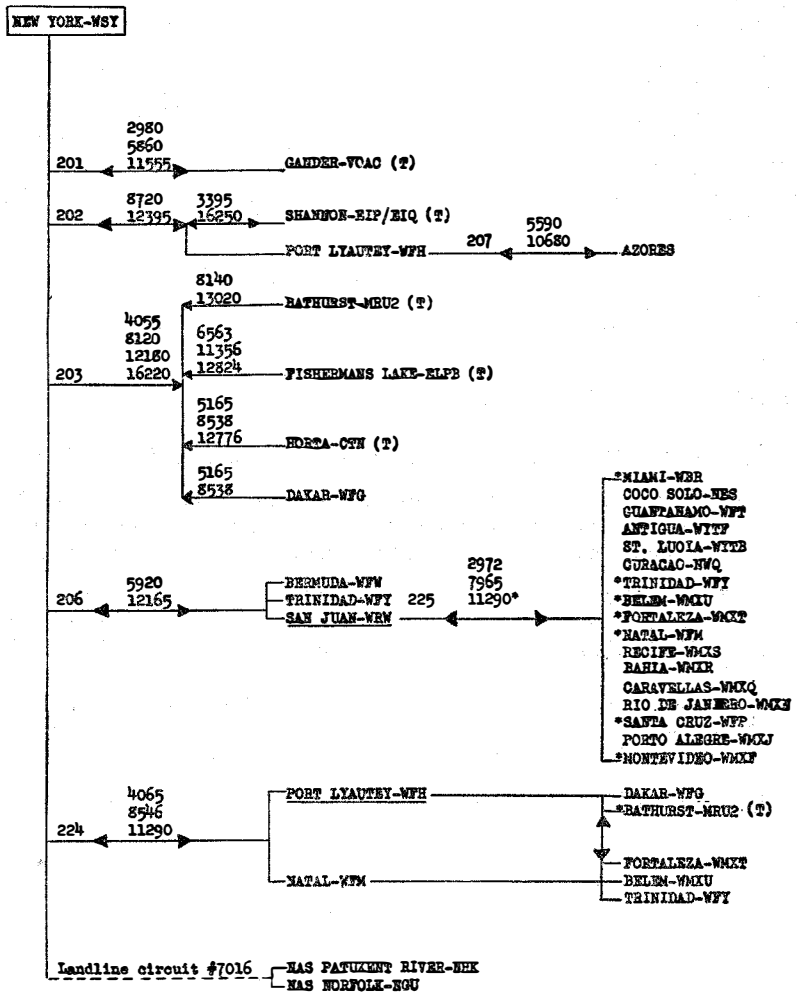
7. Primary, secondary, and alternate frequency bands:
   6000 KC band - Primary frequency for air-ground.
   8000 KC band - Secondary frequency for air-ground.
   11000 KC band - Alternate frequency for air-ground.
   12000 KC band - Alternate frequency for air-ground.

8. Frequencies common to all stations on a particular route are listed to the left of the station name, under the heading "FREQUENCIES". Those listed to the right, after the station call letters, are the additional frequencies worked by that station.

APPENDIX VI

500 z.

ATLANTIC CIRCUITS - POINT-TO-POINT



Notes: 1. Stations followed by (T) are available for the use of transport operators, including commercial carriers. Services at other stations are available to all ships and aircraft.

2. 11290* - this frequency is available only at stations marked with an "*".

3. Control stations for circuits 224 and 225 are underlined. NEW YORK-WSY is the control station on all other circuits.

4. Landline circuit #7016 is for the transmission of aircraft operational traffic.

NOTE 1. CONTINENTAL U. S. NAS FREQUENCIES EAST OF MISSISSIPPI RIVER

All Naval Air Stations listed maintain continuous guard on 4550 KC and 11430 KC for point-to-point communications. These frequencies may also be used by: (1) surface vessels for direct communication with air stations for filing aircraft movement reports; (2) other air stations in this area as required. For operational purposes, Argentia has been included among the stations authorized to use these frequencies.

NORFOLK, VA.—NGU*
ANACOSTIA, D. C.—NSF
ARGENTIA, NFLD.—NPA
BANANA RIVER, FLA.—NPB
BRUNSWICK, ME.—NSM
CHARLESTON, S. C.—NWR
CORPUS CHRISTI, TEXAS—NGP
GLYNCO, GA.—NEA
HOUMA, LA.—NIV
JACKSONVILLE, FLA.—NIP
LAKEHURST, N. J.—NEL
MIAMI, FLA.—NIG
NEW ORLEANS, LA.—NBG
NEW YORK, N. Y.—NSC
OLATHE, KANS.—NUU
PATUXENT RIVER, MD.—NHK
PENSACOLA, FLA.—NAS
PHILADELPHIA, PA.—NBR
QUONSET POINT, R. I.—NCO
RICHMOND, FLA.—NFO
SOUTH WEYMOUTH, MASS.—NFR
SQUANTUM, MASS.—NZW
WEEKSVILLE, N. C.—NFG

*NORFOLK, VA.—NGU is designated as the control station for these frequencies.

NOTE 2. CONTINENTAL U. S. NAS FREQUENCIES WEST OF THE MISSISSIPPI RIVER

All Naval Air Stations listed maintain continuous guard on 4790 KC and 11240 KC for point-to-point communications. These frequencies may also be used by: (1) surface vessels for direct communication with air stations for filing aircraft movement reports: (2) other air stations in this area as required.

ALAMEDA, CALIF.—NGZ*
CORPUS CHRISTI, TEXAS—NGP
HITCHCOCK, TEXAS—NJV
HOUMA, LA.—NIV
OAKLAND, CALIF.—NBJ
OLATHE, KANS.—NUU
ASTORIA, ORE.—NPE
SAN DIEGO, CALIF.—NZY
SANTA ANA, CALIF.—NTK
SEATTLE, WASH.—NDQ
SUNNYVALE, CALIF., (MOFFETT FLD.)—NUQ
TILLAMOOK, ORE.—NFS
SAN PEDRO, CALIF. (TERMINAL I., ROOSEVELT FLD.)—NCX

*ALAMEDA, CALIF.—NGZ is designated as control station for these frequencies.

RESTRICTED

JOINT, COMBINED AND LIMITED COMBINED COMMUNICATION ARRANGEMENTS

Appendix VII
to Communication Instructions
1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

557048°—44——52

APPENDIX VII

JOINT, COMBINED AND LIMITED COMBINED COMMUNICATION ARRANGEMENTS

Section A.—JOINT COMMUNICATIONS

101. Joint U. S. Army and Navy communications are conducted in accordance with agreements approved by the Joint Communication Board in Washington.

102. The procedures to be used are those prescribed in:

CCBP1—*Combined Radiotelegraph W/T Procedure.*
CCBP3—*Combined Radiotelephone R/T Procedure.*
CCBP4—*Combined Teletypewriter Procedure.*
CCBP5—*Combined Visual V/S Procedure.*

103. The naval procedures as contained in Chapters 6 and 7 of *Communication Instructions, U. S. Navy, 1944,* are based on the procedures prescribed in CCBP1, 3 and 5, and are essentially identical except that for joint communications, as for combined, the zone suffix Z is required after the time group when GCT is used.

104. The *operating signals* (Q signals) to be used for joint communications are contained in the publication *Combined Operating Signals* (CCBP2) which is also the effective Q signal book within the U. S. Navy. When used for joint communications, Q signals will not be enciphered except by special arrangement.

105. The same precedence (except for the special U. S. Navy use of QPE) and security classification apply to joint as to U. S. Navy communications, and these are recognized and handled interchangeably between the Services.

106. There is at present no universal joint call sign system. Local joint calls are prepared by responsible commanders and used within certain areas as necessary. Call signs when used for joint communications will not be enciphered except by special arrangement.

107. Codes and ciphers are prescribed and issued for joint communications by the Chief of Naval Operations.

108. The provisions contained in the *Combined Communication Instructions* (CCBP7) are effective for Joint U. S. Army-Navy communications as well as for combined application.

Section B. COMBINED COMMUNICATIONS

201. Combined communications are conducted in accordance with agreements approved by the Combined Communication Board in Washington.

202. Additional communication provisions applying to *Limited Combined* operations between the *U. S. and British Fleets* only are contained in *SP 02376(2)* and *CSP1846.*

210. COMBINED COMMUNICATION INSTRUCTIONS (CCBP-7)

(CCBP7 is inserted in the following pages for convenient reference)

COMBINED COMMUNICATION INSTRUCTIONS

Short Title—CCBP 7

Approved and published by authority of the
COMBINED COMMUNICATIONS BOARD
Washington, D. C., 22 December, 1943

G. B. MYERS
Capt., U. S. N.
B. P. CHARLES
Lt. Cdr., R. N. V. R.
Combined Secretariat

This publication will be made effective upon receipt

First Edition (1 January 1944)

TABLE OF CONTENTS

I. GENERAL

1. Purpose.

The purpose of this publication is to incorporate under one cover various communication matters not fully dealt with in other combined communication publications.

2. Definition of "Intra-Service," "Joint," "Combined," "Limited Combined," and "Universal."

a. Intra-service.—Within, and only within, a particular service of one nation.

b. Joint.—Between all of the services of one nation, but not necessarily *within* the services of that nation.

c. Combined.—Between all of the services of one nation and all of the services of another nation, but not necessarily within a particular service of either nation or between the services of either nation.

d. Limited combined.—Between one or more of the services of one nation and one or more of the services of another nation, but not between all of the services of one nation and all of the services of another nation, and not necessarily within a particular service of either nation or between the services of either nation.

e. Universal.—Both between and within each and every service of the United States and the British Commonwealth, wherever located.

II. COMBINED COMMUNICATIONS BOARD

8. Boards.

a. The Combined Communications Board (C. C. B.) in Washington is an agency of the Combined Chiefs of Staff. It deals with communication matters of combined application. All services of the U. S. and the British Commonwealth are represented thereon.

b. The C. C. B. is supported by the British Joint Communications Board (B. J. C. B.) in London and the U. S. Joint Communications Board in Washington.

c. In the various theaters, local combined boards may be established by the theater commander to deal with local communication problems.

d. Matters of a limited combined nature may be handled directly between the services concerned instead of through the C. C. B.

e. Agreements with regard to local matters of a limited combined nature should be made known to the controlling authorities of the Services concerned in order that world-wide application may be considered. They may then be referred to the C. C. B. for information and for possible combined application.

9. Publications.

Certain publications are approved and published by the C. C. B. Such publications when classified as U. S. or British Secret or Confidential are registered (copy numbered) unless otherwise decided by the C. C. B. and bear a short title "CCBP" followed by a serial number beginning with zero. Other C. C. B. publications bear a short title "CCBP" followed by a serial number commencing with a figure other than zero. Publications of the same basic system, with separate editions for certain areas, contain a letter in the short title to indicate the particular area edition, this letter following the CCBP number and separated therefrom by a dash. Successive editions of the same publications are indicated by a number

immediately following the area designation letter, or, if there be no area designation letter, following the CCBP number and separated therefrom by a dash.

Examples: CCBP 0125–A3
CCBP 0125–4
CCBP 7
CCBP 7–2

10. Changes (Amendments) to C. C. B. Publications.

a. All changes (amendments) of combined application to C. C. B. publications are promulgated as follows:

(i) To British Commonwealth forces under designation "British Amendment List No. — to CCBP —."

(ii) To U. S. Forces under designation "U. S. Change No. — to CCBP —."

(iii) In (i) and (ii) above the number of the combined change covered will be noted.

b. Changes (amendments) having joint application only will be promulgated as in (i) and (ii) with individual entries annotated "Br" or "US" as applicable.

c. When joint changes become combined changes, instructions will be given to delete "Br" or "US" against individual entries.

III. DRAFTING OF MESSAGES

16. Use of Precedence (Priorities) (See Article 31 j.).

Different rules exist in the various Services regarding the use of Precedence. In general, the degree of precedence is determined by the subject matter and the time factor involved. The one rule common to all Services in this regard is that no message shall be given a higher degree of precedence than is necessary to insure that it reaches all addressees in time. Every message sent with an unnecessarily high degree of precedence tends to slow up others of the same and lower categories. In this connection, it should be noted that different precedences may be used to different addressees of the same message.

17. Originator's Instructions.

The originator may issue instructions with regard to a message both to the Communications Staffs and to addressees.

a. To Communications Staffs (indicated on the message blank):

(i) Degree of precedence to be used.

NOTE.—In the British Services absence of a precedence indication denotes "Routine."

(ii) Security classification required in transmission.

(iii) Not to be sent by radio.

(iv) May be sent by any means including radio.

(v) May be sent as written by any means except radio.

(vi) To be sent in cipher if liable to interception or to fall into enemy hands.

(vii) Message is for exercise.

NOTE.—Operating Signals are provided to convey (iii) to (vii) above. Not all of these instructions are, however, in general use by U. S. Services.

b. To addressees (inserted in the text):

(i) To acknowledge.

(ii) To pass message to individuals or authorities who have not been included in the address.

18. Originator's Method of Reference to Messages.

a. There are two normal methods of referring to a message:

(i) Originator's reference number and date.

(ii) Time of origin (date-time group) of a message.

b. The rules regarding the use of originator's reference numbers differ in the various Services. For combined use the date-time group, and, if available, the originator's reference number will be quoted in reference to any message.

19. Expression of Time, Day, Month and Year.

a. Expression of time, day, month and year in texts of messages:

(i) Time will be expressed with four digits (0001 to 2400) followed by a zone suffix letter (See Article 20*d*.). The first pair of digits denotes hours, the second pair minutes.
Example: 1420Z equals 2 hours and 20 minutes after noon, GCT(GMT).

(ii) In the texts of messages involving a large number of times, a covering expression may be used instead of appending the zone suffix letter to each time mentioned.
Example: All times Zone BAKER.

(iii) The day, month, and year will always be expressed in that order.

(iv) The day will always be expressed by numerals.

(v) The month will either be spelled out or abbreviated. Abbreviations, if used, will consist of the initial three letters in the spelling of the word.

(vi) The year will be expressed either by four digits or by the last two digits.

b. Date-Time Group:

(i) The date-time group is expressed as six digits, followed by a zone suffix letter; the first pair of digits denoting the date, the second pair hours, the third pair minutes. Under some circumstances the first two digits denoting the date may be omitted.

(ii) The time included in the date-time group is the time of origin of a message and is the time at which the message is authorized for transmission.

(iii) The date-time group or time of origin is normally written by the originator in the space provided on the message blank (form). If not included by the originator, it will be added by the Communications Staff, in which case it is the date and time or time at which the message is handed in to the message center (signal office) for transmission.

(iv) When reference is made to a message by its date-time group or time group, such group is expressed in its original form. The month and year may be added when either or both are required for identification.
Example: "Your 161412Z Jun 43."

(v) The time of origin used in messages which cross time zones will be GCT(GMT) unless considerations of security and/or expediency require otherwise.

20. Time Conversion Table and Zone Suffixes.

a. The table below is not intended to prescribe the time to be used in any geographical area, but rather the manner of expressing the time for any zone.

b. Time zones are not necessarily fixed with respect to longitude. They are sometimes modified by the boundaries of countries and states.

c. GCT is indicated by suffix Z. For time midway between adjacent zone times use both letters (e. g., zone suffix WX indicates zone description +10½).

d. The suffix letter indicates the correction (i. e. Description, see Table) which must be applied to the time as expressed, in order to convert it to GCT.

Example: Washington is in longitude zone 67½° W. to 82½° W. If that city keeps normal zone time (Zone description +5), the date-time group suffix will be R. To convert it to GCT, add five hours to the indicated time.
If that city keeps daylight saving time (Zone description +4), the suffix will be Q. To convert to GCT, add four hours to the indicated time.

TABLE OF TIME ZONES, ZONE DESCRIPTIONS AND SUFFIXES

Zone	Description	Suffix	Zone	Description	Suffix
7½W to 7½ E	0	Z			
7½E to 22½E	−1	A	7½W to 22½W	+1	N*
22½E to 37½E	−2	B	22½W to 37½W	+2	O
37½E to 52½E	−3	C	37½W to 52½W	+3	P
52½E to 67½E	−4	D	52½W to 67½W	+4	Q
67½E to 82½E	−5	E	67½W to 82½W	+5	R
82½ E to 97½E	−6	F	82½W to 97½W	+6	S
97½E to 112½E	−7	G	97½W to 112½W	+7	T
112½E to 127½E	−8	H	112½W to 127½W	+8	U
127½E to 142½E	−9	I	127½W to 142½W	+9	V
142½E to 157½E	−10	K	142½W to 157½W	+10	W
157½E to 172½E	−11	L	157½W to 172½W	+11	X
172½ E to 180	−12	M	172½W to 180	+12	Y

*Letter N is also used to designate −13; this is to provide for the use of daylight saving time in the zone 172½ to 180.

21. Authorization of Messages.

A written message will not be considered authorized for transmission unless it bears the signature of an officer, or other responsible person.

22. Transmission of Signatures.

The authorizing or releasing signature appearing on a message blank (form) is not transmitted as part of that message.

It is rarely necessary to indicate to recipients of a message the name of the originator. If it is desired to transmit the *name* of the originator, such name should be included within the text by the originator.

23. Cancelling Messages.

Cancellation of a message which has been completely transmitted may be accomplished only by a new message properly authorized. Such a message of cancellation must be enciphered or authenticated.

24. "Readdressing" Messages.

a. If the recipient of a message desires to communicate it, unchanged, to others who have not been included in the original address, he may instruct the communications staff to "readdress" the message, thus obviating rewriting and reciphering.

b. Information required by the communications staff is as follows:

(i) Identification of the message (Date-time group or Originator's Reference number and date).

(ii) The new addressee(s), and whether for action or information.

(iii) The precedence desired for the new transmission.

c. The instructions in *b* above should normally be conveyed to communications staff in written form.

d. "Readdressing" is feasible only when there is no cipher problem involved. The communications staff will advise on this point.

IV. HANDLING OF MESSAGES

30. "R," "F," and "I" Methods.

The application of the following general principles in the various Services differs only in detail:

a. The "R" Method is the method of transmitting a message in which the receiving station(s) is (are) required to receipt.

b. The "F" (broadcast) Method is the method of transmitting a message for which no receipt is given.

c. The "I" (intercept) Method is a method of transmitting a message from one station to another so that other station(s) for whom it is intended may receive it without giving a receipt. The station called is responsible for the correct reception of the message at that station.

31. Precedence (Priority)—Rules for Use on Military and Commercial Circuits.

a. The appropriate military precedence designation is placed on the message by the originator.

b. Appropriate precedence prosigns to indicate the assigned precedence are provided for use by communications staffs on Military Circuits.

c. U. S. commercial precedence designations are used on U. S. commercial circuits. British commercial precedence designations are used on British commercial circuits.

d. Messages will be handled in order of their precedence. Messages of the same precedence will be handled in order of time of receipt in the message center (signal office).

e. British messages with prosigns "OU" and "OA" are handled on U. S. military circuits as "O" messages in sequence of receipt with other "O" messages.

f. When a message is transferred from a military to a commercial circuit, the transferring agency will change the precedence designation to the commercial equivalent. (This does not apply where a commercial circuit is operated at both ends by military personnel.)

g. When a message is transferred from a commercial circuit of one nation to a commercial circuit of another nation, the transferring agency will change the precedence designation to the equivalent used on the circuit of the other nation.

h. When a message is transferred from a commercial to a military circuit, the military agency to which it is transferred will change the precedence designation to the military equivalent.

i. Commercial precedence designations are written in the "to" space immediately before the address on messages being transmitted over commercial circuits. Such designations are transmitted in plain language.

j. Table of Precedence (Priority) Indication Equivalents is as follows:

UNITED STATES			BRITISH		
Military Circuits		Commercial Circuit	Military Circuits		Commercial Circuit
Designations	*Symbols*	*Designations*	*Designations*	*Symbols*	*Designations*
Urgent	O	US urgent	Most immediate	OU	Most immediate.
			Emergency enemy aircraft.	OA	
			Emergency	O	
Operational priority	OP	OP priority	Immediate	OP	Immediate.
Priority	P	Priority	Important	P	Important.
		Rapid			
Routine	R*		Routine	R*	
Deferred	D		Deferred	D	

NOTE.—*The prosign "R," when indicating Routine Precedence, is used only in dual precedence messages.

32. Acceptance of Messages.

Where practicable the message blank (form) in use by the particular station shall be used for all messages handed in to that station. The message center (signal office) shall be consulted with regard to the number of copies required.

33. Choice of Means of Communication.

Communication personnel will select the means most appropriate to accomplish the delivery of messages in accordance with precedence and security classification specified by the originator.

34. Conversion of Originator's Instructions.

Communication personnel are responsible for the conversion of the originator's instructions into the appropriate form for transmission using the combined procedure. Code and cipher personnel should be familiar with Combined Procedures and Combined Operating Signals. It is sometimes impracticable to convey in the heading of a message the complete instructions for handling that message, in which case further instructions will be required in the cryptographed text.

35. Use of Codress.

In the British Services the use of codress is mandatory with certain codes and ciphers. In the U. S. Services the use of codress is governed by signal and communication instructions issued by the respective services.

36. Ambiguity of Certain Characters.

Where confusion might otherwise result, the following characters may be written as indicated:

Character	*Written*
Letter I	i or l
Figure 1	*1*
Letter **Z**	**Z**
Figure 0	⊖ or Ø
Figure 0 (British teleprinter)	0–

37. Messages Sent in Parts.

It may be necessary for cryptographic or other reasons to subdivide long messages into parts. See art. 25*a* (i), and art. 25*b*. When parts of a long message are sent as separate complete messages, the following rules apply:

a. Each part will be sent with its own time of origin.

b. The time of origin for the complete message shall be used in the last part only. This time of origin shall then be used in any subsequent reference to the complete message, except as noted in *d* below.

c. The cryptographed text of each part will contain the following information:

(i) Number of the part concerned.

(ii) Originator's reference number or time of origin of the last part.

(iii) The last part shall be identified as such, e. g., "Fifth and final part of my 161215Z."

d. For identification or reference to a particular part for purposes of verification, correction, etc., that particular dispatch concerned should be referred to only by the station serial number or time of origin of that part.

NOTE.—These instructions should not be confused with those for sending a message in portions as laid down in CCBP 1, article 27b.

V. RECIPROCAL USE OF COMMUNICATION FACILITIES

43. Purpose.

In emergency, or for traffic to places where one Service has a channel and others have not, any U. S. or British Service, by mutual local arrangement, may use signal channels operated by any other U. S. or British Service.

44. Procedure to be Used.

There are two methods of handling traffic for another Service:

a. In cases where the originating Service has inadequate ciphering facilities or where it is important that the enemy should not know that traffic for the one Service is being handled by the other (e. g., traffic for troops at sea or at an advanced base prior to an operation), the originating Service will supply the handling Service with a plain language copy of messages to be sent. The handling Service will encrypt such messages in its own system and will include in the Text such instructions as are necessary to insure final delivery.

b. In all other cases the originating Service will cryptograph messages in its own system and hand them to the handling Service with instructions to pass to the nearest signal office of the originating Service at a certain place. This signal office will be indicated by one of the words in the left hand column below, followed by the name of the location of that signal office (both in clear). Distinguishing words for the various Services, to be used for this purpose are:

Navycharge	*British Navy
Armycharge	*British Army
Aircharge	*British Air Force
Navcom	U. S. Navy
Armycom	U. S. Army
Aircom	U. S. Army Air Forces

*Includes all forces of the British Commonwealth.

c. The handling Service will transmit the portion of the message heading which follows the distinguishing word identically as prepared by the originating Service, i. e., everything on the message form passed to the handling Service subsequent to the word "Armycharge," etc., must be treated as part of the text.

45. Responsibilities of Handling Service.

a. Precedence.

The handling Service will normally treat messages with the degree of precedence indicated by the originating Service. If it is necessary to treat them otherwise the originating Service will be informed.

b. Security.

Each Service must observe, with respect to the traffic of another Service, at least the same degree of security as is given to its own traffic having equivalent classification (See Article 87 for Equivalent Security Classification).

VI. COMMUNICATION SECURITY

GENERAL

51. Purpose.

a. The purpose of communication security is to deny to the enemy such information of military value as might be obtained from our communications.

b. In many cases considerations of security conflict with those of speed or reliability. A balance must then be effected so that none of the three is unduly sacrificed.

52. Responsibility.

Communication security is the responsibility of all personnel concerned, and can be achieved only if supported by the personal effort of each individual to maintain the highest standards in procedure and operation and to observe the most careful personal censorship.

53. Component Parts.

Communication security consists of three component parts, namely:

a. Transmission Security.
b. Physical Security.
c. Cryptographic (Cipher) Security.

TRANSMISSION SECURITY

54. Definition.

Transmission security consists of:

a. Withholding from the enemy information which might be made available to him through his study of our traffic by all methods other than cryptographic analysis.

b. Preventing the enemy from making use of our communication system to obtain navigational assistance or for purposes of deception.

55. Order of Preference.

The following means of transmission are listed in order of preference from the standpoint of security, subject to variations due to the tactical situation:

a. Messenger
b. Approved mail service.
c. Teletypewriter (Teleprinter).
d. Wire telegraphy.
e. Wire telephony.
f. Visual.
g. Animals and birds.
h. Radio telegraphy.
i. Radio telephony.

56. Wire Systems.

Wire systems are preferable to radio. Commercial wire systems are not as secure as direct military lines. Even military lines are susceptible to interception. Telephones are especially insecure.

57. Radio Transmissions.

Both radio telegraph and telephone transmissions are particularly susceptible to:

a. Interception.
b. Direction finding.
c. Traffic analysis.
d. Deception.

58. Radiotelephone.

Careless use of radiotelephone is a particularly serious hazard to security. The following points should be borne in mind:

a. Think out the content and wording before starting the transmission.

b. Avoid the use of plain language in referring to units, places, map references or persons. Distinctive nicknames for persons, places, etc., should also be avoided as they may reveal more than they conceal.

c. Avoid references to titles (officers' appointments) such as Commanding *General*, Commanding *Officer*, *Division* Signal Officer, *Battalion* Commander, etc. Such titles reveal the nature of the headquarters or unit concerned.

59. Interception.

It should be presumed that the enemy records most of the traffic transmitted by radio. Interception can be reduced by use of minimum power required to reach addressees and by use of ultra-high frequencies for short range communications.

60. Direction Finding.

Radio direction finders are now effective on nearly all frequencies, even on short transmissions. Radiating receivers may be detected by the enemy.

61. Traffic Analysis.

a. Although messages may be undecipherable by the enemy, a systematic analysis of intercepted traffic may provide the enemy with much useful information from a study of:

(i) Call Signs (and Delivery (or address) Groups).
(ii) Precedence (Priorities).
(iii) Times of origin.
(iv) Routing and relay instructions.
(v) Length.
(vi) Prosigns and operating signals.
(vii) Procedure messages.
(viii) Volume.

b. An enemy will soon appreciate that certain happenings follow the transmission of certain types of messages.

62. Defensive Measures.

Defensive measures against traffic analysis and other enemy intelligence efforts include:

a. Minimum use of radio.
b. Encipherment or change of call signs (and delivery (address) groups), and provision of collective signs (and delivery groups).
c. Use of dummy messages, carefully supervised, for the purpose of concealing true traffic volume.
d. Rotation of external indicators (table or system indicator).
e. Use of broadcast and intercept methods of delivering traffic and means for concealing the originators and addressees of messages, wherever practicable.
f. Elimination of superfluous routing instructions.
g. Standardization of procedure and radio telephone code words in order to avoid characteristic variations revealing the identity of the organization involved.
h. Control of routine test transmissions in order that their timing and volume shall not give advance information of impending operations.
i. Drafting operational instructions in such a way that the reports required do not provide useful intelligence to the enemy through their contents or where or when they were made.
j. Strict control of all radio emissions resulting from the testing, tuning, or field operation of new or secret equipment.
k. Control of radio transmissions likely to provide the enemy with navigational or direction finding assistance.

63. Supervision.

Expert supervision of transmission security should be provided by each service.

64. Discipline.

Transmission security requires a high standard of discipline and training among radio and telegraph operators. They must be impressed with the importance of:

a. Radio silence.
b. Proper use of radio call signs.
c. Elimination of all unnecessary, excessive, and unauthorized transmissions, including testing and informal conversation between operators.
d. Using only authorized procedure.
e. Proper transmitter and receiver adjustment and use of minimum power.
f. Transmission at speeds within the capabilities of receiving operators.
g. Preventing radiation whilst tuning transmitters.
h. Maintaining radio watches on designated frequencies and at prescribed times.

65. Defense Against Deception by the Enemy.

The encipherment and/or frequent change of call signs provides preliminary protection against deception by the enemy. In addition, authentication systems are used to verify the source of transmissions, particularly those in plain language, including Operating Signals and other codes possessing no degree of security. Communication personnel must be alert to detect irregularities in procedure, changes in the characteristics of tone or keying, retransmission of earlier messages, and other indications of deceptive attempts by the enemy.

PHYSICAL SECURITY

66. Definition.

Physical security consists of the protection of communication apparatus and classified documents (includes plain language copies of messages) from capture, salvage, loss, unauthorized inspection and photography. This is accomplished by proper handling of communication material by all concerned, and by destruction when necessary.

67. Cooperation Between the Services.

Each Service has established rules for the general safeguarding, handling, storage, and destruction of communication equipment, codes and ciphers and related material. Each Service must exercise, with respect to the material of the other services at least the same degree of precaution as is given to similar material of its own. (See article 83 for Equivalent Security Classifications.)

68. Safeguarding.

Important considerations include the following:

a. Limitation of the availability of classified material to authorized personnel, particularly in the case of codes and ciphers.

b. Limitation to a minimum of the classified material exposed to capture in advanced areas.

c. A simple detailed plan for prompt destruction of all classified communications material when capture seems imminent.

d. Prompt and accurate report of such destruction to higher authority by the most expeditious means available, including plain language by radio, if necessary.

CRYPTOGRAPHIC (CIPHER) SECURITY

69. Definition.

Cryptographic (cipher) security consists of the provision and use of adequate cryptographic systems and the strict observance of instructions designed to prevent or delay their solution by the enemy.

70. Systems.

The use of systems other than those prescribed by competent authority is detrimental to security. In most cases they are susceptible to solution and give users a false sense of security.

71. Correct Use of Codes and Ciphers.

a. No person shall use a code or cipher unless he has been specifically authorized to do so and is *at the time* thoroughly familiar with the rules and instructions.

b. The use of each code or cipher must be restricted to the purposes for which it is intended.

c. Cipher and plain language shall never appear together in the text of a message unless specifically prescribed by competent authority.

d. Constant watch must be maintained to prevent carelessness of code and cipher personnel, and the development of individual habits likely to endanger security. These habits are more frequent sources of compromise than capture, loss, or espionage.

e. Each outgoing message should be checked for accuracy before transmission.

72. Selection and Training of Personnel.

Code and cipher personnel must be known to be trustworthy and to possess the degree of intelligence, thoroughness, and ability to concentrate that is required and/or appropriate to the performance of the duty.

73. Drafting.

a. Certain hazards to the security of codes and ciphers can be minimized by proper drafting of messages. These hazards include:

(i) Excessive length.
(ii) Stereotyped phraseology, particularly at the beginning and end of the text.
(iii) Exact quotations from newspapers, public documents, and other messages.
(iv) Repetition of words.
(v) Failure to indicate to communications staff that the content of a message may subsequently be published in the press or otherwise disseminated as an unclassified document.

b. To minimize these hazards, each service has its own detailed rules.

74. Linkage.

a. Linkage of all types must be avoided as much as practicable, such as:

(i) Between messages and known facts;
(ii) Between two or more messages;
(iii) Between originators and messages;
(iv) Between originators, call signs, and serial numbers.

b. If a message *must* be sent in more than one system or is to be relayed to an addressee who does not hold the original system, special precautions are required.

c. When British and U. S. authorities at an Allied Headquarters have agreed to send an identical dispatch, either the U. S. or British authority concerned, but NOT BOTH, should encipher the message for transmission to ALL addressees.

omise. Each Service hom it shall be done.

VII. SYNCHRONIZATION OF TIME

81. Telegraph, Radio Telegraph, and Flashing Light Procedure.

The method for synchronizing time by means of telegraph, radio telegraph, or flashing light shall be as given below:

Request: $\overline{\text{INT}}$ QYT*, meaning "Request a timing signal now (or at —)."

Reply: QYT 1500, meaning "Timing signal will be transmitted at 1500." The numerals indicating the time will be followed by a 5-second dash, terminating exactly at the time indicated.

*QYT is the appropriate operating signal given in the Combined Operating Signals (CCBP 2).

82. Telephone and Radio Telephone Procedure (Not for air-to-air use).

Request: "Request timing signal now" or "Request timing signal at —."

Reply: "When I say 'time' it will be exactly 1500. 15 seconds, 10 seconds, 54321, Time 1500."

83. Teletypewriter (Teleprinter) Procedure.

Request: INT QYT, meaning "Request timing signal now (or at —)."

Reply: QYT 15ØØ 54321Ø.

The space bar is not operated after each of the characters "5 4 3 2 1," which are sent at one-second intervals. The figure 0 key is depressed at the exact time. For technical reasons time is indicated by the printing of the figure "zero" on United States machines and the figure "one" on British machines.

84. Flag Hoist and Time Balls.

The timing signal indicated is the instant of commencement of hauling down of the hoist or shape.

VIII. TABLES

90. Phonetic Alphabet.

ABLE (AFIRM)*	HOW	NAN (NEGAT)*	UNCLE
BAKER	ITEM (INTER-	OBOE (OPTION)*	VICTOR
CHARLIE	ROGATORY)*	PETER (PREP)*	WILLIAM
DOG	JIG	QUEEN	XRAY
EASY	KING	ROGER	YOKE
FOX	LOVE	SUGAR	ZEBRA
GEORGE	MIKE	TARE	

*Where the U. S. Navy General Signal Book is used, these names will be used in lieu of those contained in the above Phonetic Alphabet.

91. Pronunciation of Numerals.

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

92. List of C. C. B. Publications on Communication Procedures.

Long title	*Short title*
Combined Radio Telegraph (W/T) Procedure	CCBP 1
Combined Operating Signals	CCBP 2
Combined Radio-Telephone (R/T Procedure)	CCBP 3
Combined Teletypewriter (Teleprinter) Procedure	CCBP 4
Combined Visual (V/S) Signalling Procedure	CCBP 5
Combined Visual (V/S) Signalling Procedure (Abridged Version for Radio Telegraph (W/T) Operators)	CCBP 6
Combined Communication Instructions	CCBP 7
Combined Panel Code	CCBP 8

93. Equivalent Security Classifications.

U. S.	*British*
Secret	Most Secret; and Secret
Confidential	Confidential
Restricted	Restricted

94. Approximate Equivalent Army Titles.

U. S. title	*British title*
Commanding General	Commander-in-Chief
Commanding Officer	General Officer Commanding Commander, Commanding Officer, etc.
Chief of Staff Executive Officer	Second in Command
G3, S3 or A3	General Staff Officer, Brigade Major, Adjutant, etc.
G1, S1 or A1	Adjutant General's Staff, Quartermaster General's Staff, Staff Captain Quartermaster, etc.
G2, S2 or A2	Intelligence Staff Officer
Signal Officer Communication Officer	Signal Officer-in-Chief Chief Signal Officer Signal Officer
Artillery Officer	Commander, Royal Artillery, etc.
Engineer	Commander, Royal Engineers, etc.
G4, S4 or A4	Supplies and Transport Officer
Surgeon	Medical Officer
Quartermaster	Ordnance Officer
Ordnance Officer	Commander Electrical & Mechanical Engineers, etc.

95. Authorized Abbreviations for Text of Messages.

Abbreviations listed in the tables below are authorized for combined use. Other abbreviations should only be used when it is certain that they are known to the addressee(s).

U. S. NAVY

Abbreviation	*Meaning*
ACK	Acknowledge.
ADEE	Addressee.
ALUSLO (Location)	U. S. Naval Liaison Officer (Location).
ALUSNA	U. S. Naval Attaché (Location).
BRIG	Brigade.
CG	Coast Guard.
CNO	Chief of Naval Operations.
CO	Commanding Officer.
CINCLANT	Commander in Chief U. S. Atlantic Fleet.
CINCPAC	Commander in Chief U. S. Pacific Fleet.
COMINCH	Commander in Chief U. S. Fleet.
CTF (Number)	Commander Task Force (Number).
CTG (Number)	Commander Task Group (Number).
CTU (Number)	Commander Task Unit (Number).
CRYPTO	Cryptographic.
DIV	Division.
DNC	Director Naval Communications.

U. S. NAVY—Continued

Abbreviation	*Meaning*
ECH	Echelon.
ETA	Estimated Time of Arrival.
ETD	Estimated Time of Departure.
FLT	Fleet.
GOVT	Government.
GTMO	Guantanamo, Cuba.
HONO	Honolulu.
HYDRO	Hydrographic Office.
INCL	Inclusive.
INFO	Information.
LTA	Lighter than Air.
LTR	Letter.
MCS	Megacycles.
MSG	Message.
NAS	Naval Air Station.
NAVBAS	Naval Base.
NOR	Norfolk, Virginia.
NSD	Naval Supply Depot.
NYD	Navy Yard.
NYK	New York City.
OINC	Officer in Charge.
ORIG	Originator.
OTC	Officer in Tactical Command.
PARA	Paragraph.
PEARL	Pearl Harbor.
PD	Port Director.
QUES (or X)	Question Mark.
RDO	Radio.
RECD	Received.
SEAFRON	Sea Frontier.
SOPA	Senior Officer Present Afloat.
USAT	U. S. Army Transport.
X	Punctuation mark (Any).

U. S. ARMY

AA	Antiaircraft.
AAF	Army Air Forces.
AB	Air base.
AC	Air Corps.
ADRM	Airdrome.
ADV	Advance.
AF	Air Force.
AMECZ	Antimechanized.
AP	Airplane.
ARMD F	Armored Force.
ARTY	Artillery.
AT	Antitank.
ATCHD	Attached.
ATK	Attack.
AVN	Aviation.
AWS	Aircraft warning service.
BD	Boundary.
BLN	Balloon.
BN	Battalion.
BOMB	Bombardment.
BTRY	Battery.
CG	Commanding General.
CLM	Column.

U. S. ARMY—Continued

Abbreviation	*Meaning*
CO	Commanding Officer or company.
COM	Communication.
COMDR	Commander.
CP	Command Post.
CR	Crossroads.
DET	Detachment.
DIV	Division.
ECH	Echelon.
EMB	Embarkation.
EXCL	Exclusive.
FA	Field Artillery.
FI	Fighter.
FLT	Flight.
GP	Group.
HE	High explosive.
INCL	Inclusive.
INF	Infantry.
INT	Intelligence.
LC	Line of communication.
LD	Line of departure.
LM	Land mine.
LN	Liaison.
MBL	Mobile.
MECZ	Mechanized.
MLR	Main line of resistance.
MSG	Message.
MSGR	Messenger.
MSR	Main supply road.
MTR	Meter.
MTZ	Motorized.
O	Officer, order, or orders.
OP	Observation post.
OPL	Outpost line.
OPN	Operation.
OPLR	Outpost line of resistance.
PLAT	Platoon.
PT	Point.
RCN	Reconnaissance.
RD	Road.
RECON	Reconnaissance (Air).
REGT	Regiment.
RES	Reserve.
RJ	Road junction.
RON	Squadron (Air).
RR	Railroad.
SIG	Signal.
SUP PT	Supply point.
TD	Tank destroyer.
TN	Train.
TR(S)	Troop(s).

BRITISH NAVY

A. O	Accountant Officer.
A. S	Admiral Superintendent.
A/S	Anti-Submarine.
A. S. O	Armament Supply Officer.
(No.) BS	Battle Squadron.
Capt. I/C	Captain in Charge.

BRITISH NAVY—Continued

Abbreviation	*Meaning*
C. D	Captain of Dockyard.
C. O. F	Captain of the Fleet.
C. O. S	Chief of Staff.
C. S. (No.)	Admiral (Vice-Admiral or Rear-Admiral) Commanding (No.) Cruiser Squadron.
(No.) CS	(No.) Cruiser Squadron.
C. S. O	Chief Staff Officer.
D. (No.)	Captain (D). (No.) Destroyer Flotilla.
(No.) D. F	(No.) Destroyer Flotilla.
D/F	Direction Finding W/T.
D. M. B	Duty Motor Boat.
D. S. B	Duty Steam or Power Boat.
E. O	Engineer Officer.
F. C	Flag Captain.
F. L	Flag Lieutenant.
F. O. N. A. S	Flag Officer Commanding Naval Air Stations.
F. O. (S)	Flag Officer Submarines.
H. F	Home Fleet.
H/F	High Frequency.
K. H. M	King's Harbor Master.
L/F	Low Frequency.
L/T	Line telecommunications.
M. A/S. B	Motor Anti-Submarine Boat.
M/F	Medium Frequency.
M. G	Medical Guard.
M. G. B	Motor Gun Boat.
M. L	Motor Launch.
M. O	Medical Officer.
M. S. (No.)	Senior Officer (No.) Minesweeping Flotilla.
(No.) M. S. F	(No.) Minesweeping Flotilla.
M. T. B	Motor Torpedo Boat.
N. A	Naval Attaché.
N. C. S. O	Naval Control Service Officer.
N. O	Navigating Officer.
N. S. O	Naval Store Officer.
O. O. P	Officer of Patrol.
O. O. W	Officer of the Watch.
P/L	Plain Language.
P. M. S. O	Port Mine Sweeping Officer.
P. S. T. O	Principal Sea Transport Officer.
R. A. (A)	Rear Admiral (Aircraft Carriers).
R. A. (No.)	Rear-Admiral (No.) Battle Squadron.
R/A	Radio-Acoustic.
R. A. (D)	Rear-Admiral of Destroyer Flotilla.
R. A. (M)	Rear-Admiral, Minelayers.
R. C. O	Remote Control W/T Office.
R. N. A. S	Royal Naval Air Station.
R. N. B	Royal Naval Barracks.
R/T	Radio-Telephony.
S. (No.)	Captain (S), (No.) Submarine Flotilla.
S. B	Signal Boatswain.
S. D. O	Signal Distributing Office.
S. G. B	Steam Gun Boat.
Sec	Secretary.
S/M	Submarine.
S. O	Senior Officer or Signal Officer.
S. O. (I)	Staff Officer for Intelligence Duties.
S. O. (O)	Staff Officer for Operations Duties.

BRITISH NAVY—Continued

Abbreviation	*Meaning*
S/P	Signalling Projector.
S. S/T	Super Sonic Telegraphy.
U. H/F	Ultra High Frequency.
V. (No.)	Senior Officer, (No.) M. T. B. Flotilla.
V. A. (No.)	Vice-Admiral (No.) Battle Squadron.
V. H/F	Very High Frequency.
VNL/F	Very Low Frequency.
V/S	Visual Signalling.
W/T	Wireless Telegraphy.
X. D. O	Extended Defense Officer.

BRITISH ARMY

AA	Anti-Aircraft or Army Act.
ACK	Acknowledge or acknowledged.
A C SQN	Army cooperation squadron.
ADM	Administration or administrative.
AFV	Armoured fighting vehicle.
ALG	Advanced landing ground.
ALO	Air liaison officer.
AMN	Ammunition.
AIRTPS	Airbourne troops.
AP	Ammunition point or armour piercing.
ARH	Ammunition railhead.
ARP	Ammunition refilling point or air raid precautions.
ARTY	Artillery.
BDE	Brigade.
BDY	Boundary.
BOD	Base ordnance depot.
BPC	Bulk petrol company.
B WKSP	Base workshop.
CCS	Casualty clearing station.
CL	Center line.
COLN	Column.
COY	Company.
C TPS	Corps troops.
DEF	Defence, defensive or defended.
DET	Detachment.
DR	Despatch rider.
DZ	Dropping Zone.
ECH	Echelon.
EA	Enemy aircraft.
FLT	Flight.
GLIDER TPS	Gliderborne troops.
HQ	Headquarters.
INCL	Include, inclusive or including.
INF	Infantry.
INFM	Information or informed.
LDG	Landing.
LT	Lieutenant or light.
LO	Liaison Officer.
LZ	Landing Zone.
MIH	Miles in the hour.
MOB	Mobile or mobilization.
MOT	Motor or motorized.
MT	Mechanical transport.
OP	Observation post, operation, operating or operator.
OO	Operation order or ordnance officer.
PH R	Photographic reconnaissance.

BRITISH ARMY—Continued

Abbreviation	*Meaning*
POL	Petrol, oil and lubricant.
PW	Prisoner(s) of war.
RD	Road.
RECCE	Reconnaissance or reconnoitre.
REGT	Regiment or regimental.
RLY	Railway.
RPTD	Repeated.
RT	Radio Telephony.
RV	Rendezvous.
SA	Small arms, South Africa or South African.
SITREP	Situation report.
SL	Start line or searchlight.
SP	Self propelled, starting point or support.
TPT	Transport.
VEH	Vehicle.
VTM	Vehicles to the mile.
WEF	With effect from.
WH	Wheeled.
WT	Wireless Telegraphy.
X RDS	Cross-roads.

BRITISH AIR FORCE

ACK	Acknowledge.
ADDSD	Addressed.
ADM	Administration—tive.
ADV	Advanced.
ALG	Advanced landing ground.
ARS	Aeroplane repair section.
A CDRE	Air Commodore.
AG	Air gunner.
AHQ	Air headquarters.
ALO	Air Liaison Officer.
AIR M	Air Marshal.
AM	Air Ministry.
AMO	Air Ministry Order.
AOC (in C)	Air Officer Commanding (in-Chief).
AVM	Air Vice-Marshal.
A/S	Anti-submarine.
Armt	Armament.
AFV	Armoured fighting vehicle.
AC	Army cooperation.
B	Bomber (when applied to RAF Squad).
BT	Bomber transport (RAF Squad).
CAS	Chief of the Air Staff.
CSO	Chief Signal Officer.
CO	Commanding Officer.
CA	Command Accountant.
COMM	Communication.
DCAS	Deputy Chief of Air Staff.
DRLS	Despatch Rider Letter Service.
DF	Direction finding.
ERS	Engine Repair Section
ETA	Estimated time of arrival.
ETD	Estimated time of departure.
EQPT O	Equipment Officer.
F	Fighter (when applied to RAF Squad).
FAA	Fleet Air Arm.
FLT	Flight.

BRITISH AIR FORCE—Continued

Abbreviation	*Meaning*
FLT COMDR	Flight Commander.
FLT LT	Flight Lieutenant.
FO	Flying Officer.
GP	General purpose.
G/C	Group Captain.
HQ	Headquarters.
HRS	Hours.
IE	Initial equipment.
IR	Immediate reserve.
I/C	In charge of.
LG	Landing ground.
LAC	Leading aircraftsman
L/T	Line telegraphy.
LW	Long wave.
MT	Mechanical transport.
MO	Medical Officer.
MET	Meteorology—ical.
O I/C	Officer-in-Charge.
PO	Pilot Officer.
P/L	Plain language.
R/T	Radio telephony.
RPTD	Repeated.
SEC	Section.
SASO	Senior Air Staff Officer.
SESO	Senior Equipment Staff Officer.
SMO	Senior Medical Officer.
SPSO	Senior Personnel Staff Officer.
SGT	Sergeant.
SW	Short wave.
SIGO	Signal Officer.
SQN	Squadron.
SQN LDR	Squadron Leader.
S/M	Submarine.
TEL	Telephone (line).
V/S	Visual signalling.
W/O	Warrant Officer.
WG COMDR	Wing Commander.
W/T	Wireless telegraphy.
WEF	With effect from.

RESTRICTED

MERCHANT SHIP COMMUNICATIONS IN WARTIME

Appendix VIII
to Communication Instructions
1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

(I)

APP. VIII
MERSHIPS

557048°—44——55

TABLE OF CONTENTS

APPENDIX VIII. WAR TIME COMMUNICATIONS WITH MERCHANT SHIPS

Section A. VISUAL

100. General.—Visual communications with merchant ships in wartime are conducted in accordance with instructions contained in *The International Code of Signals* (H. O. 88). Specific instructions, primarily for ships in convoy are contained in *Wartime Instructions for Merchant Ships*, Vol. I, Visual Signalling Code and Instructions (WIMS–I), a Limited Combined publication held by United Nations merchant ships, men-of-war, and shore authorities, responsible for the safety of merchant shipping.

Section B. RADIO

200. GENERAL

201.—Communications by radio are conducted in accordance with instructions contained in *Wartime Instructions for Merchant Ships*, Vol. III, Radio Procedure (WIMS–III), a Limited Combined publication, distributed to the same holders as WIMS–I. This publication describes the modified commercial procedure which has been adopted for use in wartime communications to and from United Nations merchant ships and Naval Commands, and includes a discussion of the system of Broadcasts for Allied Merchant Ships (BAMS System), written for the guidance of merchant vessels. Supplementary information as to the handling of BAMS messages by naval authorities is contained in the following paragraphs:

300 SHORE TO SHIP COMMUNICATIONS (BAMS SYSTEM)

301. General.—The system of broadcasts for Allied merchant ships (BAMS System) provides for the transmission of official messages to merchantmen of the United Nations in any part of the world.

302. Organization.—The BAMS System is designed for communication by the best employment of radio stations available. The world has been divided into three zones, each of which is covered by a high-powered Zone station. Each zone is divided into areas covered by one or more Area stations. See plate 1—VIII, showing these divisions. In order that local coverage within an area may be as complete as possible, numerous Coastal stations operating on intermediate frequencies also participate.

303. BAMS Area Delineations.—

Area 1A:

Northern limit—the North Pole.
Southern limit—the parallel of 43 degrees North.
Eastern limit—the coast of Europe to the meridian of 80 degrees East in the Arctic Ocean.
Western limit—the meridian of 40 degrees West.

Area 1B:

Northern limit—the parallel of 43 degrees North.
Southern limit—the parallel of 26 degrees 10 minutes North.
Eastern limit—the meridian of Gibraltar.
Western limit—the meridian of 40 degrees West.

Area 2A:

Northern limit—the North Pole.
Southern limit—the parallel of 32 degrees North.
Eastern limit—the meridian of 40 degrees West.
Western limit—the east coast of the North American continent.

Area 2B:

Northern limit—the parallel of 32 degrees North.
Southern limit—the parallel of 15 degrees South.
Eastern limit—the meridian of 40 degrees West from latitude 32 degrees North to latitude 20 degrees North; thence direct to a position 15 degrees South and 15 degrees West.
Western limit—the east coast of the North and South American continents.

Area 3A:

Northern limit—the parallel of 26 degrees 10 minutes North.
Southern limit—the parallel of 15 degrees South.
Eastern limit—the west coast of Africa.
Western limit—the meridian of 40 degrees West from 26 degrees 10 minutes North to 20 degrees North, and thence to a position 15 degrees South and 15 degrees West.

Area 3B:

Northern limit—the parallel of 15 degrees South.
Southern limit—the South Pole.
Eastern limit—the west and south coast of Africa, and thence down the meridian of Algoa Bay (25°35′30″ E.).
Western limit—the meridian of 15 degrees West.

Area 3C:

Northern limit—the parallel of 18 degrees South from the east coast of Africa to Diego Suarez.
Southern limit—the South Pole.
Eastern limit—the west coast of Madagascar, and thence down the meridian of 45 degrees East.
Western limit—the meridian of Algoa Bay (25°35′30″ E.).

Area 4:

Northern limit—the parallel of 15 degrees South.
Southern limit—the South Pole.
Eastern limit—the meridian of 15 degrees West.
Western limit—the east coast of the South American continent, and thence down the meridian of 74 degrees West.

Area 5A:

Northern limit—a straight line joining position latitude 0 degrees, longitude 100 degrees East to the coast of northwest Australia at 130 degrees East.
Southern limit—the South Pole.
Eastern limit—the western portion of the Australian coast line and thence down the meridian of 130 degrees East.
Western limit—the meridian of 100 degrees East.

Area 5B:

Northern limit—the parallel of 23 degrees South.
Southern limit—the South Pole.
Eastern limit—the meridian of 160 degrees East.
Western limit—the southeastern portion of the Australian coast line, and thence down the meridian of 130 degrees East.

Area 5C:

Northern limit—the Equator.

Southern limit—the parallel of 23 degrees South.

Eastern limit—the meridian of 165 degrees East from the Equator to latitude 10 degrees South, thence direct to a position 17 degrees South and 160 degrees East, and thence down the meridian of 160 degrees East.

Western limit—the meridian of 130 degrees East from the Equator to the north coast of Australia, and thence round the northern and eastern coast of Australia.

Area 5D:

Northern limit—the parallel of 20 degrees North.

Southern limit—a straight line joining position latitude 0 degrees, longitude 100 degrees East to the coast of northwest Australia at 130 degrees East.

Eastern limit—the meridian of 130 degrees East.

Western limit—the meridian of 100 degrees East.

Area 6A:

Northern limit—the North Pole.

Southern limit—the parallel of 42 degrees North.

Eastern limit—the north and west coast of the North American continent.

Western limit—the north and east coast of the continent of Asia.

Area 6B:

Northern limit—the parallel of 42 degrees North.

Southern limit—the parallel of 20 degrees North from the coast of Asia to 130 degrees East; thence along the Equator to 110 degrees West; then from position 11 degrees North and 110 degrees West to the coast of the American continent at the border of Mexico and Guatemala.

Eastern limit—the west coast of the North American continent from 42 degrees North to the border of Mexico and Guatemala, and thence down the meridian of 110 degrees West.

Western limit—the east coast of Asia from 42 degrees North to 20 degrees North, and thence down the meridian of 130 degrees East.

Area 6C:

Northern limit—the Equator.

Southern limit—the South Pole.

Eastern limit—the meridian of 110 degrees West.

Western limit—the meridian of 165 degrees East from the Equator to latitude 10 degrees South; thence direct to a position 17 degrees South and 160 degrees East; and thence down the meridian of 160 degrees East.

Area 7A:

Northern limit—the south coast of the continent of Asia.

Southern limit—the parallel of 18 degrees South from the east coast of Africa, through Diego Suarez, to longitude 80 degrees East; thence direct to a position latitude 0 degrees and longitude 100 degrees East.

Eastern limit—the meridian of 100 degrees East.

Western limit—the east coast of Africa, as far west as the meridian of Aden.

Area 7B:

Northern limit—the parallel of 12 degrees South.

Southern limit—the South Pole.

Eastern limit— the meridian of 80 degrees East.

Western limit—the east coast of Madagascar, and thence down the meridian of 45 degrees East.

Area 7C:

Northern limit—a straight line joining position 12 degrees South and 80 degrees East to position latitude 0 degrees and 100 degrees East.

Southern limit—the South Pole.

Eastern limit—the meridian of 100 degrees East.

Western limit—the meridian of 80 degrees East.

Area 8:

Northern limit—a straight line joining position 11 degrees North and 110 degrees West to the coast of the American continent at the border of Mexico and Guatemala.

Southern limit—the South Pole.

Eastern limit—the west coast of the South American continent, and thence down the meridian of 74 degrees West.

Western limit—the meridian of 110 degrees West.

Area 9:

Area 9 is divided into areas 9A and 9B. Area 9A consists of the Mediterranean Sea, with its western limit on the meridian of Gibraltar. The dividing line between areas 9A and 9B passes across the Suez Canal Area 9B consists of the Red Sea, with its southeastern limit on the meridian of Aden.

304. Operation.—Zone and Area stations broadcast at routine times, on intermediate and high frequencies, general and individually addressed messages for ships in their own zone or area respectively. Coastal stations are utilized for the broadcast of messages to merchant ships believed to be within range, except at times when broadcast schedules for their particular zone or area are in progress. Coastal stations call on 500 kc. and shift to their working frequency for the transmission of BAMS messages. See table showing Zone, Area, and Coastal stations in art. 330.

305. Arranging Authorities.—Transmissions of messages for merchant ships via Zone, Area, and Coastal stations are arranged by certain designated shore-based "Arranging Authorities." See table in art. 320. These Arranging Authorities are responsible for seeing that BAMS messages passed to them are transmitted by Zone and Area stations assigned to them and by any Coastal station specified, in accordance with instructions contained in the message heading. In addition, Arranging Authorities are responsible for the transmission by Coastal stations under their control of such messages as are considered necessary, even though the originator may not have specified such transmission.

306. Originator's responsibility.—The originator of a BAMS message is responsible for routing the message to the Arranging Authorities controlling the Zone and Area stations

306 In addition, the originator of a BAMS message is responsible
for routing the message for information to authorities concerned.

d.

of BAMS traffic, it is not necessary to send a dispatch to all the Arranging Authorities listed in any area if it is not desired to utilize all the radio stations assigned for the transmission of BAMS traffic for the area concerned. Traffic should be sent only to those Arranging Authorities whose radio stations cover the plotted position of the addressee; if, however, an originator considers that an Arranging Authority needs to know the contents of a BAMS dispatch but does not need to arrange for its transmission via the station(s) under his control, the message is to be addressed as shown in article 315 (c). In the case of general messages, the Zone and Area station at least would always be utilized, and in the case of individually addressed messages the Area station and appropriate Coastal stations at least should be utilized, with the Zone

307 When ships are passing from one area to another, messages
which concern them shall be routed via the Area stations of
both areas and via the appropriate Zone station.

F BAMS SYSTEM

311. Operating signals.—In order to facilitate the handling of BAMS messages

between naval authorities, Combined Operating Signals for world-wide use have been allocated as follows:

QJL Pass to ——— for information only.
QLP Pass to ——— for BAMS transmitting action only.
QHX Pass to ——— for information and BAMS transmitting action.

These procedure signals are to be used in connection with unenciphered U. S. Navy call signs or combined call signs as appropriate. All transmission of BAMS messages between naval authorities must carry appropriate procedure signal(s) except where messages are transmitted to radio stations for broadcast where no intermediate relaying station is involved.

312. BAMS headings.—A modified commercial procedure is utilized for the address of BAMS messages and immediately follows the procedure signal(s), radio station call sign(s), and station serial number. Component parts of this BAMS heading should always appear in the following order:

a. BAMS instructional group.
b. Optional inserts:
  1. Name or call sign of coastal station from which transmission is desired (see art. 315 (b)).
  2. The phrase "HAS BEEN BROADCAST BY ———" for the information of Arranging Authorities addressed. See article 315 (c).
c. BAMS area(s) to which message is to be transmitted. Example: BAMS2B.
d. Collective or individual call signs as appropriate.
e. Precedence indicator in plain language. (U. S. or British designations, depending on the nationality of the originating authority.)
f. Name of originator in plain language preceded by FROM.
g. Group count. Example: CDE25, if encoded dispatch; CK25, if plain language includes text between BT's.

313. The BAMS Instructional Group consists of two elements; the first and second letters should be considered together as should the third, fourth, and fifth letters, as shown in the following table:

First and second letters of group	Third, fourth, and fifth letters of group
AA Broadcast this message (or text and time of origin of message quoted) to ——— on zone or area broadcast routines for number of transmissions indicated.	
BB Broadcast this message (or time of origin and text of message quoted) to ——— on receipt and repeat at single operator periods. Total number of transmissions to be as indicated.	GGG For two transmissions.
	JJJ For three transmissions.
	KKK For four transmissions.
CC Arrange transmission of this message (or text and time of origin of message quoted) to ——— from Zone and/or Area station(s) for whom you are responsible, and if Coastal stations are indicated arrange transmissions from these stations. Number of transmissions from each station to be as indicated. In addition, irrespective of whether or not specific Coastal stations are indicated, you should, if considered necessary, arrange transmission from appropriate Coastal station(s) for which	LLL For twenty-four hours.

responsible. Authority and may also be only when addressing Arranging Authority. as appropriate, before the group CC it is not ad, if so, the station(s)

NOTE.—Should a merchant ship carry less than three radio operators, the fifth letter of the BAMS instructional group is to be replaced by Y or Z which are allocated meanings as follows:

Y—Transmit at special single-operator periods. (addition to art. 313)
Z—Transmit at special two-operator periods.

Originators of BAMS traffic normally possess information as to number of operators carried. If this is not known messages should be treated as for a single-operator ship.

314. [illegible] dual call signs may be used to address BAMS messages.

a. Convoy call signs.—Messages for a particular convoy or unit thereof are addressed by a two-letter group assigned before sailing. A different group is assigned each convoy. This key group is used in conjunction with the following letter-number combinations to form convoy call signs:

D1—Commodore.
D2—Vice Commodore.
D3—The whole convoy.
D4—The Commodore's portion of the convoy.
D5—The Vice Commodore's portion of the convoy.
D6—The Senior Officer of the Escort.
D7—
D8—
D9—Stragglers from the convoy.

Example

Group XY having been assigned, the call sign used to address the whole convoy is XYD3.

b. Collective call signs, other than Convoy collective call signs discussed in *a.* above, utilize the four letters BAMS followed by a BAMS area designation if appropriate.

Example

BAMS—All United Nations Merchant Ships.
BAMS 2A—All United Nations Merchant Ships in BAMS AREA 2A.

c. Individual call signs.—A United Nations merchant ship is individually addressed by its wartime radio call sign.

315. Addressing BAMS traffic.—

a. The authority originating a BAMS message, addresses it as appropriate, in accordance with the foregoing and transmits it to Arranging Authorities and/or radio stations concerned. See table contained in article 320.

Example

A BAMS message is originated by Commander, Tenth Fleet (Convoy and Routing), and transmitted to Commander, Panama Sea Frontier, for the information of the latter authority and for transmission via the Area station controlled by him:

NBA V NSS NR1Ø—QHX—JOPE—
CCGGG BAMS2B STOP BAMS2B
BAMS2B PRIORITY FROM COM 10th
FLEET CDE141 $\overline{\text{BT}}$ TEXT $\overline{\text{BT}}$ 171216Z

b. If broadcast by specific Coastal station(s) is desired by the originator, the call sign of the station(s) or name in plain language should be inserted immediately following the five-letter BAMS instructional group.

Example

A BAMS message is originated by Commander, Tenth Fleet (Convoy and Routing), transmitted to Commander, Panama Sea Frontier, for BAMS transmission via the Area station controlled by the latter, and, in addition, for transmission via Coastal station at Belize, message not for information of Commander, Panama Sea Frontier.

NBA V NSS NR6—QLP—JOPE—
CCGGG VPP (OR RADIO BELIZE)
BAMS2B STOP KFCG KFCG
PRIORITY FROM COM 10TH FLEET
CDE 51 BT TEXT BT Ø81111Z

The Commander, Panama Sea Frontier will arrange transmission on Naval Radio Balboa Area broadcast, and in addition will transmit to Radio Belize for broadcast at other than scheduled times. The BAMS instructional group must be changed to AAGGG when the message is passed to Radio Balboa and to BBGGG for Radio Belize. The Procedure signal is omitted in the transmission to Radio Belize as complete instructions for that station are included in the BAMS instructional group.

c. Originating authorities should not normally pass messages directly to Coastal stations for transmission, but, if this is done, originators must indicate to the authority arranging the area transmission the action taken. Such indication will be in plain language immediately following the five-letter BAMS instructional group.

Example

A BAMS message is originated by the Commander, Panama Sea Frontier, transmitted via Naval Radio Guantanamo for broadcast and to Commander, Tenth Fleet (Convoy and Routing), for information only.

Transmission to Radio San Juan for relay to Radio Guantanamo:

NAU V NBA NR6—QLP—NAW—
BBGGG BAMS2B STOP WXYZ WXYZ
PRIORITY FROM COMPASEAFRON
CDE17 BT TEXT BT 141611Z

Transmission from Radio San Juan to Radio Guantanamo:

NAW V NAU NR2
BBGGG BAMS2B STOP WXYZ WXYZ
PRIORITY FROM COMPASEAFRON
CDE17 BT TEXT BT 141611Z

Transmission to COM 10th Fleet (C & R):

NSS V NBA NR7—QJL—TUBA—
CCGGG HAS BEEN BROADCAST BY
NAW BAMS2B STOP WXYZ
WXYZ PRIORITY FROM COMPASEAFRON
CDE17 BT TEXT BT 141611Z

Inasmuch as the first two letters of the BAMS instructional group, CC, are normally employed when addressing an Arranging Authority, CCGGG is used in the example of the transmission to COM 10th Fleet as shown above. It is emphasized that whenever the operating signal QJL is used in the headings of BAMS messages, the BAMS instructional group is not to be considered as an instruction to transmit, but is included only for the sake of uniformity.

316. Instructions to broadcasting stations.—

a. Zone and Area stations.—Zone and Area stations transmit BAMS traffic at scheduled times as listed in article 330. Transmissions shall not exceed a speed of 15 words or code groups per minute. If no traffic is on hand at a scheduled transmission period, Zone and

596962*—44——13

Area stations will transmit their call letters and the International Operating Signal QRU for a period of not less than 5 minutes. Traffic lists precede zone and area broadcast schedules and consist of call signs (transmitted twice) and date time groups of messages awaiting transmission transmitted in the sequence in which messages will be broadcast. Traffic is to be broadcast in the following sequence:

1. Messages addressed to collective call signs in order:

   Zone call signs
   Area call signs
   Convoy call signs (in alphabetical sequence).

2. Messages addressed by individual call signs in (alphabetical sequence).

The makeup of the traffic list is of great importance since it tells merchant ship radio operators what messages will be addressed to them on the schedule that follows. Ships are permitted to discontinue covering BAMS schedules once they have received messages addressed to them as listed in the traffic list. Traffic lists must be correct and completely compiled and schedules following must correspond thereto. In the event that a BAMS message of higher than Routine precedence is received during the transmission of a BAMS schedule Zone and Area stations may transmit such message provided that it can be inserted in correct order in the traffic being broadcast. When transmissions of this nature are made, they shall be considered as extra and the transmission on the following schedule, in which the message is included in the traffic list, shall be considered as the first official transmission of the message for the purpose of determining the number of times the message is to be broadcast. Zone and Area stations transmit messages in the sequence indicated by the traffic lists—each message being preceded by the call sign of the addressee (transmitted twice). Each message is transmitted once through. On completion of the transmission of all messages indicated in the traffic list, new messages will be repeated in the same sequence as they were broadcast at the first transmission.

The BAMS instructional groups are omitted in the transmission by the broadcasting station.

Example

BAMS2B BAMS2B DE NSS $\overline{\text{BT}}$ BAMS2B BAMS2B PRIORITY FROM COM 1ØTH FLEET CDE2Ø $\overline{\text{BT}}$ TEXT $\overline{\text{BT}}$ 161217Z.

b. Coastal stations will broadcast BAMS messages upon receipt if zone or area schedules for the BAMS area concerned are not in progress or about to commence. If zone or area schedules are being transmitted, Coastal stations shall await the completion of the scheduled broadcasts before commencing transmissions. Coastal stations call on 500 kc., transmit call signs and date and time groups of messages to be transmitted and shift by international Q signal to their working frequencies, as listed in article 330, pausing for two minutes before the transmission of messages. During this 2-minute period Coastal stations shall transmit their call letters on their working frequency. Messages shall be repeated for the total number of times indicated by the BAMS instructional group spaced at appropriate intervals such as 4 or 6 hours and conforming to the single-operator periods. Transmission shall not exceed a speed of 15 words or code groups per minute. The BAMS instructional group is omitted when messages are transmitted by Coastal stations as in the example shown in *a* above. If more than one BAMS message is on hand for transmission by a Coastal Station, messages are to be broadcast in the same sequence as directed by (a) above for Zone and Area Station broadcasts.

APPENDIX VIII

317. Correcting BAMS messages.—All corrections to BAMS messages shall take the form of a new dispatch. Dispatches containing corrections shall be transmitted to original addressee(s), using BAMS heading appearing in the original transmission(s). Corrections modifying the text of BAMS messages shall take the form of new enciphered messages. Corrections to errors in the transmission of code groups shall take the form of new plain language dispatches containing appropriate instructions as to the changes to be made as in the following example:

MY 171ø25 CORRECT GROUP 3 5 AND 6 TO READ 54219 17254 33172 BT 171834Z.

COMMUNICATION INSTRUCTIONS

320.

ARRANGING AUTHORITIES STATION RESPONSIBILITY

Area	Arranging authority	Zone station	Area station	Coastal station
1A	Admiralty	Rugby	PORTISHEAD ~~Rugby~~	All stations.
1B	Admiralty	Rugby	Rugby, Portishead.	
	Flag Officer Commanding, Gibraltar			Gibraltar.
2A	Commander in Chief, Canadian Northwest Atlantic.		Louisberg	All Canadian stations.
	COM 10th Fleet, C & R	Washington	Washington	Amagansett. Bermuda. Boston. Charleston. Norfolk.
2B	COM 10th Fleet, C & R	Washington	Washington	Barbados. Bermuda. Georgetown. Kingston. Miami. New Orleans. North Post, Trinidad. Olinda (Recife). San Juan. Guantanamo.
	COMPASEAFRON		Balboa	Belize.
3A	Admiralty	Rugby		
	Naval Officer in Charge, West Africa		Freetown, Dakar.	All stations.
3B	Admiralty	Rugby		
	Commander in Chief, South Atlantic		Simonstown	All stations.
3C	Admiralty	Rugby		
	Commander in Chief, South Atlantic		~~Durban~~ DURBAN	All stations.
4	Naval Officer in Charge, Falkland Islands.		Falklands	Falklands.
	COM 10th Fleet, C & R	Washington		
	COMDT., NOB Rio de Janeiro		Rio de Janeiro	Junccao, Rio de Janeiro.
5A	Admiralty	Rugby		
	Naval Officer in Charge, Fremantle		Perth	All stations.
5B	COMHAWSEAFRON	Oahu		
	Australian Commonwealth Naval Board.		Sydney	All stations.
5C	COMHAWSEAFRON	Oahu		
	Australian Commonwealth Naval Board.		Townsville	All stations.

ARRANGING AUTHORITIES STATION RESPONSIBILITY—Continued

Area	Arranging authority	Zone station	Area station	Coastal station
5D	COMHAWSEAFRON	Oahu		
	Australian Commonwealth Naval Board.		Darwin	
	Naval Officer in Charge, Fremantle		Perth	
6A	COMHAWSEAFRON	Oahu	Oahu	
	COMWESTSEAFRON		San Francisco	Astoria. Bull Harbor. Dutch Harbor. Estevan. Kodiak. Prince Rupert. Puget Sound. [redacted].KETCHIKAN Victoria.
6B	COMHAWSEAFRON	Oahu	Oahu	Honolulu (Coast Guard).
	COMWESTSEAFRON		San Francisco	Eureka, San Diego.
6C	COMPASEAFRON		Balboa	
	COMHAWSEAFRON	Oahu		
	COMSOPAC			Bora Bora. Espiritu Santos. Noumea. Tutuila.
	New Zealand Naval Board		Auckland	All British stations.
7A	Admiralty	Rugby		
	Flag Officer, Ceylon		Colombo	All stations.
7B	Admiralty	Rugby		
	Flag Officer, Ceylon		Colombo	All stations.
7C	Admiralty	Rugby		
	Flag Officer, Ceylon		Colombo	
8	Naval Officer in Charge, Falklands		Falklands	ANTOFAGASTA
	COM 10th Fleet, C & R	Washington		VALPARAISO
	COMPASEAFRON		Balboa	TALCAHUANO ARICA
9A	Admiralty	Rugby		
	Flag Officer Commanding, Gibraltar		[redacted]	Gibraltar.
	Rear Admiral, Alexandria		[redacted]	Alexandria, Larnaca.
	Vice Admiral, Malta		[redacted]	Malta.
9B	Admiralty	Rugby		
	Naval Officer in Charge, Aden		[redacted]	Aden, Port Sudan.
	Rear Admiral, Alexandria		[redacted]	Alexandria, Port Sudan.

330.

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEM

Area	Station	Call sign	Working frequency	Time (GCT)
1A	*Zone Station*			
	Rugby	GBR	16 kc	0000.
		GKU	149 kc	
		GAY	8910 kc	
		GIH	10650 kc	
		GBR	16 kc	1200.
		GKU	149 kc	
		GID	13555 kc	
		GAD	19480 kc	
		GBR	16 kc	2000.
		GKU	149 kc	
		GAY	8910 kc	
		GYD10	~~[illegible]~~ kc 4775 KCS	
	Area Stations			
	Rugby	(Frequencies and schedules same as for zone station).		
	Portishead	GKU	149 kc	0200, 0600, 2200.
		GKU4	4025 kc	
		GKU1	7355 kc	
		GKU	149 kc	1000, 1800.
		GKU1	7355 kc	
		GKU3	12455 kc	
		GKU	149 kc	1415.
		GKU3	12455 kc	
		GKU2	17685 kc	
	Additional Coastal Stations			
	Burnham-on-Sea	GRL	476 kc	
	Cullercoats	GCC	484 kc	
	Humber	GKZ	467 kc	
	Malin Head [1]	GMH	421 kc	
	Niton	GNI	464 kc	
	North Foreland	GNF	418 kc	
	Portpatrick	GPK	461 kc	
	Seaforth	GLV	447 kc	
	Stonehaven	GND	421 kc	
	Valentia [1]	GCK	429 kc	
	Wick ORMESBY	GKR MFOJ	435 kc 600 KCS	
1B	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Stations			
	Portishead. (See Area 1A.)			
	Rugby. (See Area 1A.)			
	Additional Coastal Station			
	Gibraltar	GYW	470 kc	

[1] These stations are situated in NEUTRAL territory, and may NOT be used for belligerent communications. They will handle distress traffic, however, but apart from this are available for commercial purposes only. Any communications with these stations must be conducted by normal international commercial procedure, using international call signs.

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEMS—Continued

Area	Station	Call sign	Working frequency	Time (GCT)
2A	*Zone Station*			
	Washington	NSS	122 kc 4390 kc 9425 kc 12630 kc	0500, 1100, 1700, 2300.
	Area Stations			
	Louisberg	VAS	111 kc 8490 kc	0100, 0930.
			111 kc 12500 kc	1300, 2130.
	Washington	(Frequencies and schedules same as for zone station.)		
	Additional Coastal Stations			
	Amagansett	WSL	474 kc	
	Belle Isle	VCM	417 kc	
	Bermuda	VRT	451 kc	
	Boston	NAD	106 kc	
	Camperdown, N. S	VCS	441 kc	
	Charleston	NAO	145 kc	
	Fame Point	VCG	[illegible] kc 484 KCS	
	Father Point	VCF	[illegible] 484 KCS	
	Norfolk	NAM	102 kc	
	Quebec	VCC	441 kc	
	Yarmouth	VAU	417 kc	
2B	*Zone Station*			
	Washington. (See Area 2A.)			
	Area Stations			
	Balboa	NBA	24 kc 148 kc 5515 kc 11080 kc 17690 kc	0400, 0800, 1400, 2200.
	Washington. (See Area 2A.)		5/KCS* automatic Retransmission VIA. RADIO TRINIDAD	
	Additional Coastal Stations			
	Barbados	VPO	425.5 kc	
	Belize	VPP	500 kc	
	Bermuda	VRT	451 kc	
	Georgetown	VRY	400 kc	
	Guantanamo	NAW	106 kc	
	Kingston	VQI	460 kc	
	Miami	WAX	482 kc	
	New Orleans	WNU	448 kc	
	North Post, Trinidad	VPL	440 kc. or 392 kc	
	Olinda	PPO	461.5 kc	
	San Juan	NAU	127 kc	

APPENDIX VIII

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEM—Continued

Area	Station	Call sign	Working frequency	Time (GCT)
3A	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Station			
	Freetown	VPU	143 kc 6610 kc	0130.
			143 kc 9295 kc	0730, 1330, 1900.
	Dakar	FUW	143 kc 6610 kc	0430, 2230.
			143 kc 9295 kc	1030, 1630.
	Additional Coastal Stations			
	Ascension Is	ZBI	400 kc	
	Dakar	FUW	480 kc	
	Freetown	VPU	143 kc	
	Lagos	VPY	425 kc	
	Port Etienne	FGB	425 kc	
	Takoradi	VPG	385 kc	
3B	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Station			
	Simonstown	ZSC	143 kc 6464 kc 8333 kc	0145, 2100.
			143 kc 8333 kc 12645 kc	0500, 1700.
			143 kc 8333 kc 16666 kc	0900, 1300.
	Additional Coastal Stations			
	Algoa Bay	ZSQ	461 kc	
	Simonstown	ZSC	353 kc	
	St. Helena	ZHL	425 kc	
	Tristan da Cunha	ZHP	375 kc	
	Walvis Bay	ZSV	425 kc	

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEM—Continued

Area	Station	Call sign	Working frequency	Time (GCT)
3C	*Zone Station*			
	Rugby (See Area 1A.)			
	Area Station			
	[redacted] Durban	ZSD	138. 25 kc [redacted] kc 16990 kcs 8800 kc	0130, 0530, 2130.
			138. 25 kc 8800 kc [redacted] kc 11100 kcs	0930, 1330, 1730.
	Additional Coastal Stations			
	Algoa Bay	ZSQ	461 kc	
	Diego Suarez	MPH	450 kc	
	[redacted] DURBAN	ZSD	425 kc	
4	*Zone Station*			
	Washington. (See Area 2A.)			
	Area Stations			
	Rio de Janeiro	PPR	408 kc 8310 kc 16915 kc	0130, 0630, 1330, 2030.
	Falklands	VPC	125 kc 4700 kc	0400.
			125 kc 8555 kc 17110 kc	1230, 1600.
	Additional Coastal Stations			
	Falklands	VPC	405 kc	
	Junccao	PPJ	416 kc	
	Rio de Janeiro	PPR	408 kc	
5A	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Station			
	Perth	VIP	125 kc 12375 kc 6240 kc	0218, 0618, 1018, 1418, 1818, 2218.
	Additional Coastal Stations			
	Broome	VIO	440 kc	
	Esperance	VIE	435 kc	
	Geraldton	VIN	420 kc	
	Perth	VIP	405 kc, 6240 kc	

APPENDIX VIII

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEM—Continued

Area	Station	Call sign	Working frequency	Time (GCT)
	Zone Station			
5B	Oahu	NPM	16.68 kc.[2]	0000.[3]
			9090 kc	
			14390 kc	0500.
			17370 kc	
			16.68 kc.[2]	
			4525 kc	1700.
			6380 kc	
			9090 kc	
			16.68 kc.[2]	
			6380 kc	2000.
			9090 kc	
	Area Station		14390 kc	
	Sydney	VIS	125 kc	0130, 0530, 0930, 1330, 1730, 2130.
			12375 kc	
			6245 kc	
	Additional Coastal Stations			
	Adelaide	VIA	425 kc	
	Brisbane	VIB	435 kc. 6240 kc	
	Hobart	VIH	415 kc. 6250 kc	
	Melbourne	VIM	430 kc. 6220 kc	
	Sydney	VIS	405 kc. 6245 kc	
5C	*Zone Station*			
	Oahu. (See Area 5B.)			
	Area Station			
	Townsville	VIT	125 kc	0030, 0430, 0830, 1230, 1630, 2030.
			12375 kc	
			6225 kc	
	Additional Coastal Stations			
	Cooktown	VIC	405 kc	
	Thursday Island	VII	415 kc., 6250 kc	
	Townsville	VIT	430 kc., 6225 kc	
	Port Moresby	VIG	415 kc	
5D	*Zone Station*			
	Oahu. (See Area 5B.)			
	Area Stations			
	Darwin	VID	415 kc	0018, 0418, 0818, 1218, 1618, 2018.
	Perth. (See Area 5A.)			
	Additional Coastal Stations			
	Darwin	VID	415 kc	
6A	*Zone Station*			
	Oahu. (See Area 5B.)			
	Area Stations			
	San Francisco	NPG	115 kc	0300, 0900, 1600, 2100.
			9255 kc	
			12540 kc	
	Oahu. (See Area 5B.)			

[2] In the event of failure of 16.68 kc. at any time, BAMS schedules will be transmitted automatically on 56 kc.

[3] 56 kc. will replace 16.68 kc. on this schedule, Thursday only.

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEM—Continued

Area	Station	Call sign	Working frequency	Time (GCT)
6A (cont.)	*Additional Coastal Stations*			
	Astoria	NPE	148 kc	
	Bull Harbor	VAG	410 kc	
	Dutch Harbor	NPR	128 kc	
	Estevan	VAE	405 kc	
	Kodiak	NHB	106 kc	
	Prince Rupert	VAJ	400 kc	
	Puget Sound	NPC	112 kc	
	[redacted] KETCHIKAN	[redacted]	[redacted] c 425 kcs	
	Victoria	VAK	441 kc	
6B	*Zone Station*			
	Oahu. (See Area 5B.)			
	Area Stations			
	San Francisco. (See Area 6A.)			
	Oahu. (See Area 5B.)			
	Additional Coastal Stations			
	Honolulu	NMO	425 kc	
	San Diego	NPL	128 kc	
	San Francisco	NPG/NMC	115 kc 480 kc	
6C	*Zone Station*			
	Oahu. (See Area 5B.)			
	Area Stations			
	Balboa. (See Area 2B.)			
	Auckland	ZLD	445 kc 7850 kc 14730 kc	0030, 0430, 0830, 1230, 2030.
	Addition Coastal Stations			
	Apia	ZMA	375 kc	
	Auckland	ZLD	445 kc	
	Awarua	ZLB	405 kc	
	Bora Bora	NXO	468 kc	
	Espiritu Santo	NUB	468 kc	
	Noumea	NXZ	468 kc	
	Pitcairn Island	ZKG	395 kc	
	Raratonga	ZKR	375 kc	
	Suva	VRP2	441 kc	
	Tutuila, Samoa	NPU	104 kc	
	Wellington	ZLW	385 kc	

APPENDIX VIII

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEM—Continued

Area	Station	Call sign	Working frequency	Time (GCT)
7A	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Station			
	Colombo	GZH	123 kc	0130, 2100.
			4110 kc	
			8220 kc	
			12330 kc	
			123 kc	0500, 0800, 1300, 1700.
			8220 kc	
			12330 kc	
			16440 kc	
			20550 kc	
	Bombay [4]	VWF	155 kc	0600, 1400, 2200.
	Additional Coastal Stations			
	Addu Atoll	MGJ	400 kc	
	Aden	GZQ	445 kc	
	Bahrein	VTE	460 kc	
	Bombay	VWB	420 kc	
	Calcutta	VWC	420 kc	
	Colombo	GZH	445 kc	
	Diego Suarez	MHP	450 kc	
	Karachi	VWK	410 kc	
	Madras	VWM	475 kc	
	Mombasa	VPQ	460 kc	
	Seychelles	ZCQ	440 kc	
7B	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Station			
	Colombo. (See Area 7A.)			
	Additional Coastal Stations			
	Diego Suarez	MHP	450 kc	
	Mauritius	VRS	468 kc	

[4] Bombay repeats traffic for Area 7A which has previously been transmitted by Colombo. Ships may read Bombay in lieu of Colombo if reception from the latter station is not satisfactory.

LIST OF BRITISH AND U. S. RADIO STATIONS IN BAMS SYSTEM—Continued

Area	Station	Call sign	Working frequency	Time (GCT)
7C	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Station			
	Colombo. (See Area 7A.)			
8	*Zone Station*			
	Washington. (See Area 2A.)			
	Area Stations			
	Balboa. (See Area 2B.)			
	Falklands. (See Area 4.)			
	Additional Coastal Stations			
	ARICA	CCA	425 KCS - - - -	
	Antofagasta	CCF	150 kc	
	Valparaiso	CCL	150 kc	
	Talcahuano	CCT	150 kc	
9A	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Stations [5]			
	Additional Coastal Stations			
	Alexandria	SUH	458 kc	
	Gibraltar	GYW	470 kc	
	Larnaca	ZFE	447 kc	
	Malta	VPT	458 kc	
9B	*Zone Station*			
	Rugby. (See Area 1A.)			
	Area Stations [5]			
	Additional Coastal Stations			
	Aden	GZQ	458 kc	
	Alexandria	SUH	458 kc	
	Port Sudan	STP	458 kc	

[5] All traffic for merchant ships operating in the Mediterranean is transmitted via the Zone Station Rugby and Coastal Stations.

400. SHIP TO SHORE COMMUNICATIONS

401. Merchant ships in time of war are authorized to transmit the following types of messages:

a. Distress message.
b. An amplifying report.
c. Cancelation message.
d. Message relaying a distress message or amplifying report originated by some other ship.
e. An enemy report.
f. A message of extreme urgency.
g. A reply to a message from a naval authority which contains specific orders to break radio silence.
h. A request for a repetition of a message, specifically addressed, portions of which the addressee is unable to decode.
i. A request for D/F bearings (only in emergency).
j. A message in accordance with special instructions received from naval authorities before sailing.

Passing instructions will not be included in the headings of distress messages, amplifying reports, cancelation messages, messages relaying distress messages or amplifying reports originated by some other ship, enemy reports, or requests for D/F bearings.

410. DISTRESS MESSAGES

411. When in distress, merchant ships sailing in convoy transmit a distress message for the information of the Convoy Commodore and Escort Commander. Convoy distress messages are transmitted on 500 kc. Distress messages transmitted by vessels proceeding without escort will be *broadcast* on 500 kc. and on high frequency if the ship is so equipped.

412. Special distress signals for use with plain language messages reporting distress are shown in the following table. These signals indicate that the message is of urgent precedence, identify the type of attack or sighting, and serve as an ultimate address indicator. Letters are transmitted as separate characters. Messages are preceded by the appropriate distress signal transmitted three times.

Distress signal	When used
AAAA	When attacked by enemy aircraft or upon sighting aircraft which cannot be identified as friendly.
QQQQ	When attacked by a hostile merchant ship or upon sighting a merchant ship believed to be a disguised raider.
RRRR	When attacked by an enemy warship or upon sighting any naval vessel which cannot be identified as an Allied or neutral ship.
SSSS	When in distress due to attack by submarine, upon sighting any evidence of submarine activity or when striking a mine.
SOS	International distress signal used when in distress and in immediate danger from causes not due to enemy activity.

413. The nature of the attack is normally described by one of the following words:

BOMBED.
GUNNED.
MINED.
TORPEDOED.
SUSPICIOUS (used only by ships proceeding without escort to indicate the sighting of forces which cannot be identified as friendly). Brief additional information may also be included.

414. Components of distress messages.—

a. Ships in convoy:

1. The distress signal. See article 412.
2. The letters DE followed by the ship's convoy call sign.
3. Single words indicating nature of distress. See article 413.

b. Ships proceeding without escort:

1. Distress signal.
2. DE followed by ship's wartime call sign.
3. Position of the ship.
4. Single word indicating nature of attack (may be followed by brief additional information).
5. Weather report (U. S. ships only—coded from CIMS–42 Appendix D).
6. Date–Time Group *of attack* (U. S. ships only).

415. Example of distress message transmitted by ship not under escort.

SSSS SSSS SSSS DE WXYZ WXYZ WXYZ BT 2ØØ4 NORTH 2658 WEST TORPEDOED WX 24272 BT Ø81111Z

NOTE: British–managed ships transmit war call once only and omit break signs, weather report and date–time group.

416. Example of distress message transmitted by ship in convoy.

SSSS SSSS SSSS DE XY25 TORPEDOED STARBOARD BEAM

417. Action to be taken by coastal station.

Type of message intercepted	Action to be taken
a. **AAAA, QQQQ, RRRR, SSSS, SOS.** transmitted on 500 kc	(1) Rebroadcast immediately on 500 kc. exactly as received adding at the end of the message a break sign followed by the date and time of intercept plus the call letters of the intercepting station. (2) This rebroadcast is to be made by the controlling station, which is normally the nearest station to the position given in the distress message. (3) All stations intercepting a distress message shall relay exactly as received (plus date/time of intercept) at least to the Sea Frontier Commander and District Commandant in whose Sea Frontier or Naval District the intercepting station is located; or, if the intercepting station is not located within the limits of a Sea Frontier or Naval District, at least to the cognizant Area Commander.
b. **AAAA, QQQQ, RRRR, SSSS, SOS.** transmitted on high frequency	(1) Distress messages intercepted on high frequency are to be acknowledged on the calling frequency but not rebroadcast. (2) All stations intercepting a distress message shall relay to the appropriate naval authority as directed by *a.* 3 above. It is the responsibility of the Sea Frontier Commander or Area Commander concerned to relay distress messages intercepted on high frequency to the responsible Naval authority located in the geographical locality of the distress.

Type of message intercepted	Action to be taken
c. Convoy distress messages	(1) Convoy distress messages intercepted by shore radio stations shall not be rebroadcast or acknowledged. (2) Intercepting coastal station shall relay to the appropriate Naval authority as directed in *a.* (3) above.
d. Distress messages from neutral sources.	Same procedure as in *b.* above.
e. Distress messages from enemy sources.	Same procedure as in *c.* above.
f. Automatic distress transmissions	Same procedure as in *c.* above.

418. Unofficial communications shall not be initiated by Coastal Stations which have established communication with merchant ships as a result of distress transmissions. Any message addressed to a ship in distress must be originated by the appropriate naval authority.

419. Auto alarm signal.—

a. Ships in distress are directed that, if no acknowledgment is heard, the standard auto alarm signal (12 4-second dashes spaced 1 second apart) shall be transmitted.

b. Coastal radio stations rebroadcasting distress traffic shall not preface such transmissions with the auto alarm signal.

420. ENEMY SIGHTING REPORTS

421.—Occasionally a merchant vessel sights enemy units which do not in turn sight the merchant vessel concerned. Under these conditions merchant ships are permitted to maintain radio silence until clear of immediate danger. At this time an enemy sighting report may be originated. This report is encoded and addressed by the danger signal (DR). Coastal Stations intercepting messages addressed by DR shall acknowledge the transmission and relay the message to the cognizant Area Commander or Sea Frontier Commander and District Commandant.

422. Cancelation of distress messages and sighting reports.—Plain language cancelation messages shall be acknowledged by the station controlling the original distress message. Plain language cancelations shall not be rebroadcast. A plain language cancelation of a distress message shall be relayed to the same addressees as was the original distress message. Merchant ships are directed to confirm plain language cancelation messages by the transmission of an encoded cancelation transmitted approximately 1 hour after the plain language cancelation message.

430. INDEFINITE CALL SIGNS USED WITH ENCODED MESSAGES

431.—The signification "Any United Nations' Merchant Ship" has been assigned the call sign: NUMS 1 to NUMS 9, inclusive. All encoded messages originated by merchant ships will carry an indefinite call sign selected at random from NUMS 1 to NUMS 9. In order to indicate the ship of origin, merchant ships are directed that the ship of origin encode her wartime call sign as the first part of message text. Coastal stations shall acknowledge encrypted messages received from merchant vessels. If passing instructions are included in the heading, messages will be relayed as instructed. If no passing instructions are included, enciphered messages shall be immediately relayed to the Sea Frontier Commander or cognizant Area Commander. If such authority cannot take action upon the message he is responsible for relaying it to the appropriate Naval Command.

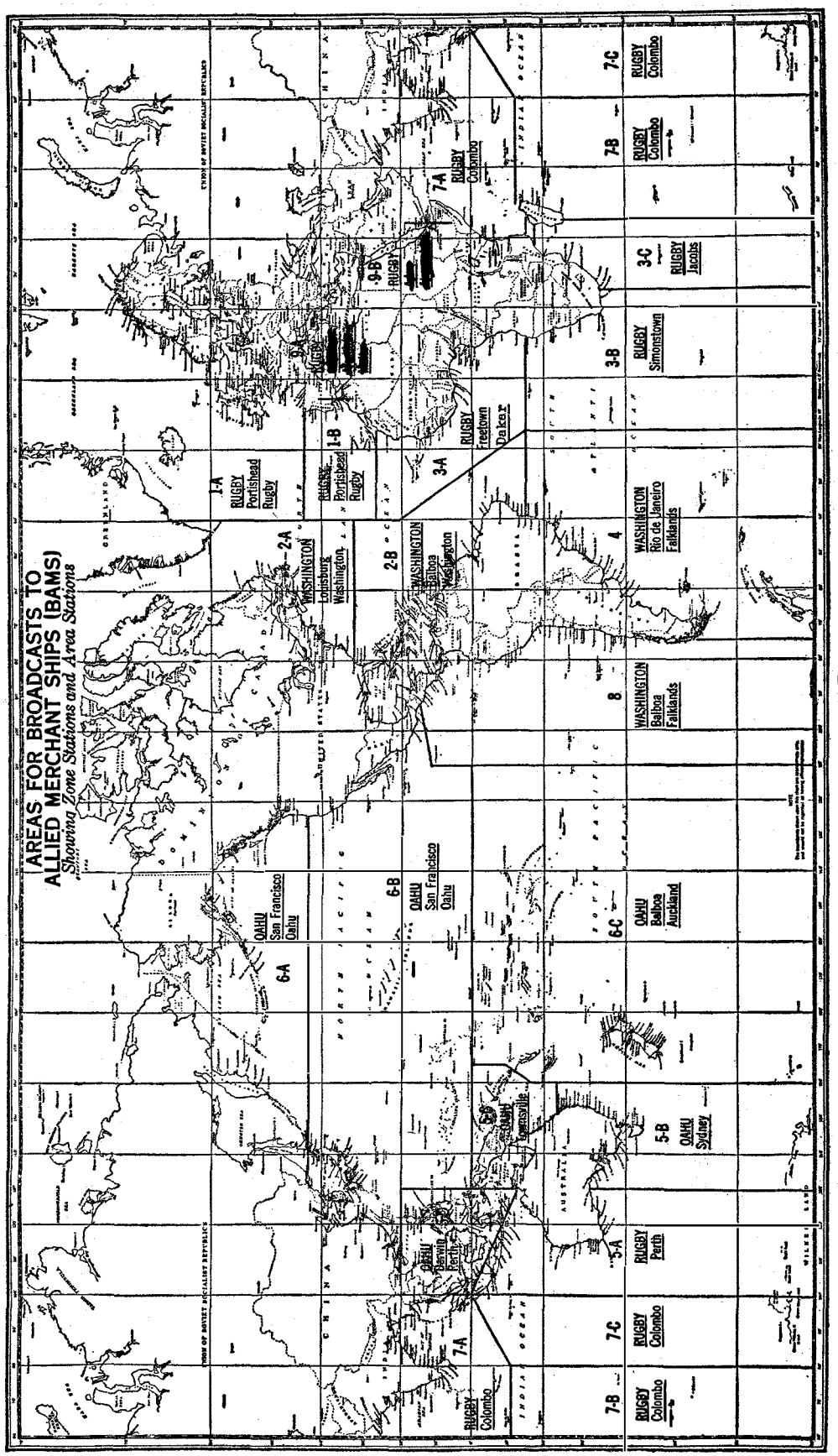

AREAS FOR BROADCASTS TO ALLIED MERCHANT SHIPS (BAMS)
Showing Zone Stations and Area Stations
1-A RUGBY Portishead Rugby
1-B RUGBY Portishead Rugby
2-A WASHINGTON Lonisburg Washington
2-B WASHINGTON Balboa Washington
3-A RUGBY Freetown Dakar
3-B RUGBY Simonstown
3-C RUGBY Jacobs
4 WASHINGTON Rio de Janeiro Falklands
5-A RUGBY Perth
5-B OAHU Sydney
6-A OAHU San Francisco Oahu
6-B OAHU San Francisco Oahu
6-C OAHU Balboa Auckland
7-A RUGBY Colombo
7-B RUGBY Colombo
7-C RUGBY Colombo
8 WASHINGTON Balboa Falklands
9-B RUGBY
CHINA
INDIA
AUSTRALIA
NORTH PACIFIC OCEAN
SOUTH PACIFIC OCEAN
INDIAN OCEAN

Plate 1-VIII

RESTRICTED

U. S. COAST GUARD SHORE COMMUNICATION FACILITIES

Appendix IX
to Communication Instructions

1944

NAVY DEPARTMENT
Office of Chief of Naval Operations

557048°—44——58

COMMUNICATION INSTRUCTIONS

APPENDIX IX

TABLE OF CONTENTS

APPENDIX IX

100. GENERAL INSTRUCTIONS FOR SHORE RADIO STATIONS

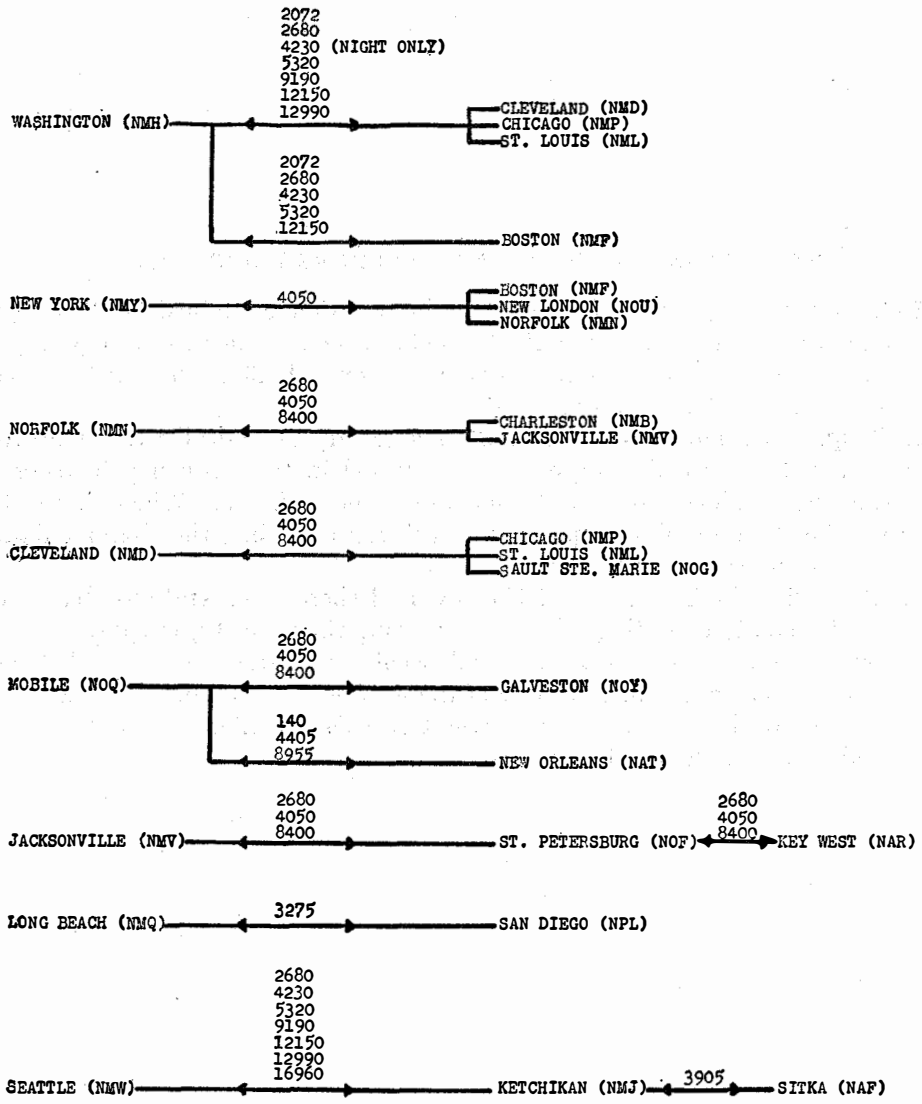
101. Changes to appendix IX.—Certain information contained in this Appendix is subject to change frequently. District Coast Guard Officers shall report promptly to the Commandant any errors noted herein and all changes which affect their districts which have not had prior approval by the Commandant.

102. Frequency usage.—When it becomes necessary or desirable to set up frequencies at a location, or for a certain purpose, not indicated in the frequency instructions, prior approval shall be obtained from the Commandant for such use. When circumstances are such as to make the obtaining of prior approval impracticable, the Commandant shall be informed as soon thereafter as possible.

103. The Officer in Charge of all Coast Guard shore radio stations shall prepare and keep up to date a daily operating schedule indicating time (GCT), purpose and frequencies employed (receiving and transmitting), for all circuits, broadcasts, and guards for which the shore radio station is responsible. Copies of these schedules shall be submitted in duplicate to the Commandant via the respective District Coast Guard Officer the first of each quarter. These schedules shall be classified "Restricted".

111

POINT TO POINT CIRCUITS



APPENDIX IX

SHIP SHORE SERVICE

(1) International Distress Frequency---------- 500 KC
(2) Calling, emergency and distress (Great Lakes only)---------- 2182 KC
(3) Inter-Coast Guard general calling frequency---------- 2670 KC
(4) Working frequency (A3 only)---------- 3410 KC
(5) Calling, working and answering ---------- 4050 KC
(6) Calling, working and answering ---------- 6280 KC
(7) Calling, working and answering (2200 to 1200 GCT)---------- 8280 KC
(8) Calling, working and answering ---------- 8460 KC
(9) Calling, working and answering (1400 to 2200 GCT)---------- 12420 KC
(10) Calling, working and answering ---------- 12690 KC
(11) Calling, working and answering (1200 to 1400 GCT)---------- 16560 KC

DISTRICT	STATION	CALL SIGN	LISTENS CONTINUOUSLY 1 500 KC	2 2182 KC	3 2670 KC	4 3410 KC	5 4050 KC	6 6280 KC	7 8280 KC	8 8460 KC	9 12420 KC	10 12690 KC	11 16560 KC
	WASHINGTON (F)	NMH					X	X		X		X	
1	BOSTON (E)	NMF	X		X		X						
3	NEW YORK (E)	NMY	X		X								
3	AMAGANSETT (E)(D)	WSL	X						X		X		X
3	NEW LONDON	NOU	X		X	X							
4	PHILADELPHIA	NMK			X								
5	NORFOLK (E)	NMN	X		X		X						
6	CHARLESTON (E)	NMB	X		X								
6	JACKSONVILLE (E)	NMV	X		X								
7	ST. PETERSBURG	NOF	X		X		X						
7	HIALEAH (D)(E)	WAX	X						X		X		X
8	MOBILE (E)	NOQ	X		X	X							
8	NEW ORLEANS (D)(E)	WNU	X						X		X		X
8	GALVESTON	NOY	X		X	X							
9	ST. LOUIS (E)	NML			X		X						
9	CHICAGO (E)	NMP	X	X									
9	CLEVELAND (E)	NMD	X	X									
9	SAULT STE. MARIE	NOG	X	X									
10	SAN JUAN (E)	NMR	X		X								
11	LONG BEACH (E)	NMQ	X		X	X							
12	PALO ALTO (D)(E)	KFS	X						X		X		X
12	SAN FRANCISCO (E)	NMC	X		X								
13	SEATTLE (D)(E)	NMW	X		X					X			
13	[redacted] WESTPORT (E)	NOV	X		X					X			
13	KETCHIKAN (D)(E)	NMJ	X		X	X	X			X			
13	HILLSBORO (D)(E)	KEK	X						X		X		X
14	HONOLULU (E)	NMO	X		X								

LEGEND

(D) - Accepts Class "D" traffic to be forwarded by commercial lines.
(E) - Accepts Class "E" traffic to be forwarded by commercial lines.
(F) - Primary FOX schedule when directed by the Commandant.

NOTE: CURRENT NAVY COMMUNICATION PLANS SHOULD BE CONSULTED FOR OTHER FREQUENCIES EMPLOYED BY SHIPS OPERATING UNDER THE NAVY.

DISTRICT WORKING FREQUENCIES

2684 KC - 9th(St.Louis) - 10th - 13th (K) 14th.
2688 KC - 3rd - 4th - 12th.
2692 KC - 1st - 6th - 7th - 9th(Cleveland) 11th.
2704 KC - 5th - 8th - 13th(Seattle)

SECONDARY FREQUENCIES FOR ALL DISTRICTS

2660 KC - 2664 KC - 2676 KC

RADIO DIRECTION FINDING STATIONS

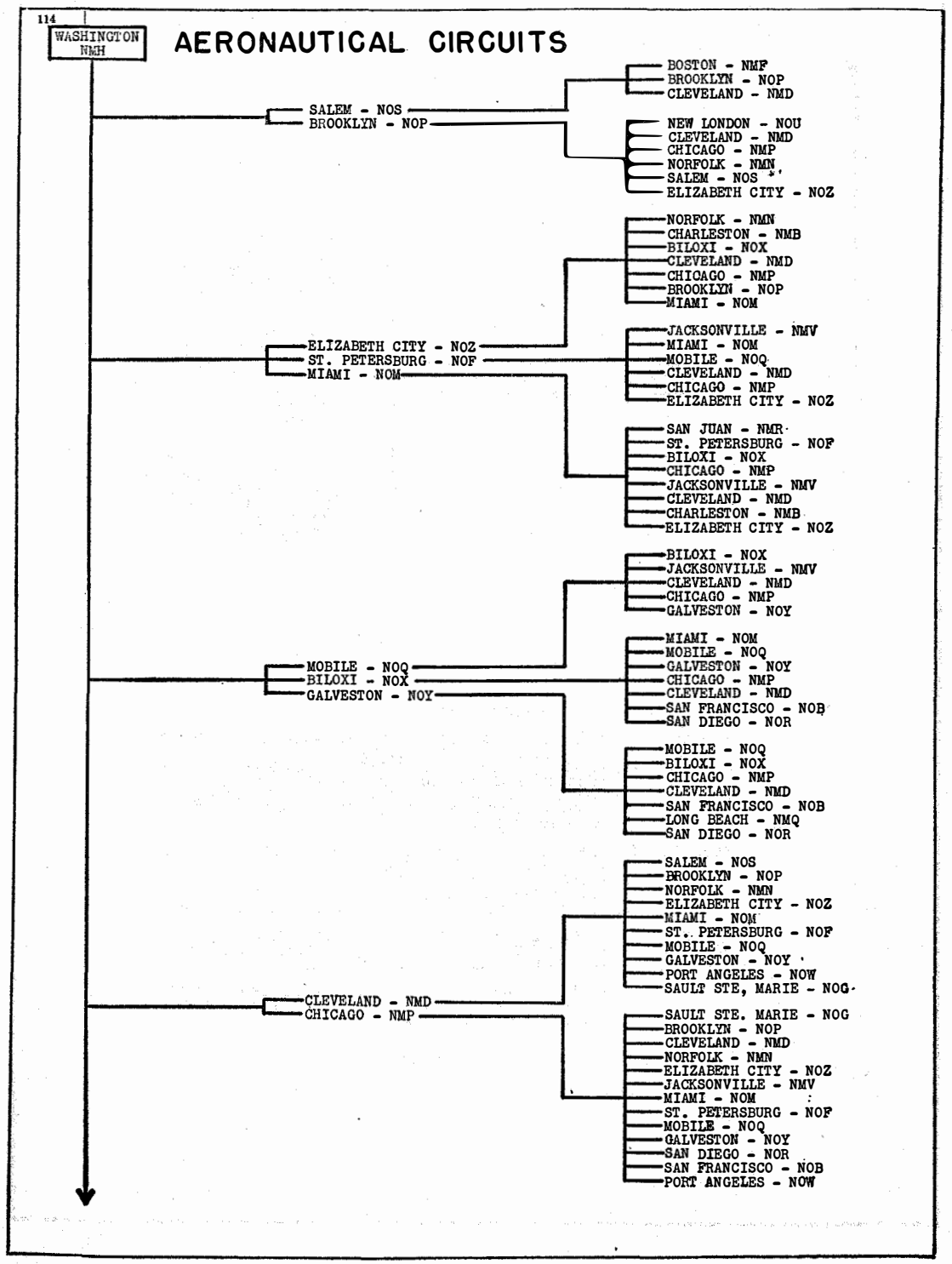
LEGEND

A - LISTENS CONTINUOUSLY.
C - CALLING, SAFETY, URGENT AND DISTRESS TRAFFIC ONLY.
D - CALLING, WORKING AND ANSWERING FREQUENCY.
E - WORKING FREQUENCY.
F - AUTHORIZED FOR FIXED SERVICE.
G - MOBILE SERVICE (SHIP-SHORE).
L - WEATHER AND MARINE INFORMATION BROADCASTS.
O - DIRECTION FINDING SERVICE.

STATION	CALL SIGN	POSITION		375 KC	480 KC	500 KC
CAPE ELIZABETH, MAINE.	NAB	43° 33' 58" N. 70° 11' 59" W.		A,D,O.	E,F,G.	A,C.
NORTH TRURO, MASS.	NAE	42° 02' 22" N. 70° 03' 37" W.		A,D,O.	E,F,G.	A,C.
SURFSIDE, MASS.	NBS	41° 14' 39" N. 70° 05' 53" W.		A,D,O.	E,F,G.	A,C.
FIRE ISLAND, NEW YORK.	NJY	40° 37' 55" N. 73° 13' 01" W.		A,D,O.	E,F,G.	A,C.
CAPE MAY, N. J.	NKC	38° 55' 55" N. 74° 54' 34" W.		A,D,O.	E,F,G.	A,C.
BETHANY BEACH, DEL.	NBN	38° 32' 45" N. 75° 03' 23" W.		A,D,O.	E,F,G.	A,C.
VIRGINIA BEACH, VA.	NCZ	36° 51' 10" N. 75° 58' 33" W.		A,D,O.	E,F,G.	A,C.
CAPE HATTERAS, N. C.	NDW	35° 15' 59" N. 75° 31' 18" W.		A,D,O.	E,F,G.	A,C.
CAPE LOOKOUT, N. C.	NAN	34° 36' 12" N. 76° 32' 19" W.		A,D,O.	E,F,G.	A,C.
POINT FERMIN, CALIF.	NPX	33° 42' 18" N. 118° 17' 36" W.		A,D,O.	E,F,G.	A,C.
PORT HUENEME, CALIF.	NCA	34° 08' 42" N. 119° 12' 33" W.		A,D,O.	E,F,G.	A,C.
POINT ARGUELLO, CALIF.	NPK	34°-34' 38" N. 120° 38' 32" W.		A,D,O.	E,F,G.	A,C.
FARALLON ISLAND, CALIF.	NPI	37° 41' 58" N. 122° 59' 56" W.		A,D,O.	E,F,G.	A,C.
POINT MONTARA, CALIF.	NLH	37° 32' 02" N. 122° 31' 07" W.		A,D,O.	E,F,G.	A,C.
POINT REYES, CALIF.	NLG	38° 02' 13" N. 122° 59' 36" W.		A,D,O.	E,F,G.	A,C.
EMPIRE, OREGON.	NPF	43° 22' 59" N. 124° 18' 32" W.		A,D,O.	E,F,G.	A,C.
FORT STEVENS, OREGON.	NZR	46° 11' 49" N. 123° 58' 30" W.		A,D,O.	E,F,G.	A,C.
KLIPSAN BEACH, WASH.	NZS	46° 27' 54" N. 124° 03' 12" W.		A,D,O.	E,F,G.	A,C.
TATOOSH, WASH.	NPD	48° 23' 28" N. 124° 44' 05" W.		A,D,O.	E,F,G.	A,C.
EUREKA CALIF.	NPW	40° 41' 46" N 124 16' 24" W		ADO	EFG	AC.
POINT ST. GEORGE CALIF.	NYW	41 47' ØØ" N 124 15' ØØ W		ADO	EFG	A.C.
SITKA, ALASKA	VHF	57 3' ØØ" N 135 21' 00" W		ADO	EFG	A.C.

Ch. 1

APPENDIX IX


114
WASHINGTON NMH
AERONAUTICAL CIRCUITS
SALEM - NOS
BROOKLYN - NOP
BOSTON - NMF
BROOKLYN - NOP
CLEVELAND - NMD
NEW LONDON - NOU
CLEVELAND - NMD
CHICAGO - NMP
NORFOLK - NMN
SALEM - NOS *
ELIZABETH CITY - NOZ
ELIZABETH CITY - NOZ
ST. PETERSBURG - NOF
MIAMI - NOM
NORFOLK - NMN
CHARLESTON - NMB
BILOXI - NOX
CLEVELAND - NMD
CHICAGO - NMP
BROOKLYN - NOP
MIAMI - NOM
JACKSONVILLE - NMV
MIAMI - NOM
MOBILE - NOQ
CLEVELAND - NMD
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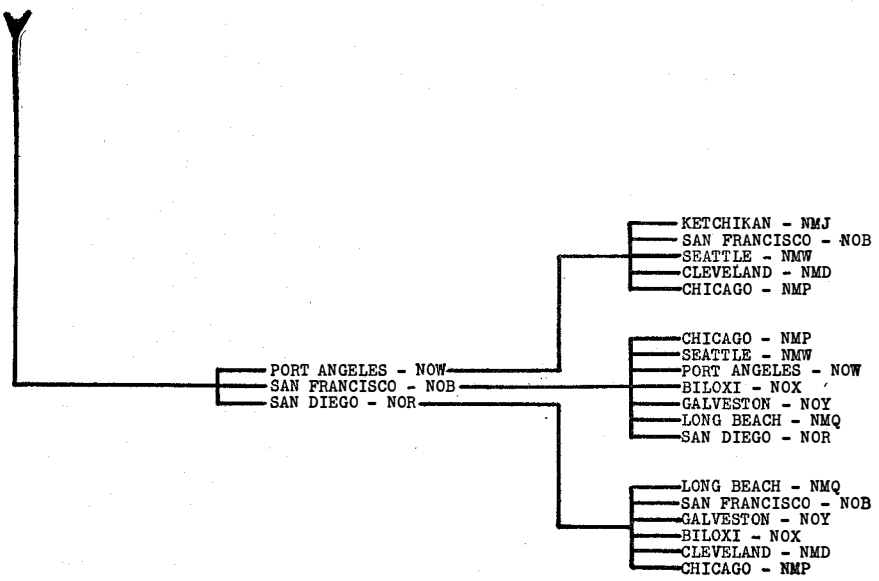
ST. PETERSBURG - NOF
BILOXI - NOX
CHICAGO - NMP
JACKSONVILLE - NMV
CLEVELAND - NMD
CHARLESTON - NMB
ELIZABETH CITY - NOZ
MOBILE - NOQ
BILOXI - NOX
GALVESTON - NOY
BILOXI - NOX
JACKSONVILLE - NMV
CLEVELAND - NMD
CHICAGO - NMP
GALVESTON - NOY
MIAMI - NOM
MOBILE - NOQ
GALVESTON - NOY
CHICAGO - NMP
CLEVELAND - NMD
SAN FRANCISCO - NOB
SAN DIEGO - NOR
MOBILE - NOQ
BILOXI - NOX
CHICAGO - NMP
CLEVELAND - NMD
SAN FRANCISCO - NOB
LONG BEACH - NMQ
SAN DIEGO - NOR
CLEVELAND - NMD
CHICAGO - NMP
SALEM - NOS
BROOKLYN - NOP
NORFOLK - NMN
ELIZABETH CITY - NOZ
MIAMI - NOM
ST. PETERSBURG - NOF
MOBILE - NOQ
GALVESTON - NOY
PORT ANGELES - NOW
SAULT STE, MARIE - NOG
SAULT STE. MARIE - NOG
BROOKLYN - NOP
CLEVELAND - NMD
NORFOLK - NMN
ELIZABETH CITY - NOZ
JACKSONVILLE - NMV
MIAMI - NOM
ST. PETERSBURG - NOF
MOBILE - NOQ
GALVESTON - NOY
SAN DIEGO - NOR
SAN FRANCISCO - NOB
PORT ANGELES - NOW

114 (Continued)



FREQUENCY PLAN

4200 KC	(a) AIRCRAFT CALLING AND WORKING FREQUENCY FOR COMMUNICATION WITH GROUND AND SHIP STATIONS. (b) GUARDED CONTINUOUSLY BY WASHINGTON RADIO (NMH) AND BY COAST GUARD AERONAUTICAL STATIONS UPON REQUEST. (c) GUARDED BY ANY COAST GUARD RADIO STATION UPON REQUEST. STATIONS SO REQUESTED ARE CONSIDERED AERONAUTICAL STATIONS WHILE SO ACTING.
4230 KC	(a) GROUND TO AIRCRAFT CALLING AND WORKING FREQUENCY. ALSO AUTHORIZED FOR AERONAUTICAL FIXED SERVICE. (b) GUARDED CONTINUOUSLY BY WASHINGTON RADIO (NMH) AND BY COAST GUARD AERONAUTICAL STATIONS UPON REQUEST. (c) GUARDED BY ANY COAST GUARD RADIO STATION UPON REQUEST.
8460 KC 12690 KC	AVAILABLE, AS REQUIRED, FOR AIRCRAFT AND GROUND STATIONS FOR COMMUNICATIONS ON EXTENDED FLIGHTS. ALSO AUTHORIZED FOR AERONAUTICAL FIXED SERVICE.
NOTE:	CURRENT NAVY COMMUNICATION PLANS SHOULD BE CONSULTED FOR OTHER FREQUENCIES EMPLOYED BY AIRCRAFT AND AIR STATIONS OPERATING UNDER THE NAVY.

APPENDIX IX

120. HARBOR PATROL RADIO STATIONS

LEGEND

A_____ Listens continuously.
A1_____ Listens continuously 0600 to 1800 L. S. T.
A2_____ Listens continuously 1800 to 0600 L. S. T.
A3_____ Listens upon request.
B_____ Scheduled watches.
C_____ Calling, answering, distress, urgent, and safety traffic.
D_____ General communication within the Coast Guard.
E_____ Working frequency.
F_____ Fixed service authorized.
G_____ Mobile service (Ship-shore).
L_____ Weather and Marine Information broadcasts.
M_____ Safety, Urgent and Hydrographic traffic only.
N_____ Working frequency, radiotelephone only.
S_____ Scene of action frequency.
V_____ District secondary frequency.

121.

FIRST NAVAL DISTRICT

Station	Call Sign	Station	Call Sign
Portsmouth, N. H.: 2670_____ A C G 2698_____ B G N 3410_____ G N	NLQP	Boston, Mass.: 2670_____ A C G 2692_____ E G 2698_____ G N 3410_____ G N	NRVR
Provincetown, Mass.: 2670_____ A C G 2698_____ B G N 3410_____ G N	NNXV	Boston, Mass. (Fore River): 2670_____ C G 2698_____ B G N 3410_____ G N	NRVR–1
Vineyard Haven, Mass.: 2670_____ A C G 2698_____ B G N 3410_____ G N	NLOY	Salem, Mass.: 2670_____ C G 2698_____ B G N 3000_____ S 3410_____ A G N	NLQX
Providence, R. I.: 2670_____ A C G 2698_____ B G N 3000_____ S 3410_____ G N	NLKR	New Bedord, Mass.: 2670_____ A C G 2698_____ B G N 3000_____ S 3410_____ G N	NLQI
Newport, R. I.: 2670_____ A C G 2698_____ B G N 3410_____ G N 41220_____ G N	NRVS	Boston, Mass. (Constitution Base): 41220_____ A N	NRVR–2

122. THIRD NAVAL DISTRICT

Station	Call Sign	Station	Call Sign
New York, N. Y.: 1630---------- A 2450---------- A 2670---------- A3 C G 2698---------- A3 G N 3410---------- A G N 36220---------- A 41220---------- A G N	NOH	New Haven, Conn.: 2670---------- A3 C G 2698---------- A3 G N 3410---------- A G N 2466---------- A 2716---------- A3 G N	NLQF
Triborough Bridge, N. Y.: 41220---------- A G N	NOH2Ø		
Bridgeport, Conn.: 2670---------- A3 C G 2698---------- A3 G N 3410---------- A G N	NLQG		

123. FOURTH NAVAL DISTRICT

Philadelphia, Pa.: 2670---------- A C G 2698---------- E G N 3410---------- A G N 41220---------- A G N	NLPF	Wilmington, Del.: 2670---------- A C G 2698---------- E G N 3410---------- A G N 41220---------- A G N	NLQR
Wildwood, N. J.: 2670---------- A C G 2698---------- E G N 3410---------- A G N 41220---------- A G N	NLQQ	Dorchester, N. J.: 2670---------- B C G 2698---------- E G N 3410---------- A G N 41220---------- A G N	NRVY

124. FIFTH NAVAL DISTRICT

Norfolk, Va.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLQU	Baltimore, Md.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLQV
Washington, D. C.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLPW	Morehead City, N. C.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLQW
New River, N. C.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NNXW		

APPENDIX IX

125. SIXTH NAVAL DISTRICT

Station	Call Sign	Station	Call Sign
Wilmington, N. C.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLPA	Jacksonville, Fla. 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NRVT
Savannah, Ga.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLPB	Beaufort, S. C.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLKW
Georgetown, S. C.: 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NLKX	Charleston, S. C.: 2670---------- C G N 2698---------- E G N 3410---------- A G N	NMB–2

126. SEVENTH NAVAL DISTRICT

St. Marks, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLKQ	Cedar Key, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLKP
Tarpon Springs, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLKO	Tampa, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLKN
Fort Myers, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLKM	West Palm Beach, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPY
Egmont Key, Fla. **N N X Z** 2670---------- A C G 2716---------- A E G 2830---------- A E G N 2902---------- A E G N 3000---------- S 3410---------- A G N 2698---------- G N 3410---------- A G N	NLKI NLKH	Everglades City, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLKL NLKK
Eau Gallie, Fla.: 2670---------- A C F G 2698---------- G N 3410---------- A G N	NNFE	Fort Pierce, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPZ
Tavernier, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NNCY	Marathon, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G **N**	NLKJ
Miami, Fla.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPX		

127.

EIGHTH NAVAL DISTRICT

Baton Rouge, La.: 2670 A C G 2698 G N 3410 A G N	NNCH	Brownsville, Tex.: 2670 A C G 2698 G N 3410 A G N	NNCW
Corpus Christi, Tex.: 2670 A C 2698 E 3410 A C E	NNCQ	Galveston, Tex.: 41220 A E	NOY–23
Gulfport, Miss.: 2670 A C 2698 E 2854 D 3410 A C E	NLQT	Orange, Tex.: 2670 A C G 2698 G N 3410 A C E	NNXP
Panama City, Fla.: 2670 A C G 2698 G N 3410 A G N	NLKT	Pascagoula, Miss.: 2670 A C G	NLPT
Houston, Tex.: 2670 A C G 2698 G N 3410 A G N	NNCP	Lake Charles, La.: 2670 A C G 2698 G N 3410 A G N	NNCM
Mobile, Ala.: 41220 A E	NOQ-22	Morgan City, La.: 2670 A C G 2698 C N 3410 A G N	NNCI
New Orleans, La.: 2670 A C G 2698 G N 3410 A G N 41220 A G N	NLPC	Pensacola, Fla.: 2670 A C G 2698 G N 3410 A G N	NLKZ
Port Arthur, Tex.: 2670 A C G 2698 G N 3410 A G N	NNCN		

Escanaba, Mich.	NLQS
2182	A C G
267Ø	G
2698	G N
34Ø2.5	B G N
341Ø	D G N

APPENDIX IX

H NAVAL DISTRICT (CLEVELAND)

Duluth, Minn.: 2182 A C G 3402.5 B G N	NLQC	Sandusky, Ohio: 2182 A C G 3402.5 B G N	NLKV
Chicago, Ill.: 2182 A C G 3402.5 A G N	NLQH	Cleveland, Ohio: 2182 A C G 2670 G 2698 G N 3402.5 B G N 3410 D G N	NNYE
Bay City, Mich.: 2182 A C G 3402.5 B G N	NLKU		
Toledo, Ohio: 2182 A C G 3402.5 B G N	NLKS	Clayton, N. Y.: 2182 A C G 3402.5 B G N	NLKD

129.

NINTH NAVAL DISTRICT (ST. LOUIS)

Burlington, Iowa: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	~~NNZR~~	Cairo, Ill.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	~~NNZN~~
Chattanooga, Tenn.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZO	Cincinnati, Ohio: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZP
Memphis, Tenn.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZT	Nashville, Tenn.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZQ
Peoria, Ill.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZU	Pittsburgh, Pa.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZV
Rock Island, Ill.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZW	Sheffield, Ala.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZZ
St. Louis, Mo.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZX	St. Paul, Minn.: 2670 A C G 2698 A3 G N 2716 A3 G N 3410 A3 G N	NNZY

130. TENTH NAVAL DISTRICT

Station	Call Sign
Aguirre Central, P. R.: 2670---------- A3 C G 2698---------- E G N 3410---------- A E G N	NNXS
Culebra, P. R.: 2670---------- B C G 2698---------- E G N 3410---------- B G N	NNHT
Guanica, P. R. 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NNXR
Mayaguez, P. R: 2150---------- A3 E 2670---------- A C G 2698---------- G N 3410---------- A G N	NLQO
Port-au-Prince, Haiti: 2150---------- A3 E 2188---------- A3 E 2670---------- A C G 2698---------- G N 3410---------- E G N	NNZM
Charlotte Amalie, St. Thomas, V. I.: 2150---------- A3 E 2240---------- A3 E 2670---------- A C G 2698---------- G N 3000---------- A3 S 3410---------- A G N	NNXU
Christiansted, St. Croix, V. I.: 2150---------- A3 E 2670---------- A3 C G 2698---------- E G N 3410---------- A G N	NNZI
Fajardo, P. R.: 2670---------- A C G 2698---------- E G N 3410---------- A G N	NNXT
Guayanilla, P. R : 2670---------- A3 C G 2698---------- G N 3410---------- A G N	NNZL
Ponce, P. R.: 2150---------- A3 E 2188---------- A3 E 2670---------- A C G 2698---------- G N 3410---------- A G N	NLQN
Ciudad Trujillo, D. R.: 2150---------- A3 E 2670---------- A C G 2684---------- G 2698---------- G N 3000---------- A3 S	NNZH

131. ELEVENTH NAVAL DISTRICT

Station	Call Sign
Wilmington, Calif.: 2670---------- A3 C G 2716---------- A E 3410---------- A G N 41220---------- A G N	NLPS
San Diego, Calif.: 2590---------- A E G 2670---------- A3 C G 2716---------- A3 G N 3410---------- A G N	NLPV
Santa Monica, Calif.: 2670---------- A C G 2698---------- G N 3410---------- G N	NNYY
Avalon, Calif.: 2670---------- A3 C G 2716---------- A3 G N 3410---------- A G N	NLPR
Newport Beach, Calif.: 2670---------- A3 C G 2716---------- A2 C G 3410---------- A G N	NLPU

APPENDIX IX

132. TWELFTH NAVAL DISTRICT

Station	Call Sign	Station	Call Sign
San Francisco, Calif.: 2670---------- A C G 2698---------- G N 3410---------- G N	NLQM	Monterey, Calif.: 2670---------- A C G 2698---------- G N 3410---------- G N	NLOE

133. THIRTEENTH NAVAL DISTRICT

Seattle, Wash.: 2670---------- C G 2698---------- G N 3410---------- A G N	NLPD	Portland, Oreg.: 3410---------- A G N	NLPG
South Bend, Wash.: 2490---------- A N 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPM	Bremerton, Wash.: 2716---------- A3 N 3410---------- A G N	NLKE
Longview, Wash.: 2670---------- A C G 2698---------- G N 3410---------- G N	NLPP	Tacoma, Wash.: 2670---------- C G 2698---------- G N 3410---------- A G N	NLPH
Everett, Wash.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPI	Vancouver, Wash.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPO
Aberdeen, Wash. 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPL	Astoria, Oreg: 3410---------- A G N 41220---------- A G N	NLPQ
Bellingham, Wash.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLPJ	Anacortes, Wash.: 2670---------- A C G 2698---------- G N 3410---------- A G N	NNXX

134.

SEVENTEENTH NAVAL DISTRICT

Station	Call Sign	Station	Call Sign
Ketchikan, Alaska: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLQA	Petersburg, Alaska: 2670---------- A C G 2698---------- G N 3410---------- A G N	NLQL
Bell Island, Alaska: 2670---------- B C G 2698---------- G N	NNEL-2	Excursion Inlet, Alaska: 2670---------- A C G 2698---------- G N	NNXQ
Craig, Alaska: 2188---------- E G 2215---------- E G 2240---------- E G 2243---------- E G 2670---------- A C G 2684---------- E G 2698---------- G N 2716---------- E G 3000---------- S 3410---------- A G N 3905---------- E G	NNZK		

135.

FOURTEENTH NAVAL DISTRICT

Hilo, Hawaii, T. H.: 2670---------- B C G 3410---------- B G N	NLQZ	Port Allen, Kauai, T. H.: 2670---------- B C G 3410---------- B G N	NLKG

APPENDIX IX

140. BASE AND DEPOT RADIO STATIONS

LEGEND

A	Listens continuously.
A3	Listens upon request.
B	Scheduled watches.
C	Calling, answering, distress traffic, urgent and safety traffic and signals.
E	Working frequency.
G	Mobile service (Ship-Shore).
L	Weather and Marine Information broadcasts.
N	Working frequency, radiotelephone only.
S	Scene of action frequency.

141.

Station	Call sign	Station	Call sign
South Portland, Maine: 2670 C G 2698 B G N 3410 G N	NNFT	Alameda, Calif.: 2670 A3 C G 2688 E G 2698 B G N 3410 B G N	NON
Woods Hole, Mass.: 2670 A C G 2698 B G N 2716 B G 3410 B G N	NNAN	Southwest Harbor, Maine: 2670 A C G 2692 E G 2698 B G N 3410 G N	NNEY
Key West, Fla.: 2240 A3 2670 A C G 3000 S 3410 A G N 41220 A G N	NOK	Baltimore, Md.: 2662 L 2670 A C G 2698 B G N 3410 B G N	NNGG
		Detroit, Mich.: 2182 A C G 3402.5 B G N	NNDV