FM 24-10

RESTRICTED

JOINT ARMY AND NAVY RADIO PROCEDURE

PREPARED BY

THE JOINT BOARD

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Approved by
the Secretary of War
November 22, 1940

Approved by
the Secretary of the Navy
November 20, 1940

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1940

RESTRICTED

J. B. No. 319
(Serial 667)

WAR AND NAVY DEPARTMENTS,
WASHINGTON, *November 20, 1940.*

This document, "Joint Army and Navy Radio Procedure", having been approved by The Joint Board on November 13, 1940, is published for joint use by the Army and the Navy.

The procedure enunciated herein will become effective March 1, 1941. It may, however, be declared effective at an earlier date if jointly agreed to by the War and Navy Departments.

All existing instructions governing joint radio communication and procedure in conflict with the provision of these regulations are superseded on the effective date of this document.

HENRY L. STIMSON,
Secretary of War.
FRANK KNOX,
Secretary of the Navy.

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RESTRICTED

JOINT ARMY AND NAVY RADIO PROCEDURE

SECTION I

GENERAL

1. Purpose.—The purpose of this publication is to establish an authoritative basis for coordination of radio procedure between the Army and Navy in the conduct of radio communication.

2. Use.—This procedure is prescribed for use in radio communication between the Army and Navy in peace and war. The extent to which it is used in radio communication between Army stations alone or between Navy stations alone is prescribed by each service in other publications. Communication personnel are required to be thoroughly familiar with these instructions, primarily to know *how best to do* that which responsible officers wish to accomplish with 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.

3. Definitions.—As used in this publication, the following terms have the meanings indicated opposite each:

a. Communication.—An idea imparted from the mind of one individual to that of another.

(1) *Radio Communication.*—A communication by radiotelegraphy employing International Morse *Code*, or a communication by radiotelephony employing *voice*, or by other radio methods.

(2) *Direct and Indirect Communication.*—When the originator's station can communicate with the station(s) of addressee(s) without relaying aid from any other station(s), these stations are said to be in *Direct* communication. It is *Indirect* communication when relaying aid is required.

b. Transmission.—A transmission is a communication sent by one station and intended for reception by another station or other stations.

c. Message.—As used herein, a message is an official communication transmitted by radio.

d. Station.—A station is a ship, airplane, vehicular, portable, or shore radio operating establishment.

(1) *Station of Origin.*—The station of origin is the station of the originator of the message.

(2) *Relaying Station.*—A relaying station is any station required to receive and retransmit a message in order to effect delivery from originator to addressee.

e. Radio Organization.—The radio organization comprises the arrangements made for the location and use of the personnel, facilities, frequencies, and methods for transmitting and receiving radio messages.

(1) *Message Center.*—A message center is an Army message-handling agency.

(2) *Communication Office.*—A communication office is a Navy message-handling agency.

(3) *Net Control Station.*—A net control station is an Army station designated to control traffic in a radio net on a designated frequency or on designated frequencies.

(4) *Radio Guard.*—A radio guard is a Navy ship or other radio station designated to listen for and record transmissions, and to handle traffic on a designated frequency, for certain unit(s).

f. Radio Procedure.—Radio procedure is a standardized routine used by operators to facilitate radio communication. Radio procedure includes such varied routines as the classification of messages, the use of call signs, the use of procedure signals, etc. Familiarity with the prescribed procedure and its employment is essential for effective communications. Procedure properly employed should minimize the number and length of transmissions necessary to effect delivery of messages by providing a concise definite "language."

g. Procedure Signs.—Procedure signs, herein referred to as "prosines," are single letters or characters, or combinations thereof. "Communication procedure signals," herein referred to as "prosigs," are three-letter prosines with "Z" as the first letter. *Whenever the term "prosine" is used in a general sense it shall be understood to include prosigs.* The function of prosines and prosigs is to facilitate communication by conveying in condensed standard form certain frequently used orders, instructions, requests, reports, and information related to communications. Phonetic equivalents of prosines and prosigs are termed "prowords."

h. Originator.—The originator (writer) of a message is the authority who orders the message to be sent. The authority may be the commander or his officially designated representative(s).

i. Addressee.—The addressee is the authority to whom the message is directed by the originator. Addressees may be indicated as "Action" or "Information" addressees, and one message may include either or both.

j. Call Sign.—A call sign consists of one or more characters used to identify stations, commands, or commanders.

(1) *Individual call sign.*—A call sign representing a single station, command, or commander, etc.

(2) *Collective call sign.*—A single call sign representing two or more stations, commands, or commanders, etc. Examples of collective call signs are an Army net call sign and a Navy call sign for a division of ships.

In certain cases an originator or an addressee may be represented by *two* call signs. The first call sign may represent a title or group, such as "Senior Naval Aviator at ———", or "All Ships at ———." The second call sign may indicate a geographical location. Thus, "Senior Naval Aviator at San Diego" and "All Ships at Hampton Roads."

k. Response.

(1) An *Answer* is the transmission made by a station called, in response to the call received.

(2) An *Acknowledgment* is a separate message from the addressee informing the originator that his message has been received and is understood.

(3) A *Receipt* is a communication sent by the receiving station indicating that the message or other transmission has been satisfactorily received by that station.

(4) A *Reply* is a message originating out of, referring to, or replying to a question asked in a prior message.

*l. Precedence.**—Messages are divided into precedence groups to show the relative order in which they shall be transmitted and acted upon. In the absence of specific instructions to the contrary, messages of the same precedence, whether originating in the Army or the Navy, will be handled in the order of filing for transmission, or of receipt for relaying.

The order of precedence groups is as follows:

(1) The URGENT (O) designation is reserved for messages requiring the greatest speed of handling. Any message designated as URGENT will be sent immediately upon

*NOTE.—"Precedence" as herein used is the same as "Classification for Order of Transmission" formerly used.

receipt, except when communication involving another URGENT message is being carried on. URGENT precedence is reserved for use during combat, or when combat is imminent, real or simulated, to indicate that the message so designated conveys the most important orders, information, or request pertaining to the combat, and thus requires immediate attention. A primary example of this type of message is a so-called Army "flash" message which is employed to report air observation of air forces. For joint communication purposes, an Army "flash" message may be considered to be an urgent message of the highest priority. A primary example of a Navy message of the highest priority is a major contact report. In Joint Procedure, all URGENT messages, except those sent by the Executive ($\overline{IX}$) Method, shall be so indicated by the use of prosine "O," whereas, the *form* of the message alone may indicate urgent precedence in communications *within* the Army or *within* the Navy (Coast Guard). An URGENT message is urgent to all addressees, whereas messages of lower precedence may have different precedence for different addressees.

(2) The PRIORITY (P) designation is reserved for messages of less urgency than those entitled to URGENT precedence, but of such nature as to warrant precedence ahead of messages designated as Routine or Deferred. Any message designated as PRIORITY will be transmitted before any Routine or Deferred messages which may be awaiting transmission, but transmission of a *short* Routine or Deferred message will not usually be interrupted to send a PRIORITY message.

(3) The ROUTINE (R) designation is reserved for messages requiring no special precedence. They are transmitted in the order in which they are received or in such order as will clear the traffic most expeditiously. Any message designated as ROUTINE usually will be transmitted before any Deferred messages which may be awaiting transmission, but transmission of a *short* Deferred message will not usually be interrupted to send a ROUTINE message.

(4) The DEFERRED (D) designation is reserved for messages requiring no special precedence, and whose delivery to the addressee may be delayed until the beginning of office hours following the day on which they are filed. This will sometimes necessitate transmission of Deferred messages ahead of Routine messages, in order to effect delivery before the time indicated.

m. Precedence Prosines.—Precedence Prosines, the uses of which are prescribed later herein, are as follows:

The URGENT sign "O"
The PRIORITY sign "P"
The ROUTINE sign "R"
The DEFERRED sign "D"

(1) The urgent prosine "O" shall be used as an indicator in all urgent message headings used in joint communications, except in executive ($\overline{IX}$) method messages.

(2) Routine is standard precedence for messages in normal form, and is understood to apply when no other precedence is indicated.

4. Time and Date.

a. Time.

(1) The time of origin is the time at which the message is released or authenticated by the originator. If this time does not appear on the message, it will be the time when the message is filed for transmission.

(2) The time of origin in joint communications is expressed in the 24-hour clock system and transmitted as a group of four figures, the first two digits representing the hours from midnight and the last two the minutes past the hour. Examples: 6:00 A. M. is 0600 and 7:43 P. M. is 1943.

(3) For communication within the Army, the 12-hour clock system is used.
Examples: 6:00 A. M. is 600 A. and 7:43 P. M. is 743 P.

(4) For communication within the Navy, Greenwich civil time (G. C. T.) is usually used in headings of messages.

b. Dates.

(1) The date is expressed for joint communication purposes by two figures *preceding* the time of origin, indicating the day of the month. If the date number is less than ten, it is always preceded by zero. For example, the first day of the month is 01, and the tenth day is 10. "071626" means date was 7th day of month, and time of origin was 1626.

(2) The month and year may be added to the date and time of origin group when necessary for reference purposes in the text of messages. For example: "Your 071626 DEC 1938" means "Referring to your message, with time of origin 1626, on the 7th day of December, 1938 * * *."

(3) In the text of messages, if times indicated are not given particular descriptions, the time prescribed for use by the originator shall be understood.

8. Failure to Answer.

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

b. If the second call is not answered, the calling station waits at least two minutes, and then calls a third time, transmitting call signs (but not the prosines) several times, as appropriate. Usually, no call sign is repeated more than three times in any one call.

Example: SKY calls CAP the third time:

CAP CAP CAP V SKY SKY SKY $\overline{\text{AR}}$

c. If the third call is still not answered, the call as in *b* above may be repeated once every five minutes except when the calling station has an urgent or priority message for the called station, in which case no restriction is usually placed upon such repetitions.

9. Answer.—If necessary, call signs may be repeated in the answer. Prosines and prosigs may be used in the answer.

a. Single station.—GEN answers MEX's call and tells MEX to transmit:

MEX V GEN K

b. Collective.—GEN calls RAN, RAP and RAW by using the collective call sign MOL. RAN, RAP, and RAW being included in this collective call sign MOL, answer GEN as follows:

(1) GEN V RAN K
(2) GEN V RAP K
(3) GEN V RAW K

c. Multiple.—In answering a multiple call, stations AIR, BAT, and CRU, having been called in that order, answer as follows:

(1) CON V AIR K
(2) CON V BAT K
(3) CON V CRU K

d. Failure to answer in proper order—Receipting or Acknowledging for messages in turn.

(1) If after a collective or multiple call, any station fails to answer in its proper order, the next station in the order of answering waits 5 to 15 seconds and answers. Any station which fails to answer in proper order must wait until all other stations called have had time to answer. The stations which missed their first turn shall then answer in proper order.

(2) The rules indicated above for answering calls apply generally to responding—that is to answering, receipting, or acknowledging for messages. When two or more stations are required to respond, the order of responding is that indicated for answering calls. Normally, all stations required to receipt are to respond before requested repetitions or verifications are transmitted.

e. Higher-precedence message for called station—Breaking-in to transmit message.—A station may break-in on a transmission in progress in order to transmit a message of higher precedence under conditions indicated in the following table:

Precedence of message awaiting transmission	Precedence of message being transmitted	Remarks
Urgent	Priority, routine, or deferred.	May break-in at once.
Priority	Routine and deferred	May break-in to avoid delay of 3 min. or more.
Routine	Deferred	May break-in to avoid delay of 5 min. or more.

The procedure for breaking-in to transmit a message of higher precedence is as indicated in paragraph 11 below, except that when the transmission in progress has been stopped, the station breaking-in shall immediately commence the transmission of the message of higher precedence.

10. Special Answers.—If necessary, the called station may include in its answer information for the guidance of the calling station as to receiving conditions, by using the appropriate prosig or prosine and numerals, as indicated below:

a. Readability.—The prosig ZSB, followed by one of the numerals in the table below, indicates the readability of the signals at the called station. (K is sometimes used in lieu of ZSB.)

(1) Unreadable.
(2) Poor but readable; plain language twice, code unreadable.
(3) Fair, readable, plain language once slowly, code twice.
(4) Good; readable, plain language or code once.
(5) Perfectly readable.

b. Strengths of signals and interference.—The prosine S or W, followed by one of the numerals in the table below, indicates the strength of the signals or interference, respectively, at the called station. The use of the prosine S is limited to those occasions on which the actual signal strength rather than the readability is the determining factor in maintaining radio communication. It is particularly applicable where changes have been made in equipment, power, location, and/or where other transmitting conditions make a report on signal strength (rather than readability) desirable.

Ordinarily when communication has been well established it should not be necessary to indicate either readability or strength of signals and interference.

(1) Very weak, hardly audible.
(2) Moderately weak.
(3) Medium strong.
(4) Moderately strong.
(5) Strong.

11. Radio "Break-In" Procedure.—When operating conditions permit "break-in" procedure, the following procedure is prescribed in order to permit the receiving station to instruct the transmitting station to "wait," "shift frequency," "repeat," etc. The receiving station desiring to break-in on a transmission makes a succession of dashes. When the transmitting operator hears these dashes he stops, at least momentarily, to ascertain the reason for the break-in.

a. If the reason was to request repetition, the station breaking-in makes the last word correctly received. The transmitting station then retransmits, commencing with the word thus indicated.

b. If the reason was other than to request an immediate repetition, the station breaking-in transmits the appropriate communication to indicate what is desired.

12. Duplex Operation.—Duplex operation, that is, when two stations simultaneously transmit and receive (usually on two different frequencies), is authorized when practicable.

13. Radio Transmitting Speeds—Speed Keys.—Accuracy in the transmission of radio traffic 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 sending too fast at first.

a. The speed of transmission of headings on manually operated circuits should normally be appreciably slower 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, as the over-all circuit speed is greatly reduced by errors, repetitions, and the questioning of group counts.

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

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

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

14. Reserved for future use.

15. Reserved for future use.

Section III

MESSAGES

16. General.

a. The fundamental reason for radio communication is to transmit messages by radio. To handle message traffic rapidly and accurately, standardized procedure is required which includes standard message forms. For joint communications between the Army and the Navy two standard forms are prescribed for transmitting the texts of official messages. These forms are:

(1) The Normal Form.
(2) The Abbreviated Normal Form.

b. Procedure Message.—Brief communications between operators (employing prescribed procedure and essential to traffic handling and station operation) may be termed procedure messages.

c. Releasing.—An official message shall be transmitted only by authority of the commanding officer or his representative. Operating personnel are prohibited from transmitting a message that has not been properly released. Releasing instructions are prescribed by the service concerned.

d. Address and Signature.—While all official messages will be sent by authority of the commanding officer, no signature will be transmitted, ordinarily. Messages intended for an addressee on board a ship or airplane, or within a command on shore, will be routed by use of the appropriate call sign of the ship, airplane, or shore command. Delivery to any specific addressee within the ship, airplane, or shore command is a function of the command to which transmitted. If call signs are assigned for joint use to particular commanders, as well as to particular ships, airplanes, and shore commands, such commander call signs may also be employed to indicate routing, addressees, and originators.

e. Use of Clear or Cryptographed Language.—The general rules governing the use of clear and cryptographed language are set forth

in Section II, Chapter IX, Joint Action of the Army and Navy, wherein Communication Security is discussed.

f. Methods of Sending.—There are two principal methods by which messages are sent by radiotelegraph for joint operations—the "R" (Receipt) method and the "F" (Broadcast) method.

(1) The Receipt or "R" method, in which both the transmitting and receiving stations normally may use their transmitters in order to effect delivery of messages, and in which the transmitting station usually requires and obtains a receipt for each message thus transmitted. This is the normal method.

(2) The Broadcast or "F" (Fox) method in which several stations are addressed, but are not permitted to receipt to the transmitting station for the messages thus received or to use their transmitters for any purposes in connection therewith, except when instructed to relay them.

(*a*) The prosine "F" is used in the heading of all "F" method transmissions except those in regular broadcast schedules in which the "F" may be omitted.

(*b*) "F" method serial numbers:—Stations transmitting a regular "F" method schedule shall ordinarily number "F" messages serially from 1 to 999 before beginning a new series. This is to enable receiving stations to detect and obtain missing messages. This number series is exclusive of normal station serial numbers. This series is independent of the addressees of messages so transmitted.

(*c*) All stations required to copy "F" method transmissions shall copy all messages and take appropriate cognizance of them.

(*d*) A message properly transmitted *once* on a regular "F" method schedule is considered delivered to all addresses required to copy the schedule. Important messages may be repeated at the end of the next schedule and will carry their original serial numbers. When repetitions are required (see (*g*) below) the message will ordinarily be repeated at the end of the next schedule, and will carry its original serial number.

(*e*) When there is no traffic for a scheduled "F" method transmission, the serial number of the last message transmitted in the previous schedule shall be transmitted.

(*f*) In "F" method transmissions: Call signs, serial numbers, and prosines are usually sent "Words twice", and cryptographed texts "Words twice." The speed of transmission will be prescribed so as to insure that all operators copying can receive the transmissions.

(*g*) Communication security requires that requests for repetition of "F" methods transmissions be held to a minimum. When requests for such repetitions must be transmitted by radio, permission shall be obtained from proper authority to send an appropriate procedure message.

(*h*) The "F" method is used primarily for communication security. This security is obtained by receiving stations remaining silent and thus not disclosing their existence or locations. The prosine "F" means do not transmit for any purpose in response to this transmission. (See (*g*) above.)

g. Special Methods of Sending Messages.—For purposes of communication security, deception, etc., other methods of sending messages are available, or may be devised, and may be prescribed for joint operations. Special methods may be prescribed by each service for its own use when required. An example is the executive method described in paragraph 22, which is prescribed for joint communications.

h. Passing Messages.—When desirable to forward a message without rewriting it, an office of address may supplement the originator's address by inserting an additional address preceding the original address, and direct transmission of the message to the added addressee(s). This is termed "passing a message." See paragraph 34 for operating rules to accomplish.

i. Group Count.—The prosine "GR" in the prefix of the heading (followed by numeral(s)) is termed the group count of the message, and indicates the number of groups which the message contains. The groups are counted in accordance with rules set forth in paragraph 26.

j. Station Serial Number.—A station serial number for each message is used by certain prescribed stations, to assist in accounting for messages and for future reference purposes. The station serial number is ordinarily used in normal form messages only. In joint radio communication between stations of the Army and the Navy station serial numbers are used only when mutually desired and prescribed. Rules for use of station serial numbers are set forth in paragraph 28.

17. Normal Form Message.

a. When used.—The normal form message is used as the standard form for all ordinary official communications.

b. Principal Parts of a Message.—The principal parts of a radio message are the Heading, the Text, and the Suffix, transmitted in that order.

(1) The *heading* is that portion of the message preceding the text. It contains the essential elements that are necessary for communication personnel properly to route and deliver the message and may contain essential information or instructions for the addressee(s).

(2) The *text* carries the basic idea which the originator desires to communicate to the addressee(s), and is therefore the reason for existence of all the other parts. The text is fixed by the originator and shall not be altered.

(3) The *suffix* is all of the procedure employed after the text—to mark the end of the text, and to instruct receiving station(s) to receipt, to wait, to stand by, etc. Any message other than a procedure message transmitted by telegraphy shall have a suffix.

c. Heading.—The heading shall consist of the following parts transmitted in that order:

Part	*When Used*
(1) Call	If required
(2) Preamble	If required
(3) Address	Always
(4) Prefix	Always

(1) *Call.*—The call, when used, is the first part of the heading. When operating conditions permit, part or all of the call may be omitted if it is not part of the address. (See par. 7.)

(2) *Preamble.*—The preamble is that part of the heading immediately following the call and may contain call signs and station serial number(s) and prosines indicating routing to the next receiving station(s). When there are no data required for the preamble, the preamble is omitted. The preamble, as inserted by the originator's station, may be omitted or altered, as appropriate, by relaying stations.

(3) *Address.*—The address is that part of the heading immediately following the preamble. The call signs in this part of the heading indicate the command or commander(s) of origin and addressee(s).* The date-time group constitutes an identification, especially for future reference. By prosines, the origin is indicated, as well as action, information, and exempted addressees. Operating personnel shall not alter any part of the address or prefix as transmitted by the originator's station.

The address contains, in the following order—

(*a*) The prosine "Z" followed by originator's call sign.*

(*b*) The date-time group (see par. 4).

(*c*) The call sign(s) of the addressee(s).*

The address may, when required, contain—

(*d*) The information prosine "Q" followed by the call sign(s) of information addressee(s), and the exempted prosine "N" followed by the call sign(s) of exempted addressee(s).

(4) *Prefix.*—The prefix is that part of the heading immediately following the address and marks the end of the heading.

(*a*) It may, if required, contain prosines for the addressee(s) indicating precedence, requests for acknowledgment and instructions for all receiving stations, etc.

(*b*) It *shall* contain the group count and the prosine $\overline{\text{BT}}$ (Break).

(*c*) When relaying, operating personnel shall not alter any part of the address or prefix as transmitted by the originator's station.

(5) See Plate I, paragraph 18, for typical headings of normal form messages.

d. Text.—The text is that part of the message immediately following the $\overline{\text{BT}}$ sign at the end of the heading. (See par. 17 *b* (2).) When the originator or addressee of a message is assigned no call sign(s), the call sign(s) of the station(s) to handle the message shall be used in the heading, and the exact identity of originator or addressee, or both, shall be included in the text. The form for including this information in text is as prescribed by each service.

e. Suffix.—(See par. 17 *b* (3) for definition.)

(1) The suffix follows the text and is always sent as part of official messages.

(2) See Plate I, paragraph 18, for typical examples of suffixes.

* NOTE.—When the call is used in *direct* communication, the call signs of the call may serve as part of the address.

18. Plate I.

a. Example No. 1.—This is the most simple, normal form message heading. The call becomes part of address. The Originator is NAV. The Action Addressee is ARM. The Date-time group is 311516 and it, together with the call, completes the address. The prefix consists of the Group Count "GR 9" and Break sign "$\overline{BT}$". As no precedence is indicated, precedence is "Routine."

b. Example No. 2.—This example is similar to Example No. 1 except that two addressees are called simultaneously. Both are action addressees. Station serial numbers are indicated for each addressee. The call serves as part of the address, which is completed by the date-time group. A receipt is required by NAV from CON and GEN.

c. Example No. 3.—NAV had previously transmitted this message to ARM for relaying by ARM to MAR. By prosine "F", MAR is instructed by ARM not to transmit for any purpose in response to this transmission. ARM and MAR are information addressees. The ending of message is $\overline{AR}$ as no receipt is permitted by this "F" method message.

d. Example No. 4.—NAV had previously transmitted this message to SKY as indicated by the omission of SKY from call. NAV transmits it to MEX and, by prosig ZPG, instructs MEX to "Repeat back this message to station from which received." Precedence is "priority" to all addressees. All addressees are instructed to "acknowledge" the message by use of "Y."

e. Example No. 5.—NAV originates message for action by CON and for information to FOL. NAV transmits message to CON and by "ZRA" instructs CON to "Forward this message by visual to FOL," which is call sign assumed to include AIR, BAT, CRU, DES, and SUB. Precedence is "deferred" to all addressees.

f. Example No. 6.—This message heading is similar to Example No. 5, except when relaying to FOL, CON is not restricted to using visual means; SUB is exempted from inclusion in call sign FOL. By "L", CON is instructed to "Relay this message to addressees for whom you are responsible," which, in this case, means "Relay to FOL less SUB."

g. Example No. 7.—CON relays to FOL less SUB, the message whose heading was shown in Example No. 6. The call may be shortened in this case by using collective call sign FOL and exempting SUB from the call by use of "N."

h. Example No. 8.—CON originates and transmits a message of "routine" precedence for action to BAT, CRU, DES, and SUB and for information AIR. As CON is in direct communication with all addressees, the call serves as part of the address. All call signs

included in FOL are action addressees except AIR, which is specially designated by "Q AIR" as an information addressee.

i. Example No. 9.—GEN originates and transmits to ARM a message addressed for action to ARM, MEX, and SKY, and for information to NAV. The message is priority to all addressees. GEN instructs ARM to "Transmit this message to all addressees", by use of "T."

j. Example No. 10.—ARM relays to MEX and SKY the message whose heading was shown in Example No. 9. By "MEX T NAV," ARM instructs MEX to transmit this message to NAV.

k. Example No. 11.—MEX relays to NAV, the message whose heading was shown in Example No. 10.

l. Example No. 12.—NAV originates a message addressed to FUL, which is assumed to be the call sign for the "Fleet." FOL is collective call sign for several units of the "Fleet." By use of "L," each unit included in call sign FOL is required to relay this message to addressees for whom responsible. All addressees are to receive the message for action. By use of "ZRA," NAV instructs all stations which may be required to relay this message, to "Forward this message by visual" to the Fleet.

m. Example No. 13.—This is an alternate version of the heading in Example No. 1. It may sometimes be used advantageously even in direct communication—if the call can be omitted (or abbreviated). NAV omits call completely when transmitting to ARM.

n. Example No. 14.—This is a message heading similar to that shown in Example No. 13 except that there are two action addressees—ARM and CAP. NAV transmits this message to ARM omitting "V NAV" from the call.

o. Example No. 15.—A message heading similar to that shown in Example No. 13. When transmitting to ARM, NAV abbreviates the call by omitting "ARM" preceding "V NAV."

19. Abbreviated Normal Form Message.—Time is a vital factor in emergency messages, in most tactical messages, and in messages requiring a signal of execution. In such cases abbreviation of normal procedure is necessary. Any message which does not include one or more than one of the following three essential elements of a normal form message is called an *Abbreviated Normal Form Message:*

(1) Date group;
(2) Time of origin group; and
(3) Group count.

a. The Abbreviated Normal Form Message may be used by all elements of the Army and the Navy, and may be required to be used exclusively by some elements of each.

b. The procedure used in handling such traffic is called Abbreviated Normal Procedure.

20. Plate II.

a. Example No. 1.—Date group and group count are omitted. Message is addressed by DES to CON and SUB for action. Urgent precedence is indicated by prosine "O." $\overline{\text{AR}}$ in suffix indicates no receipt is expected.

b. Example No. 2.—Date group, time of origin group, and group count are omitted. Message is addressed by DES to CON and SUB for action. Urgent precedence is indicated by prosine "O."

c. Example No. 3.—An urgent cryptographed message to be acknowledged by all addressees is originated by NAV and transmitted by NAV to ARM. ARM is instructed to relay message to GEN. ARM and GEN are action addressees. Precedence is indicated by "O." Date group is omitted. Group count is here included but may be omitted. By use of "ZPG" all receiving stations are instructed to repeat back this message to station from which received.

d. Example No. 4.—CON calls FOL with an abbreviated call. FOL is collective call sign including AIR, BAT, CRU, DES, and SUB. By use of "N", SUB is exempted from the address. AIR, BAT, CRU, and DES are action addressees. Date and time groups and the group count are omitted. (Text is a Navy type of signal.) By use of "F" in preamble, stations called are not to transmit in response to this transmission. "NR 6" was used because sent on a regular "F" method schedule. Precedence is indicated by "O."

e. Example No. 5.—CON originates an urgent message addressed to FOL for action, and to AIR for information. When transmitting to all addressees in this case, CON omits the call completely. Date and time groups are omitted, as is also the group count. By use of "K" in suffix all addressees are instructed to receipt for this message to CON. Precedence is indicated by "O."

f. Example No. 6.—CON originates an urgent cryptographed message addressed to the "Fleet" for information, whose call sign is assumed to be "FUL". CON transmits this message to FOL, and by "L" instructs FOL to transmit message to those for whom responsible—which in this case will result in delivery to FUL. By "ZRA FUL," all receiving stations are instructed to forward this message by visual. The date group and the group count are omitted. Precedence is indicated by "O."

IRE

y be used by all
e required to be

is called Abbre-

unt are omitted.
action. Urgent
uffix indicates no

group, and group
ES to CON and
by prosine "O."
l message to be
NAV and trans-
relay message to
. Precedence is
oup count is here
all receiving sta-
to station from

abbreviated call.
CRU, DES, and
ie address. AIR,
Date and time
is a Navy type of
called are not to
6" was used be-
e. Precedence is

message addressed
When transmitting
completely. Date
ip count. By use
to receipt for this
O."
ant cryptographed
on, whose call sign
message to FOL,
to those for whom
very to FUL. By
ed to forward this
group count are

PLATE I

VARIOUS EXAMPLES OF NORMAL FORM MESSAGE (see par. 18)

EXAMPLE NUMBER	CALL	PREAMBLE		ADDRESS								PREFIX				TEXT (as appropriate)	SUFFIX
	Discretion is permitted, usually, as to abbreviating or omitting the call	Station serial number(s)	Instructions for next receiving station(s)	Originator sign	Originator(s) call sign	Date-time group	Action addressee(s) call sign	Information sign	Information addressee(s) call sign(s)	Exempted sign	Exempted addressee(s)	Instructions to all receiving stations	Precedence and acknowledge instructions (if not placed in address)	Group count	Break sign		
1	ARM V NAV					311516								GR 9	BT	Text	K
2	CON GEN V NAV	CON NR 2, GEN NR 5				162231								GR 11	BT	Text	K
3	MAR V ARM	NR 8	F	Z	NAV	261627		Q	ARM MAR					GR 16	BT	Text	AR
4	MEX V NAV		ZPG	Z	NAV	121759	MEX	Q	SKY				P Y	GR 16	BT	Text	AR
5	CON V NAV	NR 6	ZRA FOL	Z	NAV	271545	CON	Q	FOL				D	GR 8	BT	Text	K
6	CON V NAV	NR 2	L	Z	NAV	280125	CON	Q	FOL	N	SUB		D	GR 17	BT	Text	K
7	FOL V CON N SUB or AIR BAT CRU DES V CON.			Z	NAV	280125	CON	Q	FOL	N	SUB		D	GR 17	BT	Text	K
8	FOL V CON					301615		Q	AIR					GR 6	BT	Text	B K
9	ARM V GEN		T	Z	GEN	142359	ARM MEX SKY	Q	NAV				P	GR 9	BT	Text	K
10	MEX SKY V ARM		MEX T NAV	Z	GEN	142359	ARM MEX SKY	Q	NAV				P	GR 9	BT	Text	K
11	NAV V MEX			Z	GEN	142359	ARM MEX SKY	Q	NAV				P	GR 9	BT	Text	K
12	FOL V NAV	NR 18	L	Z	NAV	162106	FUL					ZRA FUL	D	GR 12	BT	Text	VA
13				Z	NAV	311516	ARM							GR 9	BT	Text	B K
14	ARM			Z	NAV	231415	ARM CAP							GR 19	BT	Text	K
15	V NAV			Z	CON	030912	ARM							GR 29	BT	Text	AR AS

AR—is used when no receipt is required. K—is used when receipt is required. B—is used when there is "more to follow." VA—is used to mean "This is my last transmission to you for the present."

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g. Example No. 7.—GEN originates an Executive Method message (requiring a signal of execution to be sent later). GEN transmits message to ARM, the action addressee and instructs ARM (by use of K) to receipt for message. $\overline{IX}$ $\overline{BT}$ in prefix indicates that the instant of execution will be transmitted later. $\overline{IX}$ always immediately precedes $\overline{BT}$ in the Executive Method. The date group is omitted and there is no group count. Urgent prosine "O" is not required because all $\overline{IX}$ method messages are urgent.

h. Example No. 8.—CON originates an Executive Method message addressed for action to the "Fleet" whose call sign is assumed to be FUL. Message is transmitted by CON to FOL (with abbreviated call). By use of "L", FOL is instructed to transmit this message to those for whom responsible—which in this case means to FUL, the "Fleet." The date-time group and the group count are omitted. The instant of execution will be transmitted later, and will have to be relayed, as this message was. Urgent prosine "O" is not required (see *g* above).

i. Example No. 9.—SUB originates an urgent message addressed for action to CON. SUB has previously transmitted this message to DES with instructions for DES to relay it to CON. In this example, DES abbreviates his call (from "CON V DES" to "V DES") since to do this is considered feasible under existing conditions. The date group and group count are omitted. Precedence is indicated by "O."

j. Example No. 10.—CAP originates an urgent message addressed for action to GEN. CAP omits the call completely in this case, when transmitting to GEN. In the suffix, by use of "B K," CAP instructs GEN that he has more to transmit to GEN, and that CAP desires a receipt for this message. Precedence is indicated by "O."

21. Procedure Messages.

a. Procedure messages ordinarily consist of very brief transmissions in the following order:

(1) Call, when necessary.
(2) Prefix $\overline{BT}$, if desirable, as possibly when relaying is necessary.
(3) Prosines and/or prosigs—whose meaning imparts the instructions, requests, information, etc., desired.
(4) Ending prosine, or prosig. This ending may be the prosine or prosig of item (3) above if such prosine or prosig by its meaning implies end of transmission.

b. Examples of procedure messages appear throughout the text. A few typical ones are—

NAV V ARM ZFN
NAV V ARM R B
NAV V ARM $\overline{AS}$

22. The Executive Method.—Messages which require the execute sign to indicate the instant of execution are sent with the execute-to-follow sign, $\overline{IX}$, in the prefix *immediately* preceding the break sign, $\overline{BT}$. Messages in this form are said to be sent by the Executive Method. This method is particularly useful for transmitting time signals to adjust clocks, and may have various other applications which may be prescribed for each service.

a. All messages transmitted by this method shall employ abbreviated normal form, and are messages of URGENT precedence.

b. Every message which contains the Execute-to-follow sign, $\overline{IX}$ in the prefix, will normally be followed by a further transmission containing the execute sign, which is $\overline{IX}$ followed by a 5-second dash. The *INSTANT* of execution is the *TERMINATION of a 5-second dash following* $\overline{IX}$.

c. The execution transmission, if sent by radio, shall always be preceded by a call.

d. The execution transmission is normally *not* to be receipted for. However, when a receipt is required this is indicated by the use of "K" following $\overline{IX}$ and the 5-second dash. If but some of the stations called are required to receipt, such stations shall be indicated by call sign(s) preceding "K."

e. Annulling Messages Awaiting Execution.—Once having been made, the execution transmission cannot be annulled. However, an executive method message awaiting execution can be annulled by a further message. To annul *all* messages awaiting execution, the word "Negat" is transmitted. For example:

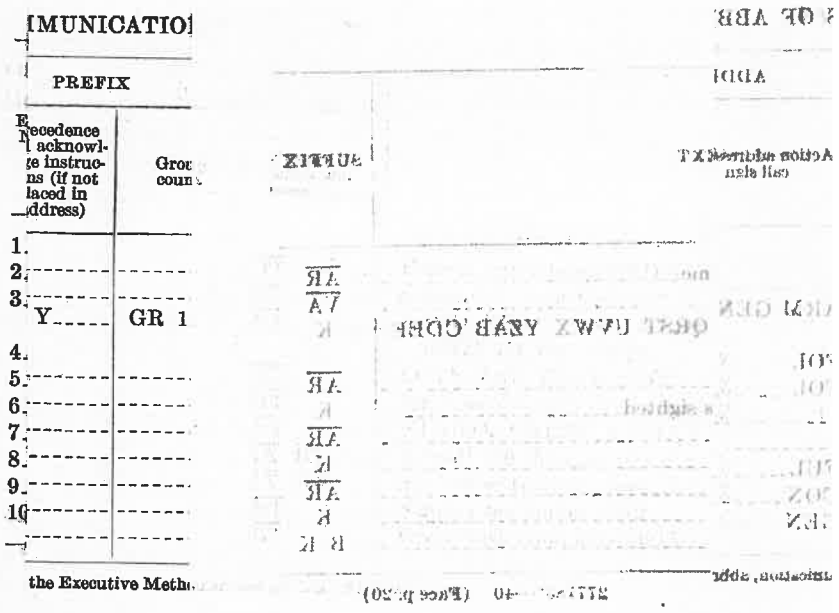
(1) CON, desiring to annul all *unexecuted* messages sent by him to FOL, transmits:

FOL V CON $\overline{BT}$ Negat $\overline{AR}$ (or FOL V CON $\overline{BT}$ Negat K if a receipt is desired).

(2) If CON desires to annul one or more of several messages awaiting execution (or non-executive messages on which action has not been taken) without annulling the others, each message text to be annulled is preceded by NEGAT. Thus — assuming that CON has sent to FOL the following Navy type signals:

FOL V CON $\overline{IX}$ $\overline{BT}$ Sail Baker tack* Dog George $\overline{AR}$

*See note on p. 21.


IMUNICATIO

PREFIX

Precedence | acknowl-ge instruc-ns (if not laced in ddress)	Grou coun
1.	
2.	
3. Y	GR 1
4.	
5.	
6.	
7.	
8.	
9.	
10	

the Executive Meth

PLATE II

VARIOUS EXAMPLES OF ABBREVIATED NORMAL FORM MESSAGE FOR JOINT COMMUNICATIONS* (see par. 20)

EXAMPLE NUMBER	CALL	PREAMBLE		ADDRESS									PREFIX			TEXT	SUFFIX
	Discretion is permitted, usually, as to abbreviating or omitting the call	Station serial number(s)	Instructions for next receiving station(s)	Originator sign	Originator(s) call sign	Date-time group	Action addressee(s) call sign	Information sign	Information addressee(s) call sign(s)	Exempted sign	Exempted addressee(s)	Instructions to all receiving stations	Precedence and acknowledgment instructions (if not placed in address)	Group count	Execute to follow and break signs		
1	CON SUB V DES					2052							O		BT	Expect arrive point ZED on time	AR
2	CON SUB V DES												O		BT	Submarine torpedoed dart	VA
3	ARM V NAV		T GEN	Z	NAV	1015	ARM GEN					ZPG	O	GR 11	BT	ABCD EFGH IJKL MNOP QRST UVWX YZAB CDEF GHIJ KLMN OPQR.	K
4	FOL	NR 6	F	Z	CON		FOL			N	SUB		O		BT	LOVE ZED CAST FIVE	AR
5				Z	CON		FOL	Q	AIR				O		BT	Fire green rocket when plane is sighted	K
6	FOL V CON		L	Z	CON	1216		Q	FUL			ZRA FUL	O		BT	NUMOX CAREF GUMAT	AR
7	ARM V GEN					1248									IX BT	Assault hill thirteen	K
8	FOL		L	Z	CON		FUL								IX BT	Sail baker tack dog love	AR
9	V DES			Z	SUB	1900	CON						O		BT	Sighted ten yellow 1042	K
10				Z	CAP	1457	GEN						O		BT	Green task completed 0915	AR
																	K
																	B K

*NOTE.—In the examples shown, all abbreviated normal form messages are URGENT in precedence. However, for joint communication, abbreviated normal form message may have other precedence. Messages transmitted by the Executive Method are always URGENT messages.

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FOL V CON IX BT Turn Six AR

FOL V CON IX BT Xray Fox Cast tack* Love Unit AR

CON then desires to annul "Sail Baker," "Dog George," and "Love Unit." CON transmits:

FOL V CON BT Negat Sail Baker tack* Negat Dog George tack* Negat Love Unit AR

When ready to execute the remaining unexecuted messages, CON's execution transmission is as follows:

FOL V CON IX ———

This is the "signal of execution" for "Turn Six" and "Xray Fox Cast."

f. Uses of IX, the EXECUTE-TO-FOLLOW sign.—IX BT at the end of the prefix of a message indicates that the instant of execution will be indicated later.

For example—

(1) ARM V GEN IX BT assault hill ten K.

ARM receipts to GEN, abbreviating the call:

V ARM R.

When ready to execute GEN transmits:

ARM V GEN IX ———

(2) FOL V CON 1248 IX BT flagships fire special rockets AR.

When ready to execute, CON transmits:

FOL V CON 1248 IX ———

The time of origin group (1248) need not always be included when executing.

g. Uses of IX ———, the EXECUTE sign.—By itself (after a call) IX ——— means, "Execute all unexecuted messages which I have transmitted.**

For example—

(1) CON has transmitted two messages by the Executive Method to FOL, which he now executes simultaneously by transmitting:

FOL V CON IX ———

h. A message (or portion thereof) shall be *identified* before executing if—

(1) It is one of several unexecuted messages which have been preceded by IX, and this one only is to be executed at the time.

*NOTE.—TACK as thus used is a separator between Navy signals. "TACK" is an abbreviation of "tackline," the name of the line used to separate Navy signals in a signal flaghoist.

**NOTE.—IX may be repeated several times (when desirable) before making the 5-second dash.

(2) There is any possibility of doubt as to which message is to be executed.
(3) A considerable time has elapsed between the transmission of message and time to execute.
(4) The message carries a time of origin. (This identification is *usual*, but not mandatory.)
(5) It is but a portion (complete in meaning, however) of a message previously transmitted which might have been drafted as two or more distinct messages.

i. After a call and identification data, $\overline{IX}$ ——— means, "Execute the message(s) or portion(s) indicated."*

For Example—

(1) CON has transmitted two messages to FOL. Being ready to execute but one of them, CON repeats the one to be executed (love xray) and follows this by $\overline{IX}$ ———
FOL V CON $\overline{IX}$ $\overline{BT}$ love xray $\overline{IX}$ ———
(2) CON has transmitted to FOL:
FOL V CON $\overline{IX}$ $\overline{BT}$ sail dog *tack* roger unit *tack* dog fox love three $\overline{AR}$
CON then desires to execute only "sail dog," and transmits:
FOL V CON $\overline{IX}$ $\overline{BT}$ sail dog $\overline{IX}$ ———
When ready to execute the remainder, CON transmits:
FOL V CON $\overline{IX}$ ———
(3) CON has transmitted to FOL:
FOL V CON 2127 $\overline{IX}$ $\overline{BT}$ each flagship fire two red rockets $\overline{AR}$
When ready to execute this message, CON transmits:
FOL V CON 2127 $\overline{IX}$ ———

23. Reserved for future use.

24. Reserved for future use.

Section IV

OPERATING RULES AND INFORMATION

25. General.—Familiarity with the prescribed joint procedure and its employment is essential for effective radio communications. Procedure properly employed minimizes the length of transmissions necessary to effect delivery of messages by providing a concise, definite operator's "language." The procedure prescribed herein is highly flexible but if found inadequate for any situation, a message

*Note.—$\overline{IX}$ may be repeated several times (when desirable) before making the 5-second dash.

(properly released) should be used. Provision is made for shortening transmissions relative to procedure when operating conditions permit. Operators should make full use of this flexibility but under no condition should *reliability* of communications be sacrificed.

26. Group Count and Lettering.—Used in the Prefix, "GR numeral(s)" means "This message contains the number of groups indicated."

a. CON transmits a normal form message containing 16 groups to BAT (for which a receipt is required): (The counted groups are underscored).

BAT V CON 272113 GR 16 $\overline{BT}$
REPORT NUMBER CASES FLU NOW UNDER TREATMENT IN USS NEW YORK AND NUMBER RETURNED TO DUTY TODAY K

b. The *Group Count* is included in the prefix of all normal form messages and may be included in abbreviated normal form messages, particularly those cryptographed where the absence of a group is not so obvious as in clear text.

c. Rules for Counting Groups.—Care must be taken that the sense of the message is not altered by joining together words which the originator drafted and released as separate groups, or vice versa. Thus "twenty five quire packets" must not be transmitted "twentyfive quire packets."

(1) Each separate letter, numeral, word, or code group of *text* (after $\overline{BT}$) counts as one group.
(2) Each complete set of reference numbers of messages appearing *in the text* (consisting of 4, 6, and sometimes 8 combined Arabic digits) counts as one group. The date-time group *in the heading* does *not* count as a group.
(3) Each set of Arabic digits, or Arabic digits and letters, appearing combined in the text counts as one group.
(4) Each combination of letters or common abbreviations counts as one group.
(5) Groups in the text of commercial messages are counted in accordance with the rules for commercial count.
(6) The originator determines the form in which he wishes the text of the message to be received by the addressee(s). The message must therefore be sent as drafted and released by the originator. Thus the number of groups depends upon the form of the text.

(7) The following examples are explanatory:

	Group count
*Braycorbie	1
Bray Hyphen Corbie	3
Brotherinlaw	1
*New York	2
*Newyork	1
MR C D ADAMS	4
1258 C AVE	3
***Desron	1
125/3	1
CRU 311845	2
William Love Xray	3
XFUY	1
XRAY FOX UNIT YOKE	4
**(FRANCE)	2

*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 consistently be drafted (and therefore counted) as one group.

**NOTE.—Each set of parentheses, (), or quotation marks, " ", *drafted into the text by the originator*, counts as one group.

***NOTE.—Meaning "Destroyer Squadron."

d. Rule for "lettering."—When the number of groups received (by R method) does not correspond with the group count transmitted, the receiving station will immediately question the transmitting station as in example herein below. If, after rechecking the message, the transmitting station finds that the receiving station is correct, the transmitting station sends C; otherwise, the transmitting station verifies the number of groups by transmitting the correct group count and the first letter or numeral of each group in the text in succession.

(1) CON has transmitted a normal form message containing the group count "GR 18." DES has received 16 groups and questions the group count asking "Is not the number of groups 16?" by transmitting:

CON V DES GR 16 IMI

(2) If the correct group count is found by CON upon recounting to be "GR 16", CON transmits in response to DES's question:

DES V CON C

(3) If the correct group count is found by CON upon recounting to be "GR 18" as previously sent, CON transmits in response to DES's question:

DES V CON GR 18 BT T W L O S A E N P T F A L Y 3 P F U AR

Subject to this "lettering," the count of the transmitting station is final. If all groups were received, DES receipts; if not DES requests necessary repetitions.

e. 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, Z CRU 172314 NAV GR 63/64 BT. A relaying station which adds the slant sign and its own count must continue its efforts to obtain the correct group count and forward this as soon as practicable.

f. If a message must be transmitted before the group count can be determined or obtained, the omission is indicated by "GR AA" sent in the prefix. The group count may then be sent in the suffix, or later in a procedure message.

(1) Group count sent in the Suffix, or omitted:

RAN V GEN 31Ø2ØØ GR AA BT text GR 39 K (or . . . Text K)

(2) Group count sent later in a procedure message:

RAN V GEN C 31Ø2ØØ GR 39 K

27. Transmitting Rules.

a. Stations will not transmit on any frequency except for authorized "*Break-In*" until it is determined that no other station within range is transmitting on that frequency. (See pars. 9*e* and 11.)

b. Transmissions in the form of procedure messages are the only type that operators are authorized to originate. Conversation between operators and superfluous procedure messages are prohibited. When a matter arises which cannot be effectively handled by means of procedure signals or prosines, a properly released message may be used.

c. Calls.—For rule on *repetition* of calls see par. 8.

d. Transmitting speeds should never exceed the receiving ability of any operator on the circuit(s).

e. After communication has been well established, messages carrying station serial numbers may be transmitted in strings (one after the other without receipts being obtained immediately for each message). Normally, five messages should comprise a string. However, on certain well-established circuits, messages carrying station serial numbers may be transmitted in unbroken strings of

greater length. Collective receipt is transmitted for each string. Messages in strings are separated by the prosine "$\overline{AR}$."

28. Station Serial Numbers.

a. Station serial numbers are used when transmitting messages by the "R" and "F" methods, if prescribed. Station serial numbers are not ordinarily used for abbreviated normal form messages.

b. The prosine "NR" in the preamble of the heading (followed by numerals) indicates the station serial number for the message. It is a serial number of a separate series beginning at midnight for transmission to each station worked, and another separate series for reception from each station worked during the ensuing 24 hours. Thus, since midnight on a certain day, station JH has transmitted 3 messages to station NA and has received 5 messages from station NA. JH's next message to NA is "NR 4" and his next message from NA is "NR 6."

c. Station serial numbers for messages broadcast by regular "F" method schedules run in a series from 1 to 999 before beginning a new series. (See par. 16 *f* (2) (*b*).)

29. Identification of Messages.

a. Procedure messages involving identification of messages previously handled shall be brief, and drafted in the following order:

(1) Governing prosine(s) or prosig followed by
(2) The identification such as "station serial number", or "date-time group" with appropriate call sign, followed by
(3) Specific information required if not indicated by governing prosine.

b. The originator's call sign and message reference number should usually suffice for identification. Additional data may be used where required such as complete heading, parts of text, or time of receipt, etc.

c. Examples of texts of identification procedure messages:

(1) ZMQ NR 16 / 18 $\overline{AR}$ (meaning "Repeat your message with station serial number 16 of the 18th of the current month," or if the present date be before the 18th, "Repeat your number 16 of the 18th of last month.")
(2) ZMQ NR 16 / NR 18 $\overline{AR}$ (meaning "Repeat your numbers 16 and 18 of today.")
(3) J 27Ø915 DEC (meaning "Verify and repeat your 27Ø915 of December.")
(4) C 27Ø915 DEC AA 16 report prior thirty january K (meaning "Correct my 27Ø915 of December, all after group 16 as indicated.")

30. Recording Times and Servicing Messages.

a. The time of delivery (*TOD*) is the time the transmitting station completes the delivery of a message and shall be recorded on all messages sent.

b. The time of receipt (*TOR*) is the time the receiving station completes the reception of a message and shall be recorded on all messages received.

c. These times (*TOD, TOR*) are four-digit groups and shall be recorded as appropriate for relayed messages as well as for direct traffic. These times are not transmitted except when required by special instructions.*

d. "Servicing the message" is the term applied to the act of entering on the message blank any required data. These include routing instructions, times, system, and other pertinent information. Every message (except some procedure messages) transmitted or received shall be serviced *with appropriate items* from the following:

(1) Required routing instructions.
(2) Time of delivery or receipt.
(3) Radio frequency used for delivery to each addressee, or for receiving the message.
(4) Station from which received when not in heading.
(5) Initials or identifying sign of the operator.

31. Transmission Endings.

a. Every transmission shall end with a prosine:

Thus: ARM V CAP NR 2 R

b. When a receipt is required, a transmission shall end with "K".

Thus: ARM V CAP 1821Ø5 GR 15 $\overline{BT}$ text K

c. When no receipt is required, a transmission shall end with "$\overline{AR}$", or some other appropriate prosine:

Thus: ARM V CAP 19Ø1Ø1 GR 3 $\overline{BT}$ text $\overline{AR}$

d. When no receipt is required and it is desired to indicate that all work is finished for the present, transmission may be ended with $\overline{VA}$. This ending may be employed to indicate the last transmission on a schedule (or "this frequency or circuit").

Thus: ARM V CAP 19Ø2Ø2 GR 7 $\overline{BT}$ text $\overline{VA}$

32. Receipting for Messages.—Receipting for messages is accomplished as explained under use of the prosine "R" (see par. 64).

NOTE.—See paragraph 47 for use of prosine C which may be used in some cases as a receipt.

*NOTE.—Navy stations normally use GREENWICH Civil Time (GCT) for TOD and TOR and for other communication purposes except in the texts of messages.

33. Repeating Back Messages.—When desirable to have a message repeated back, the prosig "ZPG" or "ZPF", as appropriate, will be used. See meanings under Prosigs, Appendix C, and see Plate I, paragraph 18 for examples.

34. Passing Messages.—When necessary, a message may be delivered to others than those addressees included in the original address. An officer (other than the originator) may therefore add addressees to a message and provide for its delivery to those thus added. This is termed "passing a message." The rules for passing messages follow.

a. A supplementary address, indicating the identity of the station passing the message and of the added action and information addresses, shall be inserted in the heading *preceding the original* address. Two Z's shall invariably be used—one beginning the supplementary address and one beginning the original address.

b. A date-time group may be inserted in the supplementary address, if *advantageous*.

c. Precedence for supplementary addressees may be indicated either in the supplementary address or in a supplementary prefix immediately following the supplementary address.

d. The preamble shall apply only to supplementary addressees.

e. The prefix established by the originator shall apply only to original addressees. A supplementary prefix may be established by the station passing the message and shall apply only to supplementary addressees.

f. For example:

(1) NAV desires to pass to CON a message he has received from GEN.

Message as received by NAV:

NAV V GEN Z GEN 31Ø2Ø5 NAV GR 6 $\overline{\text{BT}}$ text K

Message as *passed* by NAV to CON:

CON V NAV* Z NAV CON Z GEN 31Ø2Ø5 NAV GR 6 $\overline{\text{BT}}$ text K

(2) BAT received the following message from CON which he desires to *pass* to SKY:

BAT V CON 172124 GR 15 $\overline{\text{BT}}$ text $\overline{\text{AR}}$

Message as *passed* to SKY for action:

SKY V BAT* Z BAT SKY Z CON 172124 BAT GR 15 $\overline{\text{BT}}$ text $\overline{\text{AR}}$

(3) If this message were passed *for information* to SKY it would appear thus:

SKY V BAT* Z BAT Q SKY Z CON 172124 BAT GR 15 $\overline{\text{BT}}$ text $\overline{\text{AR}}$

*NOTE.—The call may be abbreviated or omitted, as practicable.

35. Cancelling or Annulling Messages.

a. Only the *originator* may cancel or annul a message once the transmission of it has been completed.

b. Procedure messages shall not be employed to cancel or annul messages the transmission of which has been completed. However, *before transmission is completed*, if the transmission be in error and it is desired that it be *disregarded*, the erase sign followed by the prosig "ZMG" meaning, "This transmission is in error—disregard it," should be sent. The prosig "ZRF" frequently used in connection with relaying of messages, "Take no further action with regard to forwarding message. . . . ." does *not* cancel or annul the message in question.

36. Reserved for future use.

37. Reserved for future use.

38. Reserved for future use.

SECTION V

PROSINES AND THEIR USES WITH RELATED PROCEDURE

39. The function of prosines is to facilitate communication by conveying in condensed standard form certain frequently used instructions, requests, reports, and information related to communication. Paragraphs 40 to 74 which follow in alphabetical arrangement are devoted to a brief explanation of the prosines, as listed under Appendix B, and examples of their uses. While the examples herein are intended to illustrate typical normal uses of each prosine, brevity precludes examples covering all possible uses. Call signs in examples are assumed and are not actually used in official communication—except "ZCV."

$\overline{\text{AA}}$

Transmitted . — . —

40. This prosine has the meanings:

"Unknown station"

"Blank"

a. Unknown station.—In calling an unknown station, or answering a call, if the operator is uncertain as to the identity of the calling station, the prosine $\overline{\text{AA}}$ is used as the call sign of the unknown station. Thus, An operator at MAR, hearing some station call "MAR", but not being certain which station called, answers:

"$\overline{\text{AA}}$ V MAR K".

b. Blank.—When a message with missing portion(s) is received, and must be retransmitted or delivered before fill-ins can be obtained, the missing portion(s) may be indicated by using $\overline{\text{AA}}$ to

indicate the missing portion(s). This does not relieve a station of responsibility for obtaining and transmitting the complete or corrected version, when practicable to do so.

(1) MAR transmitting a message to ARM, which MAR received *incompletely* from NAV for relaying to ARM, indicates missing portions:

ARM V MAR Z NAV AA ARM GR AA BT SIGHTED WRECKAGE AA PLANE TWENTY MILES SOUTHEAST POINT LONG AA K

AA

Transmitted .— —

41. This prosine has the meaning: "All after". Used in the text of a procedure message, after the prosines C, IMI, and J, as well as with prosigs, when appropriate.

a. GEN has completed transmission of a normal form message (NR 7) to NAV, which contained 50 groups.

(1) (*a*) NAV, having missed the last two groups of this original transmission, requests a repetition of all after group 48:

GEN V NAV IMI AA 48 AR

(*b*) GEN repeats all after group 48—commencing with group 48:

NAV V GEN AA 48* WKFS RAZY PASB AR

(*c*) NAV then receipts for the message:

GEN V NAV NR 7 R

(2) (*a*) Before receipting, NAV questions (by use of the question mark prosine IMI) the correctness of his reception of—all after group 48:

GEN V NAV AA 48* WKFS RAZX PASD IMI

(*b*) As NAV's reception was *not* correct, GEN transmits:

NAV V GEN C AA 48* WKFS RAZY PASD AR

(*c*) If NAV's reception had been correct, GEN would have transmitted:

NAV V GEN C

(*d*) NAV receipts to GEN for the message:

GEN V NAV NR 7 R

*NOTE.—Identification data such as "AA 48" should be included only if necessary for clarity.

(3) (*a*) NAV requests verification from the originator of groups 49 and 50—that is, of all after group 48:

GEN V NAV J NR 7** AA 48 K

(*b*) GEN takes action to have the originator verify groups 49 and 50, but pending verification receipts immediately for the request:

NAV V GEN R

(4) (*a*) GEN, desiring to correct all after group 48, as groups 49 and 50 as transmitted were later found to be in error, transmits:

NAV V GEN C NR 7 AA 48* WKFS RXZY PNSB K

(*b*) As GEN indicated by "K" that a receipt for this correction is desired, NAV receipts:

GEN V NAV R

b. If instead of a normal form message as in *a* above, GEN has sent NAV the following abbreviated normal form message: NAV V GEN BT ALPX DRQY XAFO AR, transmissions similar to those in the cases given in *a* above are as shown below:

(1) (*a*) GEN V NAV IMI AA ALPX AR (to request repetition of all after ALPX)

(*b*) NAV V GEN AA ALPX DRQY XAFO AR (the repetition)

(*c*) GEN V NAV R (the receipt) (or V NAV R)

(2) (*a*) GEN V NAV AA ALPX DRQX XABO IMI (to question reception of all after ALPX)

(*b*) NAV V GEN C AA ALPX DRQY XAFO AR (the *correct* version)

(*c*) NAV V GEN C (to indicate that first reception was correct)

(*d*) GEN V NAV R (or V NAV R) (the receipt)

(3) (*a*) GEN V NAV J AA ALPX K (to request verification and repetition of all after ALPX)

(*b*) NAV V GEN R (the receipt for request)

(4) (*a*) NAV V GEN C AA ALPX DRQP AXFO K (to correct all after "ALPX")

(*b*) NAV receipts to GEN for this correction:

GEN V NAV R (or V NAV R)

*NOTE—Identification data such as "AA 48" should be included only if necessary for clarity.

**NOTE.—If GEN's original message had a date-time group (reference numbers) 062312, this transmission could have been as follows:

GEN V NAV J Ø62312 AA 48 K

277783°—40——6

AB

Transmitted .— —...

42. This prosine has the meaning: "All before."
Used exactly similar to AA except for the difference in meaning. (See par. 41.)

$\overline{AR}$

Transmitted .—.—.

43. This prosine has the meaning: "End of Transmission."
This is one of the ending signs and its proper use is fully discussed, in connection with ending prosines K and $\overline{VA}$, in paragraph 68.

$\overline{AS}$

Transmitted .—...

44. This prosine has the meaning: "Wait."
It is used after a call, or during a transmission to mean "Stand by for further communication."

a. GEN desires RAN to wait: RAN V GEN $\overline{AS}$
This is an order when made by a senior station; a request when made by a junior station. A junior having been told "$\overline{AS}$" shall wait for "K" before transmitting, unless in the meantime he has been given an urgent or priority message to transmit, or it appears that he has been overlooked. After directing RAN to wait, GEN directs RAN to go ahead—transmit:

RAN V GEN K

b. To interrupt his transmission temporarily for any reason, the transmitting operator may use $\overline{AS}$ once (or more times) during the interruption, and then go ahead with the remainder of the transmission thus:

RAN V GEN 311516 GR 9 $\overline{BT}$ $\overline{AS}$------(short interval)------
$\overline{BT}$ DIRECT WRIGHT ETC.

B

Transmitted —...

45. This prosine has the meaning: "More to follow."

a. When used alone in the suffix it means there is more to follow. Thus:

(1) CON wishing AIR to receipt for this message, and CON wishing to indicate that he has more to transmit to AIR, sends:

AIR V CON 2712Ø1 GR 37 $\overline{BT}$ text B K

(2) SUB has just received a message from CON. When receipting, SUB indicates that he has more to send to CON:

CON V SUB R B

(3) CON, BAT, and CRU are on the same radio circuit. CON indicating to BAT and CRU that there is more to follow for them, and desiring a receipt from BAT for this message, transmits:

BAT V CON 261Ø17 GR 37 $\overline{BT}$ text B BAT CRU / K

b. When used during a transmission, "B numerals" means "Message is being transmitted in portions. Total number of groups transmitted thus far is as indicated." Normally portions consist of 50 code and 100 clear groups.

(1) CON transmitting a clear message of 160 groups to DES in portions, stops after transmitting the 100th group, and indicates that there is more to follow, and requests receipt for transmission thus far:

DES V CON 121527 GR 16Ø $\overline{BT}$ (text through 100th group) / B 100 K

DES (having received the message thus far) transmits:

CON V DES R K

(If DES had not received all of message thus far transmitted, DES would have requested necessary repetitions. See par. 53*a*.)

(2) CON then completes the transmission, commencing with a repetition of the last group already transmitted and receipted for:

DES V CON (text groups 100–160, both inclusive) K

DES receipts for the message: CON V DES R

$\overline{BT}$

Transmitted — . . . —

46. This prosine has the meaning: "Break."
The prosine "Break" or $\overline{BT}$ is used:

a. As the last prosine in the prefix, to separate the heading from the text in all messages, except that it may be omitted in procedure messages.

(1) BAT transmitting a normal form message to CON (for which a receipt is desired) sends:

CON V BAT 132325 GR 9 $\overline{BT}$ REQUEST AMBULANCE PLANE TRANSPORT INJURED MAN TO USS RELIEF K

(2) BAT transmitting an abbreviated normal form message to SUB (for which no receipt is desired) sends:

SUB V BAT $\overline{BT}$ ROGER DOG FOX $\overline{AR}$

b. $\overline{BT}$ need not be recorded on the received copy of the message.
c. For use of $\overline{IX}$ with $\overline{BT}$ in the Executive Method, see paragraph 22.

C

Transmitted — . — .

47. This prosine has the meanings:
"Affirmative" or "You are correct."
"Correct" or "The following is correct version."

a. "Affirmative" or "You are correct."—In answer to a question, or to signify the correctness of a message or a portion of a message which has been repeated back correctly, C means—"Affirmative" or "You are correct" depending upon the nature of the previous transmission. Thus:

(1) GEN has repeated back a small portion of a message followed by the question mark $\overline{IMI}$ to ascertain whether or not his reception thereof was correct. Finding that GEN has received it correctly, NAV transmits:
GEN V NAV C (or GEN V NAV C $\overline{AR}$)

(2) RAN indicates "affirmative" or "yes" in replying to a question (prosig) transmitted by GEN:
GEN V RAN C (or GEN V RAN C $\overline{AR}$ or GEN V RAN ZZC*)

(3) GEN transmits a message to RAN (which is to be repeated back):
RAN V GEN ZPG $\overline{BT}$ ATTACK AT ONCE K
Complying with prosig ZPG (assumed to mean "repeat back") in prefix, RAN repeats back the message, correctly—
GEN V RAN / RAN V GEN ZPG $\overline{BT}$ ATTACK AT ONCE K
GEN indicates correctness of the repeat back:
RAN V GEN C or RAN V GEN C $\overline{AR}$ or RAN V GEN C $\overline{VA}$
as appropriate. This use of C serves as a receipt.

b. "Correct" or "The following is correct version."

(1) Followed by identification data, C means, "The following is correct version of the message or portion(s) indicated." CON wishes to indicate the correct version to GEN of—
(*a*) All before group 2. Thus:
GEN V CON C AB 2 Z CON 291253 BAT GEN GR 15 $\overline{BT}$ SPOXE NXOBY K

*NOTE.—Prosig ZZC assumed to mean "affirmative" or "yes."

(*b*) All after group 13. Thus:
BAT V CON C 271152 AA 13 newyork departing tenth K

(*c*) word after "newyork" of his message bearing reference numbers 271152 (and desiring a receipt for this correction) transmits to BAT. Thus:
BAT V CON C 271152 WA newyork departing K

(2) CC means "The following is correct version of the message or portion(s) indicated—*which message was sent in abbreviated normal form.*"
CON sends a correct version of the *text* of a message which he had just sent to FOL and which had no time of origin:
FOL V CON CC $\overline{BT}$ ROGER FOX LOVE TWO $\overline{AR}$
If this message as originally transmitted has had a time of origin group 1127, the abbreviated normal procedure correct version could have been transmitted:
FOL V CON CC 1127 $\overline{BT}$ ROGER FOX LOVE TWO $\overline{AR}$

D

Transmitted — . .

48. This prosine has the meaning: "Deferred."
This is the precedence indicator for deferred precedence as defined in paragraph 3, subparagraph *l* (4). For uses of D as related to O, P, R and Y, see paragraph 72 *h*.

DUPE

Transmitted — . . . . — — . — — . .

49. This prosine means: "Duplicate message."
It is used as the last item of the prefix preceding $\overline{BT}$. DUPE means "This is an EXACT duplicate of message previously transmitted."

a. GEN transmits to RAN a duplicate message, for which a receipt is desired:
RAN V GEN NR 69 Z GEN 171525 RAN RAP GR 19 DUPE $\overline{BT}$ text K

b. A duplicate message shall not be used as a reply to a request for "verification and repetition" of a message. In this case a "correct version" of the message in question must be sent, even though no change in the message was found necessary upon verification.

c. When it appears that the original message has not reached an addressee, or has apparently been badly garbled en route, the originator may send a duplicate message. If the original message is to be changed in any respect (other than the insertion of DUPE) either a new message or a "correct version" of the original message is required.

EEEEEEEE

Transmitted . . . . . .

50. This prosine has the meaning: "Error" or "Erase."
It is a succession of 8 or more E's indicating that an error in transmission has been made.

a. After making the erase sign the operator commences again as indicated below:

If error is made in—	Operator commences again with—
The heading of message	The preamble, or with Z, Q, or GR (depending upon location of the error).
The text of message—clear or cryptographed	The last word or group correctly sent.
The text of procedure message	The last word, group, or procedure sign correctly sent.
The text of (Navy) signal	$\overline{BT}$ or the last "TACK" correctly sent.

b. CRU, transmitting a message, makes and corrects a mistake in the heading:

CON V CRU Z NAV 31Ø9 EEEEEEEE Z NAV 31Ø83Ø CRU Q CON GR 18 $\overline{BT}$ text $\overline{AR}$

c. BAT, transmitting a message to CON, makes and corrects a mistake in the third group:

CON V BAT 291827 GR 14 $\overline{BT}$ XOBO SELA VOD EEEEEEEE SELA VOBU NULU etc . . K

d. CRU, transmitting to SUB, makes and corrects a mistake in the text of a procedure message:

SUB V CRU $\overline{IMI}$ AB $\overline{BT}$ AA 4 EEEEEEEE AA 32 $\overline{AR}$

F

Transmitted . . — .

51. This prosine has the meaning: "Do not answer" or "Do not transmit."

In the Preamble or in the suffix, 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 by F method." For exception see paragraph 16 *f* (2) (*g*).

a. F is not required in cases where obviously there would be no transmitter response—as when a station regularly broadcasts (F method) to prescribed units or to all units in a prescribed area. Thus F is intended for use only in those cases where there is a possibility that a station might transmit to answer a call, or to request a repetition, or to give a receipt, when to do so under existing conditions would be unwarranted.

b. Transmission of messages by F method *usually* requires:

(1) That all call signs, reference numbers, and prosines in heading or in suffix be sent "words twice," except usually $\overline{AR}$, $\overline{BT}$, GR, NR, $\overline{XE}$ and $\overline{VA}$;
(2) That clear texts be sent "words once";
(3) That cryptographed text be sent "words twice"; and
(4) That speed of transmission shall normally be about 18 words per minute.

Thus: ARM ARM V V GEN GEN NR 8 F F Z Z NAV NAV 261627 261627 ARM ARM GEN GEN GR 16 $\overline{BT}$ (clear text "words once") $\overline{AR}$**

c. Although the procedure indicated in *b* is usually desirable, the following procedure is permissible. Thus:

(1) ARM V GEN NR 8 F Z NAV 261627 ARM GEN GR 16 $\overline{BT}$ clear text $\overline{AR}$ or
(2) ARM V GEN NR 8 Z NAV 261627 ARM GEN GR 16 $\overline{BT}$ clear text / F*

d. Since NAV *regularly* transmits F method broadcasts to all stations in a prescribed area, he is not required to use F in heading. NAV 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, NAV transmits: VVVVV NAV VVVVV NAV VVVVV etc., until

*NOTE.—While this use of F in suffix is permissible, it is better communication practice to employ F in the preamble, as in first of these examples.

**NOTE.—$\overline{VA}$ would be employed instead of $\overline{AR}$ here, if there were no prospect of sending another message soon on the same circuit.

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*, NAV transmits:

ZCV*** ZCV V V NAV NAV NR 59 Z Z CON CON Ø91951 Ø91951 FUL FUL P P GR 17 $\overline{BT}$ (clear text—"words once") AR NR 6Ø Z Z DES DES Ø91852 Ø91852 AIR AIR SUB SUB GR 22 $\overline{BT}$ (cryptographed text—"words twice") AR NR 61 Z Z CRU CRU Ø91755 Ø91755 BAT BAT Q Q DES DES D D GR 19 $\overline{BT}$ (clear text—"words once") $\overline{VA}$

GR

Transmitted — — . . — .

52. This prosine has the meaning: "Group(s)."

It is used in the prefix followed by numerals to mean "This message contains the number of groups indicated." (See par. 26.)

$\overline{IMI}$

Transmitted . . — — . .

53. This prosine has the meanings: "Repeat." "Question mark."

a. Repeat.

(1) Used by a station *before* a message serial or reference number to request repetition of an entire message; or, *before* the prosines AA, AB, WA, or GR, to request repetition of any portion thereof; or *alone* after a call to request repetition of the *last* transmission.

(*a*) RAN requests repetition of an entire message—from GEN:

GEN V RAN $\overline{IMI}$ NR 7 K (or GEN V RAN $\overline{IMI}$ 31Ø2Ø7 K)

(*b*) RAN requests repetition of a portion of a message—all before $\overline{BT}$ of message just transmitted by GEN:

GEN V RAN $\overline{IMI}$ AB $\overline{BT}$ $\overline{AR}$*

(*c*) RAN requests repetition of the whole of the last transmission from GEN:

GEN V RAN $\overline{IMI}$ $\overline{AR}$*

(*d*) CON desires DES to repeat the group count:

DES V CON $\overline{IMI}$ GR $\overline{AR}$*

*NOTE.—In this example, the use of $\overline{AR}$ is optional.

***NOTE.—ZCV is assumed to be the call sign meaning "general call—all stations copy."

(*e*) CON desires DES to repeat the reference numbers (date-time group) of message just transmitted:

DES V CON $\overline{IMI}$ NR $\overline{AR}$*

(*f*) CON desires NAV to repeat the station serial numbers of message just transmitted:

NAV V CON $\overline{IMI}$ NR NR $\overline{AR}$* or NAV V CON $\overline{IMI}$ WA NR $\overline{AR}$*

(*g*) CON desires DES to repeat the 3rd group of message just transmitted:

DES V CON $\overline{IMI}$ 3 $\overline{AR}$

(*h*) CON requests DES to repeat the 3rd and 7th groups, and between groups 10 and 15 of message just transmitted:

DES V CON $\overline{IMI}$ 3/7/1Ø to 15 $\overline{AR}$

DES complies by transmitting:

CON V DES 3 relative 7 oxford 1Ø to 15 from november seven until expiration contract $\overline{AR}$ or

CON V DES 3 relative / 7 oxford / 1Ø from november seven until expiration contract $\overline{AR}$

(2) Used by a transmitting station to indicate that it will immediately repeat its entire preceding transmission or a difficult portion thereof, but not to correct an error:

(*a*) GEN repeats an entire message transmission to RAN:

RAN V GEN $\overline{BT}$ ATTACK AT ONCE $\overline{IMI}$

RAN V GEN $\overline{BT}$ ATTACK AT ONCE $\overline{AR}$

(*b*) GEN V RAN $\overline{BT}$ CAMPED AT HERVEY SCHINKEL $\overline{IMI}$ HERVEY SCHINKEL $\overline{AR}$

b. $\overline{IMI}$*—Question Mark.*—Preceded by a portion of the preceding transmission (with or without identification data), $\overline{IMI}$ means "Is my reception of this correct?" $\overline{IMI}$ shall not be thus used to question the reception of the *greater* portion of a message. In such a case, a repetition should be requested.

(1) BAT transmits a small portion of the message as he has just received it from CON and asks, "Is my reception of this correct?"

CON V BAT FOR OVERHAUL $\overline{IMI}$

(The procedures in case BAT's reception was correct or was incorrect are set forth under "C", par. 47.)

(2) CON questions the group count by asking DES "Is not the number of groups as indicated?"

DES V CON GR 43 $\overline{IMI}$

*NOTE—In this example, the use of $\overline{AR}$ is optional.

(The procedure for "lettering" if CON is not correct is set forth in par. 40.)

(3) BAT asks DES "Are not the reference numbers as indicated?"

DES V BAT 31Ø126 IMI

(4) CON asks NAV "Is not station serial number as indicated?"

NAV V CON NR 42 IMI

(5) CON questions his reception from BAT of groups 31 and 35:

BAT V CON 31 DOGUX 35 SAGOM IMI

(6) CON questions his reception from BAT of the word "HANSE" after "LAROW":

BAT V CON WA LAROW HANSE IMI

BAT indicates that CON's reception was correct:

CON V BAT C

IX

Transmitted . . _ . . _

54. This prosine has the meaning: "Execute to follow."
It is used in the Executive Method as outlined in paragraph 22.

IX (5-second dash)

Transmitted . . _ . . _ _____

55. This prosine has the meaning: "Execute."
It is used in the Executive Method as outlined in paragraph 22.

J

Transmitted . _ _ _

56. This prosine has the meaning: "Verify and repeat."
It is used to require the originator to verify all (or a portion) of a message and to require the station of origin to repeat the verified message (or portion) as a "Correct Version."

a. After a call or an address, J means "Originator, verify and repeat your last message." (In radio this refers to "The last message transmitted on this circuit.")

(1) CON desires CRU's last message verified and repeated (and desires a receipt for this request):

CRU V CON J K

b. After a call or an address, J followed by identification data, means "Originator verify and repeat message indicated, or portion(s) thereof indicated."

(1) CON desires the following portions of CRU's 312151 verified and then repeated (and desires a receipt for his request):

1. All before BT (the whole heading); and
2. All after "will be."

CON transmits:

CRU V CON J 312151 AB BT AA will be K

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

BAT V CON J CON V BAT BT love xray unit seven AR

K

Transmitted _ . _

57. This prosine has the meaning: "Go ahead (Transmit)."
It is used to indicate that a station is ready to receive transmissions. For uses of K, together with uses of prosines AR and VA, see paragraph 68.

L

Transmitted . _ . .

58. This prosine has the meaning: "General Relay."
For uses of L, together with uses of T and related prosigs, see paragraph 66.

N

Transmitted _ .

59. This prosine has the meanings:
"Nothing (or not) received"
"No" or "Negative"
"Exempted."

a. Nothing (or not) received.—Used to indicate that a station has received nothing or has not received a specific transmission.

(1) RAN not having received the last transmission from GEN, transmits:

GEN V RAN N or GEN V RAN N K

(2) RAN not having received message NR 8 from GEN, transmits:

GEN V RAN NR 8 N

(3) BAT asks CON if he has received SUB's 151227:

CON V BAT SUB 151227 R IMI

Not having received it, CON transmits:

BAT V CON SUB 151227 N or BAT V CON N

b. No. Negative.—Used as a negative answer to a question expressed by a prosine or prosig in a manner exactly similar to C but with the opposite meaning. (See par. 47.)

c. Exempted.—Used in the address, to exempt from collective call sign(s) *previously used in address*, the station(s) whose call sign(s) follow(s) N.

(1) FOL is a collective call sign including AIR, BAT, CRU, DES, and SUB. Message originated by CON is addressed to FOL less AIR. It is for information to SUB, and for action to BAT, CRU, and DES:

Z CON 161514 FOL Q SUB N AIR GR 16 BT text AR (or Z CON 161514 BAT CRU DES Q SUB GR 16 BT text AR)

d. In a call, N may be used in a manner similar to its use in an address.

(1) Message is addressed for action to FOL less DES (that is, to AIR, BAT, CRU, and SUB). CON calls FOL less DES and continues with the message:

FOL V CON N DES Z NAV 191914 AIR BAT CRU SUB GR 31 BT text K (or omitting the call and using N in the address):

Z NAV 191914 FOL N DES GR 31 BT text K

In any case, DES does not respond since in effect he was not called.

e. For uses of L with N, and T with N, with examples, see paragraph 66. For uses of Y with N and slant sign, with examples, see paragraph 72 *f* and *g*.

NR

Transmitted — . . — .

60. This prosine has the meaning: "Number."

a. In the preamble, as the first sign, NR with numerals means "Station (message) serial number is as indicated."

(1) CON V NAV NR 72 Z NAV 192223 CON CRU GR 16 BT text AR

b. In the preamble, as the first sign, *preceded by a call sign*, NR with numerals means "Station serial number, to station whose call sign precedes NR, is as indicated."

(1) CON GEN V NAV CON NR 2 GEN NR 5 162231 GR 11 BT text AR. When practicable, the call sign preceding the station serial number may be omitted, as the order of the call signs in the call is the same as the order of the station serial numbers.

c. NR with numerals, preceding R (or N) means "Message(s) with station serial number(s) as indicated received (or not received)."

(1) CON receipts for NAV's NR 37:

NAV V CON NR 37 R (or, to indicate *nonreceipt:* NAV V CON NR 37 N)

(2) CON receipts for NAV's NR 40 to 45, both inclusive:

NAV V CON NR 4Ø to 45 R.

d. After a call, NR IMI means "What are the reference numbers?" or "What is the date-time group?"

e. After a call, NR NR IMI means "What is the station serial number?" (This could also be "WA NR IMI".)

O

Transmitted — — —

61. This prosine has the meaning: "Urgent."

a. Urgent.—The O prosine is used:

(1) In the prefix as the *urgent* precedence indicator. (See par. 3 subparagraph *l* (1).)

(2) After a call to indicate that the calling station has urgent traffic to transmit to the called station. (See par. 7 *h*.)

(3) For uses of O, together with D, P, R, and Y, see paragraph 72.

P

Transmitted . — — .

62. This prosine has the meaning: "Priority."

a. Priority.—The priority precedence indicator P, is used:

(1) In the prefix to indicate priority precedence. (See par. 3 subparagraph *l* (2).)

(2) After a call to indicate that the calling station has priority traffic to transmit to the called station. (See par. 7 *h*.)

(3) For uses of P, together with O, R, D, and Y, see paragraph 72.

Q

Transmitted — — . —

63. This prosine has the meaning: "Information."
It is used in the address preceding the call sign(s) for any station(s) addressed for information rather than for action. For use of Q with prosine Z see paragraph 73.

R

Transmitted . — .

64. This prosine has the meanings: "Receipt" and "Routine."
It is used—

a. As the *receipt* by an operator for any transmission where a receipt is required as follows:

(1) *After a call,* R alone means, "I have received the last message, or portion thereof, transmitted by you and for which you requested receipt." BAT receipts to CON for last message transmitted (or portion of a message transmitted). Thus:

CON V BAT R or, when practicable: V BAT R

(2) *After a call,* R preceded by identification data means, "I have received the message indicated." BAT indicates to CON, receipt of CRU's 121522. Thus:

CON V BAT CRU 121522 R

(3) *After a call,* R $\overline{\text{IMI}}$ means "Have you received last message?" (This refers to the last message transmitted *on this circuit.*) Thus:

CON V NAV R $\overline{\text{IMI}}$

If there has been much delay in receipting, the receipt for the message in question should usually include identification data (reference numbers or station serial number).

(4) *After a call,* R preceded by identification data, and *followed* by $\overline{\text{IMI}}$ means "Have you received the message indicated?" Thus:

CON asks BAT, "Have you received SUB's 121416?":

BAT V CON SUB 121416 R $\overline{\text{IMI}}$

BAT having received it, transmits:

CON V BAT SUB 121416 R

(5) A receipt is given only when the receiving station is sure that it has accurately received the entire transmission for which a receipt is required. In the normal form message the group count is always checked before a receipt is given.

b. As indicator of routine procedure. The absence of all precedence prosines in the address or prefix indicates routine precedence. Routine precedence may be indicated by prosine R in the address or prefix, but only when some addressees are routine and some are of other precedence. The rules and examples for this use of R are set forth in paragraph 3 subparagraph *l* (3) and under Y, paragraph 72.

S

Transmitted . . .

65. This prosine has the meaning: "Signal strength."
When used:

a. After a call, S followed by a numeral (1–5) from the Signal Strength Table (Appendix C, Par. 7) means, "The signal strength of your transmission is as indicated."

b. After a call, S $\overline{\text{IMI}}$ means "What is my signal strength?" Thus:

GEN V RAN S $\overline{\text{IMI}}$ (or GEN V RAN S $\overline{\text{IMI}}$ AR)

T

Transmitted —

66. This prosine has the meaning: "Transmit (to)."
It is essentially specific instructions for certain stations to relay to certain other stations.

Relaying Prosines

L and T (and their uses with N)

a. L and T are the relaying prosines. They are invariably used in preamble. L means relay this message to addressees for whom you are responsible, whereas T means relay to specific addressees. N is sometimes used in conjunction with L and T to exempt certain addressees.

(1) *Examples using L as relay prosine:*

(*a*) When used *alone,* L means "Station(s) called relay this message to addressee(s) for whom you are responsible." Thus:

CON, transmitting a message addressed to FUL, via FOL, transmits:

FOL V CON L Z NAV 311517 FUL GR 46 $\overline{\text{BT}}$
text K (where FUL is assumed to be a collective call sign).

(*b*) When used *following a call sign*, L means "Station(s) whose call sign(s) precede L relay to all adressees for whom responsible." Thus:

CAP GEN V CON CAP L Z CON 1621Ø2 GEN MEX ROD GR 16 $\overline{BT}$ text K

CAP will relay this message to all *addressees* for whom he is responsible.

(*c*) When used *preceding call sign(s)*, L means "Stations *called* relay to *addressees* for whom responsible, whose call signs follow L." Thus:

CAP GEN V CON L MEX ROD Z CON 1721Ø7 FOL MEX ROD GR 12 $\overline{BT}$ text K

(2) *Examples using T as relay prosine:*

(*a*) When used *alone* in the preamble, T means "Station called transmit this message to all addressees". Thus: CON transmits to BAT a message which BAT is directed to transmit to all addressees—in this example, to RUD:

BAT V CON T Z CON 311615 RUD GR 5 BT text $\overline{AR}$

(*b*) When used *preceding a call sign*, T means "Station called transmit this message to station(s) whose call sign(s) follow T." Thus:
ROB requests BAT to transmit message to FOL which is addressed both to FOL and NAV:

BAT V ROB T FOL Z ROB 161812 FOL NAV GR 18 $\overline{BT}$ text K

(*c*) When used between call signs, T means "Station whose call sign precedes T *transmit* this message to station(s) whose call sign(s) follow T." Thus:
ROB calling both RUD and CRU, requests CRU to relay message to CON:

CRU RUD V ROB CRU T CON Z ROB 181927 CON RUD GR 29 $\overline{BT}$ text K

b. Prosine N used with L and T.—N is used with L and T to indicate *exempted* stations, as follows:

(1) L N *alone* means "Station(s) called *do not relay* this message." Thus:
CON transmits to FOL a long message addressed to FUL which CON does not desire to have relayed beyond FOL (as CON has decided to mail it to those addressees beyond FOL). CON transmits:

FOL V CON L N Z NAV 311725 FUL GR 198 $\overline{BT}$ text $\overline{AR}$

(2) "L N Call sign(s)" means "Station(s) called *relay* this message to those addressees for whom you are responsible, *except those* whose call sign(s) follow(s) N." Thus:
CON transmits to FOL a message addressed to FUL, which CON does not desire to have relayed to COL (as CON has decided to deliver to COL by other means). CON transmits:

FOL V CON L N COL Z NAV 31Ø202 FUL D GR 81 $\overline{BT}$ text $\overline{AR}$

(3) "T N call sign(s)" means "Station called (or station whose call sign precedes T N) *transmit* this message to all addressees, *except those* whose call sign(s) follow(s) N." Thus:
CON transmits a message to BAT. Delivery to BAL will be effected by other means, but CON desires BAT to transmit to FOL and RUD:

BAT V CON T N BAL Z NAV 311935 BAL FOL RUD GR 159 $\overline{BT}$ text $\overline{AR}$

(4) "T collective call sign(s) N modifying call sign(s)" means "Station called (or station whose call sign precedes T) *transmit* this message to station(s) whose call sign(s) follow T, *except those* whose call sign(s) follow(s) N." Thus:
ROB requests CON to transmit a message to FOL less DES. (DES already has the message):

CON V ROB T FOL N DES Z ROB 111626 CON FOL GR 68 $\overline{BT}$ text $\overline{AR}$

(5) ROB is transmitting to CON and RUD. ROB requests CON to transmit message to FOL less SUB. (SUB already has the message):

CON RUD V ROB CON T FOL N SUB Z ROB 31Ø645 FOL RUD GR 16 $\overline{BT}$ text K

V

Transmitted . . . _

67. This prosine has the meanings: "From" and "Calling."

a. In a call (complete), V is *preceded* by call sign(s) of station(s) called and *followed* by the call sign of the station calling. Thus V means "From station whose call sign follows."

(1) A complete call (to establish communication):

RUD V ROB $\overline{AR}$

b. In a call, after communication is established and there is no likelihood of confusion or mistake, the call sign of the station called may sometimes be omitted. Thus:

(1) When receiving a message from CON, before receipting BAT desires to question the *group-count:*

V BAT GR 37 IMI (instead of CON V BAT GR 37 IMI)

c. In a call, after communication is established and there is no likelihood of confusion or mistake, the call sign of the station calling and V may sometimes be omitted. Thus:

(1) CON has received: V BAT GR 37 IMI

CON transmits: BAT C (instead of BAT V CON C)

BAT receives this, and being ready to receipt for the complete message just transmitted by CON, transmits:

V BAT R (instead of CON V BAT R)

d. Receipts to stations not in the immediate vicinity should usually not be preceded by an abbreviated call. However, after communication is established, the *entire* call may sometimes be omitted, as when but two stations comprise a circuit, *and there can be no confusion.*

e. When it is difficult to establish communication, a long preliminary call may be used. The number of times that any call sign is repeated depends upon the circumstances encountered, but a call sign usually should not be repeated more than three times in any call.

VA

Transmitted . . . — . —

68. This prosine has the meaning: "Finish."

It is one of the three ending signs. Its use in relation to the other ending signs, AR and K, is discussed below.

Ending Prosines

AR, K and VA

a. All messages are ended with an ending sign, except that procedure messages whose last prosine or prosig definitely indicates that the transmission has terminated require no ending sign. Thus:

MAJ V GEN C requires no ending sign.

b. The essential differences in the meanings of AR, K, and VA, as used in Joint Army and Navy Radio Procedure, are as follows:

AR is used to mean "I am through with this transmission, you may respond if a response is in order or necessary." Thus:

(1) CAP asks GEN to repeat all after "ANEROID" in which case a response is in order:

GEN V CAP IMI AA ANEROID AR

(2) A normal form message for which MEX desires *no* receipt:

CAP V MEX 311516 GR 8 BT DIRECT WRIGHT PROCEED POINT ZED TO ARRIVE MIDNIGHT AR

K is used to mean "I am through with this transmission, and expect you to respond."

(1) In example (2) above, under AR, if a receipt had been desired, the transmission would have ended with K instead of AR.

(2) GEN receipts to MEX for message NR 8 and knowing that MEX has more to send, GEN transmits:

MEX V GEN NR 8 R K

(3) CAP asks GEN, "May I transmit?"

GEN V CAP K IMI

and GEN transmits:

CAP V GEN K (or CAP K)

VA is used to mean "This is my last transmission for the time being and a response is not expected." Thus:

NAV transmits to CON:

NR 88 Z NAV 312114 CON GR 37 BT text VA

(In this case the meaning conveyed by VA is "This is my last transmission on this circuit for the present, or on this schedule.")

c. When messages are sent in strings AR is used to separate them.

d. K is sometimes used in lieu of prosig ZSB to indicate readability. (See par. 10 *a.*)

W

Transmitted .— —

69. This prosine has the meaning: "Interference."

a. After a call, W *alone* means "I am being interfered with," or "I am unable to read your transmission."

(1) DES V LOT W

b. After a call, "W call sign(s)" means "I am being interfered with by station(s) indicated."

(1) LOT informs DES that FLO is causing interference:

DES V LOT W FLO AR

c. After a call, W IMI means "Are you being interfered with?"

d. After a call, "W call sign IMI" means "Are you being interfered with by station whose call sign follows?"

e. Numerals as tabulated below from "Signal Strength Table" may be used after W to indicate the strength of interference:

1. Very weak—hardly audible.
2. Moderately weak.
3. Medium strong.
4. Moderately strong.
5. Strong.

(1) DES V LOT W 5 AR

WA

Transmitted . — — . —

70. This prosine has the meaning: "Word after."
It is used exactly similar to prosines AA and AB, except for the difference in meanings. (See par. 41.)

XE

Transmitted — . . — .

71. This prosine is the slant (/) or separator sign. It is used to separate portions of a transmission which might be ambiguous or confusing if unseparated. XE should be thus used especially to separate portions of the heading when the intended meaning might be misconstrued or unintelligible without such separation. The use of XE is *usually optional* and however used is correct if it conveys the idea of the user. The examples which follow are intended to show how and where it may be used to advantage.

a. To separate multiple preamble instructions:
BAB BOS V BAT BAB T VERM / BOS T KENT Z etc.
BAT DES V CON BAT L / DES T RUD Z etc.

b. To separate portions of the text in a procedure message:
(1) CON V BAT IMI AB BT / 3 to 7 / AA 148 AR and the reply thereto:

BAT V CON Z NAV 172214 FOL Q BAL GR 15Ø BT / 3 DOGO NUBO ZUSO CEZE DEFE / 148 LANA ZABO TUTU AR

(2) CON V BAT 3 ZOBO IMI / IMI AA 7 AR and the reply thereto:

BAT V CON C / 7 DENO PALP RUNO DESO AR

c. To separate portions of the suffix:
CON desires receipts from AIR and BAT and indicates that he has more to transmit to BAT:

AIR BAT V CON 261Ø3Ø GR 37 BT text B BAT / K

Y

Transmitted — . — —

72. This prosine has the meaning: "Acknowledge."
It is used to request the addressee(s) to acknowledge a message to the originator thereof, or to other officer requiring it, as follows:

a. In the prefix, Y *alone* means, "All addressees acknowledge this message to the originator." Thus:

Z CAP 161214 MEX Y GR 3Ø BT text AR

b. After a call, Y *alone* means "Your last message sent without time of origin is hereby acknowledged."

(1) BAT transmits to CON:

CON V BAT Y (or V BAT Y)

c. After a call, Y IMI means "Do you acknowledge my last message sent without time of origin?"

(1) BAT transmits to CON:

BAT V CON Y IMI

d. After a call (or address), Y *preceded* by identification data and *followed* by IMI, means "Do you acknowledge message indicated?"

(1) BAT V CON 1408 Y IMI
(2) BAT V CON CRU 311618 Y IMI

e. After a call (or address) and *preceded* by identification data, Y means "Message indicated is hereby acknowledged."

(1) BAT acknowledges to CON for CON's 1408:

CON V BAT 14Ø8 Y

(2) BAT acknowledges to CON for CRU's 311618:

CON V BAT CRU 311618 Y

A regularly drafted message may be employed to request the acknowledgment of a message which was in *normal* form. The message of *acknowledgment may* then be a regularly drafted message.

Use of Y with N

f. In prefix, " / Y N call sign(s)" means "This message is to be acknowledged by all addressees *except* those whose call sign(s) follow(s) N."

Example

ACTION to_____FOL (which includes AIR, BAT, CRU, DES, and SUB.)
PRECEDENCE____ROUTINE to all addressees
ACKNOWLEDGE__All addressees less AIR and SUB

Z NAV 271923 FOL / Y N AIR SUB GR 43 $\overline{BT}$ text $\overline{AR}$

g. In prefix, " / Y collective call sign(s) N modifying call sign(s)" means "This message is to be acknowledged by addressee(s) indicated following Y except those whose call signs follow N."

Example

ACTION to_____FOL (less SUB) plus GEN
INFORMATION to_____SUB
PRECEDENCE_____ROUTINE to all addressees
ACKNOWLEDGE_____FOL less SUB

Z NAV 271923 FOL GEN Q SUB / Y FOL N SUB GR 43 $\overline{BT}$ text $\overline{AR}$

Y . . . and its Uses with O, P, R, D.

The URGENT sign_____O__ transmitted ———
The PRIORITY sign_____P__ transmitted .——.
The ROUTINE sign_____R__ transmitted .—.
The DEFERRED sign_____D__ transmitted —..

h. Prosines Y, O, P, R, and D are normally used in the *prefix.* However, when the heading can be considerably shortened by using them instead in the address, such use is authorized provided that no confusion can result from such use. When Y, O, P, R, or D is used in the *address,* these prosines precede the call sign(s) to which they apply. A precedence sign thus used applies to *all* call signs between *it* and the *next prosine.* (Incidental slant signs are to be disregarded in this connection.) However, Y may be used in the address or prefix adjacent to a precedence prosine, in which case both Y and the precedence prosine apply to all call signs between this *Y combination* and the *next* prosine. A study of examples presented below should serve to clarify these uses of precedence and acknowledge prosines.

i. Call signs in each precedence (or acknowledge) category should *preferably* be in alphabetical and numerical sequence. When more than one precedence category is used, these categories are preferably presented in order from high precedence to low, unless greater brevity can be obtained by another presentation. However, *any arrangement of these prosines is permissible in the address, in the prefix, or in both the address and prefix, provided it gives an unequivocal indication of the desired address, precedence, and acknowledgments.*

j. In address or prefix:

O P R D Y	CALL SIGN(S)	URGENT TO PRIORITY TO ROUTINE TO DEFERRED TO TO BE ACKNOWLEDGED BY	ALL ADDRESSEES BETWEEN THIS PROSINE AND THE NEXT PROSINE.

Thus:

(1) NAV's urgent message (with time of origin 1425), with precedence prosine "O" in address:

Z NAV 1425 O CON FOL $\overline{BT}$ text $\overline{AR}$

With precedence prosine "O" in prefix:

Z NAV 1425 CON FOL O $\overline{BT}$ text $\overline{AR}$

Or in direct communication, with "O" prefix:

CON FOL V NAV 1425 O $\overline{BT}$ text $\overline{AR}$

(2) NAV's message 162350 with precedence prosines in prefix:

Z NAV 16235Ø ARM Q CON P ARM D CON GR 16 $\overline{BT}$ text $\overline{AR}$

This message heading might *preferably* have been:

Z NAV 16235Ø P ARM Q D CON GR 16 $\overline{BT}$ (with precedence prosines in *address*)

k. In address or prefix:

O Y (or Y O) P Y (or Y P) R Y (or Y R) D Y (or Y D)	CALL SIGN(S) MEANS	URGENT TO PRIORITY TO ROUTINE TO DEFERRED TO	AND TO BE ACKNOWLEDGED BY ALL ADDRESSEES BETWEEN THESE PROSINES AND THE NEXT PROSINE.

Thus:

(1) ARM's message is routine to GEN; it is priority to CON, and to be acknowledged by CON. Both addressees are action addressees:

Z ARM 31Ø8Ø5 CON GEN P Y CON GR 12 $\overline{BT}$ text $\overline{AR}$ (With prosines "P" and "Y" in prefix.)

This message heading might *preferably* have been:

Z ARM 31Ø8Ø5 GEN P Y CON GR 12 $\overline{BT}$ (With "P" and "Y" in address.)

It might also have been:

Z ARM 31Ø8Ø5 P Y CON R GEN GR 12 $\overline{BT}$ (With "P", "R" and "Y" in address.)

(2) NAV's message is priority to FOL less SUB. It is routine to SUB. It is to be acknowledged by all addressees. All addressees are action addressees except SUB—who is an information addressee.

Z NAV 22Ø7Ø5 FOL Q SUB P AIR BAT CRU DES. Y GR 19 $\overline{BT}$ text $\overline{AR}$ (With prosines "P" and "Y" in prefix.)

This message heading might *preferably* have been:

Z NAV 22Ø7Ø5 P Y FOL Q Y SUB GR 19 $\overline{BT}$ (With "P" and "Y" in the *address.*) or

Z NAV 22Ø7Ø5 P FOL Q SUB Y (With "P" in the *address* and "Y" in the *prefix.*)

l. In *prefix* (when not followed by call sign(s):

O P D Y	MEANS	URGENT TO PRIORITY TO DEFERRED TO TO BE ACKNOWLEDGED BY	ALL ADDRESSEES.

Similarly, P Y in the prefix, and not followed by call sign(s), means PRIORITY TO, and to be ACKNOWLEDGED by, ALL ADDRESSEES. O Y and D Y may be similarly employed. Thus:

(1) ARM's message 1721Ø5:

Z ARM 1721Ø5 CAP MAJ P GR 27 $\overline{BT}$ text $\overline{AR}$

(2) Same message as in preceding example, plus ACKNOWLEDGMENT . . . . . required of all addressees:

Z ARM 1721Ø5 CAP MAJ P Y GR 27 $\overline{BT}$ text $\overline{AR}$

Z

Transmitted — — . .

73. This prosine has the meaning: "Originator."

Address Prosines Z and Q

Z

a. When followed by call signs Z means "This message is originated by station whose call sign immediately follows Z, and is addressed to the station(s) in the address whose call sign(s) follows after the originator's call sign." (The originator's call sign is occasionally a combination of two call signs.) Z *marks the beginning of the address.*

(1) Message in abbreviated normal form is originated by CON and addressed to FOL:

Z CON FOL $\overline{BT}$ fire green rocket when plane is sighted $\overline{AR}$

(2) Message in normal form is originated by CON and addressed for action to FOL:

Z CON 152131 FOL GR 8 $\overline{BT}$ text $\overline{AR}$

Use of Information Sign "Q"

b. When Z marks the beginning of the address, and there are both action addressees and information addressees, Q separates the call signs of the two types of addressees. Call signs of addressees preceding Q represent action addressees; call signs of addressees following Q represent information addressees. When there are only action addressees, Q is omitted. When there are only information addressees, all call signs representing addressees follow Q. For example:

(1) All addressees are *information addressees:*

Z ARM 161615 Q MAR NAV GR 9Ø $\overline{BT}$ text $\overline{AR}$

(2) All addressees are *action addressees:*

Z ARM 161215 MAR NAV GR 8Ø $\overline{BT}$ text $\overline{AR}$

(3) NAV is an action addressee; MAR is an information addressee:

Z ARM 171415 NAV Q MAR GR 7Ø $\overline{BT}$ text $\overline{AR}$ (or MAR NAV V ARM 171415 Q MAR GR 7Ø BT etc. in case of direct communication.)

74. Reserved for future use.
75. Reserved for future use.
76. Reserved for future use.
77. Reserved for future use.
78. Reserved for future use.
79. Reserved for future use.

SECTION VI

RADIOTELEPHONY AND MISCELLANEOUS AIRCRAFT PROCEDURE

80. Radiotelephone procedure is an adaptation of radiotelegraph procedure. All transmissions should be as brief as is consistent with clarity. Unofficial conversation is forbidden. Instead of prosines

and prosigs, either prowords or the exact words in the meanings of prosines and prosigs are used as indicated in examples below.

81. Phonetic Alphabet.—Whenever necessary to do so for clarity, individual alphabet letters shall be spoken as indicated in the phonetic alphabet below. This alphabet is used habitually in transmitting cryptographed texts of messages. Thus, the group "XISV" is transmitted as "Xray Interrogatory Sail Victor."

Letter	Spoken as—	Letter	Spoken as—	Letter	Spoken as—
A	Afirm.	J	Jig.	S	Sail.
B	Baker.	K	King.	T	Tare.
C	Cast.	L	Love.	U	Unit.
D	Dog.	M	Mike.	V	Victor.
E	Easy.	N	Negat.	W	William.
F	Fox.	O	Option.	X	Xray.
G	George.	P	Prep.	Y	Yoke.
H	Hypo.	Q	Queen.	Z	Zed.
I	Interrogatory.	R	Roger.		

82. Pronunciation of Numerals.

a. The following pronunciation of numerals is prescribed in all transmissions:

Numeral	Spoken as—	Numeral	Spoken as—
0	Ze-ro.	5	Fi-yiv.
1	Wun.	6	Siks.
2	Too.	7	Sev-ven.
3	Thuh-ree.	8	Ate.
4	Fo-wer.	9	Ni-yen.

b. Numbers are transmitted as numerals or digits except in the case of an even hundred, thousand, or million, when the word hundred, thousand, or million is used:

Number	Spoken as—
44	Fo-wer fo-wer.
80	Ate ze-ro.
136	Wun thuh-ree siks.
500	Fi-yiv hun-dred.
1478	Wun fo-wer sev-ven ate.
7000	Sev-ven thow-zand.
16000	Wun siks thow-zand.

83. Speed of Transmission.—The speed of transmission usually should be such as to allow accurate recording. Pauses and inflections should be used to facilitate recording. (In the examples herein, *pauses are indicated by dashes.*)

84. Phonetic equivalents of certain prosines (termed "Prowords," meaning "Procedure words") which require standardization follow:

PROSINE	PROWORD
$\overline{AR}$	"Answer" (applies only when establishing communication).
$\overline{AS}$	"Wait."
$\overline{BT}$	"Break."
C	"That is correct."
EEEEEEEE	"Erase Erase Erase."
GR	"Group Count."
$\overline{IX}$	"Execute to follow."
$\overline{IX}$———	"Stand by—Execute."
J	"Verify and Repeat."
K	"Go ahead."
T	"Transmit" or "Transmit to" (as appropriate).
V	(In complete call) "From." (In partial call) "This is."
Y	(As an order) "Acknowledge." (As a response) "Wilco" (meaning "Will carry out orders" or "Will comply," as appropriate.)
$\overline{IMI}$	"Repeat."
$\overline{IMI}$ (question)	"Is this correct?"
$\overline{VA}$	"That is all."

85. Calling, Answering, and Acknowledging.

a. Preliminary calls or testing prior to transmission of messages is forbidden except under the most adverse circumstances of unsatisfactory communication or when tests have been specifically authorized or arranged.

b. Unless otherwise prescribed the order of answering or acknowledging shall be in alphabetical-numerical order of call signs being used. If a station fails to respond in turn, after about 5 seconds the next station in order shall respond, and the station skipped shall wait until all others have had their turns before responding. If a station realizes that it will be late in acknowledging, it should, at its turn, respond with "WAIT" rather than keep quiet and delay the acknowledgment of others who may be ready.

c. In radiotelephony, acknowledgments rather than receipts are usual and serve also the purpose of receipts.

86. Parts of Message.—A radiotelephone message consists of the following parts:

a. Heading.
b. Text.
c. Suffix.

87. Heading.—Call signs usually are prescribed for operations where communication security dictates their use. Abbreviated titles of commanders, abbreviated names of units, and full names of ships may be employed in lieu of call signs, when not incompatible with communication security requirements. Short call signs, such as single numbers, or other abbreviations, may be duly assigned to stations, commands or commanders.

88. Abbreviated Call Signs.—Where authorized abbreviations such as "TORPRON TWO," "COMBOMRON ONE" etc., are not considered phonetically clear enough for use in headings, they may be modified, as "TORPEDO TWO," "COMMANDER BOMBING ONE," etc. Instead of "YORKTOWN AIR GROUP FROM YORKTOWN AIR GROUP COMMANDER", the ship type and hull number could be employed, thereby reducing the above call to "AIR FIVE FROM COMAIR FIVE," etc. Obviously such modified calls must be limited in use to established groups and their commanders, and modifications must be carefully selected to avoid possible confusion. Sometimes it is practicable, with well-known call signs, to omit the first, the first and second, or the first, second and third characters—on circuits where no confusion can result from this practice. The omitting of these characters should be regulated by the station controlling the circuit.

89. "Action To."—The words "ACTION TO" shall precede the action address when call does not serve as address, and the word "NUMERALS" shall precede the date-time group when used.

90. Illustrative Radiotelephone Transmissions.

a. "FBZJ" calls "ERAB":

"EASY ROGER AFIRM BAKER FROM FOX BAKER ZED JIG" (or "EASY ROGER AFIRM BAKER")

b. "ERAB" answers "FBZJ":

"FOX BAKER ZED JIG FROM EASY ROGER AFIRM BAKER" (or "THIS IS EASY ROGER AFIRM BAKER")

c. "FBZJ" transmits message by Executive Method to "GINO" (heading only shown):

"GEORGE INTERROGATORY NEGAT OPTION FROM FOX BAKER ZED JIG—EXECUTE TO FOLLOW—BREAK"

d. "VABF" is in communication with "LWMU" and instructs "LWMU" to relay message originated by "VABF" to the action addressee, "MENV" (heading only shown):

"LOVE WILLIAM MIKE UNIT FROM VICTOR AFIRM BAKER FOX—TRANSMIT—ORIGINATOR—VICTOR AFIRM BAKER FOX—NUMERALS ONE SIX ONE ZERO—ACTION TO—MIKE EASY NEGAT VICTOR—BREAK"

Text

91. Texts of radiotelephone messages are essentially spoken equivalents of texts of telegraph messages.

92. Difficult Words.—Difficult or unusual words should not ordinarily be transmitted. If there is reason to believe that a word may be received incorrectly, the word may be repeated or repeated and spelled out.

Example:

"CATENARY I WILL REPEAT CATENARY (SPELLED CAST AFIRM TARE EASY NEGAT AFIRM ROGER YOKE CATENARY)."

Suffix

93. A suffix is not always required when transmitting a message by radiotelephony. A radiotelephone message may have one of the following suffixes, if any is required:

a. GO AHEAD—After a message for which a receipt is required. (See par. 85, *c* above.)

b. ACKNOWLEDGE—After a message for which acknowledgement is required. A call sign may precede to specify that a certain addressee is to acknowledge.

c. REPEAT BACK—After a message to be repeated back. (A call sign may precede to specify that a certain addressee is to repeat back.)

For example, "Five Tare Six—From Five Tare One—RETURN TO BASE—REPEAT BACK" to which 5T6 responds: "Five Tare One—From Five Tare Six—I WILL REPEAT—Five Tare Six From Five Tare One—RETURN TO BASE," to which 5T1 responds: "Five Tare Six—From Five Tare One—THAT IS CORRECT."

There is no suffix after a message for which no acknowledgment is required.

Examples of Radiotelephone Procedure

94. The following examples illustrate typical Navy applications of radiotelephony for tactical communications. The existing communication security circumstances are assumed to permit use of names of ships and abbreviated titles. Portions shown in parentheses may be omitted. Dashes indicate pauses in transmission. In these examples a division of destroyers (DESDIV THREE) and the division commander (COMDESDIV THREE) are in communication:

a. Establishing communication.

(1) "DESDIV THREE (FROM COMDESDIV THREE)—ANSWER."***

(2) "THIS IS FLUSSER—GO AHEAD."

(3) "THIS IS LAMSON—GO AHEAD (STRENGTH THREE)."

(4) "THIS IS MAHAN—GO AHEAD."

b. Message to one ship.

(1) "FLUSSER (FROM COMDESDIV THREE)—CLOSE UP—ACKNOWLEDGE."***

(2) "(THIS IS) FLUSSER WILCO."*

c. No acknowledgment required.

(1) "COMDESDIV THREE FROM FLUSSER—REQUEST PERMISSION TO PROCEED ON DUTY ASSIGNED."

(2) "FLUSSER (FROM COMDESDIV THREE)—PERMISSION GRANTED."***

d. Executive Method.

(1) "DESDIV THREE (FROM COMDESDIV THREE)—EXECUTE TO FOLLOW—BREAK—TURN NINE—ACKNOWLEDGE."**

(2) "(THIS IS) FLUSSER WILCO."*

(3) "(THIS IS) LAMSON WILCO."

(4) "(THIS IS) MAHAN WILCO."

(5) "DESDIV THREE (FROM COMDESDIV THREE)—STAND BY—EXECUTE."

e. Clearing up difficulties.

(1) "DESDIV THREE (FROM COMDESDIV THREE)—BREAK—SAIL ROGER XRAY—TACKLINE—YOKE HYPO TARE—TACKLINE—JIG ONE NINE—ACKNOWLEDGE."**

(2) "THIS IS FLUSSER—WAIT."

(3) "THIS IS LAMSON—REPEAT ALL AFTER BREAK."

For footnotes, see page 61.

(4) "(THIS IS) MAHAN WILCO."*

(5) "(THIS IS) FLUSSER WILCO."

(6) "LAMSON (FROM COMDESDIV THREE)—I WILL REPEAT ALL AFTER BREAK—SAIL ROGER XRAY—TACKLINE—YOKE HYPO TARE—TACKLINE—JIG ONE NINE—ACKNOWLEDGE."

(7) "THIS IS LAMSON—WAIT."

(8) "THIS IS (or COMDESDIV THREE FROM) LAMSON—VERIFY AND REPEAT ALL AFTER TARE TACKLINE—ACKNOWLEDGE."

(9) "(LAMSON) (FROM COMDESDIV THREE)—WILCO—WAIT."#

(10) "DESDIV THREE (FROM COMDESDIV THREE)—CORRECT MY LAST MESSAGE—ALL AFTER BREAK—SAIL ROGER XRAY—TACKLINE—YOKE HYPO TARE—TACKLINE—JIG TWO ZERO—ACKNOWLEDGE."**

(11) "(THIS IS) FLUSSER WILCO."*

(12) "(THIS IS) LAMSON WILCO."

(13) "THIS IS MAHAN—IS THIS CORRECT—JIG TWO ZERO."

(14) "(MAHAN) (FROM COMDESDIV THREE)—THAT IS CORRECT."#

(15) "(THIS IS) MAHAN WILCO."

95. Reserved for future use.

96. Reserved for future use.

97. Reserved for future use.

98. Reserved for future use.

99. Radiotelephone Officer Conferences.—When radio telephone circuits are to be used for conferences of officers, the regular operators will establish communication as necessary, the senior station controlling. Each officer participating in the conference should, if possible, insure that all the conversation is recorded, in shorthand if necessary, for his future reference. After the conference is completed, the senior station will call the other stations and announce "CONFERENCE COMPLETED." No special procedure is prescribed for the officers participating in the conference.

*NOTE.—"THIS IS" may be omitted when responding "WILCO."

**NOTE.—The word "SIGNAL" could have been used as the first word of the text if it had been considered necessary to identify the text as a signal.

***NOTE.—"FROM ——" may be omitted only by the senior station on the circuit.

#NOTE.—The entire call may be omitted by the senior station on the circuit when thus responding.

MISCELLANEOUS AIRCRAFT PROCEDURE

100. Special Procedure for Airways Radio Stations and Control Towers.

a. When calling an airways radio station, pilots should include in the call sufficient identification to make it clear whether any Army, Navy, Coast Guard, Civil Aeronautics radio station, or municipal control tower, is being called.

b. When receipting for a message, the receiving station (control tower or aircraft), or other aeronautical radiotelephone station, will use "Roger" after a 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 in place of "clear" 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. Tower operators will standardize on a series of three (3) messages to inbound and outbound traffic (aircraft), viz:

INBOUND TRAFFIC	OUTBOUND TRAFFIC
1. In-range acknowledgment.	1. Taxi clearance.
2. Landing clearance as pilot enters airport zone.	2. Airway clearance.
3. Taxi clearance.	3. Take-off clearance.

h. 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.

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

101. Special Signals for Air Station Control Towers.

a. The flag "NEGAT" (blue and white checkered) will be displayed during daylight to indicate when the control tower is not manned.

b. The following "light-gun" signals will be employed by control towers to express the following meanings:

Green—"Cleared to taxi to take-off position."
Green—"Cleared to take-off."
Green—"Cleared to land."
Red—"Do not take-off."
Red—"Do not land."
Red—"Stop taxiing."
Flashing Red—"Return to operating line."

c. The following landing light signals will be employed by pilots at night to express the following meanings:

Single flash—"Acknowledgement of visual signal from control tower."
Series of flashes—"Request that flood light(s) be turned on or off" (as the case may be).

d. Forced landings at airports at night will be indicated by a series of short flashes of navigation lights, if practicable.

102. Reserved for future use.
103. Reserved for future use.
104. Reserved for future use.

SECTION VII*

RADIO DIRECTION FINDER AIRCRAFT SERVICE

105. General.—The function of radio direction finder service is twofold—namely, to assist in obtaining intelligence and to assist in the safe navigation of aircraft and ships.

106. Shore Navigational Radio Direction Finder Stations.—Regularly established United States shore radio direction finder stations furnishing navigational service generally guard the international direction-finder frequency (375 kc.) continuously during periods of normal operation. However, these stations upon hearing or being informed of a distress call shift to the distress frequency (500 kc.).

107. Navigational Service to Army, Navy, and Coast Guard Aircraft.—Aircraft which have facilities for plotting should request bearings only. Bearings will usually be furnished them in plain language. Aircraft which do not have facilities for plotting may request bearings or positions, as desired. Positions (in plain language) furnished to aircraft will be in the form of bearing and distance of the airplane *from* the *master* station of a group of direction finder stations, unless request is for its position from another specified point. The

*NOTE.—Miscellaneous aircraft procedure, including special procedure for airways control towers and airways radio stations, will be found at the end of the preceding section.

bearing and distance will be indicated by a bearing group (always consisting of 3 numerals) and a distance group which is followed by the word "miles."

108. Bearings to U. S. Aircraft.—An airplane desiring a bearing (or bearings) calls the appropriate direction finder station(s) and by prosigs requests, "What is my bearing? Report bearing by direction finder in plain language." Unless special arrangements have been prescribed for the use of another frequency, 375 kc. is used.

a. An aircraft, XY, wishes to obtain bearings from the group of which BC is the master station. XY makes: BC V XY ZDC* ZDB# K. BC answers: XY V BC K or XY V BC AS, depending upon whether or not the group is ready to have XY transmit. When BC is ready, XY transmits: BC V XY MO XY MO XY (for about 45 seconds) AR.

b. Bearings are furnished aircraft in accordance with the following procedure:

The prosig meaning "Your bearing in plain language was ——— at ———."

A three-numeral group for the true bearing of the aircraft from the direction finder station.

The time at which the bearing was taken.

Example: (1) The true bearings of an aircraft, 66D, taken by two single stations, RP and WX, at 1Ø35 are 45° and 274°, respectively, from the stations.

RP makes: 66D V RP ZDE** Ø45 1Ø35 K.

66D receipts: RP V 66D R.

WX makes: 66D V WX ZDE** 274 1Ø35 K.

66D receipts: WX V 66D R.

Example: (2) The true bearings of an aircraft, 69Q, taken at Ø93Ø by the group stations BC, CD, and LF are 3ØØ°, 53°, and 23Ø°, respectively. BC is the master station for the group and combines these bearings into one message as follows:

69Q V BC ZDE** BC 3ØØ CD Ø53 LF 23Ø Ø93Ø K.

69Q receipts: BC V 69Q R.

109. Positions to U. S. aircraft from ground stations.

a. An aircraft desiring a position calls the group master station on the direction finder frequency and makes the prosig, meaning "What is my bearing and distance from you (or ———)?"

Example: (1) An aircraft, 56B, desires to obtain its bearing and distance from BC, the master station of a group.

*ZDC means "What is my bearing (code understood if not followed by ZDB)."
**ZDE means "Your bearing in plain language was ——— at ———."
#ZDB means "Report bearings by direction finder in plain language."

56B makes: BC V 56B ZDK*** K. Assuming that the group is ready, BC transmits: 56B V BC K. 56B then sends: BC V 56B MO 56B MO 56B (for 45 seconds) AR.

Example: (2) An aircraft, XY, desires to obtain its bearing and distance from Langley Field from the group of which BC is the master station.

XY sends: BC V XY ZDK*** Langley Field K. Assuming the group is ready, BC sends: XY V BC K.

XY sends: BC V XY MO XY MO XY (for 45 seconds) AR.

b. Positions are furnished aircraft as follows:

The prosig, meaning "Your bearing from ——— was ——— (and distance from ——— was ———) at ———."

The point from which the bearing and distance are reckoned, the call sign of the master station if that is the point, otherwise in plain language.

A three-numeral group giving the true bearing of the aircraft from the reference point.

A numeral group followed by the word "miles" giving the distance of the plane from the reference point.

The time at which the aircraft was in this position.

Example: (1) BC, the master station of a group, having determined that an aircraft XY, bore 65° distance 77 nautical miles from BC at 1357 makes:

XY V BC ZDF## BC Ø65 77 MILES 1357 K.

Example: (2) BC having determined that an aircraft, XY, bore 283° distance 1Ø5 miles from Langley Field at 2Ø19, makes:

XY V BC ZDF## LANGLEY FIELD 283 1Ø5 MILES 2Ø19 K.

XY receipts: BC V XY R.

110. Bearings Taken by U. S. Aircraft.—An airplane desiring to take a direction finder bearing on a ground or ship station (Army, Navy, or Coast Guard), will request by prosig that the ground or ship station make MO's. The duration of the transmission by the ground or ship station shall not exceed one minute at a particular time.

***ZDK means "What is my bearing and distance from you (or ———)?"
##ZDF means "Your bearing from ——— was ——— (and distance from ——— was ———) at ———."

a. An aircraft, 98B, desires to obtain its own bearing from station XC. 98B transmits:

XC V 98B ZDA### K. If XC is ready to comply, he transmits:

98B V XC MO XC MO XC MO XC, etc., $\overline{AR}$

If XC had not been ready to comply, he might have transmitted:

98B V XC R $\overline{AS}$

111. Reserved for future use.

112. Reserved for future use.

113. Reserved for future use.

114. Reserved for future use.

115. Reserved for future use.

###ZDA means "Transmit MO's and call signs (on ------ kc.)"

Appendix A

INTERNATIONAL MORSE CODE

1. All joint Army and Navy transmissions by telegraphic systems are made by using the International Morse Code.

2. In the International Morse Code, the dots, dashes, and spaces have the following relative lengths:

a. A dot is used as the unit of duration.

b. A dash is equal to three units.

c. The space between elements is one unit.

d. The space between characters is two units.

e. The space between words is three units.

3. The dot and dash equivalents for the International Morse Code are as follows:

a. Alphabet:

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

b. Numerals:

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

c. Special signs:

ä (German)	.–.–	ñ (Spanish)	––.––
á (Spanish, Scandinavian) or à	.––.–	ö (German)	–––
		ü (German)	..––
CH (German, Spanish)	––––		

d. Special characters:

Period (.)	.—.—.—	Underline (___)	..——.—
Comma (,)	——..——	Double dash (=)	—...—
Colon (:)	———...	Understood	...—.
Interrogation (?) or request to repeat	..——..	Error	.....
		Cross or end (+)	.—.—.
Apostrophe (')	.————.	Invitation to transmit	—.—
Hyphen or dash (—)	—....—	End of work	...—.—
Wait	.—...	Separation between whole number and fraction	.—...—
Fraction bar (/)	—..—.		
Brackets or parentheses ( )	—.——.—	Is it correct	..—.—
Starting signal	—.—.—		

e. Distress, urgent, and safety signals:

(See the General Radio Regulations annexed to the International Telecommunications Convention.)

Distress call $\overline{\text{SOS}}$ . . . — — — . . .

Urgent signal XXX —..— —..— —..—

Safety signal TTT — — —

Appendix B

PROSINES

General.—Prescribed prosines are listed below. Each separate meaning, if more than one, is indicated by a period. Those consisting of two or three letters which are transmitted without pause between the letters are shown with a line over the letters. The International Morse Code equivalent for transmission and a reference to the paragraph which describes the prosine further are shown opposite each in the list. (See sec. I.)

Prosine	Transmission	Meaning	Paragraph
$\overline{\text{AA}}$	.—.—	Unknown station. Blank.	40
AA	.— .—	All after.	41
AB	.— —...	All before.	41 & 42
$\overline{\text{AR}}$	.—.—.	End of transmission.	43 & 68
$\overline{\text{AS}}$	.—...	Wait.	44
B	—...	More to follow.	45
$\overline{\text{BT}}$	—...—	Break.	46
C	—.—.	Affirmative. Correct.	47
D	—..	Deferred.	48 & 72*h*
DUPE	—.. ..— .——. .	Duplicate message.	49
EEEEEEEE	.....	Error. Erase.	50
F	..—.	Do not transmit. Do not answer.	51
GR	——. .—.	Group(s).	26 & 52
$\overline{\text{IMI}}$	..——..	Repeat. Question mark.	53
$\overline{\text{IX}}$	..—.—.	Execute to follow.	22 & 54
$\overline{\text{IX}}$ (5-second dash)	..—.—.——	Execute.	22 & 55
J	.———	Verify and repeat.	56
K	—.—	Go ahead. (Transmit).	57 & 68
L	.—..	General Relay.	58 & 66
N	—.	Not received. Negative. Exempted.	59 & 66
NR	—. .—.	Number.	60
O	———	Urgent.	61 & 72
P	.——.	Priority.	62 & 72
Q	——.—	Information.	63 & 73
R	.—.	Receipt. Routine.	64
S	...	Signal strength.	65
T	—	Transmit (to).	66

Prosine	Transmission	Meaning	Paragraph
V	...—	From. Calling.	67
VA	...—.—	Finish.	68
W	.——	Interference.	69
WA	.—— .—	Word after.	41 & 70
XE	—..—	Slant (/) or separator.	71
Y	—.——	Acknowledge.	72
Z	——..	Originator.	73
*U	..—	Net control station.	
**HM	....——	Silence.	
**UO	..————	Negative Silence.	

*NOTE.—Used by Army with identical meaning of prosig ZGD.
**NOTE.—Employed by Army for net control purposes.

APPENDIX C

COMMUNICATION PROCEDURE SIGNALS

1. General.—The communication procedure signals prescribed herein are an essential part of radio procedure. They shall be available to operators at all times but their use shall be carefully supervised.

a. Communication procedure signals, herein termed "prosigs," are for use in communication by the Army, the Navy, and the Coast Guard.

b. These prosigs may be carried in aircraft, as may be required.

2. Authorized Changes and Additions.

a. Permanent major changes and additions to these prescribed prosigs shall be made only after approval by the Joint Board. Minor changes and additions may be made by the Chief Signal Officer of the Army and the Director of Naval Communications, if mutually satisfactory to do so.

b. Certain presently unused prosigs are reserved for "Temporary Army Use Only" and others for "Temporary Navy and Coast Guard Use Only." Those for the Army are all of the block "ZYQ–ZYZ", and those for Navy and Coast Guard are all of the block "ZYA–ZYP." These prosigs may be used by the services to which assigned, temporarily to meet their new requirements. If temporary new signals, after trial, are found to have permanent value, they may be inserted in proper alphabetical place—this action to be effected as indicated above jointly by the Chief Signal Officer of the Army and the Director of Naval Communications.

3. Coding Prosigs.—Prosigs may be encoded or enciphered for use within a particular service, as may be required. They shall be encoded or enciphered for joint use, when so prescribed. This provision is especially applicable to prosigs involving radio frequencies—for communication security.

4. Instructions for Operators.

a. These prosigs shall not be used unless required in the conduct of authorized communication and for station operation.

b. Plain language shall not be used with these signals except as prescribed and necessary for certain signal meanings.

c. IMI may be used following a signal to indicate an interrogatory sense when a signal with the desired interrogatory meaning is

not listed. The signal "ZZB" may be used preceding a signal to give a negative sense in case a signal with the desired negative meaning is not listed. (See examples below.)

d. All blanks, except those within parentheses, must be filled in; use of blanks in parentheses is optional. Data for blanks shall appear in the same order as the blanks in the signal. Stations, addresses, and locations shall normally be indicated by call signs. Time shall be indicated by a four-numeral group. Dates may be indicated by numerals separated from the dispatch identification data by a slant (/) sign. Signals and numerals in signals may be separated by slant (/) signs to prevent misinterpretation. (See examples below.)

e. Readability and signal strength are indicated by numerals from appropriate tables. (See tables and examples below.)

5. Examples.

a. Use of "IMI" and "ZZB":

(1) (*a*) To express "I have been calling you on 2980 kc.," the transmitting station sends "ZCE 2980."

(*b*) To express "Have you been calling me on 2980 kc.?" the transmitting station sends "ZCE 2980 IMI."

(*c*) To express "I have not been calling you on 2980 kc.," the transmitting station sends "ZZB ZCE 2980."

(2) (*a*) To express "Collective (or net) call sign AB includes for the present AX, AY, and AZ," the transmitting station sends "ZCM AB AX AY AZ" or "ZCM AB/AX AY AZ."

(*b*) To express "What stations does collective (or net) call sign AB include for the present," the transmitting station sends "ZCM AB IMI."

(*c*) To express "Collective (or net) call sign AB for the present does not include AW," the transmitting station sends "ZZB ZCM AB AW" or "ZZB ZCM AB/AW."

(3) (*a*) To express "Make preliminary call-up before transmitting traffic," the transmitting station sends "ZCL."

(*b*) To express "Shall I make preliminary call-up before transmitting traffic," the transmitting station sends "ZCL IMI."

(*c*) To express "Do not make preliminary call-up before transmitting traffic," the transmitting station sends "ZZB ZCL."

b. Use of slant (/) sign:

(1) To express "I will transmit by simultaneous keying on 4135 and on 8270 kc.," the transmitting station sends "ZTS 4135/8270."

6. Readability Table.—Readability of signals is indicated after "ZSB" by means of the readibility table, as follows:

Readability Table

1	Unreadable.
2	Poor, but readable—make plain language messages through twice, code unreadable.
3	Fair—readable—plain language once slowly; make code messages through twice.
4	Good—readable—plain language or code once.
5	Perfectly readable.

Example:

AB V BC ZSB 5 (or as appropriate) AR

Prosine K is sometimes used instead of this prosig.

7. Signal-Strength Table.—Signal strength may be indicated, when necessary, after the procedure sign "S" by means of the signal-strength table, as follows:

Signal-Strength Table

1	Very weak—hardly audible.
2	Moderately weak.
3	Medium strong.
4	Moderately strong.
5	Strong.

Examples:

(1) AB V BC S4 K or

(2) AB V BC S3 AR

COMMUNICATION PROCEDURE SIGNALS

Record of Entry of Changes
Authorized by the Chief Signal Officer
and the
Director of Naval Communications

Change No.	Entered by— (Signature and rank or rating)	Date

(A) ANSWERING—AIRCRAFT—AUTHENTICATION

ZAA You are causing delay by slowness in answering.
ZAB You are causing confusion by answering out of order.
ZAC Answer in alphabetical order of call signs.
ZAD Answer me (or ——) on —— kc.
ZAE Am reeling in antenna —— (1. Before landing; 2. To rejoin formation).
ZAF Am forced to land (at or near ——) because of —— (1. Fire; 2. Collision; 3. Engine failure; 4. Out of gas).
ZAG
ZAH
ZAI
ZAJ
ZAK
ZAL
ZAM I am using this transmitter to answer calls on two or more frequencies. Answer to calls may be delayed.
ZAN Delay in answering was due to fault of my —— (1. Receiver; 2. Transmitter; 3. Blinker lamp; 4. Signal searchlight).
ZAO Last transmission on this circuit (or transmission with date-time group ——) was —— (1. Authentic; 2. Not authentic).
ZAP Authenticate transmissions (——) (1. On all circuits; 2. On this circuit; 3. On ——kc.).
ZAQ You are using authenticator incorrectly —— (1. Verify cipher set-up; 2. Place authenticator in proper part of transmission).
ZAR
ZAS
ZAT
ZAU
ZAV
ZAW
ZAX
ZAY
ZAZ

(B) CALL SIGNS

ZBA	
ZBB	
ZBC	
ZBD	
ZBE	
ZBF	
ZBG	
ZBH	
ZBI	
ZBJ	What is call sign of ship which is acting as flagship for ———?
ZBK	Call sign of ship acting as flagship for ——— is ———.
ZBL	Your circuit call sign for use on this circuit only is ———.
ZBM	What is my circuit call sign for use on this circuit only?
ZBN	Use ——— (1. Circuit call signs; 2. Cryptographed call signs).
ZBO	What are call signs of ships in company with you?
ZBP	Call signs of ships in company with me are ———, etc.
ZBQ	Call sign of incoming vessel is ———.
ZBR	I will relay your call sign to Senior Officer Present Afloat, whose call sign is ———.
ZBS	
ZBT	
ZBU	
ZBV	
ZBW	
ZBX	
ZBY	
ZBZ	

(C) CALLING—COMMUNICATIONS

ZCA	Are you (or is ———) in communication with ——— (by ———) (1. Radio; 2. Wire; 3. Visual)?
ZCB	I am (or ——— is) in communication with ——— (by ———) (1. Radio; 2. Wire; 3. Visual).
ZCC	Call me again at ——— (on ——— kc.).
ZCD	Following is what I (or ———) sent (at ———).
ZCE	I have (or ——— has) been calling you (on ——— kc.).
ZCF	I (or ———) will call you again as soon as I (he) can (or at ———) (on ——— kc.).
ZCG	Inform ——— that I have (or ——— has) been calling him (on ——— kc.).
ZCH	Cease listening for messages from ———.
ZCI	Listen in for messages from ——— (on ——— kc.).
ZCJ	You were (or ——— was) sending at the same time as ———.
ZCK	Transmit message(s) without preliminary call-up.
ZCL	Make (or direct ——— to make) preliminary call-up before transmitting traffic.
ZCM	Collective (or net) call sign ——— for the present includes ———.
ZCN	
ZCO	
ZCP	
ZCQ	Establish radio communication with ——— on ——— kc. now (or at ———).
ZCR	Report when you are (or ——— is) in communication with ——— (by ———) (1. Radio; 2. Visual).
ZCS	Did you (or ———) hear ——— (at ———)?
ZCT	I have (or ——— has) been unable to communicate with ——— (since ———).
ZCU	I (or ———) last heard ——— at ———.
ZCV	General Call; All stations copy.
ZCW	
ZCX	
ZCY	
ZCZ	

(D) DIRECTION FINDER

ZDA Transmit "MO's" and call signs (on ——— kc.).
ZDB Report bearings by direction finder in plain English.
ZDC What is my bearing (code understood if not followed by ZDB)?
ZDD Your bearing in code was ——— at ———.
ZDE Your bearing in plain English was ——— at ———.
ZDF Your bearing from ——— was ——— (and distance from ——— was ———) at ———.
ZDG Bearing furnished you is ——— (1. Bilateral; 2. Unilateral).
ZDH I am unable to furnish you (or ———) bearing now. Call again in ——— minutes.
ZDI I am (or ——— is) now ready to furnish you (or ———) with radio direction-finder bearings.
ZDJ I am (or ——— is) unable to furnish reliable bearings due to ——— (1. Night effect; 2. Poor minimum; 3. Uncalibrated sector; 4. Weak signals; 5. Poor note; 6. Interference; 7. Uncalibrated frequency; 8. Poor cross).
ZDK What is my bearing and distance from you (or ———)?
ZDL What is reciprocal of bearing just furnished me by you (or ———)?
ZDM Reciprocal of bearing just furnished you by me (or ———) is ———.
ZDN Bearings appear to be reliable.
ZDO
ZDP
ZDQ
ZDR
ZDS Ship bears ——— degrees true; ship's course ——— degrees true; ship's speed ——— knots.
ZDT I (or ———) request(s) authority to use ——— kc. for DF calibration.
ZDU Use of frequency(ies) (or ——— kc.) as requested for DF calibration is authorized.
ZDV
ZDW
ZDX
ZDY
ZDZ

(E) EQUIPMENT, ADJUSTMENTS OF EQUIPMENT

ZEA I am (or ——— is) going to use ———.
ZEB Use ———.
ZEC I am (or ——— is) unable to use ———.
ZED My ——— (on ——— kc.) is out of commission.
ZEE Repairs completed. Am in commission now.
ZEF I have adjusted my ——— (1. Radiating system; 2. Power).
ZEG Cease using ———.
ZEH I am (or ——— is) using ———.
ZEI Your ——— appears to be defective (on ——— kc.).
ZEJ Your key or relay appears to be sticking.
ZEK Your speed key is improperly adjusted.
ZEL
ZEM
ZEN
ZEO
ZEP
ZEQ How is my note?
ZER Your note is ——— (1. Good; 2. Poor; 3. Rising and falling; 4. Overmodulated; 5. Undermodulated).
ZES Your dots are ——— (1. Too heavy; 2. Too light).
ZET Your (or ———) transmitter is not keying properly.
ZEU
ZEV
ZEW
ZEX
ZEY
ZEZ

(F) FREQUENCY, FREQUENCY ADJUSTMENTS

ZFA I must shift to work another station (or ———).
ZFB Frequency) ——— mc.
ZFC Frequency ——— kc.
ZFD Send V's on this frequency (or ——— kc.).
ZFE I am (or ——— is) shifting to transmit on ——— kc. (at ———).
ZFF I am (or ——— is) shifting to receive on ——— kc. (at ———).
ZFG I am (or ——— is) able to receive on ——— kc.
ZFH I am (or ——— is) able to transmit on ——— kc.
ZFI Shift (or direct ———) to receive on ——— kc.
ZFJ Shift (or direct ———) to transmit on ——— kc.
ZFK Shift (or direct ———) to transmit and receive on ——— kc.
ZFL What frequency are you (or is ———) using (to work ———)?
ZFM How does my frequency check?
ZFN Your frequency is correct.
ZFO Your frequency is too high (or is ——— kc. too high).
ZFP Your frequency is too low (or is ——— kc. too low).
ZFQ Your frequency is ——— kc.
ZFR Adjust your transmitter frequency to zero beat with mine (or with ———).
ZFS Adjust transmitter to proper frequency (or to ——— kc.).
ZFT Transmit on ——— kc. If I do not hear you within 20 minutes I will shift back to present frequency.
ZFU I am going to transmit on ——— kc. If you do not answer within 20 minutes I will shift back to present frequency.
ZFV Measure your (or ———) frequency on this circuit (or on ——— kc.).
ZFW
ZFX
ZFY
ZFZ

(G) NET CONTROL (ARMY), GUARDS (NAVY)

ZGA Indicate ships or stations for which you are radio guard (net control station) (——— kc.).
ZGB Take over radio guard or net control for ——— (until ———).
ZGC Are you (or is ———) radio guard or net control station for ——— (on ——— kc.).
ZGD I am (or ——— is) radio guard or net control station for ——— (on ——— kc.).
ZGE
ZGF
ZGG
ZGH
ZGI
ZGJ Guard (or direct ——— to guard) intercept schedules for ——— until further orders.
ZGK I am controlling (or ——— will control) this frequency (or ——— kc.).
ZGL
ZGM
ZGN
ZGO
ZGP
ZGQ Station reports into net.
ZGR Station leaves net temporarily (or for ——— hours) (to communicate with ———) (will be on ——— kc.).
ZGS Is net directed or free?
ZGT Net is ——— (1. Directed; 2. Free).
ZGU
ZGV
ZGW
ZGX
ZGY
ZGZ

(L) LIST OF TYPES AND MEANS OF COMMUNICATION

ZLA CW.
ZLB ICW.
ZLC Type or model ——— transmitter.
ZLD Type or model ——— receiver.
ZLE Landline or cable ——— (1. Telegraph; 2. Telephone).
ZLF Visual.
ZLG Radio ——— (1. Radio beacon; 2. Aircraft radio; 3. Field radio; 4. Radiotelegraph; 5. Radiotelephone; 6. Direction finder).
ZLH
ZLI
ZLJ
ZLK
ZLL
ZLM Supersonics.
ZLN Automatic ——— (1. Recorder; 2. Perforator; 3. Keying head).
ZLO Sound.
ZLP
ZLQ Use visual method ——— (1. Semaphore; 2. Large searchlight; 3. Small searchlight; 4. Blinker; 5. Blinker tube; 6. Flag hoist).
ZLR Hoist the following signal ———.
ZLS
ZLT
ZLU
ZLV
ZLW
ZLX
ZLY
ZLZ

(M) MESSAGES, TRAFFIC

ZMA I have (or ——— has) ——— messages (numeral indicating number of messages may be followed by O, P, or D to indicate precedence other than routine) for you (or ———).
ZMB Nothing received from ——— (at ———).
ZMC Fragments only received (from ———).
ZMD Have you received SOS just made (or made by ——— at ———)?
ZME The following is heading of message ——— as received. Check station of origin if necessary and repeat.
ZMF Unable to locate message(s) ———. Give better identification data.
ZMG This message is in error—disregard it.
ZMH How do you count following text group(s) ——— ———? Word (or words ——— ———) should be counted as ——— group(s).
ZMI Hold my message number ——— until correctness is confirmed.
ZMJ Following received from ——— (at ———).
ZMK
ZML
ZMM
ZMN I have (or ——— has) ——— class ——— messages to transmit on this frequency (or ——— kc.).
ZMO Inform me at what time and through what station message ——— was passed.
ZMP Pass this message (or message ———) to ships for which you are responsible (or to ———).
ZMQ Repeat message ——— (or portion indicated ———). Check to station of origin if necessary.
ZMR Following is the answer to request for repetition.
ZMS Retransmit message indicated to ——— for ——— (1. Action; 2. Information).
ZMT Message indicated, which is in your files, is invited to your attention for ——— (1. Action; 2. Information).
ZMU Message indicated has been (or will be) retransmitted to ——— for ——— (1. Action; 2. Information).
ZMV
ZMW Of what precedence and to whom are your messages?
ZMX Verify the message or portion thereof indicated with your message center (communication office) and transmit correct version.
ZMY
ZMZ

(N) STATION SERIAL NUMBERS

ZNA What was station serial number of last message received from this station (or from ———)?

ZNB Station serial number of last message received from you (or from ———) was ———.

ZNC What was station serial number of last message you transmitted to me (or to ———)?

ZND Station serial number of last message transmitted to you (or to ———) was ———.

ZNE Number ——— from ——— is blank.

ZNF Repeat all before group 1 of message number ——— to number ——— transmitted (or transmitted by ———) to straighten out confusion in serial numbers.

ZNG Two messages, reference numbers ——— and ——— (or group counts and time of origin ——— and ———), both received as serial number ———. Designate correct serial number.

ZNH Change serial number of message with reference numbers ——— ——— (or group count and time of origin ——— ———) to serial number ———.

ZNI Prior to closing station records, last message transmitted to you (or to ———) was message number ———; last message received from you (or him) was message number ———.

NOTE.—Repeat for as many stations as necessary to complete check.

ZNJ

ZNK

ZNL

ZNM

ZNN

ZNO Your number ——— not received; repeat or make blank.

ZNP My (or ———) number ——— had following heading and reference numbers.

ZNQ Last ——— "F" schedule serial NR received was ———.

ZNR Was there any traffic addressed to me on ——— "F" schedules between serial NRs ——— and ———?

ZNS

ZNT

ZNU

ZNV

ZNW

ZNX

ZNY

ZNZ

(O) OPERATING

ZOA Send at speed of ——— words per minute.

ZOB Your ——— (1. Characters are indistinct; 2. Words are poorly spaced; 3. Transmitter or key missing dots).

ZOC Has executive sign (signal of execution) for last message (or for message following ———) been made?

ZOD Transmit your messages in strings of ———.

ZOE I am going to transmit my messages in strings of ———.

ZOF Cease using speed key.

ZOG

ZOH

ZOI

ZOJ

ZOK

ZOL

ZOM Use speed key if qualified to do so.

ZON Last message did not require a signal of execution.

ZOO There is (are) ——— message(s) on this circuit awaiting signal of execution.

ZOP Following is text of message addressed for action to ——— which was executed at ———: ——— ——— ——— ———.

ZOQ Receipt through ——— for traffic sent blind to you.

ZOR You are (or ——— is) causing interference by ——— (1. Excessive testing; 2. Improper frequency adjustment).

ZOS Who is interfering with you (or with ———)?

ZOT

ZOU

ZOV

ZOW

ZOX

ZOY

ZOZ

(P) FACSIMILE (JOINT); OPERATING (NAVY)

ZPA
ZPB
ZPC
ZPD
ZPE
ZPF Station(s) called (or station(s) whose call sign(s) precede this signal) repeat back this transmission to station from which received before retransmitting it.
ZPG Repeat back this message (or message ———) to station from which received.
ZPH Place qualified speed key operator, if available, on watch on this or on frequency indicated.
ZPI Encipher procedure signals.
ZPJ You are enciphering ——— incorrectly (1. Procedure signals; 2. Radio call signs).
ZPK You are not observing proper circuit discipline.
ZPL Your (or ———'s) attention is invited to ——— (1. Communication Instructions; 2. US Fleet ———; 3. Fleet Communication Letter ———; 4. Fleet Communication Memo ———; 5. ——— message ———) (Article or paragraph may be indicated.).
ZPM Send group count and first letter or numeral of each group of message (or message ———) for checking group count.
ZPN Give this transmission the precedence indicated ——— (1. Deferred; 2. Routine; 3. Priority; 4. Urgent).
ZPO Spelling of group ——— in message ——— apparently is incorrect, but message is being forwarded exactly as received.
ZPP Have ——— groups to transmit to you (or to ———).
ZPQ Do not transmit this message by radio.
ZPR Last word received from you (or ———) was ———.
ZPS Following is what I received from ——— at ———.
ZPT Continue efforts to effect relay (or delivery) of message ——— to ———.
ZPU
ZPV
ZPW
ZPX
ZPY
ZPZ

(R) RETRANSMISSION, ROUTING, RELAYING AND DELIVERY

ZRA Forward this message (or message ———) by visual to ———.
ZRB Deliver (or direct ——— deliver) message(s) ——— via ——— (to———).
ZRC Act as relay between me (or ———) and ———.
ZRD Give me your message(s) for ———; I will forward.
ZRE Forward this message by wire ——— (1. Collect; 2. Paid).
ZRF Take no further action with regard to forwarding message ——— (to ———).
ZRG Transmit this message now (or at ———) by ——— (1. I method; 2. F method).
ZRH Inform me when this message (or message ———) has been received by addressee(s) (or by ———).
ZRI Message ——— has been received by the addressee (or by ———) at ———.
ZRJ Pass following message to destination by ——— (1. Hand; 2. U. S. Postal Service; 3. Fast Mail).
ZRK Distribute this message by dispatch where no charges are involved and to all others by mail.
ZRL How route traffic for ———?
ZRM Route traffic for ——— through ——— (on ——— kc.).
ZRN Have been unable to relay (or deliver) message ——— to ——— (1. Will continue efforts to effect relay (or delivery); 2. Advise disposition).
ZRO
ZRP
ZRQ
ZRR
ZRS Station called (or station whose call sign precedes this signal) pass this message (or message ———) by mail to destination (or to station(s) whose call sign(s) follow(s) this signal) (or via ——— 1. U. S. mail; 2. Air mail; 3. Guard mail; 4. Messenger).
ZRT Route traffic for me (or for ———) via shore station "F" or "T" method (Shore station may be indicated).
ZRU Station called or station(s) whose call sign(s) precede(s) this signal route this message via station(s) whose call sign(s) follow(s) this signal.
ZRV This message (or message ———) has been passed by mail to station(s) whose call sign(s) follow(s) this signal.
ZRW
ZRX
ZRY
ZRZ

(S) SIGNALS, SIGNAL STRENGTH, READABILITY

ZSA Can you receive ———? If so, what is his readability?
ZSB I can receive ———. Readability ———.
ZSC Your signals fade (from strength ——— to ———).
ZSD Decrease strength of signals.
ZSE Increase strength of signals.
ZSF What is my signal strength?
ZSG What is my readability?
ZSH
ZSI
ZSJ
ZSK
ZSL
ZSM
ZSN
ZSO Reception ——— (1. Poor; 2. Fair; 3. Good; 4. Excellent; 5. Impossible; 6. Impossible due to echo).
ZSP
ZSQ
ZSR
ZSS
ZST
ZSU
ZSV
ZSW
ZSX
ZSY
ZSZ

(T) TIME AND TRANSMISSIONS

ZTA I am (or ——— is) going to make a timing signal for correcting clocks. The numerals indicating the time (and zone ——— plus or minus understood) will be followed by the executive sign—the 5-second dash terminating exactly at the time indicated.
ZTB What is your time and time zone?
ZTC My time is ——— zone ——— time (plus or minus understood).
ZTD From ——— to ———.
ZTE Until further orders (or until ———).
ZTF Established at ——— (by ———).
ZTG At ———.
ZTH Did you (or ———) transmit anything for me? If so, please repeat.
ZTI Transmit traffic blind (or broadcast traffic) to me (or to ——— on ——— kc.). I (or ———) will receipt for traffic later (on ——— kc.).
ZTJ Transmit only urgent or priority messages.
ZTK Routine messages may be transmitted now.
ZTL
ZTM
ZTN
ZTO
ZTP
ZTQ Transmit only class ——— traffic on this frequency (or ——— kc.) until further orders.
ZTR Transmit by simultaneous keying on ——— (———, ———) and ——— kc.
ZTS I will transmit by simultaneous keying on ——— (———, ———) and ——— kc.
ZTT
ZTU
ZTV
ZTW
ZTX
ZTY
ZTZ

(V) MISCELLANEOUS AIRCRAFT

ZVA
ZVB
ZVC
ZVD
ZVE
ZVF
ZVG
ZVH
ZVI
ZVJ
ZVK I am (or ——— is) in the air.
ZVL I am (or ——— is) landing.
ZVM I have (or ——— has) landed.
ZVN I am (or ——— is) on the ramp, or water.
ZVO I am (or ——— is) unable to take-off.
ZVP I am (or ——— is) unable to reel out, due to ——— (1. Loss of trailing wire; 2. Towing target; 3. Flying too low; 4. Close formation).
ZVQ I am (or ——— is) using auxiliary power.
ZVR Request weather conditions at base (your vicinity), (or at ———).
ZVS
ZVT
ZVU
ZVV
ZVW
ZVX
ZVY
ZVZ

(W) WATCHES AND SCHEDULES

ZWA Close or secure (or direct ——— to close or secure) your (his) station or watch (on ——— kc.).
ZWB Are you (or is ———) maintaining continuous watch on ——— kc.?
ZWC I am (or ——— is) maintaining a continuous watch on ——— kc.
ZWD Request (or ——— requests) permission to secure watch (or close station) on ——— kc.
ZWE I am (or ——— is) securing watch (or closing station) on ——— kc.
ZWF What stations are keeping watch on ——— kc. (or are in net)?
ZWG Following stations are keeping watch on ——— kc. (or are in net).
ZWH
ZWI
ZWJ
ZWK
ZWL Set (or direct ——— to set) a continuous watch on ——— kc.
ZWM Set (or direct ——— to set) an intercept watch(es) on ——— kc. (and ——— kc.).
ZWN I am (or ——— is) standing a split-phone watch on ——— and ——— kc.
ZWO Did you (or ———) observe schedule with ——— at ———?
ZWP I (or ———) observed schedule with ——— at ———.
ZWQ Observe (or direct ——— to observe) ——— schedule with ——— on ——— kc.
ZWR This message (or message ———) has been (or will be) put on the ——— "F" schedules (serial NR ———).
ZWS On what frequency(ies) are you maintaining watch?
ZWT Your traffic will be discontinued on the ——— "F" schedules commencing at (date)/(time).
ZWU Your traffic will be placed on the ——— "F" schedule commencing (date)/(time).
ZWV
ZWW
ZWX
ZWY
ZWZ

(X) AUTOMATICS

ZXA	
ZXB	
ZXC	
ZXD	
ZXE	Your tape is reversed.
ZXF	I am unable to record due to ——— (1. Weak signals; 2. Noise level; 3. Echo; 4. Interference).
ZXG	Use hand key.
ZXH	Your relays appear to be ——— (1. Too light; 2. Too heavy; 3. Sticking).
ZXI	
ZXJ	Rerun number ———.
ZXK	Automatic keying (machine transmission).
ZXL	Your perforator is making letter combinations.
ZXM	Cut me through to ——— in ——— minutes.
ZXN	Unable to cut you through for ——— minutes.
ZXO	I am going to transmit to ——— (via you or ———). Will run call tape; cut me through to him. Using automatic retransmission.
ZXP	Increase speed ——— W. P. M.
ZXQ	Decrease speed ——— W. P. M.
ZXR	Transmit at ——— W. P. M.
ZXS	
ZXT	
ZXU	
ZXV	
ZXW	
ZXX	
ZXY	
ZXZ	

TEMPORARY SIGNALS

For Navy and Coast Guard Use

ZYA	
ZYB	
ZYC	
ZYD	
ZYE	
ZYF	
ZYG	
ZYH	
ZYI	
ZYJ	
ZYK	
ZYL	
ZYM	
ZYN	
ZYO	
ZYP	

For Army Use Only

ZYQ	
ZYR	
ZYS	
ZYT	
ZYU	
ZYV	
ZYW	
ZYX	
ZYY	
ZYZ	

(Z) MISCELLANEOUS

ZZA Stand by.
ZZB Negative, no, not.
ZZC Affirmative, yes.
ZZD Meaning of your (or ———'s) procedure signal (or procedure sign) is not understood.
ZZE
ZZF
ZZG
ZZH
ZZI
ZZJ
ZZK Via.
ZZL Number of speed-key certificate held by operator on this circuit (or on ——— kc.) is ———.
ZZM
ZZN What are charges on this message (or my message ———)?
ZZO Charges on your message ——— are ——— cents.
ZZP This is a test message. Mail copy as received to office or origin.
ZZQ Forward to me (or to ———) on ——— kc. ——— (1. Late press news; 2. Orders to officers).
ZZR ——— is (are) in company with ———.
ZZS Ship (or aircraft) whose call sign follows will be available for Direction Finder tracking at ———.
ZZT Commence Direction Finder tracking exercise for this district (at ———).
ZZU
ZZV
ZZW
ZZX
ZZY
ZZZ