COMMUNICATIONS INSTRUCTIONS TELETYPEWRITER (TELEPRINTER) PROCEDURES

ACP126 (C)

MAY 1989

FOREWORD

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LETTER OF PROMULGATION
FOR ACP126 (C)

1. The purpose of this Combined Communication Electronics Board (CCEB) Letter of Promulgation is to implement ACP126 (C) within the Armed Forces of the CCEB Nations. ACP126 (C) COMMON INSTRUCTIONS TELETYPEWRITER (TELEPRINTER) PROCEDURES, is an UNCLASSIFIED publication developed for Allied use and, under the direction of the CCEB Principals. It is promulgated for guidance, information, and use by the Armed Forces and other users of military communications facilities.

2. ACP126 (C) is effective on receipt for CCEB Nations and when by the NATO Military Committee (NAMILCOM) for NATO nations and Strategic Commands.

EFFECTIVE STATUS

Publication	Effective for	Date	Authority
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3. All proposed amendments to the publication are to be forwarded to the national co-ordinating authorities of the CCEB or NAMILCOM.

For the CCEB Principals

N. CRAM
Squadron Leader
Permanent Secretary to
CCEB

RECORD OF MESSAGE CORRECTIONS

Identification of Message Correction and date, time group		Date Entered	By whom entered
DTG	Correction		
	1/1	24 February 1997	MODUK
	2/1	20 January 2000	MODUK
	3/1	1 March 2002	CCEB - PS

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

CHAPTER 1

INTRODUCTION

SECTION I

GENERAL

101. PURPOSE

a. The purpose of this manual is to prescribe the procedures for handling messages over manual teletypewriter facilities. It deals with the handling of messages by direct circuits, through teletypewriter switchboards and by teletypewriter broadcast.

b. The term "teletypewriter" is taken in this publication to include "teleprinter".

c. Expression of year in record communications – until 31 December 2005, when record communications contain a year in the header, it will be assumed that where the year is expressed in two digits of 06-99 the digits 19 precede, i.e., 1906 – 1999: and where the two digits 00 – 05 appear it will be assumed that digits 20 precede, i.e., 2000 – 2005. Effective 1 January 2006, record communications will contain a four digit year in the header, i.e., a date time group will be expressed as 011500Z JAN 2006. Within the body of the message, the established standards for character based messaging will be followed, e.g., the United States Message Text Format (USMTFS), Allied Data Publication – 3 (ADATP-3), Australian Defence Formatted Message Standard (ADFORMS). These standards have adopted a four digit year for date data transmission.

102. CIRCUIT DISCIPLINE

a. The attainment of reliability, speed and security depends, to a large extent, on the operator. It is essential that the operator be well trained, maintain circuit discipline and understand thoroughly his/her responsibilities.

b. Adherence to prescribed procedure is mandatory. Unauthorized departures or variations in prescribed procedure invariably create confusion, reduce reliability and speed, and tend to nullify security precautions. If the procedure prescribed herein does not cover a specific operating requirement, resort to initiative and common sense should suffice.

c. The following basic rules are essential to transmission security and shall be strictly enforced on all military circuits.

(1) No transmission shall be made which has not been authorized by proper authority.

(2) The following practices are specifically forbidden:

(a) Violation of radio silence.

(b) Unofficial conversation between operators.

(c) Transmitting in a directed net without permission.

(d) Excessive tuning and testing.

(e) Transmitting the operator's sign.

(f) Unauthorized use of plain language.

(g) Use of other than authorized prosigns.

(h) Unauthorized use of plain language in place of applicable prosigns or operating signals.

(i) Linkage or compromise of classified call signs and address groups by plain language disclosures or association with unclassified call signs.

(j) Profane, indecent or obscene language.

(k) Use of terminal teletypewriter/teleprinter equipment to produce additional page copies of classified messages unless disconnected from the signal line (circuit/channel).

(3) The following practices are to be avoided:

(a) Use of excessive transmitting power.

(b) Excessive time consumed in changing frequency or adjusting equipment.

SECTION II

MACHINE FUNCTIONS AND PUNCTUATION

103. MACHINE FUNCTIONS

a. SHIFT - Operator must always depress the "LTRS" key when going from upper case to lower case and the "FIGS" key when going from lower case to upper case.

b. CARRIAGE RETURN - The carriage return function (CR) is employed to reset the machine to the left margin of the paper. Two carriage return functions are used to ensure the proper return of the carriage.

c. LINE FEED - The line feed function (LF) is employed to advance the paper vertically on the page teletypewriter.

d. SPACE - The space function is employed to advance the typing unit laterally without printing a character on the page teletypewriter.

e. BELL SIGNAL - The bell signal is employed to attract the attention of the receiving operator where required and will be transmitted as a series of ten characters, upper case "J" and "S" as follows: "FIGS JJJJJSSSSS LTS",

f. WARNING LIGHT - Tape perforating equipment is equipped with a warning light to indicate approach of end of typing line.

g. MARGIN BELL - Page printers equipped with keyboard facilities capable of operating directly into the line provide a margin bell to indicate approach of end of typing line.

104. MESSAGE ALLIGNMENT

Specific machine functions are necessary to facilitate the handling of messages and to align receiving page teletypewriters.

a. All transmissions must be preceded by five spaces, two carriage returns and one line fee.

b. The end of line function will be two carriage returns and one line feed.

c. The separative function between pages of long messages is two carriage returns and four line feeds.

d. The end of message functions are two carriage returns, eight line feeds, the letter N repeated four times and twelve letters. When authorized by separate Service instructions the end of message functions may be altered to require two carriage returns, twelve line feeds, the letter N repeated four times and twelve letters.

e. Before transmitting a message after a preliminary call has been made, the transmitting station will make 2CR and 8LF.

f. No line shall exceed 69 characters, including spaces, except when authorized for special purposes by separate service instructions.

105. PUNCTUATION

a. Punctuation is not used unless necessary to the sense of the message. When it is essential to employ punctuation, the following abbreviations and symbols are authorized.

Punctuation	Abbreviation	Symbol
Question	QUES	?
Hyphen		-
Colon	CLN	:
Parenthesis Brackets	PAREN	(1)
Period/Full Stop	PD	.
Comma	CMM	,
Oblique/Slant Stroke	SLANT	/
Paragraph	PARA	
Quotation marks	QUOTE-UNQUOTE	

b. The letter "X" may be used in lieu of punctuation whenever exact punctuation is not considered essential but some separation in the text is necessary for clarity and this use of "X" is not ambiguous. The written phonetic equivalent of the letter "X" will not be used for this purpose.

c. When a message is written in free hand, it may often be advisable to encircle the symbols for periods/full stops and commas to made them more conspicuous.

d. When writing the letters I and Z, they should be written as i and z to avoid confusion with the numbers 1 and 2.

e. When writing the figures 1 and 0, they should be written as 1 and 0 to avoid confusion with the letters I and O.

SECTION III

MESSAGES

106. PLAINDRESS

a. A plaindress message is one in which the originator and addressee designations are indicated externally of the text.

b. A plaindress message contains all the components (unless) the call serves as the address) as shown in the schematic diagram in paragraph 112, except that the prefix may be omitted. It must always include the following elements:

(1) Precedence.

(2) Date-time group. Note: Expression of year in record communications – until 31 December 2005, when record communications contain a year in the header, it will be assumed that where the year is expressed in two digits of 06 – 99 the digits 19 precede, i.e., 1906 – 1999: and where the two digits 00 – 05 appear it will be assumed that digits 20 precede, i.e., 2000 – 2005. Effective 1 January 2006, record communications will contain a four digit year in the header, i.e. , a date time group will be expressed as 011500Z JAN 2006. Within the body of a message, the established standards for character based messaging will be followed, e.g. The United States Message Text Formats (USMTFS), Allied Data Publication-3 (ADATP-3), Australian Defence Formatted Message Standard (ADFORMS). These standards have adopted a four digit year for date data transmission.

c. The group count designation will be included when an accounting symbol is used.

107. ABBREVIATED PLAINDRESS

Operational requirements for speed of handling may require abbreviation of plaindress message headings. In such case any or all of the following may be omitted:

a. Precedence.

b. Date.

c. Date-time group. Note: Expression of year in record communications – until 31 December 2005, when record communications contain a year in the header, it will be assumed that whee the year is expressed in two digits of 06 – 99 the digits 19 precede, i.e., 1906 – 1999 and where two digits 00 – 05 appear it will be assumed that digits 20 precede, i.e., 2000 – 2005. Effective 1 January 2006, record communications will contain a four digit year in the header, i.e. , a date time group will be expressed as 011500Z JAN 2006. Within the body of a message, the established standards for character based messaging will be followed, e.g. The United States Message Text Formats (USMTFS), Allied Data Publication-3 (ADATP-3), Australian Defence Formatted Message Standard (ADFORMS). These standards have adopted a four digit year for date data transmission.

d. Group count.

108. CODRESS

A codress message carries in the encrypted text the entire address, i.e., originator and all addressees, except when address indicating groups are used. It contains all components shown in the schematic diagram except the address.

109. SERVICE MESSAGES

A service message is one between communications personnel pertaining to any phase of traffic handling, communications facilities, or circuit conditions.

a. An encrypted services message consisting of countable groups will always carry a numerical group count. An encrypted service message will be identified as a service message only within the encrypted text.

b. Plain language service messages are identified by the abbreviation SVC immediately following the classification.

c. Service messages are prepared and transmitted in plaindress, abbreviated plaindress or codress procedure. They generally concern messages originated at, destined to, or refilled by that station and normally will be assigned a precedence equal to that of the message to which they refer.

d. An unclassified service message may be used when referring to a message classified RESTRICTED or above if only operating signals, prosigns and message or transmission identification are used. If it is necessary to include anything that would reveal part of the text of the classified message, however, the service message must be classified.

110. BOOK MESSAGES

a A book message is one which is destined for two or more addressees and is of such nature that the originator considers that no addressee needs to be informed of any other addressees. Each addressee must be indicated as action or information.

b. Book message are prepared in the same manner as Multiple Address messages with the exception that the operator signal; “ZEX” and ZEZ if appropriate) will appear in the message instructions. However, in order to reduce transmission time and enhance security, the address designations not required in a transmission may be segregated and eliminated at originating as well as relay stations, thus, address designations not pertaining to a given transmission can be deleted from the address component of Book Message.

SECTION IV

SCHEMATIC DIAGRAM

111. GENERAL

a. Messages handled by teletypewriter will be prepared for transmission in either PLAINDRESS, ABBREVIATED PLAINDRESS or CODRESS, except when commercial or ICAO form is authorized.

b. Each message prepared in either PLAINDRESS, ABBREVIATED PLAINDRESS or CODRESS will have three “PARTS”.

(1) Heading

(2) Text

(3) Endings

c. Each message “PARTS” has certain “COMPONENTS” which are broken down into “ELEMENTS” and “CONTENTS”.

(1) All message “PARTS” and a majority of the “COMPONENTS” and “ELEMENTS” have a standardized arrangement or sequential order of appearance.

(2) In the schematic diagram, Format Line 2, 3, 4, 14, 15 and 16, identify the procedural portion of the basic message format as designed for teletypewriter operation. The lines 5 through 13 are the nonchangeable components of the basic message format. All format lines do not necessarily appear in every message, however, when used, they will be in order indicated. (See Diagram).

112. SCHEMATIC DIAGRAM

PARTS	COMPONENTS	ELEMENTS	FORMAT LINE	CONTENTS	EXPLANATION
H	PROCEDURE		1	Not used in teletypewriter procedure except when working with tape relay nets.	Line-1 See tape Relay Procedure.

PARTS	COMPONENTS	ELEMENTS	FORMAT LINE	CONTENTS	EXPLANATION
E		Call	2	Designation of station(s) called; (prosign XMT, exempted calls).	Line 2 - Contains designation of the station(s) called; the prosign XMT and designation of exempted station(s). (Line 2 and 3 may appear as a single typed line). It may also contain the repeated precedence prosign.* See paragraph 307.b.

*If message is dual precedence only one precedence is shown in this line. Precedence sign ZZ when appearing in this line is preceded by the bell signal.

PARTS	COMPONENTS	ELEMENTS	FORMAT LINE	CONTENTS	EXPLANATION
A			3	Prosign DE: designation of station calling; transmission identification (station serial number).	Line 3 - The prosign DE; the designation of the calling station and the transmission identification (station serial number). (Lines 2 and 3 may appear as a single line).
		Transmission Instructions	4	Prosign F, G or T, operating signals; address designations; routing indicators.	Line 4 - Contains the transmission instructions and will be identified by the appearance of the prosign F, G or T, operating signals, address designations; routing indicators as required.
D	PREAMBLE	Precedence; Date-time group; message instructions. Note: Expression of year in record communicaion s – until 31 December 2005, when record communicatio ns contain a year in the header, it will be assumed that where the year is expressed in two digits the digits 19 of 06-99 precede,	5	Precedence prosign; date and time expressed in digits, and zone. Suffix followed by month indicated by the first three letters, and if required by national authorities, the year indicated by the last two digits; operating signal(s).	Line 5 - Will contain the appropriate precedence prosign once and in the case of dual precedence both will be shown separated by a space, the originator's date-time group and message instructions in the form of operating signals as necessary.

i.e., 1906-1999 and where the two digits 00-05 appear it will be assumed that digits 20 precede, i.e., 2000-2005. Efective 1 January

PARTS	COMPONENTS	ELEMENTS	FORMAT LINE	CONTENTS	EXPLANATION
I	ADDRESS	a. Originator's sign; Originator	6	Prosign FM; Originator's designation.	Line 6 - Is identified by the appearance of the prosign FM and contains the designation of the originator which may be indicated by plain language, call sign or address group.
N		b. Action addressee sign; action addressee	7	Prosign TO; address designation(s).	Line 7 - Is identified by the appearance of the prosign TO and contains the designation of the action addressee(s) in the form of plain language, address group(s), call sign(s); or routing indicators.
G		c. Information addressee sign; Information addressee	8	Prosign INFO; address designation(s).	Line 8 - is identified by the appearance of the prosign INFO and contains the designation of the information addressee(s) in the form of plain language, address group(s), call sign(s); or routing indicators. A collective designation or an Address

PARTS	COMPONENTS	ELEMENTS	FORMAT LINE	CONTENTS	EXPLANATION
					Indicating Group (AIG) in Format Line 7 may include information addressees.
		d. Exempted addressee	9	Prosign XMT; address designation(s).	Line 9 - Is identified by the prosign XMT and contains the designation of the addressee(s) who is exempted from the collective address designation, when such designation is employed in lines 7 and 8 or an AIG is used in Format Line 7.
	PREFIX	Accounting information; group designation	10	Accounting symbol; group count.	Line 10 - is identified by the appearance of the group count prosign and contains accounting symbols (as required) the group count prosign.
S E P A R A T I O N			11	Prosign BT.	Line 11 – separates the heading of the message from the text.

PARTS	COMPONENTS	ELEMENTS	FORMAT LINE	CONTENTS	EXPLANATION
T E X T		Subject matter	12	Security classification, abbreviation UNCLAS or word CLEAR; internal instructions; thought or idea expressed by the originator.	Line 12 - Is the text of the message and may contain internal instructions as well as the thought or idea expressed by the originator.
	S E P A R A T I O N		13	Prosign BT	Line 13 – Separates the text from the ending of the message.
	P R O C E D U R E				
E		a. Time Group	14	Hours and minutes expressed in digits and zone suffix.	Line 14 - contain a time group expressed in digits plus the zone suffix.
N		b. Confirmation (as required)		Prosign CFN; confirmatory material.	May contain the prosign CFN and confirmed portions of the message as necessary.

PARTS	COMPONENTS	ELEMENTS	FORMAT LINE	CONTENTS	EXPLANATION
D		c. Corrections filing time*; final instructions.	15	Prosigns, operating signals; necessary corrections; date separated by slant from hour and minutes expressed in digits; plus zone suffix.	Line 15 - Is identified by the appearance of prosign C, operating signals and corrections as required; may contain date and time message was filed with the communication center; final instructions in form of prosigns B; AS; and station designation(s).
		d. EOMF / EOD of message functions	16	(2CR) (8LF) NNNN (12LTR)	Line 16 - The NNNN in this sequence are the end of message indicator.

* The date and time of filing will not be used on ship-ship, ship-shore or naval radio teletypewriter broadcast circuits.

CHAPTER 2

PROSIGNS

201. PROSIGN MEANINGS

The following prosigns are authorized for use on manual teletypewriter circuits.

PROSIGNS	DEFINITION AND MEANING
AA	All After.
AB	All Before.
AR	End of transmission - "This is the end of my transmission to you, and no response is required or expected".
AS	Wait -
	(1) AS made during a transmission and without an ending sign indicates a pause for a few seconds.
	(2) AS followed by AR indicates "You are to wait" or "I am obliged to wait", as applicable.
B	More to follow.
BT	Long Break - "Indicates the separation of the text from other portions of the message or portions indicated".
C	(1) "C" alone means "You are correct".
	(2) "C" followed by identification data means, "This is a correct version of the message or portions indicated".
	(3) Always used when replying to prosign J.
CFN	Confirmation - "The following confirms a portion of the text".

PROSIGNS	DEFINITION AND MEANING
DE	From - “This transmission is from the station whose designation follows”.
EEEEEEEE	Error - A succession of 8 E’s indicates that an error has been made. The error sign will be followed by the last word, group or prosign which was correctly transmitted.
F	Do not answer - “Stations called are not to answer this call or receipt for this message or otherwise transmit in connection with this transmission”.
FM	Originator’s Sign - “The originator of this message is indicated by the designation immediately following”.
G	Repeat back - “Repeat this entire transmission back to me exactly as received”.
GR	Groups - GR followed by numeral(s) means, “This message contains the number of group indicated”.
GRNC	“The groups in this message have not been counted”.
HM	(Made 3 times). Emergency silence sign. (“Silence”).
IMI	Repeat.
INFO	Information addressee sign.
INT	Interrogatory - Preceding operating signals and prosigns, indicates that the matter to follow is in the form of a question. INT preceding a portion of a message means “Is my reception of this correct?.

PROSIGNS	DEFINITION AND MEANING
IX	"Action on the message or signal which follows is to be carried out upon receipt of 'EXECUTE'".
J	Verify and repeat - "Verify the entire message (or portion indicated) with the originator and send correct version".
K	Go ahead - "This is the end of my transmission to you and a response is necessary. Go ahead; transmit".
NR	Number.
O	Immediate - "The precedence of this message is IMMEDIATELY".
P	Priority - "The precedence of this message is PRIORITY".
R	Received - "I have received your last transmission (or messages indicated").
R	Routine - "The precedence of this message is ROUTINE".
T	Transmit to.
TO	Action addressee sign.
WA	Word after.
WB	Word before.
XMT	Exempt - "Addressees indicated by designation immediately following are exempted from the collective call or address designation".
Z	Flash - "The precedence of this message is FLASH".

202. DESCRIPTION AND USE OF PROSIGNS

Machine functions are not included in these examples.

a. AA “All After” - Used after IMI, C, J and certain operating signals to identify a portion of a message.

Example:

DE BF6
IMI AA proceed to K

b. AB “All Before” - used in same manner as AA.

c. AR “End of Transmission” - This prosign means, “This is the end of my transmission to you and no response is required or expected”.

Example A:

BF6 DE 6F2 R AR

Example B:

BF6 DE 6F2
R 131415Z MAR
BT
ROL ANYZ
BT
AR

d. AS “Wait”.

(1) AS made during a transmission and without an ending sign indicates a short pause.

Example:

A2D DE BF6
R 102030Z MAR
GR5
BT
JOIN CONVOY AT POINT
AS

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

Example:

A2D DE BF6 AS AR

(3) A station having received AS shall wait for K before transmitting, unless in the meantime he has been given a message of high precedence to transmit or it appears he has been overlooked.

e. B “More to follow”.

(1) In the final instructions, B means, “More to follow”.

Example A:

BF6 indicates that he has more to send to PW6, transmits:

PW6 DE BF6
R 100932Z MAR
GR37
BT
TEXT
BT
B
K

Example B:

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

BF6 DE A2D R B K

Example C:

A precedence prosign, except R, may follow B to indicate the precedence of the message on hand.

BF6 DE A2D R B P K

(2) In final instructions, B followed by call signs(s) means, “More to follow to station(s) indicated”.

Example:

A2D, BF6, PW6 and 6F2 are in the same net. PW6 transmits a message to BF6 and 6F2 for which he requires a receipt and at the same time indicates to A2D and BF6 that more to follow is for them.

BF6 6F2 DE PW6
R 261017Z MAR
GR37
BT
TEXT
BT
B A2D BF6
K

(3) During a transmission, B followed by a numeral means, "More to follow", total number of groups transmitted thus far is as indicated.

Example:

PW6 transmitting a message of 160 groups to 6f2, stops after transmitting the 100th group, indicates that there is more to follow and requests a receipt or the portion transmitted, as follows:

6F2 DE PW6
R 242322Z MAR
GR160
BT
(……FIRST 100 groups)
B 100
K

6F2 having received the portion, transmits:

DE 6F2 R K

Should 6F2 require any repetitions, these are asked for and given before the prosign R and K are transmitted by 6F2. PW6 then sends the number of the first group with which the portion begins completes the transmission as follows:

6F2 DE PW6 101
TEXT (101 TO 160 INCLUSIVE)
BT
K

f. BT "BREAK". BT is used to separate the text from other parts of a message. It immediately precedes and follows the text.

g. C “Correct”.

(1) C used alone means, “You are correct”.

Examples A:

PW6 transmits a message to BF6 who questions the accuracy of group five.

PW6 DE BF6 INT 5 ZABMO K

If the questioned group is correct, PW6 transmits:

BF6 DE PW6 C K

Example B:

PW6 transmits a “repeat back” (G) message to BF6. After BF6 repeats the message back correctly, PW6 transmits:

BF6 DE PW6 C AR

(2) C followed by identification data means, “This is a correct version of the message, or portions indicated”.

Example A:

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

BT
C 2 2199
K

Example B:

After receiving a message from BF6, PW6 questions his reception of the 5th group:

BF6 DE PW6 INT 5 BATIO K

BF6 checks and finds the group is incorrect. He transmits:

PW6 DE BF6 C 5 BATSO K

Example C:

Correcting a portion of the message in format line 15:

32 Gallons of oil
BT
C WA 32 gallons
AR

h. CFN “Confirmation” - The following confirms a portion of the text.

Example A:

Station RAB confirms figures, and figures and letter combination:

RABT DE RAB NR12
R 181545Z MAR 71
FM CG NINTH CORPS
TO CG SECOND DIV
BT
FORWARD 15 BOXES ZEROX PAPER WEIGHT 200 W NEXT
COURIER
BT
CFN 15 200E
K

Example B:

Before acknowledging receipt, the operator at RABT discovers a discrepancy between the text and confirmation. RABT requests confirmation of word after “weight”:

ZDL2 INT WA WEIGHT K

After acknowledging receipt, the operator at RABT finds a discrepancy between the text and confirmation. RABT services RAB for the correct portion:

RAB DE RABT SVC ZUI 181545Z ZDL2 INT WA WEIGHT K

i. DE “From” - DE is used only in the call and means, “This transmission is from the station whose identification follows”.

Example:

A complete preliminary call (to establish communication).

A2D DE BF6K

j. EEEEEEEE “Error”.

(1) To correct errors, a succession of eight or more E’s is transmitted and means, “An error in transmission has just been made”. (the phrase “eight or more E’s” is intended to facilitate operations and shall not be construed as permitting transmission of an excessive number of E’s). In correcting errors, the error sign will be followed by the last word or group correctly sent, regardless if in the heading or text. The operator then continues with the correct version.

Example A:

BF6, transmitting a message, makes and corrects a mistake in the heading:

A2D DE BF6
R 130830Z MAR 83
FM NBA
TO BF6
6F3 EEEEEEEE
BF6
6F2
INFO A2D
GR18
BT
UNCLAS etc.

Example B:

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

98N DE PW6
R 201827Z MAR
GR14
BT
AOBO SELA VOD EEEEEEEE SELA VOBU NULU etc.

Example C:

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

PW6 DE PQ6 IMI AB 2 AA 4 EEEEEEEE AA 32 K

(2) E E E E E E E E AR "This transmission is in error. Disregard it". - To cancel a transmission while in progress, a succession of eight E's followed by the prosign AR is used; each E being separated from the following E by a space.

Example:

BF6 while transmitting a message to PW6, discovers that the message should not be sent and cancels the transmission:

PW6 DE BF6
R 171525Z MAR
FM BF6
TO A2D
6F2
BT
GR
E E E E E E E E AR

This method of cancelling a transmission cannot be used after a receipt has been given.

k. F "Do not Answer" - F used in the transmission instructions means, "Stations called are not to answer this call to receipt for this message or otherwise to transmit in connection with this transmission".

Example:

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

A2D DE BF6
F
R 211627Z MAR 71
FM NBA
TO A2D
GR16
BT
TEXT
BT
AR

l. FM “Originator’s Sign” - FM means “The originator of this message is indicated by the designation immediately following”.

m. G “Repeat Back” - G means, “Repeat back the entire message”, and is placed in the transmission instructions.

Example:

BF6 desires 6F2 to “repeat back” a message, transmits:

6F2 DE BF6
G
0 221813Z MAR
GR10
BT
TEXT
BT
K

6F2 complies as follows:

BF6 DE 6F2
6F2 DE BF6
G
0 221813Z MAR
GR10
BT
TEXT
BT
K

BF6 transmits:

6F2 DE BF6 C AR

n. GR (numeral) “Group count” - GR followed by numeral(s) is the group count and means, “This message contains the number of groups indicated.” A numerical group count will always be included on encrypted messages consisting of countable groups.

Example:

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

G94 DE 6F2
R 282113Z MAR
GR8
BT
KAHO TUON GREU AHID XOYO DEAK FCLB DUTA
BT
K

o. GR preceded by INT and followed by numeral(s) means, “Is the indicated group count correct”?

Example:
PW6 DE BF6
INT GR20
K

p. GRNC “Groups Not Counted” - GRNC means, “The groups in this message have not been counted”.

(1) This prosign is included in the prefix if it is necessary to indicate that the groups have not been counted. I t will be included in messages bearing an accounting symbol when groups are not counted.

(2) When it is desired that a message contains a numerical group count and the group count has not been determined prior to transmission, the prosign GRNC may be employed in the message heading and the actual group count transmitted in the final instructions.

q. HM (Emergency Silence Sign).

(1) Emergency Silence may be imposed or lifted by a station only when authorized by competent authority.

(2) When an authentication system is in force, a station must always authenticate a transmission which:

(a) Imposes emergency silence.

(b) Lifts emergency silence.

(c) Calls a station(s) during a period of emergency silence.

(3) Stations do not answer or receipt for a transmission imposing emergency silence. Thereafter, until directed to resume, stations may transmit only as directed by competent authority.

(4) "HM" transmitted three times means: "Cease transmissions immediately. Silence will be maintained until directed to resume".

(a) After a call HM HM HM means "Station(s) addressed cease all transmissions on this net immediately".

Example:

To impose Emergency silence on the net BF6 transmits:

K49 DE BF6
HM HM HM ZNB* _____ AR

(b) After a call HM HM HM followed by a frequency or a frequency designator means, "Station(s) addressed cease all transmission immediately frequency ….. (or that indicated by frequency indicator)".

Example:

To silence 6f2 on 2700 kcs only, BF6 transmits:

6F2 DE BF6
HM HM HM 2700 ZNB* _____ AR

To silence 6F2 on frequency indicated by designator B4, BF6 transmits:

6F2 DE BF6
HM HM HM B4 ZNB* _____ AR

* ZNB is assumed to mean "Authentication is _____".

(5) Emergency silence is lifted by addressing the station(s) concerned and transmitting the operating signal meaning, “Negative” followed by HM HM HM.

Example:

To lift Emergency Silence on the net BF6 transmits:

K49 DE BF6
ZUG** HM HM HM ZNB _____ AR

To lift Emergency Silence for 6F2 on 2700 kcs only, BF6 transmits.

6F2 DE BF6
ZUG HM HM HM C7A ZNB _____ AR

To lift Emergency silence for 6F2 on frequency indicated by designator C7A, BF6 transmits:

6F2 DE BF6
ZUG HM HM HM C7A ZNB _____ AR

r. IMI “Repeat” - IMI means, “Repeat, or I regret, message or portions of a message as indicated”.

(1) IMI without identification data means repeat all of your last transmission.

Example:

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

6F2 DE PW6 IMI K

(2) IMI followed by identification data, means, “Repeat the indicated portion of your transmission.”

Example A:

A2D DE BF6 IMI AB BATSO K

** ZUG is assumed to mean “Negative” (NO).

Example B:

BF6 desires a repeat of that portion of the heading between the prosign TO and INFO:

A2D DE BF6 IMI TO TO INFO K

(3) In the text of a plain language message IMI means, “I and going to repeat the difficult portion just transmitted”.

Example:

A2D DE BF6
R 311211Z MAR
BT
TRANSFER GILROY ZCHCHZISKI IMI ZCHCHZISKI JOHN ELMER SMITH etc.

(4) Between the first and second transmission of a message being sent twice, IMI means, “I am going to repeat this message”.

Example:

K49 DE BF6
R 161822Z MAR
GR22
BT
TEXT
BT
IMI
K49 DE BF6
R 161822Z MAR
GR22
BT
TEXT
BT
AR

(5) IMI cannot be used to obtain a repetition of a message or a portion thereof for which a receipt has been given. A service message containing an operating signal or a service message will be used for this purpose.

(6) IMI shall not be used to correct an error in transmission.

s. INFO “Information Address Sign”.

t. INT “Interrogatory”.

(1) INT preceding an operating signal or prosign indicates that the transmission is in the form of a question.

Example:

PW6 desires to know if BF6 has traffic for him, transmits:

BF6 DE PW6 INT QRU K

(2) INT preceding a portion of a message means, “Is my reception of this correct”?

Example:

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

PW6 DE A2D INT 310126Z K

(3) INT cannot be used to question any part of a message for which receipt has been given. A service message containing an operating signal or a service message will be used for this purpose.

u. IX “Execute to Follow” - (To be employed only with the Executive Method).

v. “Verify with Originator and Repeat” - Use only as prescribed in paragraph 313.

Example:

BF6 wishes to request A2D to verify and repeat a message. BF6 is not in direct communication with A2D. PW6 is the relaying station.

PW6 DE BF6
T
FM BF6
TO A2D
J (identifying data)
K

w. K “Invitation to Transmit” - K means, “Invitation to transmit” or “This is the end of my transmission to you and a response is necessary”.

(1) When used in calling and answering, the prosign K is sent by both stations to terminate their transmissions.

Example:

A2D calls BF6:

BF6 DE A2D K

(2) When a station receipting for a message knows that the other station has additional traffic to transmit to him, he receipts and then indicates his readiness to receive the additional traffic by transmitting the prosign K.

Example:

BF6 receipts to A2D for message and tells him to go ahead:

A2D DE BF6 R K

x. NR “Number”.

(1) NR followed by numerals or a combination of letters and numerals indicates the station serial number assigned to a message by a transmitting station. The use of the prosign NR to precede the station serial number is optional.

Example:

6F2 DE BF6 NR72
R 182230Z MAR
BT
GR16

(2) In a multiple call transmission the station serial number applicable to each called station is given in the same sequence as the call signs in the call.

Example:

A2D 6F2 DE BF6 NR16 NR13
R 211421Z MAR

(3) NR preceded by INT means, “Is the station serial number of the last message as indicated??

Example:

BF6 DE A2D INT NR14 K

y. O “Immediate” - means, “Immediate Message”.

z. P “Priority” - means, “Priority Message”.

aa. R “Routine” - means, “Routine Message”.

bb. R “Received”.

(1) After a call R means, “I have received your last transmission”.

Example:

BF6 DE A2D R AR

(2) After a call, R preceded by INT means, “Have you received my last transmission”?

Example:

BF6 DE A2D INT R K

(3) After a call, R preceded by INT and followed by identification data means, “Have you received the message indicated”?

Example:

BF6 asks A2D, “Have you received 6F2’s 121416Z”?

A2D DE BF6 INT R 6F2 121416Z K

(4) A call followed by R and identification data means, “I have received the message(s) indicated”.

Example A:

A2D indicates to BF6 he has received 6F2’s 121416Z:

BF6 DE A2D R 6F2 121416Z AR

Example B:

6F2 receipts for numbers 40 to 45 inclusive:

BF6 DE 6F2 R NR 40 TO NR45 AR

cc. T “Transmit To” - T, when used shall appear in the transmission instructions.

(1) T alone means, “Station called transmit this message to all addressees in the address component”.

Example:

BF6 directs 6F2 to transmit to all addressees:

6F2 DE BF6
T
R 311615Z MAR
FM BF6
TO 2SN
6F2
GR6

(2) T followed by an address designations(s) means, “Station called transmit this message to the addressee(s) whose address designations(s) follow”.

Example:

6F2 DE BF6
T 2SN
R 161813Z MAR
FM BF6
TO 2SN
INFO 5G7
GR18

(3) T preceded by a call sign and followed by an address designation(s) means, “station whose call sign precedes ‘T’, transmit this message to the addressee(s) whose address designation(s) follow(s) ‘T’”. When more than one called station is directed to relay a message, the transmission instructions for each such station must appear on a separate typed line.

Example:

KFR calls both MPQ and 6F2, and requests MPQ to transmit message to A2D, and 6F2 to transmit message to BF6.

MPQ 6F2 DE KFR
MPQ T A2D
6F2 T BF6
R 181927Z MAR
FM KFR
TO BF6
MPQ
6F2
INFO A2D
GR29

(4) T instructions may be modified by use of the operating signal ZWL to denote that no forwarding action is required to the addressee designation(s) which immediately follows ZWL.

Example:

6F2 DE PW6
T ZWL 98N
R 151617Z MAR
FM PW6
TO G94
KFR
MPQ
98N
GR16

dd. TO “Action Addressee” - Means, “Addressees indicated by the designation immediately following are addressed for action”.

ee. WA “Word After” - Means, “Word after”. This prosign is used after IMI, C J and certain signals to identify a portion of a plain language message. Used in the same manner as AA and AB.

ff. WB “Word Before” - Means, “Word before”. Used in the same manner as WA.

gg. XMT “Exempt” - XMT means, “The station(s) or addressee(s) immediately following is exempted from the collective call or address”.

(1) In the call:

2SN XMT KFR DE 6F2
R 151617Z MAR

(2) In the address:

R 121617Z MAR
FM BF6
TO K49
2SN
XMT KFR
GR20

hh. Z “Flash” - Means, “Flash Message”.

CHAPTER 3

OPERATING INSTRUCTIONS

SECTION I

GENERAL RULES

301. STATIONS DESIGNATIONS

a. The following station designations are authorized for use in calling and answering: International call signs, tactical call signs, collective call signs, net call signs, indefinite call signs.

b. When call signs are not assigned, address groups many be used as station designations.

c. When call signs are neither authorized nor assigned, station designators, consisting of theatre routing indicators or other designations, may be assigned by proper authority. Such station designations will be reflected outside the network in which assigned.

302. TIME OF TRANSMISSION INDICATOR

All transmissions are to include a time of transmission indicator. This is expressed as a time group in ZULU time and is to be the time the transmission commenced.

Example A: Call

(5 SPACES) (2CR) (LF)
1234Z (2CR) (LF)
PQ6 DE PW8 K (2CR) (LF)

Example B: Message Transmission

(5 SPACES) (2CR) (LF)
1234Z (2CR) (LF)
PQ6 DE PW8 (2CR) (LF)
R 121221Z APR (2CR) (LF)

(Remainder of message)

303. CALLING

a. In establishing communications a preliminary call may be required. The preliminary call may be a single or multiple call. When call signs are employed the prosign XMT may be used in conjunction therewith.

b. Single Call - A single call consists of the transmission of the identification of the station(s) with whom communication is desired, the prosign DE, the identification of the station calling and the prosign K. A single call consists of the identification of a single station or a collective call sign representing more than one station.

Example A: (Single Station)

(5 SPACES) (2CR) (LF)
PQ6 DE PW6 K (2CR) (LF)

Example B: (Collective Call)

(5 SPACES) (2CR) (LF)
OPD DE PW6 K (2CR) (LF)

OPD is a collective call sign which represents 98N, PQ6, and 5G7. These stations will answer in alphabetical order.

Example C: (Collective call with exempted station)

(5 SPACES) (2CR) (LF)
NLX XMT 3TW DE P3D K (2CR) (LF)

NLX is a collective call sign which represents A6L, B9T, 3TW, 4LG and 9TM. These stations will answer in alphabetical order with the exception of the exempted station 3TW who will not answer.

c. Multiple Call - A multiple call consists of the transmission of the identification of the stations with whom communication is desired, the prosign DE, the identification of the station calling and the prosign K. The station designations preceding the prosign DE will usually be arranged in alphabetical order in the form in which they are to be transmitted*.

* For this purpose the slant sign (/) will be the twenty seventh letter of the alphabet and figures 1 through 0 as the twenty-eight through thirty-seventh. Care must be exercised to avoid separating call signs and/or conjunctive address groups which are interdependent.

Example: (Multiple call)

(5 SPACES) (2CR) (LF)
A6A B2A C5A 4AD DE A20 K (2CR) (LF)

The called stations will answer in the order called.

d. Call serving as address - In plaindress messages when the originator is in direct communication with the addressee(s) the call may serve as the address. (This is possible only when the call designations of the station used in calling and answering are the same as those assigned to the originator and addressee(s)).

Example A: (When all addressees are action)

(5 SPACES) (2CR) (LF)
PW6 DE BF6 (2CR) (LF)
R 161512Z (2CR) (LF)
GR18 (2CR) (LF)
BT etc.

Example B:

When there are both action and information addressees.

In addition to being in the call line, the information addressee must be indicated by the operating signal ZFH2 followed by the designation of the information addressees.

(5 SPACES) (2CR) (LF)
PW6 6F2 DE BF6 (2CR) (LF)
ZFH2 6F2 (2CR) (LF)
R 161512Z (2CR) (LF)
GR18 (2CR) (LF)
BT etc.

Example C:

When all addressees are information.

This is indicated by the inclusion of the operating signal ZFH2 with no address designations following.

(5 SPACES) (2CR) (LF)
PW6 6F2 DE BF6 (2CR) (LF)
ZFH2 (2CR) (LF)
R 161512Z (2CR) (LF)
GR18 (2CR) (LF)
BT etc.

304. ANSWERING

a.. In answering a preliminary call, stations will transmit identification of the calling station, the prosign DE, the identification of the answering station and the prosign K. When no confusion will result, however, the answer may consist of the prosign DE, the identification of the answering station and the prosign K. After a preliminary call has been made and answers thereto received, the transmitting station will make 2CR and 8LF before transmitting a message.

Example A: (Answer)

(5 SPACES) (2CR) (LF)
PW6 DE PQ6 K (2CR) (LF)

Examples B: (Abbreviated answer)

(5 SPACES) (2CR) (LF)
DE PQ6 K (2CR) (LF)

b. If any station fails to answer in proper sequence when a multiple or collective call is employed, the next station waits 5 seconds and then answers. The station which fails to answer in proper order must wait until all other stations have answered or had time to answer.

Example: (Collective call)

(5 SPACES) (2CR) (LF)
OPD DE PW6 K (2CR) (LF)

OPD represents PQ6, 5G7 and 98N. 5G7 fails to answer within 5 seconds.

Answer:

(5 SPACES) (2CR) (LF)
PW6 DE PQ6 K (2CR) (LF) (answer from PQ6)

Five seconds pass and 5G7 fails to answer. 98N answers:

(5 SPACES) (2CR) (LF)
PW6 DE 98N K (2CR)(LF) (answer from 98N)

5G7 is now ready to answer. 5G7 answers:

(5 SPACES) (2CR) (LF)
PW6 DE 5G7 K (2CR) (LF)

c. When a station(s) which failed to answer in sequence, then fails to answer within 5 seconds after all other stations have answered, the calling station shall initiate a separate call (and attention arresting signals as required) to raise the station.

d. When any station included in a collective or multiple call is specifically directed to answer, no other station included in that call may answer until instructed to do so.

e. Testing circuits When a station wishes to test a circuit which has just opened, a test may be transmitted as follows:

Example:

(5 SPACES) (2CR) (LF)
PW6 DE PQ6 (2CR) (LF)
TEST THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG
1234567890 (2CR) (LF)
RYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRY
(2CR) (LF)
*INT ZHN K (2CR) (8LF)

PW6 determines that operation is satisfactory for the reception of traffic and answers:

(5 SPACES) (2CR) (LF)
PQ6 DE PW6 (2CR) (LF)
*ZHN1 K (2CR) (8LF)

* Or other appropriate operating signal.

305. TRANSMISSION ENDING

a. Every transmission shall end with the prosigns K or AR, except for messages which shall end with the end of message functions 2CR, 8LF, NNNN, 12LTRS.

b. In duplex operation, messages being transmitted should not be interrupted except to respond to received messages of precedence IMMEDIATE or above and only when this is higher than the precedence of the message being transmitted. Whenever possible responses should be transmitted at the end of a message or page.

306. RADIO TELETYPEWRITER OPERATION

a. The procedures for calling and answering reflected in paragraphs 303 and 304 apply. However, because of the instability of radio circuits, the following procedures should be followed when operating on a radio facility and encountering the situation described. In carrying out these procedures, attention should be paid to the circuit discipline precautions prescribed in paragraph 102:

(1) Action to be taken when in contact, but not transmitting traffic:

(a) If the signal shows signs of failing, but has not deteriorated to the point requiring a frequency change, a continuous test tape, constructed as indicated below should be transmitted by each station, if working on different frequencies, or by the net control station only when all stations are working on the same frequency:

(b) Example:

(Sufficient LTRS to permit slicing into a continuous loop)
(5 SPACES) (2CR) (LF)
THE QUCK BROWN FOX JUMPS OVER THE LAZY DOG
1234567890 TEST DE (Call sign of Station Testing)
(2CR) THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG
1234567890 TEST DE (Call sign of Station Testing)
(2CR) (LF)
RYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRY
(2CR) (LF)
(Sufficient LTRS to permit splicing into a continuous loop)

NOTE: Omissions of the LF following (2CR) at end of the first line of test is intentional. The test is designed so that the second line of "THE QUICK BROWN FOX …." Will overprint the first line. In this manner, any malfunction will be more immediately apparent and, of course, paper will be saved.

(c) Stations not receiving above test satisfactorily will so inform the sending stations.

(2) Action to be taken when contact has been lost:

(a) The test tape reflected in paragraph (1) (a) will be run.

(b) Transmission of test will be interrupted at frequent intervals to manually transmit information required to regain contact, e.g., call sign of station being listened for, call sign of station listening, frequency(ies) on which listening, indication as to whether transmission is being received, etc.

(c) The information reflected in (b), may be perforated into the standard test tape if so desired, but if done, use of the test tape for other situations is negated.

(3) Action to be taken upon faulty reception of traffic:

(a) When faulty reception of traffic is encountered, the transmitting station will be requested to run continuous test until further orders.

(b) The Standard Test Message is designed to facilitate the diagnosis and correction of faults and to standardize testing procedure on point-to-point radio teleprinter/teletypewriter channels.

(c) While the Standard Test Message is being run, all links in the circuit should be monitoring the test transmission and, since its exact composition will be known, the diagnosis and location of faults should be a simple matter subject to the following requirements:

1 Intelligent monitoring and interpretation of results obtained.

2 Good cooperation between all link position concerned.

(d) Monitoring equipment is required at the transmitter stations, and at its remote control positions; and the receiving station and its remote control positions.

b. When the test transmission contained in subparagraph 206.a.(1) (b), must be transmitted manually from the keyboard, the LTRS to permit tape splicing and the first line of "THE QUICK BROWN FOX …" will be omitted.

307. PRECEDECE

a. Precedence of messages - The assignment of precedence to a message is the responsibility of the originator and is determined by the subject matter of the text and the time factor involved.

(1) Significance - Precedence designations are employed to indicate the relative order in which a message of one precedence designation is handled with respect to all other precedence designators. Precedence designations indicate:

(a) To the Originator - The required speed of deliver to the addressee.

(b) To Communications Personnel - The relative order of handling and delivery.

(c) To the Addressee - The relative order which he should note the message.

(2) Single Precedence - The precedence shall be indicated by the appropriate precedence prosign and will appear as the first element of the preamble.

(3) Dual Precedence.

(a) Multiple address message having both action and information addressees may be assigned two precedences, one precedence for all action addressees, and will appear as the first element of the preamble.

(b) Where dual precedence is indicated, the higher precedence will appear first and the two precedence prosigns will be separated by a space.

Example A: (Single precedence)

Routine to all addressees:

Plaindress:

(5 SPACES (2CR) (LF)
6F2 DE BF6 (2CR) (LF)
T (2CR) (LF)
R 051921Z MAR (2CR) (LF)
FM BF6 (2CR) (LF)
TO KRF (2CR) (LF)
INFO MPQ (2CR) (LF)
GR13 (2CR) (LF)

Abbreviated plaindress:

(5 SPACES) (2CR) (LF)
A2D 6F2 DE BF6 (2CR) (LF)
R 1421Z MAR (2CR) (LF)
GR19 (2CR) (LF)

Example B: (Dual precedence)

IMMEDIATE to A2D and KFR; PRIORITY to MPQ, PW6, 6F2:

(5 SPACES) (2CR) (LF)
K49 DE BF6 (2CR) (LF)
O P 151635Z MAR (2CR) (LF)
FM BF6 (2CR) (LF)
TO A2D (2CR) (LF)
KFR (2CR) (LF)
INFO MPQ (2CR) (LF)
PW6 (2CR) (LF)
6F2 (2CR) (LF)
GR16 etc. (2CR) (LF)

b. When authorized by separate Service instructions the repeated precedence prosign(s) may be additionally included at the beginning of line 2.

c. Precedence in a preliminary call - Precedence may be indicated in a preliminary call by use of the appropriate precedence prosign preceding the ending prosign. The bell signal (see paragraph 103.e.) shall always be transmitted before and after FLASH precedence prosign in a preliminary call, followed by the prosign K.

(1) The precedence prosigns when used in a preliminary call mean:

Z indicates "I HAVE" Flash Precedence traffic to transmit.
O indicates "I HAVE" Immediate traffic to transmit.
P indicates "I HAVE" Priority traffic to transmit.
R indicates "I HAVE" Routine traffic to transmit.

Example:

6F2 tells BF6 I have PRIORITY precedence traffic to transmit.

(5 SPACES) (2CR) (LF)
BF6 DE 6F2 P K (2CR) (LF)

(2) When indicating traffic of different precedence in a preliminary call the operating signal "ZBO" is used and means, "I have (or _____ has) _____ message(s) (numeral indicating number of message(s) may be followed by Z, O, P, or R to indicate precedence) for you (or for _____)".

308. PRECEDENCE DESIGNATIONS AND COMMUNICATIONS HANDLING

Messages will be handled in accordance with the precedence explained below:

a. Flash precedence will be indicated by the prosign "Z". Flash messages will be hand carried, processed, transmitted and delivered in the order received and ahead of all other messages. Messages of lower precedence will be interrupted on all circuits involved until handling of a FLASH message is completed.

b. Immediate precedence will be indicated by the prosign "O". Immediate messages are processed, transmitted and delivered in the order received and ahead of all messages of lower precedence. Processing and transmission of lower precedence messages already in progress will be interrupted unless interrupting and cancelling the lower precedence transmission will take longer than completing it.

c. Priority precedence will be indicated by the prosign "P". Priority messages are processed, transmitted and delivered in the order received and ahead of all messages of lower precedence. Routine messages being transmitted should not be interrupted unless they are extra long.

d. Routine precedence will be indicated by the prosign "R". Routine messages are processed, transmitted and delivered in the order received and after all messages of higher precedence.

309. BREAK-IN

a. When equipment permits, break-in procedure may be employed to interrupt the transmitting station to transmit a message of higher precedence, in accordance with the precedence policy, contained in paragraph 307, or to stop the transmitting station because of equipment or received difficulties.

b. On simplex circuits, in order to stop the transmitting station, a series of hyphens will be transmitted, thus: FIGS A FIGS A FIGS A etc. The interrupted station will immediately be appraised of the reason for the interruption if practicable. If the interruption is for the purpose of transmitting traffic of a higher precedence, the precedence of the traffic to be transmitted will be indicated as follows:

Example:

(5 SPACES) (2CR) (LF)
A2B DE A2R 0 K (2CR) (LF)

c. After an interruption, transmission should be resumed at the beginning of the line of copy in which the interruption was made or, if necessary, the entire message may be retransmitted.

d. Break-in procedure on CRAFT circuits should be avoided if possible, due to the excessive time consumed phasing equipments.

310. TABULATED MESSAGES

Messages received for transmission, the text of which is in tabulated form, should be transmitted in tabulated form. In some instances, however, headings of columns require more space than the data shown in the column. In these cases the headings should be written on several lines, rather than on one line. The columns of data shall be as close to the left margin as possible in order to reduce transmission time.

311. CONFIRMATION

a. When fifty percent or less of a message consists of figures, unusual letter combinations, or figures and letter combinations, such groups may be confirmed unless, for operational reasons, consequent additional transmissions are prohibited.

b. It is the responsibility of the station called to compare the confirmation with the textual component to assure correctness prior to delivery or refile. (See paragraph 202.h., Use of Prosign CFN).

SECTION II

CORRECTIONS, REPETITIONS AND VERIFICATIONS

312. CORRECTION OF ERRORS

a. Keyboard Transmission

(1) When an error is detected during transmission the operator transmits the error prosign "EEEEEEEE" (eight E's) after the errored word or group and resumes transmission by repeating the last word or group transmitted correctly.

Example:

"IN ACCORDANCE WITH MESGAEEEEEEEE WITH MESSAGE SENT"

(2) Errors made in a message heading will be corrected by the same method used in paragraph 312.a.(1).

b. Tape Preparation

(1) Errors made in preparing chad tapes will be corrected by backspacing the tape and "lettering out" the error by means of the "LTRS" key.

(2) Errors made in preparing chadless tapes will be corrected by use of the error prosign except that when errors occur in a message heading a new tape will be prepared.

c. End of Message

(1) If the transmitting operator discovers an error has been made which was not corrected as indicated above, the error may be corrected at the end of the message. Such corrections will be separated from the prosign BT by (2CR) (LF) and will be preceded by the prosign "C".

(2) When errors in the message heading are corrected in this manner, the entire element in which the error occurred must be repeated.

d. Multiple Page Messages - When corrections are necessary in multiple page messages, which were not corrected by lettering out or by use of the error prosign the corrections will be made following the last text group of the page in which the error appears. Such corrections will be separated from the last text works by (2CR) (LF) and will be preceded by the prosign "C". In such cases, the end of the page functions (2CR) (4LF) shall be transmitted after the correction with the exception that the last page will be ended with the normal message ending and machine functions. In those instances when the error was not noted prior to starting another page, the error shall be corrected at the end of the message.

313. OBTAINING CORRECTIONS AND REPETITIONS

a. When used for repetitions and corrections, service messages may be assigned the precedence considered necessary to accomplish their purpose.

b. Service messages should be as brief as possible without being ambiguous.

c. Corrections involving discrepancies in station serial numbers, mutilations or garbles caused by mechanical difficulties are usually obtained from the station from which the transmission was received.

d. Corrections of errors, other than those enumerated in c. above should be obtained from the station making the original transmission of the message.

e. Corrections or requests for corrections should contain identification, transmission identification, if any, and such other data as necessary to prevent confusion. If a word or group occurring more than once in a message is used to identify a part of that message, it is to be assumed that the first occurrence of that word or group is implied. If otherwise intended, amplifying data such as adjacent words or groups must be included.

f. When the transmission identification and the date-time group are in error, the message should be identified by quoting the message heading and, if necessary, a portion of the text.

g. If a message contains more that one error, all discrepancies in the same message should be cited in the same correction request.

h. In requesting repetitions of the heading of a message, if portions of more than one component are desired, a repetition of entire heading must be requested. If portions of more than one element of the address component are desired, a repetition of the entire component must be requested. When the repetition desired is within one element of the address component, the request for repetition must include the prosign of the element and the prosign of the next element. The answers to such requests must include the entire element and the prosign of the next element. The same applies to corrections sent without requests for repetition.

i. Examples of Repetitions:

(1) Repetitions - When repetition of portions of a message containing the call is made, the original call must be repeated in such repetition except when only one station was called originally.

Original transmission by BF6

(5 SPACES) (CR) (LF)
6F2 DE BF6 (2CR) (LF)
T (2CR) (LF)
R 281545Z MAR (2CR) (LF)
FM BF6 (2CR) (LF)
TO 6F2 (2CR) (LF)
INFO A2D (2CR) (LF)
GR11 (2CR) (LF)
BT (2CR) (LF)
JAPY BOQU LAJY LUPY FOQO MUCO KAWG GUXO
XAVA RATU (2CR) (LF)
SOBO (2CR) (LF)
BT (2CR) (8LF)
NNNN (12LTRS)

(2) Repeat your last transmission. Request:

(5 SPACES) (2CR) (LF)
BF6 DE 6F2 IMI K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 (2CR) (LF)
T (2CR) (LF)
R 281545Z MAR (2CR) (LF)
M BF6 (2CR) (LF)
TO 6F2 (2CR) (LF)
INFO A2D (2CR) (LF)
GR11 (2CR) (LF)
BT (2CR) (LF)
JAPY BOQU LAJY LUPY FOQO MUCO KAWG GUXO
XAVA RATU (2CR) (LF)
SOBO (2CR) (LF)
BT (2CR) (8LF)
NNNN (12TRS)

(3) Repeat all before the text of the last message.

Request:

(5 SPACES) (2CR) (LF)
BF6 DE 6F2 IMI AB BT K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 (2CR) (LF)
AB BT (2CR) (LF)
6F2 DE BF6 (2CR) (LF)
T (2CR) (LF)
R 281545Z MAR (2CR) (LF)
FM BF6 (2CR) (LF)
TO 6F2 (2CR) (LF)
INFO A2D (2CR) (LF)
GR11 (2CR) (LF)
BT K (2CR) (LF)

(4) Repeat all between TO and INFO of the last message.

Request:

(5 SPACES) (2CR) (LF)
BF5 DE 6F2 IMI TO TO INFO K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 (2CR) (LF)
TO TO INFO (2CR) (LF)
TO 6F2 (2CR) (LF)

INFO K (2CR) (LF)

(5) Repeat all after the eighth group. Request:

(5 SPACES) (CR) (LF)
BF6 DE 6F2 IMI AA 8 K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 AA 8 XAVA RATU SOBO BT K (2CR) (LF)

(6) Repeat group 9 of last message. Request:

(5 SPACES) (2CR) (LF)
BF6 DE 6F2 IMI 9 K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 9 XAVA K (2CR) (LF)

(7) Repeat groups 3 to 8 of last message. Request:

(5 SPACES) (2CR) (LF)
BF6 DE 6F2 IMI 3 TO 8 K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 3 TO 8 LAJY LUPY FOQO MUCO KAWG GUXO K (2CR) (LF)

(8) Repeat group 3 and groups 6 to 8 of last message.

Request:

(5 SPACES) (2CR) (LF)
BF6 DE 6F2 IMO 3 6 TO 8 K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 3 LAJY 6 TO 8 MUCO KAWG GUXO K (2CR) (LF)

(9) 6F2 needs a repetition of the originator, date-time group, and action addressee(s) of last message. 6F2 requests repetition of entire heading and BF6 answers as in paragraph 313.i.(3).

(10) In plain language messages, portions of the text are identified as words rather than as group numbers.

Example:

(5 SPACES) (2CR) (LF)

BF6 DE 6F2 IMI WA CARRY K (2CR) (LF)

Answer:

(5 SPACES((2CR) (LF)
6F2 DE BF6 WA CARRY OUT K (2CR) (LF)

Example:

(5 SPACES) (2CR) (LF)
BF6 DE 6F2 IMI CARRY TO SIXTEEN K (2CR) (LF)

Answer:

(5 SPACES) (2CR) (LF)
6F2 DE BF6 CARRY TO SIXTEEN CARRY OUT PLAN
SIXTEEN K (2CR) (LF)

j. Examples of Corrections.

See paragraph 202.g.

314. MESSAGES FORWARDED SUBJECT TO CORRECTION

a. If corrections and repetitions cannot be obtained immediately, message received with portions missing or portions of doubtful accuracy shall be delivered or forwarded subject to correction if the precedence is IMMEDIATE or higher or the operational situation dictates. Discretion should be exercised, however, in forwarding or delivering transmissions that are so garbled as to be of no value.

(1) In local delivery, the missing or doubtful portions will be indicated by appropriate notation on the message.

(2) In forwarding, the appropriate operating signals (ZDG, ZEH, ZEP) will be included in the transmission instructions. In addition, ZEP will also appear in the message text where portions are missing.

b. A station delivering or forwarding a message “Subject to Correction” is responsible for obtaining and forwarding corrections.

315. VERIFICATIONS

a. Requests for verifications are initiated by addressees only and may be made by service or regular message.

b. The prosign J may be used to request verification of the heading, or portions of the heading of any message; the entire text of any message or a portion of the text of a plain language message. J may be used to request verifications of portions of encrypted messages only when the crypto system employed permits. When J is used for this purpose, numerals are used to indicate the groups desired verified.

SECTION III

CANCELLATIONS

316. CANCELLATION OF MESSAGES

A message may be cancelled only by the originator.

317. CANCELLATION OF A TRANSMISSION

a. While it is in progress a transmission may be cancelled by use of the error prosign EEEEEEEE and the ending prosign AR. Each letter of the error sign must be separated by a space.

Example:

NOW IS THE (2CR) (LF)
E E E E E E E E AR

b. The prosign EEEEEEEE and AR shall not be used to cancel a transmission after a receipt has been given. A service message containing operating signals or a service message must be used for this purpose.

c. A station cancelling a transmission is responsible for any further action necessary in connection with the message involved.

SECTION IV

CLASSIFIED MESSAGES IN PLAIN LANGUAGE

318. CLASSIFIED MESSAGES TRANSMITTED IN PLAIN LANGUAGE

a. Transmitted over approved circuits - When classified messages are transmitted in plain language over approved teletypewriter circuits, the security classification will appear as the first word of the text, i.e., R E S T R I C T E D. each letter of the security classification will be separated by a space.

b. Transmitted over non-approved circuits - In tactical situations, when speed of delivery is so essential that time cannot be spared for encryption and the transmitted information cannot be acted upon by the enemy in time to influence the situation in question, a Commanding Officer may authorize the transmission in the clear of messages of any classification except TOP SECRET, over any NON-APPROVED wire or radio circuit or combination thereof. In such instances, the word CLEAR will be substituted for the classification.

SECTION V

ACKNOWLEDGEMENTS

319. ACKNOWLEDGEMENTS ON OTHER THAN TACTICAL CIRCUITS

Acknowledgements are handled in accordance with the procedure outlined for any message.

320. ACKNOWLEDGEMENTS ON TACTICAL CIRCUITS

Acknowledgements on tactical circuits may be handled as above or as set forth in the following examples.

a. PW6 sends PQ6 a message, 061532Z, without requiring an acknowledgement. After receipt, PW6 desires an acknowledgement and transmits:

(5 SPACES) (2CR) (LF)
PQ6 DE PW6 (2CR) (LF)
INT ZEV 061532Z K (2CR) (LF)

PQ6 receipts:

(5 SPACES) (2CR) (LF)
PW6 DE PQ6 R AR (2CR) (LF)

PQ6 acknowledges:

(5 SPACES) (2CR) (LF)
PW6 DE PQ6 (2CR) (LF)
ZEV 061532Z AR (2CR) (LF)

b. The operating signal ZEV meaning “Acknowledge this message”, may be placed in the last element of the preamble.

BF6 transmits a message and includes in the heading a request for acknowledgement:

(5 SPACES) (2CR) (LF)
A2D DE BF6 (2CR) (LF)
ZEV (2CR) (LF)
BT (2CR) (LF)
UNCLAS (2CR (LF)
GEORGE BAKER (2CR) (LF)
BT (2CR) (8LF)
NNNN (12LTRS)

SECTION VI

COUNTING AND CHECKING GROUPS

321. RULES FOR COUNTING GROUPS

Groups are counted in accordance with the following rules:

a. Count text groups only.

b. Punctuation and symbols are not counted unless spelled out or abbreviated.

c. Sequence of characters not interrupted by a space is counted as one group.

d. The power names of countries, cities, or streets consisting of two or more separate words should normally be written and counted as one group, i.e., SanSalvador, SanDiego, SaltLakeCity, but when written separately, they will be transmitted and counted as separately, they will be transmitted and counted as separate groups, i.e., Fifth Avenue.

e. The following text is counted as 19 groups:

SHIPMENT BRAY HYPHEN CORBIE SHOULD HAVE BEEN MARKED BRAY-CORBIE. FUTURE SHIPMENTS FOR PAREN FRANCE PAREN SHOULD BE MARKED /FRANCE/PERIOD

g. Examples:

	Group count
BRAY HYPHEN CORBIR …….	3
BRAY-CORBIE ……..	1
NEWYORK ……	1
XFUY ……..	1
CNYR NKLY JVRN ……..	3
/FRANCE/ ……..	1
PAREN FRANCE PAREN ……	3
125/3 ……...	1
CG ……..	1
125-3/3-55/X56 ……..	1
35 DASH 567P ……..	3
MR C D ADAMS ……..	4
BF6 311845Z …….	2
/124.0-130/6/ ……..	1

322. CHECKING GROUP COUNT

a. GR preceded by INT and followed by a numeral means “is the number of groups as indicated”? When the number of groups received does not correspond with Group Count transmitted, the receiving station will immediately question the transmitting station by using INT GR followed by a numeral.

Example:

(5 SPACES) (2CR) (LF)
BF6 DE PW6 INT GR8 K (2CR) (LF)

If, after rechecking the message, the transmitting station finds that the receiving station is correct, the transmitting station sends “C”:

(5 SPACES) (2CR) (LF)
PW6 DE BF6 C K (2CR) (LF)

b. For all plain language text message, and encrypted text messages where the group count does not exceed 50 groups: if the receiving station is considered to be incorrect, the transmitting station repeats the original group count and transmits the first character of each word or group in the text in succession.

Example:

(5 SPACES)	(2CR) (LF)
PW6 DE BF6	(2CR) (LF)
R 272113Z MAR	(2CR) (LF)
GR10	(2CR) (LF)
BT	(2CR) (LF)
UNCLAS	(2CR) (LF)
RECEIVED SHIPMENT TWENTYONE TRUCKS FROM PARIS	(2CR) (LF)
PAREN FRANCE PAREN TODAY	(2CR) (LF)
BT	(2CR) (LF)
UNCLAS	(2CR) (LF)
RECEIVED (etc..)	(2CR) (LF)
BT	(2CR) (8LF)
NNNN	(12LTRS)

PW6 then questions the group count:

(5 SPACES) (2CR) (LF)
BF6 DE PW6 INT GR11 K (2CR) (LF)

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

(5 SPACES) (2CR) (LF)
PW6 DE BF6 GR10 BT R S T T F P P F P T BT K (2CR) (LF)

c. For encrypted text messages with a group count of over 50 groups: If the receiving station is considered to be incorrect, the transmitting station repeats the original group count and transmits the identity of the first, eleventh, and every subsequent tenth group followed by the initial letter of that group (the identity of the group will be separated from the initial letter of that group by a hyphen sign).

Example:

BF6 transmits a message to PW6 containing 76 groups.
PW6 questions the group count:

(5 SPACES) (2CR) (LF)
BF6 DE PW6 INT GR75 K (2CR) (LF)

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

(5 SPACES(2CR) (LF)
PW6 DE BF6 GR76 BT 1-D 11-L 21-H 31-P 41-Q 51-M 61-W
71-F BT K (2CR) (LF)

PW6 then requests a repetition of the ten groups in which he has a miscount:

(5 SPACES) (2CR) (LF)
BF6 DE PW6 IMI 32 TO 41 K (2CR) (LF)

d. Subject to the above checking of the group count (lettering), the group count of the transmitting station is final.

CHAPTER 4

TRANSMISSION OF MESSAGES

SECTION I

GENERAL

401. MESSAGE TRANSMISSION

a. Messages shall be transmitted exactly as written. Abbreviations shall not be substituted for full words or full words for abbreviations without the approval of the originator.

b. A station receiving a message is responsible for the message until a receipt is obtained from another station or delivery is accomplished. (Messages forwarded by the broadcast services are considered received when transmitted). Instructions to take no further action in regards to a message, relieves that station of any further forwarding responsibility.

402. CORRECTIONS PRIOR TO DELIVERY

The called station(s) is responsible for making any corrections indicated in the correction line prior to delivery or refile. Instances where the time element is such that immediate delivery is warranted, without making all indicated corrections, the addressee should be advised of the correction(s).

403. PREPARATION

a. The number of characters and spaces typed on one line should not exceed 69. Sending operators should perforate or type the message in such a manner that a long word falling at the end of a line will not be hyphenated. In order to prevent hyphenating a word at the end of a line, strict attention must be paid to the “end-of-line indicators” (warning light or margin bell, depending upon the type of transmitting equipment used).

b. The examples shown herein are for illustration purposes only and do not necessarily reflect actual routing indicator, call sign or address group assignments, or the appropriate use of abbreviations in the message address. The format of the examples, however, shows the proper sequence of the message elements and the line functions to be employed. The examples are prepared as they would appear when reproduced on a page printer set on “single line spacing”.

SECTION II

TRANSMISSION OF PLAINDRESS MESSAGES

404. SINGLE ADDRESS MESSAGE

a. Example of a single address plaindress message:

(5 SPACES) (2CR) (LF)		
(Line 2)	RFHT	(2CR) (LF)
(Line 3)	DE RFG NR 114	(2CR) (LF)
(Line 5)	R 151412Z MAR	(2CR) (LF)
(Line 6)	FM CG FIFTH CORPS	(2CR) (LF)
(Line 7)	TO CG THIRD INFDIV	(2CR) (LF)
(Line 10)	WD GRNC	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	UNCLAS	(2CR) (LF)
	PLAINDRESS SINGLE ADDRESS	(2CR) (LF)
	MESSAGES WILL BE TRANSMITTED	(2CR)(LF)
	OVER TELETYPEWRITER CIRCUITS	(2CR) (LF)
	AS INDICATED IN THIS EXAMPLE	(2CR) (LF)
(Line 13)	BT	(2CR) (LF)
(Line 15)	C WA OVER TELETYPEWRITER	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

b. Explanation - The example shows a routine single address message originated by Headquarters Fifth Corps and addressed to Headquarters Third Infantry Division. the contents of each line are explained as follows:

(1) Line 2. “RFHT” is the designation of the station called who is responsible for refile or delivery to the addressee.

(2) Line 3. “DE” is the prosign meaning this transmission is from the station whose designation follows. “RFG NR 114” is the designation of the station making the transmission and the station serial number.

(3) Line 5. “R” is the precedence prosign. “151412Z MAR” is the date-time group.

(4) Line 6. “FM” is the originator’s sign. “CG FIFTH CORPS” is the designation of the originator.

(5) Line 7. “TO” is the action addressee sign. “CG THIRD INFDIV” is the designation of the action addressee.

(6) Line 10. “WD” is the accounting symbol. “GRNC” is the prosign meaning the groups of this message have not been counted.

(7) Line 11. “BT” is the separation between the heading and the text.

(8) Line 12. “PLAINDRESS etc.” is the text.

(9) Line 13. “BT” is the separation between the text and the ending.

(10) Line 15. "C WA OVER TELETYPEWRITER" corrects a portion of the text.

(11) Line 16. "NNNN" is the end of message indicator.

c. Example of a single address abbreviated plaindress message:

(5 SPACES) (2CR) (LF)		
(Lines 2 & 3)	APX DE PHS NR 120	(2CR) (LF)
(Line 5)	PO22320Z MAR	(2CR) (LF)
(Line 6)	FM CG SAC	(2CR) (LF)
(Line 7)	TO CG AFTWO	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	UNCLAS	(2CR) (LF)
	THIS IS AN ABBREVIATED	(2CR) (LF)
	PLAINDRESS MESSAGE IN	(2CR) (LF)
	WHICH THE CALL DOES NOT	(2CR) (LF)
	SERVE AS THE ADDRESS	(2CR) (LF)
(Line 13)	BT	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

d. Explanation - the example shows a PRIORITY abbreviated plaindress message originated by Headquarters Strategic Air Command. The contents of each line are explained as follows:

(1) Lines 2 & 3. "APX" is the designation of the station called. "DE" is the prosign meaning "from". "PHS NR 120" is the designation of the station making the transmission and the station serial number. (Note: In this example, lines 2 and 3 are transmitted in the same line of type. This is optional and is normal when few stations are called).

(2) Line 5. "P" is the precedence prosign. "022320Z MAR" is the date-time group.

(3) Line 6. "FM" is the originator's sign. "CG SAC" is the designation of the originator.

(4) Line 7. "TO" is the action address sign. "CG SAC" is the designation of the action addressee.

(5) Line 11. "BT" is the separation between the heading and the text.

(6) Line 12. "THIS IS etc" is the text.

(7) Line 13. "BT" is the separation between the text and the ending.

(8) Line 16. "NNNN" is the end of message indicator.

e. Example of an abbreviated plaindress message with the call serving as the address:

(5 SPACES) (2CR) (LF)		
(Lines 2 & 3)	BF6 DE 8R2	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	UNCLAS	(2CR) (LF)

	THIS IS AN ABBREVIATED	(2CR) (LF)
	PLAINDRESS MESSAGE WHERE	(2CR) (LF)
	THE CALL SERVES AS THE ADDRESS	(2CR) (LF)
(Line 13)	BT	(2CR) (LF)
(Line 14)	0735Z	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

f. Explanation - The example shows a routine abbreviated plaindress message from station 8R2 to station BF6. The contents of each line are explained as follows:

(1) Lines 2 & 3. "BF6" is the designation of the station called and the action addressee. "DE" is the prosign meaning "from". "8R2" is the designation of that station making the transmission and of the originator.

(2) Line 11. "BT" is the separation between the heading and the text.

(3) Line 12. "THIS IS etc" is the text.

(4) Line 13. "BT" is the separation between the text and the ending.

(5) Line 14. "0735Z" is a time group used in place of a date-time group in Line 5.

405. MULTIPLE ADDRESS MESSAGE

a. A multiple address is one that is destined for two or more addressees, each of whom is informed of all the addressees:
The addressees are indicated as ACTION, INFORMATION, or both.

b. Example of a multiple address plaindress message:

(5 SPACES) (2CR) (LF)		(2CR) (LF)
(Lines 2 & 3)	RFB DE RFH NR 193A	(2CR) (LF)
(Line 4)	T	(2CR) (LF)
(Line 5)	O 150903Z MAR	(2CR) (LF)
(Line 6)	FM TENTH ARMY	(2CR) (LF)
	501ST ORD DEPOT	(2CR) (LF)
	502D ORD DEPOT	(2CR) (LF)
(Line 7)	TO 909TH ORD REGT	(2CR) (LF)
(Line 8)	INFO SECOND CORPS	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	UNCLAS	(2CR) (LF)
	THIS IS A PLAINDRESS	(2CR) (LF)
	MULTIPLE ADDRESS MESSAGE	(2CR) (LF)
(Line 13)	BT	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

c. Explanation - the example shows an Immediate multiple address plaindress message originated by the Tenth Army, addressed to the 909th Ordnance Regiment, the 501st and 502d Ordnance Depots for action and the second Corps for information. A single station is responsible for refile or delivery to all addressees. The contents of each line are explained as follows:

(1) Lines 2 & 3. "RFB" is the designation of the station called who is responsible for refile or delivery to the addressees. "DE" is the prosign meaning this transmission is from the station whose designation follows:

"RFH NR 193A" is the designation of the station making the transmission and the station serial number.

(2) Line 4. "T" is the prosign which, if used as above, means station called transmit this message to all addressees.

(3) Line 5. "O" is the precedence prosign. "150903Z MAR" is the date-time group.

(4) Line 6. "FM" is the originator's sign. "TENTH ARMY" is the designation of the originator.

(5) Line 7. "TO" is the action addressee sign. "909TH ORD REGT", "501ST ORD DEPOT", 502D ORD DEPOT" are the designations of the action addressees.

(6) Line 8. "INFO" is the information addressee sign. "SECOND CORPS" is the designation of the information addressee.

(7) Line 11. "BT" is the separation between the heading and the text.

(8) Line 12. "THIS IS etc" is the text.

(9) Line 13. "BT" is the separation between the text and the ending.

(10) Line 16. "NNNN" is the end of message indicator.

SECTION III

TRANSMISSION OF CODRESS MESSAGES

406. GENERAL

a. Codress is used when address security is desired in a greater degree than is afforded by plaindress forms and other message types (Plaindress and abbreviated plaindress). In order to ensure protection in the processing of messages prepared in Codress, extreme care should be exercised in preparation of the message heading. In a Codress heading when a station called is required to effect relay and is also required to decrypt the message, its call sign must also be included in the transmission instructions. In the absence of transmission instructions all stations called are required to decrypt the message.

b. Example of Codress message:

(5 SPACES) (2CR) (LF)		
(Lines 2 & 3)	9VR DE LP2 NR GF302	(2CR) (LF)
(Line 4)	T AT3 9VR	(2CR) (LF)
(Line 5)	P 271005Z MAR	(2CR) (LF)
(Line 10)	GR63	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	SIXTY-THREE ENCRYPTED	(2CR) (LF)
	GROUPS	(2CR) (LF)
(Line 13)	BT	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

c. Explanation - The example shows a PRIORITY Codress message. The station called is to decrypt the message and to relay it to AT3. The contents of each line are explained as follows:

(1) Lines 2 & 3. “9VR” is the designation of the station called who is responsible for relay and decryption as indicated in the transmission instructions. “DE” is the prosign meaning this transmission is from the station whose designation follows. “LP2 NR GF203” is the designation of the station making the transmission and the station serial number.

(2) Line 4. “T” is the prosign which, if followed by station designations, means station called transmit this message to the stations whose designations follow. “AT3 9VR” are the designations of the stations to which the message is to be passed for decryption.

(3) Line 5. “P” is the precedence prosign. “271005Z MAR” is the date-time group.

(4) Line 10. “GR63” is the group count prosign followed by the number of groups in the text.

(5) Line 11. “BT” is the separation between the heading and the text.

(6) Line 12. “SIXTY-THREE ENCRYPTED GROUPS”. This is the textual component.

(7) Line 13. “BT” is the separation between the text and the ending.

(8) Line 16. “NNNN” is the end of message indicator.

d. Instructions for indicating DUAL precedence with CODRESS messages are given in paragraph 408.

SECTION IV

APPLICATION OF DUAL PRECEDENCE

407. GENERAL

Multiple address messages having both action and information addressees may either be assigned a single precedence, in which case it indicates the precedence for all addressees, or they may be assigned two precedences, one precedence for all action addressees and a lower precedence for all information addressees.

408. INDICATING DUAL PRECEDENCE IN MESSAGE HEADINGS

When the message origination has assigned two precedences to a message, the information will be conveyed in the message heading as follows:

a. In PLAINDRESS messages:

(1) The two precedence prosigns will be included in the preamble. The higher precedence will be placed first.

(2) The status (action or information) of each addressee will be indicated in the address component of the heading.

(3) Example:

(5 SPACES) (2CR) (LF)		
(Lines 2 & 3)	RFB RFC RFD DE RFH NR 193A	(2CR) (LF)
(Line 5)	O R 150903Z MAR 71	(2CR) (LF)
(Line 6)	FM TENTH ARMY	(2CR) (LF)
(Line 7)	TO 909TH ORD REGT	(2CR) (LF)
(Line 8)	NFO 501ST ORD DEPOT	(2CR) (LF)
	502D ORD DEPOT	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	UNCLAS	(2CR) (LF)
	THIS IS A PLAINDRESS	(2CR) (LF)
	MULTIPLE ADDRESS DUAL	(2CR) (LF)
	PRECEDENCE MESSAGE	(2CR) (LF)
(Line 13)	BT	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

b. In CODRESS messages:

(1) When a message is routed to a crypto guard which serves all the addressees, the higher precedence prosign only will be included in the preamble. The lower precedence will be included in the encrypted text in the form "… (Lower precedence) for information addressees".

(2) When encrypted messages are not routed and transmitted directly from the crypto center, each encrypted version of a CODRESS message passed by the crypto center to the communication center for transmission shall have attached a list containing only the addressees to whom that version is to be transmitted and an indication of the status (action or information) of each addressee if it is all or part of a multiple address message.

(3) When preparing CODRESS messages for transmission in the communication center:

(a) The external heading of each transmission shall contain only those call signs, routing indicators, or address groups required to route the message to the stations which serve the addressees of that particular transmission.

(b) Both precedence prosigns shall appear in format line 5 the higher precedence appearing first.

(c) If the particular transmission involves both action and information addressees, or information addressees only, addressees who are to receive the message at the lower precedence shall be indicated in format line 4 (see example below) and both precedence prosigns, the higher first. shall be shown in format line 5.

(4) Example:

(a) List of addressees received with encrypted version from the crypto center:

TO	CINCSOUTH	(RXE)
INFO	SACEUR	(RXA)
	CINCENT	(RXO)

Precedence: Priority for Action and Routine for Information Addressees.

(b) Message heading prepared by Communication Center:

(5 SPACES) (2CR) (LF)			
(Lines 2 & 3)		RXA RXE RXO DE RXH NR104A	(2CR) (LF)
(Line 4)	*	ZOT RZA RXD	(2CR) (LF)
(Line 5)		P R 100718Z MAR	(2CR) (LF)
(Line 10)		GR175	(2CR) (LF)
(Line 11)		BT	(2CR) (LF)

*Operating signal assumed to mean: "Transmit or handle this message at the lower precedence to the station(s) /address designation(s) which follow(s)".

SECTION V

TRANSMISSION OF MULTIPLE PAGE MESSAGES

409. MULTIPLE PAGE MESSAGES

Messages containing more than twenty (20) lines of heading and text will be divided into pages for transmission as follows:

a. The number of pages of message text in any transmission shall not exceed five. A page consisting of part heading and part text shall not count as a textual page.

b. The first page shall consist of not more than 20 lines and shall begin with format line 5, counting from format line 5 of the message heading and continue for a total of 20 lines.

c. All succeeding pages shall contain 20 lines of text, except the last page, which may contain less.

d. "CFN" and "C" may be used at the end of each page as necessary.

e. The second and succeeding pages shall be identified by the page number, the routing indicator or designation and the station serial number of the originating station. When the message text is transmitted in plain language, the security classification or the abbreviation UNCLAS will also be included as part of the page identification on each page. Page identification shall appear on a separate line and shall not be included in the line count.

f. The machine functions between pages will be 2CR and 4LF.

Example of paging:

PAGE 2 PQ6 NR6 UNCLAS	(2CR) (LF)
TEXT… (20 Lines)	(2CR) (4LF)
PAGE 3 PQ6 NR6 UNCLAS	(2CR) (LF)
TEXT… (Remaining lines)	(2CR) (LF)
BT	(2CR) (LF)
29/1405Z	(2CR) (8LF)
NNNN	(12LTRS)

SECTION VI

TRANSMISSION OF LONG MESSAGES

410. LONG MESSAGES

a. Messages which exceed five teletypewriter pages are considered to be long messages. Such messages shall be divided into transmission sections. A transmission section shall not exceed five teletypewriter pages.

b. Since long messages monopolize circuit time when transmitted in their entirety, it is sometimes advisable to separate them into transmission sections even though they may be below the prescribed length. They must be divided into transmission sections if they exceed the prescribed length. An exception may be made in certain instances where non-group cipher is employed.

c. Transmission sections are not to be confused with crypto parts as employed in encrypted messages.

d. Messages to be forwarded in transmission sections will be divided as follows:

(1) At a convenient point, but not beyond the maximum number of pages prescribed, separate the text at the end of a sentence or cryptopart.

(2) Unencrypted Messages - Prior to the text, or following the security classification, if any, insert the plain language: "SECTION 1 OF _____". Each additional transmission section will be preceded by an identical message heading except that it will contain a different station serial number and group count (if employed) for that particular transmission section. At the beginning of the text insert the security classification, if any, and in plain language: "SECTION _____ OF _____". Repeat the process as required. the final transmission section is identified "FINAL SECTION OF _____".

(3) Encrypted Messages - prior to the text, insert the plain language: "SECTION 1 OF _____ PART 1 OF _____". A transmission section may contain more than one cryptopart, e.g., the second transmission may read: "SECTION 2 OF ____ PART FOUR OF _____".

e. The section number inserted at the beginning of the text will differ for each transmission section. The first transmission of a message separated into two sections would appear: "SECTION 1 OF 2".

f. The following example shows the manner in which a 1600 group message may be separated into two transmission sections:

Example of a Long Message:

(5 SPACES)		(2CR) (LF)
(Lines 2 & 3)	NSS DE NFGJ NR6	(2CR) (LF)
(Line 4)	T	(2CR) (LF)
(Line 5)	O 211704Z MAR 71	(2CR) (LF)
(Line 6)	FM USS BATAAN	(2CR) (LF)
(Line 7)	TO COMNAVAIRPAC	(2CR) (LF)
	COMNAVFORJAPAN	(2CR) (LF)

	CINCPACFLT	(2CR) (LF
(Line 8)	INFO CNO	(2CR) (LF)
	COMFOURTEEN	(2CR) (LF)
(Line 10)	GR750	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	SECTION 1 OF 2 ….	(2CR) (LF)
	TWENTY LINES OF HEADING	(2CR) (LF)
	AND TEXT	(2CR)(4LF)
	PAGE 2 NFGJ NR6	(2CR) (LF)
	TWENTY LINES OF TEXT	(2CR) (4LF)

Note: Succeeding pages of this transmission section would appear as shown above. Final page is shown below.

(Line 12)	PAGE 5 NFGJ NR6	(2CR) (LF)
	FINAL LINES OF TEXT	(2CR) (LF)
	SECTION 1	(2CR) (LF)
(Line 13)	BT	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

The second and final transmission section would appear:

(5 SPACES)		(2CR) (LF)
(Lines 2 & 3)	NSS DE NFGJ NR7	(2CR) (LF)
(Line 4)	T	(2CR) (LF)
(Line 5)	O 211704Z MAR 71	(2CR) (LF)
(Line 6)	FM USS BATAAN	(2CR) (LF)
(Line 7)	TO COMNAVAIRPAC	(2CR) (LF)
	COMNAVFORJAPAN	(2CR) (LF)
	CINCPACFLT	(2CR) (LF)
(Line 8)	INFO CNO	(2CR) (LF)
	COMFOURTEEN	(2CR) (LF)
(Line 10)	GR850	(2CR) (LF)
(Line 11)	BT	(2CR) (LF)
(Line 12)	UNCLAS FINAL SECTION OF 2…	(2CR) (LF)
	TWENTY LINES OF HEADING	(2CR) (LF)
	AND TEXT	(2CR) (4LF)
(Line 12)	PAGE 2 NFGJ NR7 UNCLAS	(2CR) (4LF)
	TWENTY LINES OF TEXT	(2CR) (4LF)

Note: Succeeding pages of this transmission section would appear as shown above.

Final page is shown below.

(Line 12)	PAGE 6 NFGJ NR7 UNCLAS	(2CR) (LF)
	FINAL LINES OF TEXT	(2CR) (LF)
	SECTION 2	(2CR) (LF)
(Line 13)	BT	(2CR) (8LF)
(Line 16)	NNNN	(12LTRS)

g. The two transmission sections are prepared in the same manner with these variations:

(1) A separate station serial number is used.

(2) The group count, when used, may differ.

(3) The section number at the beginning of the text will differ.

CHAPTER 5

MANUAL SWITCHING SYSTEMS

501. GENERAL

The difference in switchboard and teletypewriter equipment used by the various nations precludes a combined manual switching precedence.

502. PROCEDURES

The manual switching procedures used by each nation are contained in the National Annex to this publication.

503. COMBINED WORKING

For combined working, local arrangements should be made for all stations to use the calling and operating procedure prescribed by the nation to whose switchboard they are connected. As far as possible, these arrangements should provide for establishing truck connections through two or more switchboards. Where this is not practicable, messages should be "tabled out" at the switchboard at which further connection is found to be impracticable, i.e., passed to a local reperforator or teletypewriter for onward transmission in the procedure applicable to that part of the network.

504. SPECIAL ABBREVIATIONS

The following special abbreviations are authorized for use to and by manual teletypewriter switchboards:

BKD "Booked" - Your call has been booked. Used by switchboards after "BOOK" has been requested.

BOOK "Book" - It is requested that this call be booked.
Followed by the precedence of the message awaiting transmission and used to book call when the called station is engaged.

ENGD "Engaged" - The station called is engaged. used by switchboards to indicate to the calling station that the connection he requires cannot be made because the called station is engaged. The calling station may then transmit "BOOK" followed by the precedence of the message he wishes to transmit.

OOO "Out of Order" - The circuit(s) to the station called is out of order. Used by switchboards to indicate to the calling station that the connection he requires cannot be made because the circuit(s) is out of order.

505. TABLING OUT

The word "LOCAL" following the call sign of a teletypewriter switchboard indicates the tabling out position.

Example A:

CRXA requests connection to the tabling out position at switchboard MHA:

MHA LOCAL DE CRXA K

Example B:

MHA tells CRXA he is connected to the tabling out position:

DE MHA LOCAL K

CHAPTER 6

RULES FOR REFILING AND READDRESSING MESSAGES

SECTION I

REFILING MESSAGES

601. MESSAGES IN BASIC MESSAGE FORMAT

a. Messages which have been received in the basic message formal employing a procedure other than manual teletypewriter procedure (e.g., tape relay, radiotelegraph, etc.) will require reprocessing before they are forwarded over a circuit which uses procedures outlined in this publication. Such reprocessing is accomplished as outlined below:

(1) Delete the procedure component in the heading and insert a new component, including such transmission instructions as may be required, as outlined in this publication.

(2) Normally, the routing indicators and operating signals when appearing in format lines 7 and 8 will be deleted. This will always be accomplished prior to transmission of the message on a naval radioteletypewriter broadcast, but in order to expedite transmission on other circuits, may be retained in cases where the incoming tape is utilized for the relay. In such cases all station called by the transmission ignore the routing indicators or operating signals appearing in these lines.

(3) Confirmatory information, when appearing, will be compared with the text and then deleted prior to retransmission on ship-ship, ship-shore, or naval radioteletypewriter broadcast circuits. When a difference is noted between the confirmation line and the comparable portion in the text, the message will be relayed to the addressee with the operating signal “ZDL2”, meaning, “Confirmation differs from text”. The operating signal thus employed will appear as the first portion of the final instructions (Line 15) and will be followed by the portion of the confirmation line which is at variance with the text. This operating signal will remain a portion of the final instructions to final destination. When refiling messages received not employing confirmation, such confirmation will be added on those circuits which require the confirmation line.

(4) Corrections, when appearing, will be made as appropriate within the text, and then deleted, except when the incoming tape is utilized for onward transmission.

(5) Time of filing, when appearing, will be deleted prior to transmission over ship-ship, ship-shore, or naval radioteletypewriter broadcast circuits. The original time of filing will be carried on other circuits when required. When refiling messages received over means not employing time of filing, the Time of Receipt of the message will be used as the Time of Filing over circuits which require Filing time (Line 16).

(6) The appropriate procedure lines, as prescribed (Paragraph 112) will be inserted in the heading and ending components of the message prior to retransmission.

(7) Visual and voice call signs should not normally be used in the address portion of messages which are to be passed over teletypewriter circuits. If a message is received from a visual or radiotelephone circuit employing visual or radiotelephone call signs, these call signs shall be converted (if the appropriate call books are available) to the appropriate call signs and/or address groups authorized for use on manual teletypewriter circuits prior to onward transmission.

b. In order to eliminate confusion resulting from attempting to transmit a refiled message containing incomplete groups, the operating signal ZEH shall be inserted in Format Line 4 and the slant/oblique stroke will be used to indicate the missing character(s). Care should be exercised, however, to ensure that confusion does not result from use of the slant/oblique stroke in this manner; it will appear as follows:

When the location of the missing character(s) cannot be readily determined, the slant/oblique stroke will be transmitted at the beginning of the questionable group.

c. In order to reduce reprocessing, messages in tape relay procedure may be handled, without reprocessing, over a manual teletypewriter circuit if such circuit serves as a link in a tape relay network.

SECTION II

READDRESSING MESSAGES

602. ADDITIONAL AUTHORITIES

Circumstances may arise in which it becomes necessary to readdress a message to additional authorities not originally included in the address.

603. RESPONSIBILITIES OF READDRESSING AUTHORITY

The readdressing authority must originate a message which will accomplish delivery of the previously transmitted message to the desired additional authorities. Thereafter, the readdressed message is handled in the same manner as other messages.

a. The readdressing authority will initiate a request to the appropriate authority for readdressal, identifying the message he wishes readdressed by indicating the originator, date-time group and internal reference number (if any). He will also specify the additional addressees to whom the message is to be delivered, and will indicate whether it is for their action or information.

b. If the communication center no longer holds a copy of the message in question, the readdressing authority will either furnish a copy of the message to be readdressed or will accomplish the readdressal by originating a new message.

604. RULES FOR READDRESSING MESSAGES

The following general rules for readdressing messages apply:

a. If the message being readdressed is not in the files of the communication center(s) serving the readdressing authority, a copy of the message concerned must be furnished to that communication center by the readdressing authority.

b. If the message being readdressed is held in the files of the communication center(s) serving the additional addressees, the readdressal may be accomplished by a service message containing appropriate operating signals.

c. If the message being readdressing is not held in the files of the communication center(s) serving the additional addressee(s) it will be processed as follows:

(1) A supplementary heading is inserted in front of the original preamble. The supplementary heading will include all procedure lines, one (1) through ten (10) as required.

(2) All parts of the original message heading preceding the preamble are omitted. It will be ensured that under no circumstances is the original date-time group either omitted or altered. If the message being readdressed is of a previous month, the abbreviation of the month of origin may be inserted following the original date-time group.

(3) The precedence indicated by the readdressing authority will be used in the supplementary heading.

(4) A new date-time group will be assigned by the readdressing authority and will appear in format line 5 of the supplementary heading.

(5) The designation of the readdressing authority (new originator) will appear in format line 6 of the supplementary heading.

(6) The addressee(s) to whom the message is readdressed will appear in format lines 7 and/or 8 as appropriate.

(7) The accounting symbol of the readdressing authority will appear in the supplementary heading in procedure line 10.

d. A message cannot be readdressed if any alteration is made to its original preamble, address, prefix or text, except when a readdressed message is to be forwarded to the new addressees as a book message, all addressees except the readdressing authority may be deleted from the original address component.

e. Encrypted messages will not be readdressed without prior reference to the crypto center. Nations, Services, or Allied commanders may prohibit the practice by issuing instructions to their cryptocenters specifying that such messages must be re-encrypted.

f. If the readdressing authority determines that certain of the original addressees or the originator should be informed of the additional addressees, notification may be accomplished as follows:

(1) In the case of plaindress, through use of the operating signal ZFH (and appropriate numeral) or by use of a separate message, according to National, Service, or Allied command procedure.

(2) In the case of codress, the originator, and/or other addressees of the message may be informed of the readdressal by a separate codress message or by being included as information addressees in the message which accomplished the readdressal.

g. Examples of readdressed messages:

(1) Message as received by AQD from ALZ:

AQD DE ALZ NR27
R 012345Z MAR
FM ALZ
TO AQD
GR71
BT

(2) Above message readdressed in plaindress format by AQD to AYA for action and AZE for information:

AYA AZE DE AQD NR16
R 020100Z MAR
FM AQD
TO AYA
INFOR ZAE
R 012345Z MAR

FM ALZ
TO AQD
GR71
BT

(3) Notification by AQD to ALZ message number 237 was readdressed:

ALZ DE AQD NR17
R 010101Z MAR
FM AQD
TO ALZ
GRNC
BT
ALZ NR17 DTG 012345Z MAR ZFHI AYA ZFH2 AZE
BT
NNNN

(4) Messages in (1) above received in codress format:

AQD DE ALZ NR27
R 012345Z MAR
GR71
BT

(5) Above message as readdressed in plaindress format by AQD to AYA for action and AZE for information:

AYA AZE DE AQD NR16
R 020100Z MAR
FM AQD
TO AYA
INFO AZE
R 012345Z MAR
GR71
BT

(6) Message in (4) above readdressed by using operating signal ZFH:

AYQ AZE DE AQD NR16
R 020100Z MAR ZFHI AYA ZFH2 AZE
GR71
BT

h. Where National, Service, or Allied Command instructions prohibit use either of the methods in 604.g. (5) and (6), the readdressal may be effected by use of a separate classified message as follows:

(1) Message in 604.g. (4) readdressed in codress format by AQD to AYA for action and AZE for information:

AYE AZE DE AQD NR16
R 020100Z MAR
R 012345Z MAR
GR17

BT

Followed by a separate message:

AYA AZE DE AQD NR17
R 020109Z MAR
GR23
BT

Encrypted text which when decrypted reads:

SECRET ALZ NR27 DTG 012345Z MAR READDRESSED
TO AYA FOR ACTION AND TO AZE FOR INFORMATION
BT
NNNN

(2) Notification in codress format by AQD to ALZ that ALZ message Number 27 was readdressed:

ALZ DE AQD NR18
R020102Z MAR
GR9
BT
Text decrypted: ALZ NR27 DTG 012345Z MAR ZFH1
ZFH2 AZE
BT
NNNN

SECTION I

RADIOTELETYPE BROADCAST

PART 1

GENERAL

1. CALL TAPES

a. It is necessary that all stations conducting scheduled transmissions commence their transmission on time. Each station, prior to commencing a schedule, shall run a preliminary call tape consisting of the designation of the called station(s) (made 3 times), the prosign DE (made once), the designation of the calling station (made 3 times), a letter/figure designation (broadcast designation) when used (made 3 times), followed by one line of RY's, and one line of SG's. This call tape should be run for ten minutes prior to each scheduled time.

Example:

NAWS NAWS NAWS DE PBC PBC PBC NLLA NLLA NLLA (2CR) (LF)
RYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRY (2CR) (LF)
SGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSG (2CR) (LF)

b. Stations operating on a continuous basis, or operating during a definitely assigned period, shall run a standby or call tape during the time no traffic is on hand for transmission. This tape shall be the same as prescribed above.

2. INTERRUPTION OF SERVICES

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

a. If a station scheduled for a broadcast method transmission at a definite time is unable to transmit as scheduled, and no notice has been delivered to those concerned of such inability, stations which are required to copy the scheduled transmissions shall continue to listen for one-half hour after the scheduled time. During this time, the station will listen and copy on alternate frequencies, if any, or to an alternate station, if any, until reception is resumed, or until the next regularly scheduled transmission. In the absence of alternate frequencies, or alternate transmitting stations, the station required to copy may, after guarding the frequency one-half hour, secure until the next regularly scheduled broadcast.

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

Example:

Transmission of 543 is interrupted after the 50th group in order to transmit a message of higher precedence.

SBQNP LATHY BGGXT DQXTXO (2CR) (LF)
(FIGS JJJJSSSSS LTRS) (2CR) (8LF)

NAWS DE PBC (2CR) (LF)
ZUJ ZUJ O O AS AS (2CR) (8LF)
ZIA N11A 546 (2CR) (LF)

(and continues as outlined in paragraph 307).

When ready to resume transmission of the message which has been interrupted.

(2CR) (8LF) (2CR) (LF)
N11 543 AA 50

and continues with the remainder of 543).

ZUJ operating signal assumed to mean "Standby".

AIA operating signal assumed to mean "This message is being passed out of proper sequence of station serial number".

c. Whenever transmission is interrupted, it is important that the transmission be resumed at a point sufficiently far back to preclude any possibility of loss of reception by units copying the schedule.

3. USE OF OPERATING SIGNALS AND PROSIGNS

a. When no traffic is on hand for transmission, or at the completion of the transmission of all traffic, the operating signal QRU shall be sent immediately preceding the prosign AR.

Example A:

No traffic on hand.

NAWS NAWS NASW DE PBC PBC PBC (2CR) (LF)
N11A 672 QRU AR (2CR) (LF)

Example B:

Completion of broadcast.

NAWS NAWS NAWS DE PBC PBC PBC QRU AR (2CR) (LF)

b. When transmitting messages, the prosign AR will be used at the end of each message to indicate completion of transmission of that message. All scheduled transmissions shall end with the prosign AR.

4. TRANSMITTING MULTIPLE PAGE OR LONG MESSAGES

Multiple page and long messages shall be transmitted in accordance with paragraphs 409 and 410, as appropriate.

5. INDICATING PRECEDENCE

a. If messages of FLASH precedence are to be transmitted, they shall be preceded by:

FLASH FLASH FLASH (FIGS JJJJJSSSSS LTRS) (2CR) (8LF)

b. FLASH messages shall be transmitted twice during the initial broadcast, and should be repeated 30 minutes later.

PART II

PROCEDURE FOR CONDUCTING BROADCAST

6. GENERAL

After running the call tape for approximately ten minutes, precisely at the prescribed time, the transmission begins:

(5 SPACES) (2CR) (LF)	
NAWS NAWS NAWS DE PBC PBC PBC	(2CR) (LF)
N11A 432	(2CR) (LF)
P 091517Z MAR	(2CR) (LF)
FM YJZD	(2CR) (LF)
TO HDZR	(2CR) (LF)
INFO EWBK	(2CR) (LF)
GR15	(2CR) (LF)
BT	(2CR) (LF)
UNCLAS	(2CR) (LF)
THIS IS AN EXAMPLE OF A MESSAGE PREPARED	(2CR) (LF)
FOR RADIOTELETYPEWRITER TRANSMISSION BY	(2CR) (LF)
THE ROADCAST METHOD	(2CR) (LF)
BT	(2CR) (LF)
C (when necessary)	(2CR) (8LF)
NNNN	(12 LTRS)
(5 SPACES) (2CR) (8LF)	
N11A 433	(2CR) (LF)
DAMP	(2CR) (LF)
R 091434Z MAR	(2CR) (LF)
GR75	(2CR) (LF)
BT	(2CR) (LF)
(TEXT - CODRESS FROM)	(2CR) (LF)
BT	(2CR) (LF)
C (when necessary)	(2CR) (8LF)
NNNN	(12LTRS)
(5 SPACES)	(2CR) (LF)
NAWS NAWS NAWS DE PBC PBC PBC QRU AR	(12LTRS)

7. INTERRUPTION OF CALL TAPE

When, during the period of continuous operation, or on a definitely assigned period basis, the call tape is employed as outlined in paragraph 1.a., a call shall be employed prior to resuming transmission of message.

Example:

The call tape shall be interrupted, and the following transmission made:

(2CR) (LF)
NAWS NAWS NAWS DE PBC PBC PBC ZUJ (2CR) (LF)

(Transmission of the message then proceeds as outlined in paragraph 6., starting with the station serial number).

SECTION II

MANUAL SWITCHING SYSTEMS

PART 1

MANUAL SWITCHING CENTRALS

8. GENERAL

a. Manual switching systems are engineered in such a manner that each station connected to a switching central switchboard can communicate with other stations connected to the same switchboard by manual cross connection or patching.

b. Several switching centrals may be connected together through trunk or tie lines and a station connected to one switching central can communicate with other stations connected to several switching centrals by appropriate patching procedure.

c. Establishing communications, making and terminating connections and "tabling out" (switching central accepting messages for future delivery to other stations temporarily engaged or inoperative) require a different procedure than that required for other methods of manual teletypewriter operation.

d. The procedure for handling messages through switching centrals is the same as in other methods of manual teletypewriter operation except for the requirements contained in b. and c., which are explained in this section.

PART II

ACTION BY TERMINAL STATIONS

9. PLACING CALLS

When a station desires to transmit traffic to another station(s) through a teletypewriter switchboard (Switching Central), the following applies:

a. Station operator calls the switchboard operator by depressing the break switch for two seconds.

b. When the answer is received from the switchboard operator, the originating station transmits a preliminary call indicating the station with whom communication is desired. This call consists of the identification of the called station, the prosign DE, the identification of the station initiating the call, the precedence prosign and the prosign K. If the precedence is FLASH, 5 bells will be sounded after the prosign K.

c. After the switchboard operator has completed the connection between the calling and called station, repeated the preliminary call and an answer has been received by the station initiating the call, transmission of traffic will begin.

10. ANSWERING CALLS

a. A station called in a preliminary call answers by transmission of the prosign DE, station identification and the prosign K.

b. When multiple calls are employed, stations called will answer in the order called.

11. TRANSMISSION OF TRAFFIC

a. When a connection is complete, traffic is transmitted in the same manner as if there were no switchboards involved.

b. If necessary to interrupt a transmission, the space bar will be used in lieu of the break switch. Use of the break switch (signal) recalls the switchboard operator.

12. RECALLING SWITCHBOARD OPERATOR

a. During a connection, the switchboard operator may be recalled by depressing the break switch for two seconds.

b. When an answer is received from the switchboard operator, the recalling station should immediately transmit the reason for the recall.

13. DISCONNECTION

a. When ready to terminate the connection, the station which initiated the call recalls the switchboard operator by transmitting a two second break.

b. To terminate the connection, the calling station will transmit the prosign DE, station identification, and the prosign AR.

c. When a station desires to retain a connection for transmission of traffic to the station originating the call, this will be indicated by the use of the prosign B in the receipt. In such instances, it is the responsibility of the station originating the initial call to instruct the switching centrals to retain the desired connection when authorizing disconnection of other stations contained in the original call.

PART III

ACTION BY SWITCHING CENTRAL

14. GENERAL CONNECTING PROCEDURE

a. The switchboard operator answers a call appearing on the switchboard by connecting a teletypewriter to the signalling line, transmitting the prosign DE, the switchboard station Identification and the prosign K.

b. The switchboard operator, irrespective of whether the call is an initial call or recall, acts on the instructions received in response to his answer to the switchboard signal by making the necessary connections. The calling instructions, as repeated by the switching centrals, vary in accordance with the type of connections required, i.e., single local call, multiple local call, single call involving trunk circuit(s), and combinations thereof.

c. After making the necessary connections and repeating complete calling instructions, the switchboard operator notes the responses from all desired stations and disconnects his teletypewriter when the calling operator begins transmission of his messages.

15. RECALL AND DISCONNECTION

All switchboard signals are answered in the same manner whether the signal indicates a call being placed, a recall, or an accidental break signal.

a. If the switchboard operator finds traffic in progress when he connects his teletypewriter in response to a signal, he checks the traffic to determine if his service is desired and, if not desire, disconnects his teletypewriter without interrupting the transmission.

b. If traffic is not in progress, the switchboard operator will answer by transmitting the prosign DE, station identification and the prosign K. if more than one switchboard is involved, each will answer in turn. The switchboard operator will terminate the connection on receipt of the prosign AR from the calling station.

16. MAKING LOCAL CONNECTION

The switchboard operator connects all desired local stations, repeats the complete call, receives answers from all desired stations, and then disconnects his teletypewriter when traffic starts.

17. MAKING TRUNK CONNECTIONS BETWEEN TWO STATIONS

The switchboard operator connects the necessary trunk to the local station. When the distant switchboard answers, the call, or that portion appropriate to the connection, is repeated. The distant switchboard operator connects the called station to the calling station and repeats the call, or that portion appropriate to the connection. When the answer from the desired station is received, the switchboard operator monitor teletypewriter from the connection.

18. MAKING CONNECTIONS INVOLVING BOTH TRUKS AND LOCAL STATION

The most complicated trunk portion of a connection will normally be made first, followed by the connection of the local station desired. Only that portion of a complete call necessary for

the station or stations to be connected over a trunk will be transmitted upon receipt of the distant switching central answer. If other trunk connections are required after completion of a portion of a connection, the switchboard operator informs the station already connected to wait by transmitting the prosign DE, station identification and the prosign AS. After completion of all connections, including any local stations, the switchboard operator repeats the complete call and disconnects his teletypewriter when traffic starts.

19. CONNECTION TO CALLED STATION NOT POSSIBLE

a. When one or more of the desired stations or a necessary trunk is busy, the switchboard operator informs the station placing the call that the call cannot be completed. The switchboard operator, however, may interrupt transmission in progress for higher priority traffic in accordance with the precedence policy or accept the message for subsequent retransmission.

b. If the message in question is not of sufficiently high precedence to warrant interruption of the message being transmitted, the switchboard operator will transmit the prosign DE, the switching central identification, identification of the station which cannot be reached, the abbreviation ENGD and the prosign K.

PART IV

SWITCHED NETWORK EXAMPLES

20. EXAMPLES OF COMPLETE TRANSMISSION IN A SWITCHED NETWORK

The following examples of switched connections show the step-by-step action of the station and switchboard operators and the corresponding line of typed copy as it would appear at the station placing the call. Action and line of copy are numbered to correspond. If an action causes no corresponding typed lines, it is not numbered but is listed in proper sequence. All traffic exchange takes place over the network shown in Figure A-1.

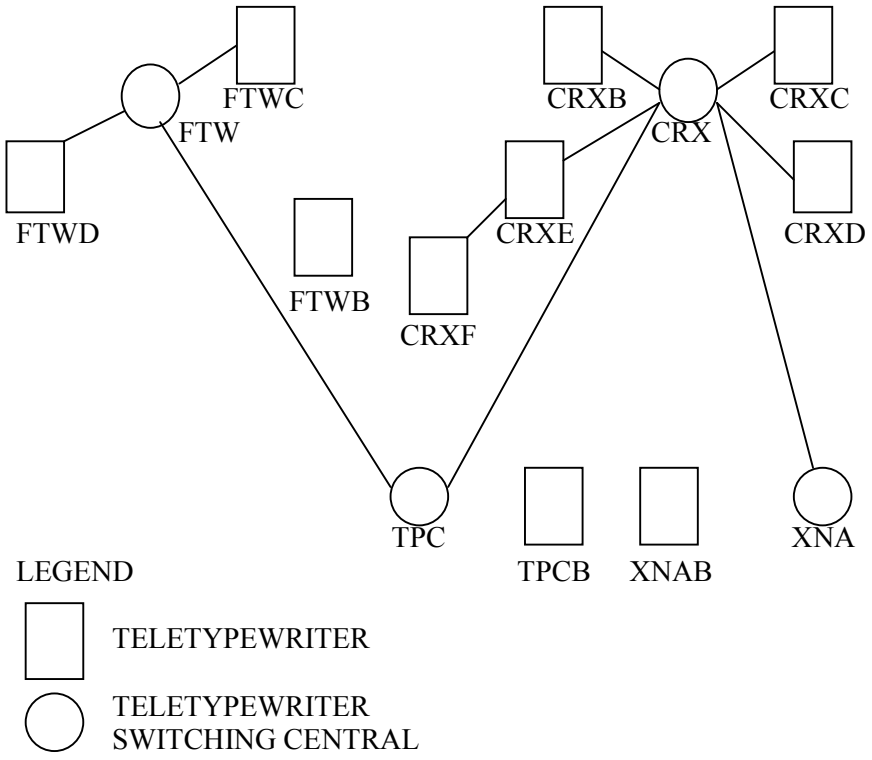

FIGURE A-1

a. Connection between two local stations. Station CRXB transmits priority message to CRXD.

	Action of Station and Switchboard Operators		Line of typed Copy
	CRXB transmits two-second breaks signal to light lamp at CRX.		
1.	CRX answers lamp signal.	1.	DE CRX K
2.	CRXB transmits calling instructions (preliminary call).	2.	CRXD DE CRXB P K
	CRX patches CRXD to CRXB		
3.	CRX repeats calling instructions.	3.	CRXD DE CRXB P K
4.	CRXD answers	4.	DE CRXD K
5.	CRXB transmits “Tear Here” abbreviation.	5.	TR
	CRX, noting start of traffic, disconnects monitor.		
6.-7.	CRXB transmits two line feeds.	6.	
		7.	
8.-22.	CRXB starts message transmission.	8.	CRXD
		9.	DE CRXB 2
		10.	Transmission instructions as required
		11.	P 031445Z
		12.	FM CRXB

Action of Station and Switchboard Operators		Line of typed Copy
	13.	TD CRXD
	14.	GRNC
	15.	BT
	16.	TEXT OF MESSAGE
	17.	BT
	18.	CFN (confirmation as required)
	19.	C (correction as required)
	20.	Time group, if used and one additional Line Feed or
	21.	TWO Line Feeds
	22.	K
23. CRXD receipts for message.	23.	DE CRXD R *2 AR
24.-31. CRXB transmits 8 line feed functions.	24.-31.	8 Line Feeds
CRXB transmits two-second break signal to light lamp at CRX		
32. CRX answers lamp signal.	32.	DE CRX K

* When station serial numbers are not employed, the date-time group will appear.

Action of Station and Switchboard Operators		Line of typed Copy
33.	CRXB transmits clearing signal. . . . . 33.	DE CRXB AR
	CRX disconnects patch cord CRXB and CRXD shut off machines.	

b. Connection between four local stations. Station CRXB transmits a message to stations CRXC, CRXD, and CRXE. Note that CRXE is a party line.

Action of Station and Switchboard Operators		Line of Typed Copy
	CRXB transmits a two-second break to light lamp at CRX	
1.	CRX answers. . . . . 1.	DE CRX K
2.	CRXB transmits calling instructions (preliminary call). . . . . 2.	CRXC CRXD CRXE DE CRXB R K
	CRX patches CRXC to CRXB CRXC to CRXC and CRXE to CRXD	
3.	CRX repeats calling instructions. . . . . 3.	CRXC CRXD CRXE DE CRXB R K
4.-6.	CRXC, CRXD and CRXE answers in sequence called. . . . . 4.	DE CRXC K
	5.	DE CRXD K
	6.	DE CRXE K
7.	CRXB transmits “Tear Here” abbreviation TR. . . . . 7.	TR
	CRX, noting the start of traffic, disconnects monitor	

Action of Station and Switchboard Operators		Line of typed Copy
8.-9.	CRXB transmits two line feeds. . . . . 8.	
	9.	
10.-26.	CRXB transmits message. . . . . 10.	CRXC CRXD CRXE
	11.	DE CRXB 1-5-3
	12.	Transmission instructions as required
	13.	
	14.	FM CRXB
	15.	TO CRXC
	16.	CRXD
	17.	INFO CRXE
	18.	CR14
	19.	BT
	20.	TEXT OF MESSAGE
	21.	BT
	22.	CFN (confirmation as required)
	23.	C (corrections as required)
	24.	Time group, if used, and one additional line feed, or
	25.	Two line feeds
	26.	K

	Action of Station and Switchboard Operators		Line of typed Copy
27.-29.	CRXC, CRXD, CRXE receipts in order for message.	27.	DE CRXC R *1 AR
		28.	DE CRXD R *3 AR
		29.	DE CRXE R *3 AR
30.-37.	CRXB transmits 8 line feeds.	30.-37.	8 line feeds
	CRXB transmits two-second break signal to light lamp at CRX		
38.	CRX answers lamp signal. . . .		DE CRX K
39.	CRXB transmits clearing signal.	38.	DE CRXB AR
	CRX disconnects all patch cords. All stations shut of machines.		

c. Connection between two stations connected over a trunk. Station CRXB transmits an urgent message to station XNAB.

	Action of Station and Switchboard Operators		Line of Typed Copy
1.	CRX answers lamp signal.	1.	DE CRX K
2.	CRXB transmits calling instructions (preliminary call).	2.	XNAB DE CRXB O K

* When station serial numbers are not employed, the date-time group will appear.

Action of Station and Switchboard Operators		Line of typed Copy
3.	XNA answers lamp signal . . . . . 3.	DE XNA K
4.	CRX repeats calling instructions . . . . . 4.	XNAB DE CRXB 0 K
	XNA patches XNAB to trunk from CRXB	
5.	XNA repeats calling instructions. . . . . 5.	XNAB DE CRXB 0 K
6.	XNAB answers calling instructions. . . . . 6.	DE XNAB K
7.	CRXB transits “Tear Here” abbreviation TR . . . . . 7.	TR
	CRX and XNA noting the starting of traffic, disconnect monitors.	
8.-9.	CRXB transmits two line feeds as separative function. . . . . 8.	
		9.
10.-24.	CRXB transmits message.	10. XNAB
		11. DE CEXB 9
		12. Transmission instructions as required
		13. 0 031709Z
		14. FM CRXB
		15. TO XNAB
		16. GR5

Action of Station and Switchboard Operators		Line of typed Copy
	17.	BT
	18.	TEXT OF MESSAGE
	19.	BT
	20.	CFN (confirmation as required)
	21.	C (corrections as required)
	22.	Time group, if any, and one additional line feed, or
	23.	Two Line Feeds
	24.	K
25. XNAB receipts for the message.	25.	DE XNAB R *9 AR
26.-33. CRXB transmits 8 line feeds.	26.-33.	8 Line Feeds
34.-35. CRX and XNA answer lamp signal.	34.	DE CRX K
		DE XNA K
36. CRXB transmits clearing signal.	35.	DE CRXB AR
CRX and XNA disconnect patch cords		
CRXB and XNAB shut off their machines.		
CRXB and XNAB shut off their machines.		

* When station serial numbers are not employed, the date-time group will appear.

d. Connections between two stations connected over two trunks. Station CRXB transmits a message to station FTWB.

	Action of Station and Switchboard Operators		Line of typed Copy
	CRXB transmit s two-second break signal to light lamp at CRX		
1.	CRX answers lamp signal.	1.	DE CRX K
2.	CRXB transmits calling instructions.	2.	FTWB DE CRXB R K
	CRX patches TPC to CRXB		
3.	TPC answers lamp signal.	3.	DE TPC K
4.	CRX repeats calling instructions to FTW.	4.	FTWB DE CRXB R K
	TPC patches a trunk circuit from FTW to trunk circuit from CRX		
5.	FTW answers lamp signal.	5.	DE FTW K
6.	TPC repeats calling instructions to FTW.	6.	FTWB DE CRXB R K
	TPC having finished his portion of the connection, disconnects monitor machine.		
	FTW patches FTWB to trunk circuits from TPC		
7.	FTW repeats calling instructions to FTWB.	7.	FTWB DE CRXB R K
8.	FTWB answers.	8.	DE FTWB K

Action of Station and Switchboard Operators		Line of Typed Copy
9.	CRXB transmits “Tear Here” abbreviation TR. . . . . 9.	TR
	CRX and FTW disconnect monitor machines	
10.-11.	CRXB transmits two extra line feed functions. . . . . 10.	
		11.
12.-26.	CRXB transmits message. . . . . 12.	FTWB
		13. DE CRXB 13
		14. Transmission instructions as required
		15. R 031833Z
		16. FM CRXB
		17. TD FTWB
		18. GR11
		19. BT
		20. TEXT OF MESSAGE
		21. BT
		22. CFN (confirmation as required)
		23. C (corrections as required)

Action of Station and Switchboard Operators		Line of typed Copy
	24.	Time group, if any, and one additional line feed, or
	25.	Two Line Feeds
	26.	K
27. FTWB receipts for message.	27.	DE FTWB R *13 AR
28.-35. CRXB transmits 8 extra line feeds.	28.-35.	8 Line Feeds
CRXB transmits two-second break signal to light lamp at CRX, TPC and FT.		
36.-38. CRX, TPC and FTW answer lamp signals.	36.	DE CRX K
	37.	DE TPC K
	38.	DE FTW K
39. CRXB transmits clearing signal.	39.	DE CRXB AR
CRX, TPC and FTW disconnect patch cords		
CRXB and FTWB shut off their machines		

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e. Connection between three stations over different trunks. Station TPCB transmits a message to stations FTWB and XNAB.

Action of Station and Switchboard Operators		Line of typed Copy
	TPCB transmits two-second break signal to light lamp at TPC	
1.	TPC answers lamp signal.	1. DE TPC K
2.	TPCB transmits calling instructions.	2. FTWB XNAB DE TPCB R K
	TPC patches truck from CRX to TPCB	
3.	CRX answers lamp signal	3. DE CRX K
4.	TPC repeats CRX portion of calling instructions.	4. XNAB DE TPCB R K
	CRX patches truck from CRX to TPCB	
5.	XNA answers lamp signal.	5. DE XNA K
6.	CRX repeats calling instructions for XNAB.	6. XNAB DE TPCB R K
	XNA patches XNAB to trunk from CRX	
7.	XNA repeats calling instructions for XNAB.	7. XNAB DE TPCB R K
	CRX disconnects monitor his machine	
8.	XNAB answers.	8. DE TPC AS

	Action of Station and Switchboard Operators		Line of typed Copy
9.	TPC tells XNAB to wait.	9.	DE TPC AS
	XNA disconnects his monitor machine		
	TPC patches trunk from FTW to trunk from CRX		
10.	FTW answers lamp signal.	10.	DE FTW K
11.	TPC repeats FTW portion of calling instructions.	11.	FTWB DE TPCB R K
	FTW patches FTWB to trunk from TPC		
12.	FTW repeats calling instructions from FTWB.	12.	FTWB DE TPCB R K
13.	FTWB answers.	13.	DE FTWB K
14.	TPC repeats complete calling instructions.	14.	FTWB XNAB DE TPCB R K
	FTW disconnects his monitor machine		
15.-16.	FTWB and XNAB answer.	15.	DE FTWB K
		16.	DE XNAB K
17.	TPCB transmits “Tear Here” abbreviation TR.	17.	TR
	TPC disconnects monitor machine		
18.-19.	TPCB transmits two extra line feeds.	18.	
		19.	

Action of Station and Switchboard Operators			Line of typed Copy
20.-33.	TPCB transmits message.	20.	FTWB XNAB
		21.	DE TPCB 4-2
		22.	Transmission instructions as required
		23.	R 031912
		24.	FM TPCB
		25.	TO XNAB
		26.	INFO FTWB
		27.	GR15
		28.	BT
		29.	TEST OF MESSAGE
		30.	BT
		31.	Time group, if any, and one additional line feed, or
		32.	Two Line Feeds
		33.	K
34.-35.	FTWB and XNAB receipt for message.	34.	DE FTWB R *4 AR
36.-43.	TPCB transmits 8 extra line feeds.	36.-43.	8 Line Feeds
	TPCB transmits two-second signal to light lamps		

* When station serial numbers are not employed, the date-time group will appear.

	Action of Station and Switchboard Operators		Line of typed Copy
44.-47.	TPC, CRX, XNA and FTW answer lamp signals.	44.	DE TPC K
		45.	DE CRX K
		46.	DE XNA K
		47.	DE FTW K
48.	TPCB transmit prosign AR as a clearing signal.	48.	DE TPCB AR
	TPC, CRX XNA and FTW disconnect patch cords		
	TPCB, FTWB and XNAB shut off machines		

f. Connection between three local stations and a distant station over a trunk. Station CRXB transmits a message to stations CRXC, CRXD and TPCB.

	CRXB transmits a two-second break signal to light lamp at CRX		
1.	CRX answers lamp signal.	1.	DE CRX X
2.	CRXB transmits calling instructions.	2.	CRXC CRXD TPCB DE CRXB R K
	CRX patches trunk from TPC to CRXB		
3.	TPC answers lamp signal.	3.	DE TPC K
4.	CRX repeats portion of calling instructions to TPC.	4.	TPCB DE CRXB R K
	TPC patches TPCB to trunk from CRX		

	Action of Station and Switchboard Operators		Line of typed Copy
5.	TPC repeats portion of calling instructions.	5.	TPCB DE CRXB R K
6.	TPCB anwsers.	6.	DE TPCB K
	CRX patches CRXC to trunk from TPC and CRXD to CRXC		
7.	CRX repeats complete calling instructions.	7.	CRXC CRXD TPCB DR CRXB R K
	TPC disconnects his monitor machine		
8.-10.	CRXC, CRXD and TPCB answer in turn.	8.	DE CRXC K
		9.	DE CRXD K
		10.	DE TPCB K
11.	CRXB transmits “Tear Here” abbreviation TR.	11.	TR
12.-13.	CRXB transmits two extra line feeds.	12.	
		13.	
14.-30.	CRXB transmits message.	14.	CRXC CRXD TPCB
		15.	DE CRXB 3-8-12
		16.	Transmission instructions as required
		17.	R 031925Z
		18.	FM CRXB

Action of Station and Switchboard Operators		Line of typed Copy
		19. TD TPCB
		20. INFO CRXC
		21. CRXD
		22. GR18
		23. BT
		24. TEXT OF MESSAGE
		25. BT
		26. CFN (confirmation as required)
		27. C (corrections as required)
		28. Time group, if any, and one additional line feed, or
		29. Two Line Feeds
		30. K
31.-33.	CRXC, CRXD and TPCB receipt for message.	31. DE CRXC R *3 AR
		32. DE CRXD R *8 AR
		33. DE TPCB R *12 AR

* When station serial numbers are not employed, the date-time group will appear.

Action of Station and Switchboard Operators		Line of typed Copy
34.-41.	CRXB transmits 8 extra line feeds. . . . . 34.-41.	8 Line Feeds
	CRXB transmits two-second break signal to light lamps	
42.-43.	CRX and TPC answer lamp signal. . . . . 42.	DE CRX K
44.	CRXB transmits prosign AR as a clearing signal. . . . . 44.	DE CRXB AR
	CRX and TPC disconnect CRXC, CRXD, TPCB and CRXB shut off machines	

g. Complicated connection involving trunks and local stations, one of which is engaged. Switching central FTW serving FTWC, the engaged station, is equipped with typing reperforator equipment. Station CRXB transmits a message to stations CRXC, FTWB, FTWC, TPCB and XNAB.

Action of Station and Switchboard Operators		Line of Typed Copy
	CRXB transmits two-second break signal to light lamp at CRX	
1.	CRX answers lamp signal. . . . . 1.	DE CRX K
2.	CRXB transmits calling instructions. . . . . 2.	CRXC FTWB FTWC TPCB XNAB DE CRXB P K
	CRX patches trunk from TPC to CRXB	
3.	TPC answers lamp signal. . . . . 3.	DE TPC K

	Action of Station and Switchboard Operators		Line of typed Copy
4.	CRX repeats portion of calling instructions.	4.	FTWB FTWC TPCB DE CRXB P K
	TPC patches trunk from FTW to trunk from CRX		
5.	FTW answers lamp signal.	5.	DE FTW K
6.	TPC repeats portion of calling instructions.	6.	FTWB FTWC DE CRXB P K
	FTW patches FTWB to trunk from TPC and, finding FTWC ENGD patches local reperforator to FTWB CONNECTION		
7.	FTW repeats portion of calling instructions.	7.	FTNB FTWC DE CRXB P K
8.-10.	FTWB and FTWC (responsibility for FTWC transmission is assumed by FTW) answer.	8.	DE FTWB K
		9.	DE FTW
		10.	FTWC ENGB LOCAL K
11.	TPC advises FTWB and FTWC to wait.	11.	DE TPC AS
	FTW disconnects his monitor machine, REPERF connection remains to accept message for FTWC. TPC patches TPCB to trunk from FTW.		
12.	TPC repeats portion of calling instructions.	12.	TPCB DE CRXB P K
13.	TPCB answers.	13.	DE TPCB K

	Action of Station and Switchboard Operators		Line of typed Copy
14.	CRX advises FTWB, FTWC and TPCB to wait.	14.	DE CRX AS
	TPC disconnects his monitor machine. CRX patches trunk from XNA to trunk from TPC.		
15.	XNA answers lamp signal.	15.	DE XNA K
16.	CRX repeats portion of calling instructions.	16.	XNAB DE CRXB P K
	XNA patches XNAB to trunk from CRX		
17.	XNA repeats portion of calling instructions.	17.	XNAB DE CRXB P K
18.	XNAB answers.	18.	DE XNAB K
	CRX patches CRXC to trunk from XNA		
19.	CRX repeats complete calling instructions.	19.	CRXC FTWB FTWC TPCB XNAB DE CRXB P K
	XNA disconnects his monitor machine		
20.-25.	All stations answer in turn.	20.	DE CRXC K
		21.	DE FTWB K
		22.	DE FTW
		23.	FTWC ENGD LOCAL K
		24.	DE TPCB K
		25.	DE XNAB K

Action of Station and Switchboard Operators		Line of typed Copy
26.	CRXB transmits “Tear Hear” Abbreviation TR. . . . . 26.	TR
	CRX disconnects his monitor machine	
27.-28.	CRXB transmits two extra line feeds. . . . . 27.	
	28.	
29.-47.	CRXB transmits message. . . . . 29.	CRXC FTWB FTWC TPCB XNAB
	30.	DE CRXB 6-4-2-24-13
	31.	Transmission instructions as required
	32.	P 032047Z
	33.	FM CRXB
	34.	TO FTWB
	35.	TPCB
	36.	XNAB
	37.	INFD CRXC
	38.	FTWC
	39.	GR25
	40.	BT
	41.	TEXT OF MESSAGE
	42.	BT

Action of Station and Switchboard Operators		Line of typed Copy
	43.	CFN (confirmation as required)
	44.	C (correction as required)
	45.	Time group, if any, and one additional line feed, or
	46.	Two Line Feeds
	47.	K
48.-53. CRXC, FTWB, FTWC, TPCB and XNAB receipt in order for the message.	48.	DE CRXC R *6 AR
	49.	DE FTWB R *4 AR
	50.	DE FTW
	51.	FTWC ENBD LOCAL R
	52.	DE TPCB R *14 AR
	53.	DE XNAB R *13 AR
54.-61. CRXB transmits 8 line feeds.	54.-61.	8 Line Feeds
CRXB transmits two-second break signal to light lamps		

* When station serial numbers are not employed, the date-time group will appear.

Action of Station and Switchboard Operators		Line of typed Copy
62.-65.	ALL Switchboards answer.	62. DE CRX K
		63. DE TPC K
		64. DE FTW K
		65. DE XNA K
66.	CRXB transmits prosign AR as clearing signal.	66. DE CRXB AR
	ALL switchboards disconnect	
	ALL stations shut off their machines	

LIST OF EFFECTIVE PAGES