AUTOMATIC DIGITAL NETWORK (AUTODIN) OPERATING PROCEDURES JANAP 128(I)

This publication contains US military information and release to other than US military agencies will be on a need-to-know basis.

50

THE JOINT CHIEFS OF STAFF

WASHINGTON D.C. 20301

MARCH 1983

THE JOINT CHIEF OF STAFF
Washington, D.C. 20301

1 March 1983

US NATIONAL LETTER OF PROMULGATION
FOR JANAP 128(I)

1. JANAP 128(I), AUTOMATIC DIGITAL NETWORK (AUTODIN) OPERATING PROCEDURES, is an UNCLASSIFIED publication developed under the direction of the Joint Chiefs of Staff and is promulgated for guidance, information, or use of the Armed Forces of the United States and other users of US military communications facilities.

2. JANAP 128(I) is EFFECTIVE UPON RECEIPT and supersedes JANAP 128(H), which shall be destroyed in accordance with current Service regulations.

3. Permission is granted to copy or make extracts from this publication, as desired, without reference to the Joint Chiefs of Staff.

4. This publication may be carried in aircraft for use therein.

5. Correspondence concerning this publication should be addressed as follows:

a. Service-originated correspondence will be forwarded through the normal military chain of command, marked for the attention of the appropriate Service communications chief or director, as listed below, and will not be addressed to the Joint Chiefs of Staff:

(1) Assistant Deputy Chief of Staff for Operations and Plans (Command, Control, Communications and Computers), US Army

(2) Director, Naval Communications, US Navy

(3) Directorate of Command, Control and Communications, US Air Force

(4) Commandant of The Marine Corps (Code CCTO), HQMC, US Marine Corps.

b. Defense, national, and Federal agencies, as well as other recipients of this publication, should address their correspondence to the Chairman, US Military Communications-Electronics Board, Joint Chiefs of Staff, The Pentagon, Washington, D.C. 20301.

For the Joint Chiefs of Staff:

JOHN W. NOLAN
Colonel, US Army
Military Secretary, USMCEB

RECORD OF CHANGES AND CORRECTIONS

Identification of Change or Correction and date of same		Date Entered	By whom entered (Signature; rank; grade or rate; name of command)
Change	Correction		

RECORD OF CHANGES AND CORRECTIONS

Identification of Change or Correction and date of same		Date Entered	By whom entered (Signature; rank; grade or rate; name of command)
Change	Correction		

RECORD OF CHANGES AND CORRECTIONS

Identification of Change or Correction and date of same		Date Entered	By whom entered (Signature; rank; grade or rate; name of command)
Change	Correction		

RECORD OF CHANGES AND CORRECTIONS

Identification of Change or Correction and date of same		Date Entered	By whom entered (Signature; rank; grade or rate; name of command)
Change	Correction		

TABLE OF CONTENTS

TITLE PAGE.....I

LETTER OF PROMULGATION.....III

RECORD OF CHANGES AND CORRECTIONS.....V

TABLE OF CONTENTS.....IX

CHAPTER 1 GENERAL

101 Purpose.....1-1
102 Policy.....1-1
103 Network Definition.....1-1
104 Objective.....1-1
105 Terminology.....1-1
106 Required Lead-Time to Effect Procedural Changes.....1-1
107 Illustrations.....1-2
108 MINIMIZE.....1-2
109 References.....1-3
110 Speed of Service.....1-3

CHAPTER 2 DESCRIPTION OF AUTODIN FACILITIES

201 AUTODIN Switching Centers.....2-1
202 CONUS ASCs.....2-1
203 Overseas ASCs.....2-1
204 System Operational Modes.....2-1

CHAPTER 3 GENERAL OPERATOR INSTRUCTIONS

SECTION I MESSAGE TYPES AND ELEMENTS

301 Types of Messages.....3-1
302 Message Elements and Formats.....3-1
303-304 Reserved.....3-3

SECTION II ROUTING

305 General Instructions and Policy.....3-4
306 Requests for Routing Indicator Assignments, Changes or Deletions.....3-5
307 Routing Doctrine.....3-5
308 Alternative Routing.....3-5
309 Reserved.....3-5

TABLE OF CONTENTS (Continued)

SECTION III SECURITY

310 Operating Rules....3-6
311 Security Rules....3-7
312 Improper Transmission of Classified Messages....3-7
313 Classified Messages Transmitted in Plain Language....3-8
314 Encrypt for Transmission Only (EFTO) Messages....3-9
315 Straggler Messages....3-11
316 End-of-Message (EOM) Validation....3-13
317 Rules Regarding CODRESS Messages....3-13
318 Rules Regarding Special Category Messages....3-14
319 Security Provisions....3-14
320-324 Reserved....3-14

SECTION IV TRIBUTARY STATION OPERATING HOURS

325 General....3-15
326 Requests for Reduction or Change of Operating Hours....3-15
327 Tributary Station Responsibilities....3-16

SECTION V ASC OPERATIONS

328 Automatically Generated Pilots....3-19
329 Automatically Generated Service Messages....3-20
330 Cancelling Transmissions....3-37
331 Invalid Routing Indicators....3-38
332 Contingency Alternate Routing Program (CARP)....3-39
333 Message and Record Retention....3-40
334 Transmission Identification Validation...3-40
335-339 Reserved....3-40

SECTION VI UNAVOIDABLE DELAYS

340 Unavoidable Delays....3-41

TABLE OF CONTENTS (Continued)

SECTION VII COMMUNICATIONS IMPROVEMENT REQUIREMENTS

341 DCS Message Quality Control Program.....3-43
342 Reporting Operating Deficiencies.....3-44

SECTION VIII HYBRID AUTODIN RED PATCH SERVICE (HARPS)

343 Hybrid AUTODIN Red Patch Service(HARPS)..3-46

SECTION IX MESSAGE CORRECTION NOTICE

344 Message Correction Notice (DD Form 1503).....3-47

CHAPTER 4 TELETYPEWRITER MESSAGES

SECTION I RULES

401 General Rules.....4-1
402 Rules Regarding Message Lengths.....4-3
403 Rules Regarding Transmission Identification (TI).....4-5
404 Rules Regarding End-Of-Message (EOM) Validation.....4-7
405 Rules Regarding Security Warnings.....4-7
406 Rules for Indicating Delivery Responsibility.....4-8
407 Rules Regarding Transmission Instructions.....4-10
408 Rules for Routing Messages.....4-11
409 Rules Regarding Use of Address Designations.....4-11
410 Rules Regarding Voluntary Correction of Transmitted Messages.....4-13
411 Rules Regarding Message Header Changes - Tributary Stations.....4-14

SECTION II HEADER AND EOM FORMAT

412 General.....4-15
413 Precedence (Position 1).....4-15
414 Language Media and Format (Positions 2 and 3).....4-15
415 Classification (Position 4).....4-16
416 Content IndicatorCode/Communication Action Identifier (Positions 5 through 8).....4-16

TABLE OF CONTENTS (Continued)

SECTION II HEADER AND EOM FORMAT (Continued)

417 Separator (Position 9).....4-16
418 Originator (Positions 10 through 16).....4-16
419 Station Serial Number (Positions 17 through 20).....4-16
420 Separator (Position 21).....4-17
421 Date (positions 22 through 24).....4-17
422 Time Filed (Positions 25 through 28).....4-17
423 Classification Redundancy (Positions 29 through 33).....4-17
424 Routing (Positions 34 through As Required).....4-17
425 End-Of-Routing Signal (Position As Required).....4-18
426 Teletypewriter Header Format.....4-19
427 End-Of-Message (EOM) Format.....4-20

SECTION III MISROUTED AND MISSENT MESSAGES

428 Misrouted Messages.....4-21
429 Missent Messages.....4-26

SECTION IV SUSPECTED DUPLICATES

430 Suspected Duplicate Procedure.....4-31
431 Receipt of Unmarked Duplicate Message....4-32

SECTION V RETRANSMISSION

432 Requesting Retransmission.....4-35
433 Open Channel Sequence Numbers.....4-36

SECTION VI SERVICE MESSAGES

434 General.....4-39
435 Examples of Service Messages.....4-41
436 Tributary Stations Follow-Up Action.....4-42
437-439 Reserved.....4-42

TABLE OF CONTENTS (Continued)

SECTION VII READDRESSING MESSAGES

440 General.....4-43
441 Rules for Readdressing Messages.....4-43
442 Examples of Readdressed Messages.....4-45

SECTION VIII TRACER ACTION

443 Definition.....4-47
444 Rules for Tracer Action.....4-47
445 Tracer Action Procedure.....4-48

SECTION IX FILING MESSAGES WITH INTERNATIONAL OR DOMESTIC TELECOMMUNICATIONS CARRIERS (AGENCIES)

446 General.....4-52
447 Rules.....4-52
448 Refile Handling by Precedence.....4-55
449 Assignment of Accounting Symbols and Program Designator Codes (PDCs).....4-57
450 Transmission of Accounting Symbols and Program Designator Codes (PDCs).....4-59
451 Refile Station Instructions.....4-59
452 TWX and TELEX Message Handling.....4-61
453 Records of Sent and Received Traffic.....4-64

SECTION X MODE II OPERATING PROCEDURES

454 General.....4-65
455 Receipting for ECP and FLASH Messages....4-55
456 Transmission Identification (TI).....4-65
457 Ensuring Continuity of Traffic.....4-66
458 Stop and Go Ahead Notices.....4-66
459 Retransmission Requests.....4-66
460 Tributary Station Messages Rejected and Serviced by ASC.....4-67
461 Message Quality Control Tests.....4-67
462 Crypto Operations.....4-67
463 Monitoring Check of Channels.....4-67

TABLE OF CONTENTS (Continued)

SECTION XI EFFECTIVE TRANSMISSION RATE (ETR) PROCEDURES

464 General....4-68
465 Transmission Identification....4-68
466 Ensuring Continuity of Tributary Transmitted Traffic. 4-69
467 Retransmission Requests....4-70
468 Tributary Station Messages Rejected and Serviced by ASC....4-70
469 Automatically Generated Service Messages-ETR....4-70

CHAPTER 5 DATA PATTERN MESSAGES

SECTION I RULES

501 General Rules....5-1
502 Rules Regarding End-Of-Message (EOM) Validation....5-2
503 Rules Regarding Single Card Message....5-2
504 Rules Regarding Message Pilots - Tributary Stations....5-3
505 Rules Regarding Data Pattern Message Addressing....5-4
506 Rules Regarding Message Batching....5-4
507-509 Reserved....5-5

SECTION II OPERATING INSTRUCTIONS

510 Originated Traffic....5-6
511 Terminated Traffic....5-8
512 Data Message Form (DD Form 1392)....5-9
513-519 Reserved....5-9

TABLE OF CONTENTS (Continued)

SECTION III HEADER AND EOT FORMATS

520 General.....5-10
521 Precedence (Position 1).....5-10
522 Language Media and Format (Positions 2 and 3).....5-10
523 Classification (Position 4).....5-10
524 Content Indicator Code/Communication Action Identifier (Positions 5 through 8).....5-11
525 Separator (Position 9).....5-11
526 Originator (Positions 10 through 16).....5-11
527 Station Serial Number (SSN) (Positions 17 through 20).....5-11
528 Separator (Position 21).....5-11
529 Date (Positions 22 through 24).....5-11
530 Time Filed (Positions 25 through 28).....5-11
531 Separator (Position 29).....5-12
532 Record Count (Positions 30 through 33)...5-12
533 Classification Redundancy (Positions 34 through 38).....5-12
534 Routing (Positions 39 through As Required).....5-12
535 End-Of-Routing Signal (Position As Required).....5-13
536 Separators (As Required).....5-13
537 DATA PATTERN Header Format.....5-14
538 End-Of-Transmission (EOT) Format.....5-15
539 End-Of-Transmission Signals (EOTS).....5-15
540 EOT Record Format.....5-16
541 Examples of DATA PATTERN Messages.....5-17

SECTION IV MISROUTED AND MISSENT MESSAGES

542 Misrouted Messages.....5-18
543 Missent Messages.....5-20

SECTION V SUSPECTED DUPLICATES

544 Suspected Duplicate Procedure.....5-23
545 Receipt of Unmarked Duplicate Messages...5-24

TABLE OF CONTENTS (Continued)

SECTION VI RETRANSMISSIONS AND RESUBMISSIONS

546 Requesting Retransmission.....5-26
547 Providing Retransmission.....5-28
548 Resubmission.....5-29
549 Reserved.....5-29

SECTION VII SERVICE MESSAGES

550 General.....5-30
551 Service Message Preparation.....5-30
552 Tributary Stations Follow-Up Action.....5-31
553-554 Reserved.....5-32

SECTION VIII TRACER ACTION

555 Definition.....5-33
556 Rules for Tracer Action.....5-33
557 Tracer Action Procedure.....5-34

CHAPTER 6 MAGNETIC TAPE TERMINAL STATION PROCEDURES

SECTION I GENERAL

601 Introduction.....6-1
602 Equipment Operating Procedures.....6-1
603-604 Reserved.....6-1

SECTION II OPERATION

605 Modes of Operations.....6-2
606 Operating Rules.....6-2
607 Operating Precautions.....6-2
608-609 Reserved.....6-3

SECTION III MESSAGE PREPARATION

610 Message Formats.....6-4
611 Message Preparation Procedures.....6-5
612-614 Reserved.....6-6

SECTION IV SYSTEM PROGRAMMING REQUIREMENTS

615 Customer Recognition Requirements.....6-7
616-619 Reserved.....6-7

TABLE OF CONTENTS (Continued)

SECTION V MESSAGE AND TAPE REEL ACCOUNTABILITY

620 Tape Reel Accountability.....6-8
621 Originated Tape Reel Retention.....6-9
622 Logging Procedures.....6-9
623 Reserved.....6-9

SECTION VI SERVICE MESSAGE AND TRACER ACTION REQUESTS

624 Procedures.....6-10

CHAPTER 7 TRANSMISSION RELEASE CODE (TRC)/SPECAT PROCEDURES

701 General.....7-1
702 Rules Regarding Use of Transmission Release Code (TRCs).....7-1
703 Examples of Use of TRC.....7-4
704 Rules Regarding Data Transmissions.....7-6
705 Rules Regarding Use of SPECAT Designator and Special Handling Designator (SHD)....7-7

CHAPTER 8 OPERATING PROCEDURES FOR QUERY/RESPONSE (Q/R) SERVICE

801 General.....8-1
802 Operating Procedure.....8-1
803 Concept of Operation.....8-1
804 Definition of Unique Terms Used for Query/Response (Q/R) Service.....8-1
805 Security Operating Rules.....8-2
806 Security Rules.....8-3
807 Terminal and Host Operational Modes.....8-3
808 Routing.....8-4
809 Operating Procedures and Formats.....8-5
810 Prestored Header.....8-14
811 Delayed Transaction.....8-20
812 Automatically Generated Service Messages.....8-22

CHAPTER 9 OPERATING PROCEDURES FOR SEQUENTIAL DELIVERY SERVICE (SDS)

901 General.....9-1
902 Operating Procedures.....9-1
903 Concept of Operation.....9-1
904 Sequential Delivery (SD) and Query/Response (Q/R) Service.....9-2

TABLE OF CONTENTS (Continued)

CHAPTER 9 OPERATING PROCEDURES FOR SEQUENTIAL DELIVERY SERVICE (SDS) (Continued)

905 Security....9-2
906 Precedence....9-2
907 Routing Indicator (RI)ssignment....9-2
908 Collective Routing Indicators (CRI)....9-2
909 Alternative Routing (ALTROUTE)....9-3
910 ASC Classmarking for Sequential Delivery Service (SDS)....9-3
911 AUTODIN Standard JANAP 128 Message Format....9-3
912 Data Transparency....9-3
913 Multiple Linked Channels....9-3
914 Logical Link Lockout Operation....9-4
915 Acknowledgment of Sequential Data Segments....9-5
916 Straggler Validation....9-5
917 Suspected Duplicate Sequential Data Segments....9-6
918 MINIMIZE....9-6
919 Framing and Control Characters....9-6
920 Establishment of a Logical Link....9-6
921 Intermediate Segment Transfer....9-11
922 Completion of Sequential Data Transfer (Last Segment)....9-17
923 Invalid Sequential Delivery Request (SDR) Messages....9-19
924 No Response to Sequential Delivery (SD) Request....9-20
925 Destination Terminal Channel Out of Service....9-21
926 Destination Terminal Logical Links Busy....9-21
927 Destination ASC Logical Link Tables Full....9-22
928 Destination Terminal Out of Service....9-22
929 Invalid or Abnormal Conditions of Intermediate Segments....9-22
930 Invalid Sequential Delivery Acknowledgements....9-24

TABLE OF CONTENTS (Continued)

CHAPTER 9 OPERATING PROCEDURES FOR SEQUENTIAL DELIVERY SERVICE (SDS) (Continued)

931 Invalid Retransmission Request Message...9-25
932 Invalid Logical-Link-Accepted/Denied (GO or NO) or Retransmission Request (RS) Messages.....9-25
933 Cancellation of Logical Link.....9-25
934 Reestablishment of Canceled Link.....9-26

ANNEX A LANGUAGE AND MEDIA FORMAT.....A-1

ANNEX B CONTENT INDICATOR CODE/COMMUNICATIONS ACTION IDENTIFIER

1 Use of Code.....B-1
2 Policy.....B-1
3 Requesting Changes.....B-1
4 Structure of Code.....B-3
5 Examples.....B-6
6 Control of Intra-Service/Agency/Department Code Usage.....B-8

ANNEX C SCHEMATIC DIAGRAM OF MESSAGE FORMAT.....C-1

APPENDIX 1 TO ANNEX C LIST OF ASSIGNED ACCOUNTING SYMBOLS

PART I - DECODE.....C-8
PART II - ENCODE.....C-15

LIST OF EFFECTIVE PAGES.....LEP-1

LIST OF FIGURES AND TABLES

FIGURE 3-1 DD FORM 1503.....3-47
FIGURE 5-1 DD FORM 1392.....5-9
TABLE I ACTIVITY IDENTIFIER (FIRST POSITION OF CONTENT INDICATOR).....B-9
TABLE II CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION.....B-11
TABLE III COMMUNICATION ACTION IDENTIFIERS.....B-20

CHAPTER 1

GENERAL

101. Purpose. This publication prescribes the operating procedures and practices applicable to the Defense Communications System (DCS) Automatic Digital Network (AUTODIN), and to other US record communications networks as specifically authorized by respective controlling authorities.

102. Policy. These instructions shall be used by personnel of all stations and agencies in the preparation, transmission, and handling of traffic exchanged between communications facilities served by the AUTODIN or other US record communications networks as specifically authorized by respective controlling authorities. If any conflict with other instructions exists, the procedures prescribed in this publication will apply. If the procedures prescribed herein do not cover specific operating requirements, a resort to initiative and common sense should suffice.

103. Network Definition. The DCS AUTODIN system is a world-wide Department of Defense computerized general purpose communications system which provides for the transmission of narrative and data pattern traffic on a store-and-forward (message switching) basis. The world-wide DCS AUTODIN system is comprised of two interconnected portions, CONUS AUTODIN and Overseas AUTODIN.

104. Objective. The objective of AUTODIN is to provide a reliable, secure and efficient general purpose communications system which incorporates error detection techniques and the highest speed transmission equipment available.

105. Terminology. Throughout this publication the abbreviation ASC (AUTODIN Switching Center) will be used when referring to both the CONUS and Overseas AUTODIN Switching Centers. In those instances where a procedure is applicable only to the CONUS or Overseas ASC, it will be so identified by reference to "CONUS ASC" or "Overseas ASC", as appropriate.

106. Required Lead-Time to Effect Procedural Changes.

a. Minor procedural changes requiring computer program alterations only at the ASC will normally be accomplished within 30 days after approval. Major procedural changes may require longer, depending on the magnitude of the change. Changes of an emergency nature will be made as fast as possible. These may require an emergency programming change at the ASC as an interim measure until a more permanent change can be programmed.

106. Continued

b. Procedural changes requiring computer reprogramming at terminal stations of AUTODIN will become effective not less than 21 days after promulgation. Subscribers unable to meet the effective date must notify their appropriate Service/Agency not more than 14 days after promulgation.

c. Routing indicator changes normally require 17 days to promulgate and implement.

107. Illustrations.

a. The examples shown herein are for illustration purposes only and do not necessarily reflect actual routing indicator, call sign, address group, operating signal or transmission identification 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 to be used; in addition, examples of service messages illustrate appropriate textual composition.

b. In some examples the abbreviation "(TI)" has been used in lieu of actual transmission identification. Wherever (TI) appears, it infers appearance of the Start of Transmission Function, the Start of Message Indicator (when used) and the Channel Number, in that order as would be the case in actual practice, see paragraph 403.

108. MINIMIZE. MINIMIZE information and instructions are contained in ACP 121 US SUPP-1 and separate Service/Agency documents.

109. References. The following publications also apply to operation of the AUTODIN:

a. ACP 117 CAN-US SUPP-1, Allied Routing Indicator Book, (Canada-US Supplement No. 1).

b. ACP 117 US SUPP-1, US Routing Indicator Book, (US Supplement No. 1).

c. ACP 117 US SUPP-3, Defense Communications System Routing Doctrine General Purpose Networks (US Supplement No. 3). Normally held only by major relay stations.

d. ACP 117 US SUPP-4, US Special Purpose Routing Indicator Book, (US Supplement No. 4).

109. Continued

e. ACP 121, Communications Instructions - General.

f. ACP 121 US SUPP-1, Communications Instructions - General, (US Supplement No. 1).

g. ACP 122, Communications Instructions - Security.

h. ACP 127, Communications Instructions - Tape Relay.

i. ACP 127 US SUPP-1, Communications Instructions - Tape Relay (US Supplement No. 1).

j. ACP 131, Communications Instructions - Operating Signals.

k. ACP 131 US SUPP-1, Communications Instructions - Operating Signals (US Supplement No. 1).

l. ACP 167, Glossary of Communications-Electronics Terms.

110. Speed of Service. The speed of service objectives for traffic transmitted over the AUTODIN are contained in ACP 121 US SUPP-1.

CHAPTER 2

DESCRIPTION OF AUTODIN FACILITIES

201. AUTODIN Switching Centers. The ASCs use two classes of computerized switching equipment. The CONUS (including Hawaii) ASCs use leased, contractor-furnished equipment; the Overseas ASCs use Government-furnished equipment.

202. CONUS ASCs.

a. Each CONUS ASC is equipped with 300 terminations for interswitch trunks and access lines.

b. Each CONUS ASC has the capability of functioning with any of the five operational modes listed in paragraph 204.

c. There are nine ASCs in CONUS located at Andrews AFB, MD; Ft. Detrick, MD; Syracuse, NY; Albany, GA; Gentile AFS, OH; Tinker AFB, OK; Norton AFB, CA; McClellan AFB, CA; and Wahiawa, HI.

203. Overseas ASCs.

a. The Overseas ASCs are equipped with 100 to 200 terminations.

b. Each Overseas ASC has the capability of functioning with any of the five operational modes listed in paragraph 204.

c. There are six Overseas ASCs located at Croughton, England; Pirmasens, Germany; Coltano, Italy; Finegayan, Guam; Camp Drake, Japan; and Taegu, Korea.

204. System Operational Modes.

a. Mode I. A duplex operation with automatic error and channel controls allowing independent and simultaneous two-way operation. This is accomplished by means of control characters which are used to acknowledge receipt of valid line blocks and messages or to return error information. The terminal (or switching center) responds automatically to these characters by continuing or stopping transmission and/or displaying action information to the operator. Examples of terminal equipments using thise mode of operation are Digital Subscriber Termainal Equipment (DSTE) compound terminals and magnetic tape terminals.

204. Continued

b. Mode II. A duplex operation, normally associated with teletypewriter equipments allowing independent and simultaneous two-way operation. There are no automatic error and channel controls; message accountability is maintained through channel sequence numbers and service message actions.

c. Mode III. A duplex operation with automatic error and channel controls, but utilizing only one-way transmission. The return direction is used exclusively for error control and channel coordination response. The Mode III channel is reversible on a message basis. Control characters are used in the same manner as described in Mode I above.

d. Mode IV. Unidirectional operation (send only or receive only) without error control and channel coordination. The Mode IV channel is nonreversible, and is equivalent to half duplex operation of Mode II.

e. Mode V. A duplex operation, normally associated with teletypewriter equipments, allowing independent and simultaneous two-way transmission. Control characters are used to acknowledge receipt of messages and to display limited information to the operator. Message accountability is maintained through the use of channel sequence numbers with automatic response through use of control characters by the distant terminal/switching center.

CHAPTER 3

GENERAL OPERATOR INSTRUCTIONS

SECTION I

MESSAGE TYPES AND ELEMENTS

301. Types of Messages. Three types of messages are authorized for preparation and transmission via the AUTODIN.

a. Single Call Messages. A single call message is one destined for only one addressee or station.

b. Multiple Call Messages. A multiple call message is one destined for two or more addressees or stations. Addressees may be indicated as ACTION or INFORMATION. Messages are limited to a maximum of 500 routing indicators. A multiple call message includes a message prepared as a book message.

c. General Messages. Messages which have a wide standard distribution are termed general messages. They are assigned an identifying title and sequential number by the originator. For further details, see ACP 121 US SUPP-1.

302. Message Elements and Formats. Messages will be prepared in one of four formats for transmission via the DCS AUTODIN Network:

a. PLAINDRESS.

(1) A PLAINDRESS message contains the originator and addressee designations in plain language external to the text.

(2) PLAINDRESS messages shall be composed of the format lines showing in Annex C. Format lines 2, 4, 5, 6, 7 (and/or 8), 11, 12 (12A, 12G, 12I are mandatory, all other elements are as required), 13, 15 and 16 are mandatory in PLAINDRESS messages. Other format lines may be used when required.

Example of a PLAINDRESS Message:

FORMAT LINE	CONTENTS	END OF LINE FUNCTIONS
2	RTTUZYUW RUEBABA1234 1081400-UUUU--RUKKLAA.	(2CR)(1LF)
4	ZNR UUUUU	(2CR)(1LF)
5	R 181239Z APR 69	(2CR)(1LF)
6	FM AFSC ANDREWS AFB MD	(2CR)(1LF)

302. Continued

7	TO ELMENDORF AFB ALASKA	(2CR)(1LF)
11	BT	(2CR)(1LF)
12A	UNCLAS	(2CR)(1LF)
12G	SUBJ	(2CR)(1LF)
12I	TEXT	(2CR)(1LF)
13	BT	
15	#1234	
16	(2CR)(8LF)NNNN	

b. ABBREVIATED PLAINDRESS.

(1) An ABBREVIATED PLAINDRESS message omits certain format lines for message brevity.

(2) ABBREVIATED PLAINDRESS messages shall be comprised of the format lines shown in Annex C. Format lines 2, 4, 11, 12, 13, 15 and 16 are mandatory in ABBREVIATED PLAINDRESS messages. A subject line/delimiter is not required on ABBREVIATED PLAINDRESS messages.

Example of an ABBREVIATED PLAINDRESS message:

FORMAT LINE	CONTENTS	END OF LINE FUNCTIONS
2	PTTCZYUW RUCLDBA0123 1081400-CCCC--RUHHLFA.	(2CR)(1LF)
4	ZNY CCCCC	(2CR)(1LF)
11	BT	(2CR)(1LF)
12A	C O N F I D E N T I A L	(2CR)(1LF)
12I	TEXT	(2CR)(1LF)
13	BT	(2CR)(1LF)
15	#1234	(2CR)(1LF)
16	(2CR)(8LF)NNNN	

c. CODRESS.

(1) A CODRESS message discloses the originator and all action/information addressee designations only within the encrypted text. Format lines 6, 7, 8 and 9 are never used in a CODRESS message. A subject line/delimiter is not required on CODRESS messages.

(2) The heading of a CODRESS message contains only the information essential for routing the message to the receiving station.

302.c.(4) Continued

(3) Plain language transmission instructions are prohibited.

(4) The classification designator "U" (UNCLASSIFIED) will be used in format lines 2 and 4 for all CODRESS messages.

Example of a CODRESS Message:

FORMAT LINE	CONTENTS	END OF LINE FUNCTIONS
2	RTTUZYUW RUEOLGA0025 1081400-UUUU--RUCIABA.	(2CR)(1LF)
4	ZNR UUUUU	(2CR)(1LF)
5	R 181329Z APR 69	(2CR)(1LF)
10	GR55	(2CR)(1LF)
11	BT	(2CR)(1LF)
12I	XXXXX XXXXX XXXXX XXXXX (TEXT)	(2CR)(1LF)
13	BT	(2CR)(1LF)
15	#0025	
16	(2CR)(8LF)NNNN	

d. DATA PATTERN. DATA PATTERN (80 data characters line-block or variable length line-block) messages normally contain only format lines 2, 12 and 16. However, other message format lines, as applicable, may be used by mutual agreement between message originators and addressees. Format line 4 with proper Transmission Release Code (TRC) matching that of the security field in format line 2 must be used on DATA PATTERN traffic addressed and routed to a regional defense organization or foreign nation. Piloted DATA PATTERN messages addressed and routed to a regional defense organization or foreign nation are prohibited. These piloted messages will be rejected on output for Pilot Format Error (PFE). Format line 4 is also required on DATA PATTERN messages designated SPECAT (see paragraph 318). These messages will not be addressed to other than AUTODIN stations. DATA PATTERN messages will have an originating station LMF of B, C, D, or I.

Example of a DATA PATTERN Message:

FORMAT LINE	CONTENTS	
2	RCCUDAAA RUDOFDA0123 1081400 0050-UUUU--RUFTDBA.	
12I	TEXT - 48 CARDS	
16	RCCUDAAA RUDOFDA0123 1081400 0050-UUUU	NNNN

303-304. Reserved.

SECTION II

ROUTING

305. General Instructions and Policy.

a. General. The originating communications facility is responsible for selecting the correct routing indicator for the communications facility serving the addressee.

b. Policy. All messages will be routed in accordance with the appropriate ACP 117 series publication and as prescribed by the record traffic on-line cryptographic operation policy contained in ACP 121 US SUPP-1.

c. Collective Routing Indicators.

(1) Collective routing indicators may be used in conjunction with general messages when routing to 51 or more addressees is required. Collective, as well as single call, routing indicators may appear in the same message heading.

(2) To reduce the probability of reintroduction of a collective routing indicator, the input collective identifier of RHCR is changed to RUCR on output by the ASC. Collective routing indicators will not be changed by receiving stations for onward processing. If more than one routing indicator is used in the header, collective and single for example, the receiving stations will receive only the collective and/or single routing indicator(s) for which they are responsible.

(3) Tributary stations receiving a message containing a collective routing indicator shall interpret the message as being addressed directly to them and for distribution as required.

(4) Tributary stations will not reintroduce messages bearing collective routing indicators into the network. The reintroduction of such messages will cause duplication to the stations having already received the message, and could cause a significant system backlog.

(5) Tributary stations will not assign collective routing indicators to originated messages unless specifically authorized. Stations authorized to originate collective messages are listed in ACP 117 CAN-US SUPP-1, Section III.

(6) The inclusion of a non-U.S. routing indicator in the composition of a collective routing indicator is prohibited.

305. Continued

d. Self-addressed messages. Tributary stations will not transmit self-addressed messages into the AUTODIN for any purpose other than quality control testing.

306. Requests for Routing Indicator Assignments, Changes or Deletions. Requests for routing indicator assignments, changes, or deletions will be submitted through appropriate Service/Agency channels as outlined in the General Instructions, ACP 117 CAN-US SUPP-1. Responsible activities will ensure requests are properly coordinated and submitted sufficiently in advance for Service/ Agency approval and necessary implementation action (paragraph 106.c.).

307. Routing Doctrine. Established primary routes for the transmission of record traffic within the DCS AUTODIN are contained in ACP 117 US SUPP-3.

308. Alternative Routing. The AUTODIN may be used to alternatively route traffic from other inter-connected networks. Messages alternatively routed via AUTODIN facilities will re-enter the other networks in the same format as originated.

309. Reserved.

SECTION III

SECURITY

310. Operating Rules.

a. Required security protection will be afforded all classified traffic transmitted through the AUTODIN.

b. As each message is transmitted by an originating station, the ASC automatically checks and compares the security classification stated in the header of the message against the authrized security level of the incoming circuit. Transmission of a message with higher security level than authorized will result in the message being rejected by the ASC. In addition, an automatic system generated service will be transmitted by the ASC to the routing indicator contained in the originating station routing indicator field of the violating incoming message advising the originating station of the possible security compromise.

c. The ASC automatically checks and compares the security classification contained in the header of each message against the security classification of each destination. A security mismatch occurs for each destination that does not possess the necessary security level and the ASC takes the following action:

(1) If a security mismatch is detected by the originating station's ASC, two methods are employed to request reprotection of the undelivered destination.

(a) If the message is single address, the ASC rejects the message. Alarm conditions will appear at the originating terminal indicating reprotect the message. Modes II and IV terminals receive service message.

(b) If the message is multiple address with no deliverable destination due to security mismatch or invalid routing, the ASC rejects the message as in (a) above.

(c) If the message is multiple address with at least one deliverable destination, the ASC accepts the message and delivers to all valid destinations. An automatic generated service is transmitted to the routing indicator contained in the OSRI field of the message or, in some cases, to the Service Message Routing Indicator (SMRI) for those stations having a relay responsibility advising to reprotect for the routing indicator(s) unacceptable due to security mismatch.

310.c. Continued

(2) If a security mismatch is detected by a distant ASC, an automatic system generated service is transmitted to the routing indicator contained in the OSRI field of the message advising to reprotect for the routing indicator(s) unacceptable due to security mismatch. This method of protection is employed for both single and multiple address messages.

d. The ASC will automatically check and compare those messages containing a TRC in the redundant security fields of the message header with the routing line information of messages being transferred into the networks of regional defense organizations or networks of foreign nations. A mismatch of the TRC and the allied routing indicators will cause the ASC to reject the message and initiate service action to the routing indicator shown in the OSRI field of the message. In the case of a multiple address message, the ASC will accept and deliver the message to valid US and other regional defense organizations or national routing indicators.

311. Security Rules.

a. Classified narrative messages will contain the security classification as the first word of text. Each letter of the security classification shall be separated by a space; e.g., S E C R E T. In unclassified EFTO messages, the abbreviation EFTO will be spaced; e.g., UNCLAS E F T O. If an error is made in the preparation of the classification, it will be lettered out and reperforated without error.

b. Classified and unclassified DATA PATTERN messages will not be combined in the same transmission under content indicator code ZZDZ (see Annex B).

c. In-station operating procedures will be carefully composed and rigidly enforced to preclude inadvertent transmission of classified messages to stations or agencies not connected by properly secured circuits or not approved for the security classification and any special category or special handling designations of the message involved.

d. Adequate precautions will be provided for the protection, destruction and disposition of classified messages in accordance with existing Service/Agency instructions.

312. Improper Transmission of Classified Messages.

a. A classified message received in the clear over a non-approved or nonsecure circuit is considered to have been subjected to possible compromise.

b. Unless the provisions of paragraph 313 apply, the originating station will be immediately notified by an unclassified priority service message that the classified message was received in the clear over a nonapproved or nonsecure circuit, and will take necessary action in accordance with separate Service/Agency instructions.

Example of a service message to originating station:

```
PTTUZYVW RUAOFDA1278 0831130-UUUU--RUWMADA.
ZNR UUUUU
BT
UNCLAS SVC ZUI RUWMADA1421 0831100 241045Z.
PROVISIONS OF PARA 312B JANAP 128 APPLY.  DELIVERY
TO ADDRESSEE EFFECTED
BT
#1278
NNNN
```

NOTE: In those instances when the involved message is not addressed to the receiving station, the originating station will be advised to reprotect message.

c. An originating station that attempts to transmit a message with a higher than authorized security level must determine if the message has been subject to compromise (see paragraph 310.b.). Individual Service/Agency instructions provide the guidelines for in-station security compromise procedures.

d. US communications stations detecting improper transmissions of the type in procedural violation of paragraph 707.b.(1)(c), ACP 121 US SUPP-1 will notify the originating communications station citing the reference paragraph, which requires the originating station or its designated crypto-guard to perform off-line encryption prior to transmission. This action is in addition to any applicable action because of a security violation.

313. Classified Messages Transmitted in Plain Language.

a. When a requirement exists to transmit a classified message in plain language over a nonsecured circuit under the provisions of paragraph 326, ACP 121 the following procedures apply:

(1) The designator "U" will be used in format lines 2, 4 and 16 as applicable in lieu of the appropriate classification designator letter. The designator "U" used in format line 4 will be preceded by the operating signal ZNR; i.e., ZNR UUUUU. If the message is addressed and routed to a regional defense organization or foreign nation, a TRC will appear in format lines 2 and 4 (see Chapter 7).

(2) In messages prepared in PLAINDRESS or ABBREVIATED PLAINDRESS format, the word CLEAR will be the first word in format line 12. TRC rules as defined in Chapter 7 apply to messages addressed and routed to regional defense organizations or foreign nations.

(3) In messages prepared in DATA PATTERN format that are addressed and routed to a regional defense organization or foreign nation, a format line 4 together with the proper TRC; i.e., ZNR UUUBB must be included. The word CLEAR will appear immediately after the security/TRC combination; i.e., ZNR UUUBB CLEAR.

314. Encrypt for Transmission Only (EFTO) Messages.

a. Unclassified Encrypt for Transmission Only (EFTO) messages will be transmitted:

(1) Within the continental United States, Alaska, Guam, Hawaii, and Puerto Rico over on-line secured or approved circuits or in Category A off-line cryptosystems. In cases where these protective measures cannot be applied, electrical transmission in the clear over landline/microwave circuits is authorized.

(2) Outside the continental United States and between the areas designated above, over on-line secured or approved circuits or in Category A off-line cryptosystems. In cases where these protective measures cannot be applied, electrical transmission in the clear is authorized via landline (all metallic) circuits provided that:

314.a.(2). Continued

(a) All terminating points of such circuits are located on US controlled bases, camps, stations, or other facilities;

(b) Such circuits are operated exclusively by US personnel; and,

(c) Non-US personnel are denied uncontrolled access to all terminals and the transmission media thereof.

(3) EFTO messages will be routed in accordance with general instructions, ACP 117 CAN-US SUPP-1.

(4) Communications stations unable to forward EFTO messages by secure electrical means may forward such messages via nonsecured circuits as authorized in subparagraph (1) or (2) above. Rerouting will be accomplished as follows:

(a) Teletypewriter Messages. In accordance with paragraph 411 and 428.d., except that all classification designators in format line 2 will be changed to "U" and format line 4 will read ZNR UUUUU ZZL followed by information required by paragraph 428.e.(1) through (4).

(b) Data Pattern Messages. In accordance with paragraph 504, except that all classification designators in the pilot will be "U" and the content indicator code/communications action identifier will be ZZLW. DATA PATTERN messages that contain a format line 4 will require changing the format line 4 to ZNR UUUUU ZZL.

(5) The EFTO procedure is authorized for use within the Department of Defense, the National Security Agency, and the Federal Aviation Agency, and is accepted for delivery of US military originated messages by the General Services Administration. Should EFTO messages be received containing addressees who do not recognize the EFTO policy, the communications station effecting refile or delivery will delete EFTO prior to delivery to those addressees. EFTO messages will not be addressed or routed to a non-U.S. addressee or routing indicator.

(6) The EFTO designation will be removed from all messages requiring commercial refile prior to refiling.

314.a. Continued

(7) The receipt of an EFTO message over an unauthorized/nonsecure high frequency radio/channel will be considered a procedural, not a security violation. The station noting the unauthorized transmission, will, by EFTO service message, notify the station having transmitted the EFTO message. The originator or the addressee will not be notified of the in-the-clear transmission.

b. After receipt by the communications center, an EFTO message will be edited if and as required by applicable cryptographic publications or service instructions and distributed as an unclassified message. Distribution to the addressee by telephone may be made in those instances where such delivery has been determined to be the most practical means.

315. Straggler Messages. A straggler message is one which either trails or is attached to a preceding message. Straggler messages may be caused by: garbles during transmission; equipment malfuntions; incorrectly prepared, improperly positioned or omitted end-of-message signal for the first message, etc. Straggler messages may be transmitted and received solely within AUTODIN or they may be received from other teletypewriter and data networks. Straggler messages will not necessarily be addressed to the receiving station; therefore, message protection is required. If a receiving station gets a transmission where the lead message is incomplete and the trailer message is the same and complete, the trailing message will not be processed in accordance with straggler procedures listed below. Transmission and message identification (format lines 2 and 16 for data pattern messages) of the incorrect transmission will be forwarded to the communications headquarters of the receiving station for corrective action as appropriate. The originating or input station will be advised by service message, citing specific details of the operator discrepancy. When a straggler message is received, the following procedures will apply:

a. If the first message addressed to and received by the called station is incomplete, it will be serviced as prescribed in paragraph 435.a.

b. The straggler message will be handled in the following manner:

315.b. Continued

(1) If it is a single address message, and bears only the routing indicator of the station at which it arrived, and if the message involved is otherwise correct, it shall be released for refile or delivery.

(2) When it is received, except as specified in (1) above, the originating station shall be informed by service message and requested to reprotect the message as a suspected duplicate. If the station which received the straggler is one of the addressees, it also shall be released for refile or delivery.

(3) Forward a routine precedence service message to the connected ASC as follows: For teletypewriter messages cite format lines 2, 15 and 16 of both messages; for DATA PATTERN messages cite format lines 2 and 16 of both messages. In addition, the time of receipt of the transmission will be included.

c. An ASC receiving notification of a straggler message transmission will perform a search to determine whether or not an actual straggler message condition exists so that corrective action can be initiated.

d. If an actual straggler message condition exists; e.g., lead and straggler messages are different, the switching center will attempt to determine the cause and forward by message, using appropriate precedence, pertinent message identification and all available details concerning the identified straggler message to the Defense Communications Agency (DCA) for evaluation and corrective action. The appropriate DCA area center(s) and the communications headquarters (CDRUSACC, COMNAVTELCOM, or AFCC) will be included as info addressees.

e. ASCs detecting a suspected straggler message will notify the input station by service message, citing the OSRI and SSN of the lead message. Stations receiving such a service message will be responsible for separating, providing the prescribed EOM, and retransmitting all messages involved to the called station(s).

315. Continued

f. ECP or FLASH messages received by ASCs with a suspected straggler attached are accepted and processed to the called station(s). The station inputting the ECP or FLASH message into AUTODIN will be notified by service message from the ASC to reprotect the suspected straggler message to the called station(s). In those instances when the input station determines that the ECP or FLASH message contained a good EOM but had an improper EOM validation sequence, no further action will be taken other than to file the service message for record purposes.

316. End-Of-Message (EOM) Validation. To inhibit straggler messages, the ASC automatically checks and compares, on input, the SSN appearing in format line 2 of each message against the corresponding EOM validation number appearing in format line 15 of teletypewriter messages or format line 16 of DATA PATTERN messages. Messages containing unlike numbers, or missing in either line, will be rejected by the ASC and the input station will be advised by an automatically generated service message of a possible straggler message condition (see paragraphs 315, 404, and 502).

317. Rules Regarding CODRESS Messages. The header of all CODRESS messages will be in the clear. CODRESS messages routed to regional defense organizations or foreign nations must contain a transmission release code in format lines 2 and 4 (See Chapter 7).

a. Some CODRESS messages may require more than one transmission, depending upon the communication facilities available for routing the message to the addressee(s). In such cases, the originating station will prepare a separate header for each transmission required. Each header will bear a separate SSN to positively identify individual transmissions. The message header of each transmission shall contain only those routing indicators, call signs or address groups necessary to effect delivery to the addressee(s) required to receive the particular transmission.

b. Transmission instructions (format line 4) shall be used in CODRESS messages when the called station is required to deliver or refile the message without decrypting it. When the called station(s) are also required to decrypt, refile, and/or deliver the message, the called station routing indicator will also appear following the Prosign "T" in format line 4.

318. Rules Regarding Special Category Messages.

a. Within the AUTODIN, Special Category (SPECAT) messages will be identified by an oblique signal (/) and use of the appropriate assigned designator, repeated five times, immediately following the five repeated security characters appearing in format line 4. In this regard, a format line 4 is required on a data transmission designated SPECAT.

Example of a TOP SECRET SPECAT SIOP-ESI Message:

PTTTZYUW RUEJDCA1579 2691430-TTTT--RUFTABA.
ZNY TTTTT/AAAAA

b. The designator "A" will be used on those SPECAT messages designated as SIOP-ESI. All other SPECAT messages will use the designator "B".

c. The designators "A" and "B" will only be used in conjunction with the SPECAT designated routing indicators listed in ACP 117 CAN-US SUPP-1, ACP 117 US SUPP-2 and/or ACP 117 US SUPP-4.

d. See Chapter 7 for additional information regarding the use of SPECAT designators.

319. Security Provisions.

a. Physical security measures for the protection of cryptographic equipment and keying material will be provided in accordance with National Security Agency (NSA) and Service directives.

b. Reels, paper tapes, messages, and files will be treated in accordance with the highest security classification contained therein.

c. Magnetic tapes will be treated in accordance with the highest security classification contained thereon, or which has been recorded thereon since the last time that tape has been degaussed by an approved type of degaussing equipment.

d. Classified residue resulting from on-line operation, including clear text message tapes, clear text message paper copies, cards, etc., will be disposed of as classified waste in accordance with the applicable Service/Agency instructions.

320-324. Reserved.

SECTION IV

TRIBUTARY STATION OPERATING HOURS

325. General. Expeditious delivery of messages to addressees require that tributary stations maintain continuous communications with their respective ASCs. Tributary stations will not arbitrarily reduce operating hours or assume unattended status.

326. Requests for Reduction or Change of Operating Hours.

a. When local conditions necessitate reduction in operating hours of a tributary station to less than 24 hours a day, seven days a week or to change the present operating hours, the requesting agency will forward requests to their connected ASC and appropriate Service/Agency headquarters and obtain approval before any reduction in operating hours is undertaken.

b. Requests for curtailment or change of operating hours will contain, but are not limited to, the following:

(1) Desired hours of operation.

(2) Average traffic volume for the proposed hours of closing, for both originated and terminated traffic over the past 90-day period.

(3) Average anticipated traffic volume for the proposed hours of closing, projected over the next twelve calendar months.

(4) Reason for curtailment or change request and customer(s) concurrence.

(5) Security measures taken to protect equipment during inoperative period.

(6) Provisions made to receive high precedence traffic during curtailed operations.

c. When part-time, change of hours or curtailed operation has been approved, strict compliance with the schedule is mandatory.

327. Tributary station Responsibilities. Tributary stations operating as a part-time terminal will be responsible for:

a. Establishing procedures with the alternate delivery station for receipt of high precedence traffic. If no alternate is specified, or when the alternate station is unable to receive traffic, respond to a request by the ASC to open for operation when traffic is received that meets time criteria specified by the Telecommunications Certification Office (TCO). A representative designated by the Commander or Officer in Charge of the closed tributary station must decide whether the station will be opened to receive traffic or whether traffic will be held at the ASC until the next scheduled hours of operation. The identity of the tributary station representative electing to open or to hold the traffic will be recorded at the ASC. ASC personnel will not be held responsible for examination of the message text to determine its importance.

b. Message delays incurred due to curtailed hours of operation. ASCs will not include message delays in their in-station handling time.

c. Providing adequate protection to station equipment against damage, theft, or fire.

d. Insuring the station remains open if in a failed line or equipment condition at the scheduled time of closure. Required maintenance will be completed or a decision made by the tributary OIC to close prior to completion of the maintenance. If the tributary OIC directs the closure of the tributary prior to completion of maintenance, the tributary OIC will advise the connected ASC shift supervisor of his decision, and give assurance that the maintainer has been requested to be at the tributary when it is scheduled to reopen to complete the required maintenance.

e. Remaining open each day until all PRIORITY precedence or higher traffic in the ASC for the tributary is cleared.

f. Providing the ASC the name and telephone number of the individual or designated representative who will be available 24 hours a day to open the tributary or make the decision to hold traffic at the ASC.

327. Continued

g. Opening and closing procedures and transmitting opening and closing notices to the connected ASC as prescibed below:

(1) Opening Procedures/Notice:

(a) The tributary will be made ready to pass traffic at the scheduled time.

(b) Tributary equipment will be checked.

(c) Circuit will be activated and tested.

(d) Equipment will be started at the direction of the ASC. Prior to transmission of traffic, an opening notice of IMMEDIATE precedence will be routed to the connected ASC CSA position and to the routing indicator of the transmitting station.

Example:

```
OTTUZYVW RUCLFBA1214 0990830-UUUU--RUCLCSA RUCLFBA.
ZNR UUUUU
BT
UNCLAS SVC 1015.  QRV 0990830
BT
#1214
NNNN
```

(2) Closing Procedures/Notice:

(a) All PRIORITY precedence or higher traffic must be cleared prior to closing.

(b) Fifteen minutes before closing, terminal stations employing Channel Sequence Numbers (CSNs) will send a closing notice of PRIORITY precedence to the connected ASC CSA position and to the routing indicator of the closing station.

Example:

```
PTTUZYVW RUCLBIA1017 1000145-UUUU--RUCLCSA RUCLBIA.
ZNR UUUUU
BT
UNCLAS SVC ZKJ2 10010002 ZID IBA124
BT
#1017
NNNN
```

327.g.(2)(b) Continued

Verify the CSN of the last good message received against the number of the returning closing notice. If the CSN of the closing notice is in sequence with the last good message received, the terminal will close. If a disparity exists, the terminal will immediately take service action in accordance with paragraph 433 and then close.

(c) Fifteen minutes before closing, terminal stations not employing CSNs will send a closing notice of PRIORITY precedence to the ASC CSA position.

Example:

```
PTTUZYVW RUCLBTA2340 1201945-UUUU--RUCLCSA.
ZNR UUUUU
BT
UNCLAS SVC ZKJ2 1210400Z
BT
#2340
NNNN
```

SECTION V

ASC OPERATIONS

328. Automatically Generated Pilots.

a. The ASC is programmed to automatically generate a line 1 pilot for all message formats prescribed in paragraph 302 when:

(1) A suspected duplicate transmission is generated (ZFDY).

(2) A collectively routed message is alternatively routed to another station (ZZGW).

(3) A combination of the conditions listed above occur (IJJY).

b. The appropriate content indicator code/communication action identifier from Annex B will be inserted, as required, in positions 5 through 8 of the line 1 pilot.

c. The routing indicator of the ASC generating the pilot is inserted in the record count field of the line 1 pilot.

d. Except as specified in b and c above, all other elements of the pilot through the start-of-routing signal are identical to those contained in format line 2 of the original message.

Examples of ASC Automatically Generated Pilots:

(1) Suspected Duplicate (ZFDY).

FORMAT LINE	CONTENTS
1	(TI) (as required)
1	RTTUZFDY RUCIABA1234 1741430 RUWT-UUUU--RUWTPPA.
2	RTTUZYUW RUCIABA1234 1741430-UUUU--RUWTPPA.
4	ZNR UUUUU
5	R 231400Z JUN 69
	Remaining format lines

(2) Collectively Routed Message.

328.d.(2) continued

FORMAT LINE	CONTENTS
1	RTTUZZGW RUEBABA1234 1741530 RUEB-UUUU--RUEBEFA.
2	RTTUZYUW RUEBABA1234 1741530-UUUU--RUCRCEO.
4	ZNR UUUUU
5	R 231445Z JUN 73
	Remaining format lines

(3) Suspected Duplicate and Collective Alternate (IJJY).

FORMAT LINE	CONTENTS
1	RCCCIJJY RUEOABA1234 1741715 RUEO-CCCC--RUEOLFA.
2	RCCCDAAA RUEOABA1234 1741715 0050-CCCC--RUCRCEO.
12I	TEXT - 48 CARDS
16	RCCCDAAA RUEOABA1234 1741715 0050-CCCC NNNN

e. ASC generated line 1 pilots must be removed prior to reintroduction of the message.

329. Automatically Generated Service Messages.

a. The ASC, upon detection of certain header and EOM format errors, will advise the violating station by means of an automatically generated service message. Stations charged with onward relay of traffic may receive automatically generated service messages from an ASC. These stations will interpret such service messages as being addressed to them and, when required, are responsible for processing these messages in a format suitable for delivery to the station having originated the message being serviced.

b. All ASC automatically generated service messages are identifed by use of the letters "CSD" appearing as the 5th, 6th, and 7th letters of the OSRI; e.g., RUCICSD or RUFLCSD.

c. ASC automatically generated service messages destined for Modes II and V stations will, when appropriate, cite the transmission identification number of the message being serviced in addition to the OSRI, SSN and the Julian date and time filed.

d. The appearance of "REJ" or "ACC" at the end of service message text indicates that the message being serviced was either "rejected" or "accepted" by the ASC. Stations in receipt of service messages which indicate "REJ" are responsible for reprotection of the involved message to the appropriate addressee(s).

329. Continued

e. Listed below are examples of ASC automatically generated service messages along with the reason(s) for its generation and action to be taken upon receipt.

(1) Invalid Channel Designator.

```
VZCZCBAA233
PTTUZYVW RUEDCSD0001 2721400-UUUU--RUEDABA.
ZNR UUUUU
UNCLAS SVC RUEDABC1234 2731359
INVALID CD EXPECTED ABA130 RCVD BBA130 REJ/ACC
#0001
NNNN
```

Reason:

(a) Generated when the three-letter station/channel designator is received invalid.

(b) ECP/FLASH traffic will be accepted for processing.

(c) Precedence of service message will equal that of rejected message.

(d) Applicable to Modes II and V.

Action Required:

(a) Check for possible equipment malfunction.

(b) Correct the channel designator letters and reprotect the identified message to all addressees.

(c) Suspected duplicate procedures are not required.

(2) Invalid Channel Sequence Number.

```
VZCZCBAA233
PTTUZYVW RUEBCSD0002 2721405-UUUU-RUEBDEA.
ZNR UUUUU
UNCLAS SVC RUEBDEA1234 2721400
INVALID CSN EXPECTED DEA125 RCVD DEA129 ACC
#0002
NNNN
```

329.e.(2) Continued

Reason:

(a) Generated when the received CSN is either non-numeric or out of sequence.

(b) Traffic will be accepted for processing.

(c) Precedence of service message will equal that of rejected message.

(d) Applicable to Modes II and V.

Action Required: Check for possible equipment malfunction.

(3) Open Channel Sequence Number.

```
VZCZCBAA233
OTTUZYVW RUWJCSD0003 0411201-UUUU--RUWJDEA.
ZNR UUUUU
UNCLAS SVC
ZFX DEA015 THRU DEA023
#0003
NNNN
```

Reason:

(a) Generated when an open number is detected; i.e., a sequential number for which no transmission was received.

(b) Precedence of service message will always be IMMEDIATE precedence.

(c) Applicable to Modes II and V.

Action Required: Determine if a transmission(s) was involved. If a transmission(s) was involved, the message(s) will be retransmitted as a suspected duplicate.

(4) Invalid Routing Field.

```
(TI) (as required for Mode II/V)
PTTUZYVW RUWMCSD0006 2721630-UUUU--RUWMABA.
ZNR UUUUU
UNCLAS SVC ABA006 RUWMABC1234 2721622
INVALID ROUTING FIELD REJ
#0006
NNNN
```

329.e.(4) Continued

Reason:

(a) Generated when invalid separators (spaces) or end-of-line functions are found; any RI is found which is more than seven alphabetic characters; a non-alphabetic character or small ASCII alphabetic characters appears in the routing field.

(b) Precedence of service message will equal that of rejected message.

(c) Applicable to Modes I, II and V.

Action Required:

(a) Check for possible equipment malfunction.

(b) Check tape/card for possible error within routing field.

(c) Correct and reprotect the identified message to all addressees.

(d) Suspected duplicate procedures are not required.

(5) Excessive Routing Field.

(TI) (as required for Mode II/V)
PTTUZYVW RUEOCSD0007 0401204-UUUU--RUEODEA.
ZNR UUUUU
UNCLAS SVC DEA007 RUEODEA0119 0401200
EXCESSIVE ROUTING FIELD REJ
#0007
NNNN

Reason:

(a) Generated when the EOR signal does not appear within the first 4480 characters or 500 routing indicators.

(b) Precedence of service message will equal that of rejected message.

(c) Applicable to Modes I, II and V.

329.e.(5) Continued

Action Required:

(a) Message contains over 500 routing indicators. Two separate transmissions will have to be made, limiting each to a maximum of 500 routing indicators.

(b) Suspected duplicate procedures are not required.

(6) Invalid Security Field.

(TI) (as required for Mode II/V)
OTTUZYVW RUDOCSD0008 2721919-UUUU--RUDOABA.
ZNR UUUUU
UNCLAS SVC ABA008 RUDOABC1234 2721911
INVALID SECURITY FIELD REJ SEC TRC SRC
#0008
NNNN

Reason:

(a) Invalid Security Field - REJ. Generated when an error occurs with the operating signals ZNR or ZNY in format line 4, i.e., extraneous, illegal characters, non-alphas, mispositioned field, etc.

(b) Invalid Security Field - SEC. Generated if an error occurs in positions 4 or 30-31 (35-36 of DATA PATTERN messages) of format line 2, or if an error occurs within the first three characters of the security redundancy field of format line 4. Also generated if the classification characters in format lines 2 and 4 do not match or if the message classification exceeds the security level of the circuit.

NOTE: Errors in positions 32-33 (37-38 of DATA PATTERN messages) in format line 2 or errors in the last two characters of the security redundancy field of format line 4 will be treated as TRC rejects (see (c) below).

(c) Invalid Security Field - TRC. Generated if the message is addressed and routed to a regional defense organization or foreign nation and the TRC in format lines 2 and 4 do not match. Also generated if errors occur in positions 32-33 (37-28 for DATA PATTERN messages) of format line 2 or the last two characters of the security redundancy field of format line 4.

329.e.(6) Continued

(d) Invalid Security Field - SRC. Generated if the message is a SPECAT and entry is attempted beyond the SPECAT level authorized for the input terminal. Also generated if errors occur in the SPECAT field; i.e., extraneous characters, illegal characters, non-alphas, mispositioned fields, etc. The presence of four redundant contiguous characters within the fifteen characters immediately following the security redundancy in format line 4 will also create the condition.

(e) Precedence of service message will equal that of the rejected message.

(f) Applicable to Modes I, II and V.

Action Required:

(a) Check for possible equipment malfunction.

(b) Check tape/card for possible error within security field.

(c) Correct and reprotect identified message to all addressees.

(d) If rejection was due to improper classification for the input channel, reprotect the identified message by authorized means. A determination will be made as to whether the message was subject to compromise. Service/Agency directives provide guidance for security compromise procedures.

(7) Invalid Header.

(TI) (as required for Mode II/V)
RTTUZYVW RUCLCSD0004 2721628-UUUU--RUCLABA.
ZNR UUUUU
UNCLAS SVC ABA004 RUCLABC1234 2721622
INVALID HEADER REJ/ACC
#0004
NNNN

Reason:

(a) Generated for invalid header fields up through the start-of-routing (--). This includes the precedence, LMF, CIC, OSRI, OSSN, TOF, Record Count (non-numeric), start-of-routing signal, and all separator fields including the hyphen preceding the repeated classification characters.

329.e.(7) Continued

(b) ECP/FLASH traffic will be accepted with errors in LMF, CIC, OSSN and TOF for processing.

(c) Precedence of service message will equal that of rejected message.

(d) Applicable to Modes I, II and V.

Action Required:

(a) Check for possible equipment malfunction.

(b) Check tape/card for possible error within header fields.

(c) Correct and reprotect the identified message to all addressees.

(d) Suspected duplicate procedures are not required.

(8) Invalid Routing.

(TI) (as required for Mode II/V)
OTTUZYVW RUWTCSD0005 1231234-UUUU--RUWTABA.
ZNR UUUUU
UNCLAS SVC ABA005 RUWTABC0072 1231230
INVALID ROUTING REPROTECT TO:
RUWTAAA-INV RUWTBBB-SEC RUWTCCC-LMF
RUWTDDD-TRC RUWTEEE-SRC RUWTFFF-MFE
#0005
NNNN

Reason:

(a) Generated for invalid routing indicators, TRC or SPECAT designators. Routing indicators are invalid because:

1 INV - The RI does not appear in local ASC routing tables. First character must be "R".

2 SEC - Message security classification exceeds the level authorized for the addressee destination.

3 LMF - The addressee destination does not have the capability to receive the message with stated media.

329.e.(8) Continued

4 TRC - The routing indicator in the message does not match the transmission release code in format lines 2 and 4.

5 SRC - The SPECAT designator contained in format line 4 exceeds that of the output line.

6 MFE - Message is destined for a narrative addressee and does not contain a valid format line 4 or is a piloted DATA PATTERN message routed to an ACP 127 format addressee.

(b) Precedence of service message will equal that of the rejected message.

(c) Applicable to Modes I, II and V.

Action Required:

(a) Determine the correct routing indicator and the identified message will be reprotected only to the correct routing indicator.

(b) Suspected duplicate procedures are not required.

(9) High Precedence Message Accept.

```
VZCZCBAA233
OTTUZYVW RUFTCSD0009 2721921-UUUU--RUFTABA.
ZNR UUUUU
UNCLAS SVC R Z ABA009 RUFTABC2012 2721920
#0009
NNNN
```

Reason:

(a) Generated when a ECP/FLASH message has been accepted from a Mode II station.

(b) Precedence of service message will always be assigned IMMEDIATE precedence.

(c) Applicable to Mode II.

Action Required: Upon receipt, file for record purposes.

329.e. Continued

(10) Suspected Straggler.

(TI) (as required for Mode II/V)
OTTUZYVW RUADCSD0012 2722001-UUUU--RUADABA.
ZNR UUUUU
UNCLAS SVC ABA010 RUADABC1234 2721234
SUSPECTED STRAGGLER REJ
#0012
NNNN

Reason:

(a) Generated when messages, except ECP/FLASH, fail EOM straggler validation check; i.e., absence of a # or the four numerics do not agree with the SSN in the header.

(b) Precedence of service message will always be assigned IMMEDIATE precedence.

(c) Applicable to Modes I, II and V.

Action Required:

(a) Determine if a straggler did exist.

(b) If straggler did exist, action should be taken to separate messages involved and provide proper EOM sequence for both messages. Reprotection to all addressees is required.

(c) If straggler did not exist, action should be taken to ensure proper EOM validation sequence exists and transmit identified message to all addressees.

(d) Suspected duplicate procedures are not required.

(11) High Precedence Straggler.

(TI) (as required for Mode II/V)
OTTUZYVW RUHHCSD0012 2722009-UUUU--RUHHABA.
ZNR UUUUU
UNCLAS SVC ABA011 RUHHABC1234 2722007
HI PREC MESSAGE ACCEPTED
PROTECT SUSPECTED STRAGGLER
#0012
NNNN

329e.(11) Continued

Reason:

(a) Generated when ECP/FLASH messages fail EOM straggler validation check; i.e., absence of a # or the four numerics do not agree with the SSN in the header.

(b) Precedence of service message will always be assigned IMMEDIATE precedence.

(c) Applicable to Modes I, II and V.

Action Required:

(a) Determine if a straggler did exist.

(b) Straggler messages will be protected as suspected duplicates.

(c) In those instances where the identified FLASH message contained a good EOM, but had an improper EOM validation sequence, no further action is required.

(12) Invalid EOM Sequence.

(TI) (as required for Mode II/V)
OTTUZYVW RUMMCSD0013 2731205-UUUU--RUMMABA.
ZNR UUUUU
UNCLAS SVC ABA012 RUMMABC1234 2731200
INVALID EOM REJ
#0013
NNNN

Reason:

(a) Generated when a valid EOM sequence is not found.

1 The letter "N" is not in Column 80 in a single card message.

2 The letters "NNNN" are not the last four characters in a series card message.

3 A "LFNNNN" is not found on a Mode I teletype message.

4 Under certain ASC internal error conditions, this message may be generated on Mode II and V input.

329.e.(12) Continued

(b) Precedence of service message will equal that of rejected message.

(c) Applicable to Modes I, II and V.

Action Required:

(a) Check for possible equipment malfunction.

(b) Check for proper EOM sequence and correct any errors found.

(c) Retransmit identified message to all addressees.

(d) Suspected duplicate procedures are not required.

(13) Input Message Timeout.

(TI) (as required for Mode II/V)
RTTUZYVW RUMLCSD0014 2731313-UUUU--RUMLDEA.
ZNR UUUUU
UNCLAS SVC DEA013 RUMLDEA0130 2731310
NO EOM RCVD REJ
#0014
NNNN

Reason:

(a) Generated when a input transmission has been interrupted in excess of approximately three minutes without the receipt of the EOM function.

(b) Precedence of service message will equal that of rejected message.

(c) Applicable to Modes I, II and V.

Action Required:

(a) Reprotect identified message to all addressees.

(b) Suspected duplicate procedures are not required.

329.e. Continued

(14) Excessive Message Length.

(TI) (as required for Mode II/V)
RTTUZYVW RUCICSD0015 2731344-UUUU--RUCIDEA.
ZNR UUUUU
UNCLAS SVC DEA014 RUCIDEA0149 2731314
EXCESS MSG LENGTH REJ
#0015
NNNN

Reason:

(a) Generated when a message exceeds the allowable limit as follows:

1 Mode I and Mode V message exceeded 550 line blocks or 44,000 characters.

2 Mode II message exceeded 125 line blocks or 10,000 characters.

(b) Precedence of service message will equal that of rejected message.

Action Required:

(a) Separate the identified message into tranmission sections and reprotect to all addressees.

(b) Suspected duplicate procedures are not required.

(15) Two Consecutive SOMs.

(TI) (as required for Mode II/V)
PTTUZYVW RUFLCSD0016 2731351-UUUU--RUFLABA.
ZNR UUUUU
UNCLAS SVC ABA015 RUFLABA2314 2731347
TWO CONSEC SOMS REJ
#0016
NNNN

Reason:

(a) Generated when two consecutive SOMs are received and detected by the ASC without an intervening EOM sequence.

329.e.(15) Continued

(b) Precedence of service message will equal that of rejected message.

(c) Applicable to Modes II and V.

Action Required:

(a) Check for possible equipment malfunction.

(b) Check identified message for extraneous "ZCZC".

(c) Reprotect identified message to all addressees.

(d) Suspected duplicate procedures are not required.

(16) Channel Continuity Verification.

(TI) (as required for Mode II)
PTTUZYVW RUFTCSD0017 2731511-UUUU--RUFTABA.
ZNR UUUUU
UNCLAS SVC ZID ABA012
#0017
NNNN

Reason:

(a) Generated when 30 minutes have elapsed with no receipt of traffic by the ASC.

(b) Precedence of service message is always assigned PRIORITY precedence.

(c) Applicable to Mode II.

Action Required:

(a) Determine that the CSN reported as the last received is correct.

(b) If station records agree with reported CSN, the following service message will be transmitted:

329.e.(16) Continued

(TI)
PTTUZYVW RUFTABA1254 2731516-UUUU--RUFTCSA.
ZNR UUUUU
UNCLAS SVC RUFTCSD0017 2731511
ZIC ABA012
#1254
NNNN

(c) If stations records do not agree with reported CSN, the terminal station will take whatever action is necessary to establish contact with the ASC and ascertain the status of traffic.

(17) Invalid Block Count.

PTTUZYVW RUHJCSD0020 2731734-UUUU--RUHJMSA.
ZNR UUUUU
UNCLAS SVC RUHJMSA0444 2731649
INVALID RECORD COUNT REJ
#0020
NNNN

Reason:

(a) Generated when the record count field in a data message is less than three or greater than 500 or when number of cards received does not agree with the record count in message header. Messages with MTMS in record count of header, the count will be validated against record count shown in the EOT card.

(b) Precedence of service message will equal that of rejected message.

(c) Applicable to Mode I.

Action Required:

(a) Check for possible equipment malfunction.

(b) Check message header/EOT for error and reprotect identified message to all addressees.

(c) Suspected duplicate procedures are not required.

329.e. Continued

(18) Reprotect all Addressees.

(TI) (as required for Mode II/V)
OTTUZYVW RUEADCSD0022 0421754-UUUU--RUEDNXA.
ZNR UUUUU
UNCLAS SVC NXA189 RUEDNXA0789 0421753
REPROTECT TO ALL ADDRESSEES
#0022
NNNN

Reason:

(a) Generated when the ASC experiences an internal error during receipt of an incoming message.

(b) Precedence of the message will equal that of the rejected message. If the precedence is invalid or cannot be determined, the precedence of the service message will be IMMEDIATE.

(c) Applicable to Modes I, II and V.

Action Required:

(a) Reprotect identified message to all addressees.

(b) Suspected duplicate procedures are not required.

(19) Traffic being CARPed.

(TI) (as required for Mode II/V)
OTTUZYVW RUEBCSD0021 2731833-UUUU--RUEBABA.
ZNR UUUUU
UNCLAS SVC
TRAFFIC BEING ALT-ROUTED TO YOUR STATION
VIA CARP. CONSULT RESTORAL PLAN.
#0021
NNNN

Reason:

(a) Generated to recipient tributary station when ASC invokes a CARP (Contingency Alt-Route Program) altroute.

329.e.(19) Continued

(b) Precedence of service message is always assigned IMMEDIATE precedence.

(c) Applicable to Modes I, II and V.

Action Required: Recipient station will protect the altrouted traffic by established means.

(20) Control Character Sequence.

(TI) (as required for Mode II/V)
PTTUZYVW RUFLCSD0863 1641701-UUUU--RUFLFSA.
ZNR UUUUU
UNCLAS SVC RUFLFSA1818
INVALID CONTROL CHARACTER SEQUENCE RECEIVED
REPROTECT TO ALL ADDRESSEES.
#0863
NNNN

Reason:

(a) Generated when ASC program encounters an invalid sequence of control characters.

(b) Applicable for Modes II and V.

Action Required:

(a) Upon receipt, retransmit the identified message.

(b) If further attempts to input the message are unsuccessful, notify maintenance personnel.

(c) Reprotect identified message to all addressees.

(21) Unauthorized Use of a Collective Routing Indicator (CRI).

(TI) (as required for Mode II/V)
OTTUZYVW RUFTCSD1625 1821803-UUUU--RUFTBDA.
ZNR UUUUU
UNCLAS SVC RUFTBDA0462 1821801
UNAUTHORIZED USE OF CRI-REJ
#1625
NNNN

329.e.(21) Continued

Reason:

(a) Generated when an unauthorized introduction of a collective routing indicator is attempted.

(b) Generated when attempting to input the output CRI of RUCR.

(c) Applicable for Modes I, II and V.

Action Required: See paragraph 305.c.

(22) Unauthorized Use of Emergency Command Precedence (ECP).

(TI) (as required for Mode II/V)
OTTUZYVW RUAOCSD9694 2021450-UUUU--RUAOLFA.
ZNR UUUUU
UNCLAS SVC RUAOLFA1413 2021449
UNAUTHORIZED USE OF ECP-REJ
#9694
NNNN

Reason:

(a) Generated when an unauthorized introduction of the ECP is attempted.

(b) Applicable for Modes I, II and V.

Action Required:

(a) If entry is authorized, immediately contact the ASC and determine reason for rejection.

(b) If reintroduction of the message is necessary, see paragraph 429.e.(3).

(23) Duplicate Channel Sequence Number.

VZCZCBAA233
PTTUZYVW RUFTCSD0014 0621453-UUUU--RUFTOWA.
ZNR UUUUU
UNCLAS SVC RUFTOWA0647 0621422
DUPE CSN EXPECTED OWA011 REC OWA010 ACC/REJ
#0014
NNNN

329.e.(23) Continued

Reason:

(a) Generated when a CSN is duplicated.

(b) ECP/FLASH traffic will be accepted for processing and CSN counter will be incremented by one.

(c) Precedence of service message will equal that of the rejected message.

(d) Suspected duplicate procedures not applicable.

(e) Applicable for Moes II and V.

Action Required:

(a) Check for possible equipment malfunction.

(b) Reprotect the identified message to all addressees.

(c) Applicable to Modes II and V.

330. Cancelling Transmissions.

a. When a message has not been completely transmitted and prior to any further transmission, the ASC will generate a cancel transmission (CANTRAN) notice to Modes II, IV, and V terminals.

b. The ASC CANTRAN notice will consist of (2CR)(1LF), four-letter routing indicator of the involved ASC, three station/channel designator letters, three digit channel sequence number, the prosigns E E E E E E E E AR, followed by (2CR)(8LF)(4Ns)(25LTRS).

Example:

(2CR)(1LF)RUCIABC123 E E E E E E E E AR(2CR)(8LF)NNNN(25 LTRS).

c. Terminal stations receiving CANTRAN notices will file them as a communications record. Delivery to the addressee will not be accomplished.

331. Invalid Routing Indicators.

a. Messages assigned invalid routing indicators cannot be accepted by the ASC. It is the responsibility of the originating station to ensure that all message routing indicators are valid.

b. ASC invalid routing indicator rejection procedures are as follows:

(1) Single Call Messages.

(a) A single call message with an invalid routing indicator and addressed to tributary connected to the same ASC as the originating station will be rejected by the ASC. Correction and reintroduction of the message into the network is the responsibility of the originating station.

(b) A single call message with an invalid routing indicator and addressed to a tributary connected to another ASC will be accepted by the parent ASC. However, the ASC assigned delivery responsibility will automatically generate a service message notifying the originating station of the invalid routing indicator. The originating station will correct the routing indicator and reintroduce the message into the network.

(2) Multiple Call Messages.

(a) Multiple call messages containing at least one valid routing indicator will be accepted by the ASC. The ASC will protect the message to any valid routing indicator(s) and automatically generate a service message notifying the originating station of the invalid routing indicator(s). The originating station will correct the invalid routing indicator(s) and reintroduce the message into the network. The message will not be reprotected to the valid routing indicator(s).

(b) If all routing indicators are invalid, the message will be rejected by the ASC. This condition will only occur if all addressees and the transmitting station are connected to the same ASC. The originating station must correct the invalid routing indicators and reintroduce the message into the network.

(c) The transmitting tributary station may receive more than one service message notifying them of invalid routing indicators contained in the same message; e.g., a message addressed to tributaries of two or more relays with invalid routing indicators. The originating station must correct all invalid routing indicators and reintroduce the message into the network. The message will not be reprotected to valid routing indicators.

331. Continued

c. The ASC does not validate the seventh letter of routing indicators, with the exception of collective routings; therefore, it is possible for a tributary station to receive a message with the seventh letter of the routing indicator invalid. The receiving station will notify the originating station by service message of the invalid routing indicator. The service message will contain the OSRI, SSN, date and time filed, the invalid routing indicator, and the action taken by the receiving station. If delivery by the receiving station cannot be effected, the originating station must correct the invalid routing indicator and reintroduce the message into the network addressed only to the corrected routing indicator.

332. Contingency Alternate Routing Program (CARP).

a. Inherent in all ASCs is a program identified as the CARP. This program provides an automatic capability of routing a message destined for an identified station to an alternate station not necessarily connected to the same ASC. CARP can be used to alleviate backlogs, for traffic management, or during a contingency condition; e.g., ASC failure. CARP cannot be applied to messages routed by a collective routing indicator.

b. Prior to implementing CARP, the ASC will automatically notify the alternate delivery station responsible for delivery protection of messages.

Example:

```
OTTUZYVW RUEBCSD1214 2731845-UUUU--RUEBABA.
ZNR UUUUU
UNCLAS SVC
TRAFFIC IS BEING ALT-ROUTED TO YOUR STATION VIA CARP.
CONSULT RESTORAL PLAN.
#1214
NNNN
```

c. Messages altrouted under CARP will not contain a pilot to indicate delivery protection responsibility by the recipient station.

d. Messages received under CARP will not be reintroduced into the network while CARP is in effect unless properly piloted or a header change performed. Messages reintroduced into the network without a pilot or header change will be transmitted back to the violating station while CARP is still in effect.

333. Message and Record Retention.

a. History Tape "A" will be retained for furnishing retransmissions and analysis for a period of 30 days. It will be held beyond the 30-day period for completion of tracer or other investigative action on hand.

b. History Tape "B" will be retained for a period of 10 days unless associated History Tape "A" is unusable.

334. Transmission Identification Validation.

a. The ASCs are programmed to automatically validate the Transmission Identification (TI) assigned to Nodes II, IV, and V teletypewriter originated messages as prescribed in paragraph 403.

b. The start of message will be verified to be ZCZC. The station/channel identification will be validated to be the unique three alpha characters assigned to the channel. A message containing an error in the station/channel identification will be rejected or accepted when the message is high precedence and an automatic service message generated.

c. The Channel Sequence Number (CSN) will be validated to be three numeric characters. Any CSN that does not contain the numerics required to maintain an unbroken numbering sequence or contains alpha characters will be considered as out of sequence and an automatic service message generated.

335-339. Reserved.

SECTION VI

UNAVOIDABLE DELAYS

340. Unavoidable Delays. Delays may be caused by circuit or equipment failures. Upon approval of the station Officer-In-Charge (OIC), messages subject to delay because restoration of service is not anticipated in the subsequent 24 hours will be forwarded to the addressee station via courier or air mail if the situation warrants such action. Prior to the forwarding of traffic, telephonic coordination with the addressee stations concerned should be accomplished, if possible, to determine the most desirable means for forwarding the messages. In the event courier service is requested, mutually satisfactory arrangements will be made in accordance with separate Service/Agency instructions.

a. The following information will be attached to each message:

> "TO THE ADDRESSEE: Because of disruption of communications facilities creating conditions beyond our control, air mail or courier handling of the attached message has been necessary."

b. A list will accompany the message(s) identifying each message so forwarded by station serial number, record count, precedence and date-time. This record will be retained by the receiving station. A duplicate will be filed in the forwarding station record. Stations receiving messages by air mail or courier are not required to acknowledge receipt of each individual message, but will originate a service message to the forwarding station acknowledging receipt by identifying the shipment. When delay occurs, caution must be exercised to insure that precedence is recognized and maintained.

c. In many instances the data on magnetic tapes must be translated by the AUTODIN system to become compatible with the addressee's equipment. Magnetic tape messages must not be forwarded in this fashion without the express approval of the originator and addressee. In cases where the field data processing activities are controlled by a centralized authority, that authority may dictate the policy concerned in forwarding magnetic tapes by means other than AUTODIN.

340. Continued

d. Stations forwarding traffic by means other than the AUTODIN are not required to submit separate reports outlining the circumstances unless requested to do so by the addressee or other competent authority. However, station records will be maintained for not less than 30 days to allow the following information to be furnished upon demand:

(1) Message header information.

(2) Time and date of relay.

(3) Volume of traffic in terms of messages and record counts.

(4) Forwarding method.

(5) Time and date forwarded.

(6) Cause for communication disruption.

(7) Alternative routes used.

(8) Other facts as applicable.

SECTION VII

COMMUNICATIONS IMPROVEMENT REQUIREMENTS

341. Defense Communications System (DCS) Message Quality Control Program.

a. ACP 121 US SUPP-1, Chapter IX, Section III, prescribes that all DCS AUTODIN stations/switching centers, non-automatic relay, minor relay, and tributary stations are required to establish and maintain a continuing message quality control program to provide reliable and accurate service to authorized users of the DCS.

b. Execution of the DCS Message Quality Control Program at AUTODIN stations shall be accomplished in accordance with requirements set forth in paragraph 913 of ACP 121 US SUPP-1.

c. All minor relay and tributary stations will conduct message quality control tests on their circuits, and each transmitting device on their equipment (except magnetic tape), at least twice daily, as prescribed below.

(1) When only US network stations are involved, message quality control procedures will be established between relays and tributaries having connected channels of communications.

(2) To insure that traffic is handled with minimum of errors caused by circuit distortion, or equipment malfunction, each channel connecting relay stations, relay and tributary stations, in-station processing equipment, and multiple address processing units will be tested daily as indicated below:

(a) Testing of channels/equipment.

1 Channels connecting relay stations (except ASCs) will be tested at least twice daily in accordance with schedule agreed upon by the stations involved.

2 Channels between relays and tributary stations will also be tested at least twice daily. Tributary stations will be responsible for originating channel checks or test messages as appropriate.

341.c.(2)(a) Continued

3 Multiple address processing units, cross field circuits or other in-station processing equipments will be tested a minimum of three times daily or more frequently when large traffic volumes are being processed.

(b) Channels checks or test messages used to conduct quality control test messages will be prepared as a self-addressed abbreviated PLAINDRESS message and will be assigned a precedence of PRIORITY or lower. When prepunched tapes are used to transmit self-addressed test messages, the message header fields representing the SSN and date-time of file will be filled with zeros.

Example:

```
RTTUZYVW RUFTADA0000 0000000-UUUU--RUFTADA.
ZNR UUUUU
BT
UNCLAS SVC MSG QUALITY CONTROL TEST
THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG 1234567890
THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG 1234567890
RYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRY
RYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRY
BT
#0000
NNNN
```

d. Additional actions to furnish information or instructions concerning changes affecting operations and personnel actions at AUTODIN stations will include:

(1) Pre-shift briefings of operating personnel at switching centers, relay and tributary stations.

(2) A daily reading file or bulletin maintained at each station.

e. Formal direct action shall be instituted on all detected operating deficiencies as outlined in paragraph 342.

342. Reporting Operating Deficiencies.

a. Operating deficiencies shall be reported immediately to the designated supervisory personnel. These deficiencies include, but are not limited to:

342.a. Continued

(1) Inaccurately prepared messages;

(2) Misrouted messages; and,

(3) Garbled traffic caused by malfunctioning circuits or equipments. The station supervisor will initiate corrective action for deficiencies occurring within his own station. Deficiencies occurring at other AUTODIN stations shall be reported to the supervisor of the station concerned by service message.

b. Service messages reporting operating deficiencies will be addressed to the OIC of the station involved and will contain the abbreviation CIM (Communications Improvement Memorandum) immediately following the OIC designation, e.g., FOR OIC-CIM. These service messages will contain a concise explanation of the apparent operating deficiency and, if required, pertinent identification of any messages involved, plus citing the applicable paragraphs of this or other jointly approved publications which have been violated. CIM notifications to an individual station will be accumulated on a daily basis by the ASC and transmitted to each station concerned in a separate, single-call service message. Total messages and line blocks will also be shown. Switching centers and other relay stations preparing and transmitting operating deficiency notifications will maintain complete files so such information may be considered for inclusion in the monthly communications operating performance summary. Recurring operating deficiencies which cannot be resolved by local coordination will be forwarded to the designated jurisdictional command/authority as prescribed in ACP 121 US SUPP-1, paragraph 913.b.(1)(c).

SECTION VIII

HYBRID AUTODIN RED PATCH SERVICE (HARPS)

343. Hybrid AUTODIN Red Patch Service (HARPS). Terminal stations connected to the same ASC that have a requirement to exchange large quantities of data traffic on a scheduled basis, may elect to use HARPS. The service provides a means of direct, subscriber to subscriber, link by link encrypted, circuit connectivity using the same circuit and equipment normally used in the Message Switching (MS) component of the network. Under HARPS, the subscriber's access circuits will be removed from the switching center red patch panel. While in the HARPS condition, the speed of operation is governed by terminal equipment and circuit characteristics. Generally the operating speed under a HARPS configuration is 400 cpm while normal MS operating speed may be 200 or 100 cpm. The following criteria must be met to obtain HARPS service:

a. Minimum of two terminals configured with compatible equipment and circuit speeds.

b. Reliable alternative route for protection of high precedence MS traffic during periods in which subscribers are directly connected.

c. Predetermined schedule for operating in directly connected mode.

d. Both subscribers be connected to the same switching facility.

NOTE: This service is available only in the CONUS.

SECTION IX

MESSAGE CORRECTION NOTICE

344. Message Correction Notice (DD Form 1503). The Message Correction Notice is a multi-purpose form designed to provide the communications facility with a means of notifying originators of message discrepancies (See Figure 3-1).

DD FORM 1503
MESSAGE CORRECTION NOTICE

(To be published later)

Figure 3-1

CHAPTER 4

TELETYPEWRITER MESSAGES

SECTION I

RULES

401. General Rules. The following rules apply to the preparation of teletypewriter messages.

a. Teletypewriter messages will be prepared in either PLAINDRESS, ABBREVIATED PLAINDRESS, or CODRESS formats as specified in paragraph 302 and Annex C.

b. Teletypewriter messages may be prepared in DATA PATTERN (paragraph 302.d.) format only by mutual agreement between the message originator and all addressees, provided the message contains minimum format lines prescribed for teletypewriter messages.

c. The text of messages will be prepared for transmission as written. No changes are authorized subsequent to approval and signature of the releasing official except as specified in subparagraph h below and paragraph 452.c.

d. The message header must be accurately prepared. Back spacing, lettering out, double spacing, or the use of two or more FIGURES and LETTERS functions in sequence will cause the ASC to reject the message during attempted transmission from the originating station.

e. Each line of a teletypewriter message, including format line 2, is limited to 69 characters and shall end with two carriage returns and one line feed (2CR)(1LF).

f. Teletypewriter messages prepared for card delivery (LMF TC or AC) may contain 80 characters per line in the text of the message.

g. To insure acceptance and transmission of the first character of the message header, it will be preceded by at least six blanks and six letters functions with five level Baudot code (LMF T) or at least six NULLS and six delete functions with ASCII code (LMF A).

401. Continued

h. When it is determined that a message must be commercially refiled, all colon (:) symbols appearing in the message text shall be converted to the abbreviation "CLN" by the originating station. The DCS joint commercial refile station shall convert the colon (:) symbol to the abbreviation "CLN" when this function has not been performed by the originating station.

i. The FIGURES (upshift) key will always be depressed after the space separating groups of figures or uppercase characters in a series except in the message header. The LETTERS (downshift) key will also be depressed after the last digit of the EOM validation number in format line 15 prior to the end-of-message function.

j. The bell signal will not be inserted on originated ECP or FLASH messages. The ASC will generate the bell signal on ECP and FLASH messages transmitted to Modes II, IV and V tributary stations. Those stations operating in Modes I and III will receive both the high precedence alarm and bell signal.

k. All punctuation and symbols available on US military teletypewriter equipment may be used in US networks. However, the following punctuations will apply when a message contains other than US routing indicators in format line 2: "-", "?", ":", "()", ".", and ",". If an originator has used one of the authorized abbreviations laid down in the ACP 121 series instead of a symbol, the abbreviation will not be changed by the communications center.

l. Messages assigned a dual precedence will indicate the higher precedence in format line 2 and both precedences in format line 5. When a dual precedence of ECP or FLASH and a lower precedence is assigned, the originating station will make separate transmissions; i.e., one transmission to the station(s) serving the ACTION addressee(s) with ECP or FLASH precedence in format line 2, and the other to the station(s) serving the INFORMATION addressee(s) with the lower precedence in format line 2. Only one transmission will be made to a station serving both ACTION and INFO addressees.

m. Identical date-time groups (format line 5) will not be assigned to two or more messages by the same originator unless the message can be further identified by office symbol or cite/reference numbers in the text. The date-time group may be the same as, earlier or later than the filing time.

401. Continued

n. Tributary station operating procedures will insure that a record is made of the time-of-file (TOF) and the time available for delivery (TAD). These times will be used when determining message processing times; the TOF may or may not correspond to the message header file time depending upon whether the message preparation was manual or automated means.

402. Rules Regarding Message Lengths.

a. To facilitate reproduction of incoming messages by distribution centers, all messages exceeding a total of 20 lines of heading and text, beginning with format line 5, will be divided into pages for transmission.

(1) Each page will consist of not more than 20 lines.

(2) Line count for the first page shall begin with format line 5 of the message heading and continue for a total of 20 lines including succeeding lines of the heading.

(3) Second and succeeding pages shall be identified by the page number, the routing indicator of the station of origin and the station serial number. The number sign (#) will not be used preceding the station serial number. When message text is transmitted in plain language, the security classification, Special Category Term (SPECAT) and SPECAT designator; i.e., SPECAT SIOP-ESI, or Special Handling Designation; i.e., US-UK EYES ONLY, or the abbreviation UNCLAS shall be included as part of the page identification of second and succeeding pages. One space shall be inserted following each letter of the security classification and EFTO. Page identification shall appear on a separate line, and shall not be included in the line count as in (1) above. Example: Page 2 RUEDABA0123 C O N F I D E N T I A L (2CR)(1LF). Under no circumstances will paging identification exceed one line of 69 characters.

(4) Machine functions used between pages shall be 2CR and 4LF.

(5) 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. Messages which exceed five pages of message text shall be divided into transmission sections.

402.a.(5) Continued

(a) At a convenient point on the last permissible page of a transmission section, the originator's text shall be separated. This normally will be at the end of a sentence or cryptopart.

(b) Each section shall be numbered. The section identification shall be inserted in plain language at the beginning of the text following the classification or abbreviation UNCLAS (and Special Handling Designation if used by the originator). For example, when a message is divided into two sections, the first section shall be identified as Section 1 of 2, and the second as Final Section of 2. The section identification will be inserted preceeding the delimiter on PLAINDRESS messages (See Annex C). For example:

UNCLAS SECTION 1 of 2
SUBJ (**)
(**)

NOTE: the subj line will contain the subj delimiter as a minimum. If a subject is provided by the originator, the subject will be carried over to each section of the message up to a maximum of 1 line of 69 characters.

(c) In long encrypted messages, when a transmission section commences with a new cryptopart, the designation of the cryptopart shall follow the designation of the transmission section.

(6) Each section shall bear a separate station serial number, but the same date-time group and filing time shall be used on all sections. In addition, each section shall include the appropriate address elements (See Annex C). All information preceeding the subject line/delimiter on PLAINDRESS messages will be contained in each section.

(7) When a numerical group count is associated with an off-line encrypted message and indicated in format line 10, it shall indicate the number of groups in the text section being transmitted, not the number in the complete message. Transmission section and page identification shall not be included in the group count. The cryptopart identification shall be included.

b. Teletypewriter messages originated in card format for teletypewriter delivery (LMF CT or CA), the page identification lines and teletypewriter format heading lines will be formed and transmitted as separate cards which must be included in the message record count.

402. Continued

c. Some message originators have unique or special requirements for repeated preparation and transmission of messages longer than one section, e.g., intelligence summaries, press releases, operations plans or orders, etc. These originators may prepare messages containing a maximum of 40,000 characters including header provided the following conditions are met:

(1) Prior coordination is effected with each addressee terminal for acceptance of these messages.

(2) No transfer to any teletypewriter network will occur.

(3) Paging is accomplished as specified in paragraphs a.(1), (2) and (3) above.

d. One hundred lines of text without paging is permitted in statistical and meteorological (weather) messages where inclusion of paging information would disrupt processing by the user. Such messages, however, shall be divided into transmission sections if they exceed 100 lines of text.

e. Paging rules will not apply to long messages originating with activities served by the Department of State Telecommunications System. Such messages will be accepted and processed as regular traffic. Long messages originating with activities served by the DCS will, however, contain page breaks except as permitted above and in paragraph 441.d.(2).

403. Rules Regarding Transmission Identification (TI).

a. As a means of maintaining traffic continuity, teletypewriter terminals (Modes II, IV, and V, as described in paragraph 204) will prefix each message header with a message transmission identification constructed as outlined below. The transmission identification is constructed without intervening spaces, and must be accurately prepared without corrections. For example, a correctly prepared transmission identification might appear as: VZCZCJTA(FIGS)123(LTRS) (2CR 1LF); the elements of the transmission identification are as follows:

(1) The letter V ensures that the first character of following intelligence is not lost or garbled.

(2) The letters ZCZC indicate the start of message.

403.a. Continued

(3) Three station/channel designator letters.

(4) One FIGURES shift.

(5) A three-digit number to indicate the sequential number of transmission. These numbers shall commence with number 001 and continue consecutively through 000 (1000).

(6) One letter shift, two carriage returns and one line feed.

b. Station/channel designators will vary for each channel and will be constructed as follows:

(1) Minor relay or tributary station to a major relay station: The first two alpha characters will consist of the fifth and sixth letter of the station routing indicator and the third alpha character will identify the specific channel. Channel designators will commence with the letter A, progressing alphabetically, and will be assigned to connected channels. For example, a tributary station having routing indicator RUWTABA will use station/channel designator ABA for the first outgoing channel and ABB, ABC, etc., for each additional outgoing channel.

(2) Major relay station to minor relay or tributary station: The first two alpha characters will consist of an inversion of the first and sixth characters of the minor relay or tributary station's routing indicator and the third alpha character will identify the specific channel. Channel designators will commence with the letter A, progressing alphabetically, and will be assigned to all connected channels. For example, a tributary station with routing indicator RUWTABA will receive station/channel designator BAA for the first incoming channel, and BAB, BAC, etc., for each additional incoming channel.

c. Transmission identification is not needed by Modes I and III terminals. Most AUTODIN Mode II, IV, or V terminals are equipped so that the message transmission identification will be transmitted immediately preceeding the AUTODIN paper tape header format. When these terminals do not have automatic message transmission identification devices, a paper tape tab may be prepared containing transmission identification as prescribed above and transmitted ahead of the standard AUTODIN paper tape header. Caution must be exercised to insure no extraneous characters exist between the TI line and format line 2.

403. Continued

d. All Mode II, IV, and V terminal stations having relay or refile responsibilities will insure that only one transmission identification precedes each message transmitted.

e. ASC procedural validation of the transmission identification line is described in paragraph 334.

404. Rules Regarding End-Of-Message (EOM) Validation.

a. End-Of-Message (EOM) validation (paragraph 316) used in Department of Defense (DoD) networks to inhibit suspected straggler messages will be provided by repeating in format line 15 the four-digit SSN appearing in the message header. The four-digit number used in format line 15 must be preceded by the number sign (#). Example: #0123.

b. The EOM validation appearing in format line 15 and the EOM functions (2CRs, 8LFs, 4Ns, 12LTRs) in format line 16 must be prepared in uninterrupted sequence; i.e., figures (upshift), number symbol, 4 digits, letters (downshift), 2CRs, 8LFs, 4Ns, and 12LTRs. The lettering out correction method will not be used within this sequence.

Example:

TEXT	(2CR)(1LF)
BT	(2CR)(1LF)
(1 FIGS)#1234(1LTRS)	
(2CR)(8LF)NNNN	(12LTRS)

c. Special attention must be given to applying the EOM validation when performing such actions as message header changes and message readdressals. The SSN used in the heading of these messages must agree with the EOM validation number in format line 15 (Paragraphs 419 and 441).

405. Rules Regarding Security Warnings.

a. Security warning will be provided by use of the operating signals ZNR or ZNY as the first component of format line 4.

b. The appropriate operating signal will always be followed by a classification character repeated five times except in those cases where a TRC is employed (see Chapter 7). The operating signal and classification characters are:

405.b. Continued

(1) ZNR UUUUU for unclassified, off-line encrypted messages, and classified messages transmitted in the clear in accordance with paragraph 326, ACP 121.

(2) ZNY EEEEE for unclassified EFTO messages.

(3) ZNY followed by CCCCC, SSSSS, or TTTTT for CONFIDENTIAL, SECRET, or TOP SECRET messages.

c. Format line 4 must be prepared correctly. The equipment must be downshifted immediately after the end-of-routing signal in format line 2 followed by 2CR, 1LF, ZNR/ZNY and repeated classification designators if the message is routed only to US routing indicators, or three repeated security characters and two position TRC if addressed and routed to a regional defense organization or foreign nation. If the US to US message is SPECAT, the five redundant security characters followed by an oblique (/) and AAAAA for SIOP-ESI or BBBBB for all other SPECAT messages will appear. No extraneous functions, such as a downshift, shall be inserted between the 2CR 1LF end-of-line functions of format line 2 and the security warning operating signal (ZNR/ZNY) in format line 4.

406. Rules for Indicating Delivery Responsibility.

a. In multiple address or book message, delivery responsibility of the stations called in format line 2 shall be determined by:

(1) Inclusion of the routing indicator of the station responsible for delivery preceeding each address designation in format lines 7 and/or 8. NOTE: This rule is not applicable when a collective address designator is used.

(2) Predetermined delivery responsibility.

(3) Specific transmission instructions in format line 4. In these instances, any station responsible for transmission and/or delivery as indicated in format line 4 is also responsible for any delivery required under the provisions of paragraphs (1) and (2) above.

406. Continued

b. When delivery to an addressee of a multiple address message has been accomplished prior to introducing the message into the communications network, the station preparing the message for original transmission shall indicate such delivery by inserting the operating signal ZEN preceeding the designation of that addressee. Routing indicator delivery responsibility will not precede an addressee if the remainder of addressees of a multiple address message are ZEN.

c. Book messages will be processed in the same manner as multiple address messages except that:

(1) Addressees of book messages to whom delivery has been effected prior to introducing the message into the communications networks, or who have been protected by separate transmissions, need not be included in the message heading.

(2) The operating signal ZEX shall be inserted in format line 5 following the date-time group.

d. Certain messages are required to be delivered as single address messages. When released by the drafter, these messages will be stamped "DELIVER AS A SINGLE ADDRESS MESSAGE". Messages so identified which require local commercial handling or subsequent processing by commercial refile stations will be filed or refiled so as to insure single address delivery. When released for transmission via the AUTODIN, the messages are transmitted as multiple address messages and the operating signal ZYQ will appear in format line 5.

Example:

(TI)
RTTUZYQW RUWJABA1234 1542000-UUUU--RUEDTFA.
ZNR UUUUU
R031930Z JUN 69 ZYQ
Remainder of format lines

e. In single address messages, the routing indicator of the station responsible for delivery will not be included in format line 7 or 8. The station called in format line 2 is automatically responsible for delivery.

406. Continued

f. When information in the Special Instructions block of a Joint Message Form (DD Form 173) assigned IMMEDIATE precedence indicates that immediate delivery is required to addressees served by Department of State Diplomatic Telecommunications Service (DTS) facilities, the operating signal ZZK shall be inserted in format line 4 followed by the routing indicator(s) or addressee(s) for whom immediate delivery is required. The addressees will be identified on the DD Form 173 in the Special Instructions block by the notation "IMMDELREQ". The ZZK operating signal shall be inserted immediately following the security warning group.

Example:

ZNY CCCCC ZZK RUMJBT RUQMHR RUDKBT RUDKSNQ

407. Rules Regarding Transmission Instructions.

a. Transmission instructions consist of the prosign T included in format line 4 as a separate component following the security redundancy.

b. Transmission instructions are normally required on messages which contain a Collective Address Designator (CAD) or Address Indicating Group (AIG). In other instances, a message may be routed to another network station who is not included in the ASC routing table, thereby requiring refile action by the called station. In this case, the routing indicator of the addressee will be inserted in format line 4 immediately following the prosign T.

Example:

RTTUZYUW RUCIBDA1234 2621400-UUUU--RUFLFDA.
ZNR UUUUU T RXFEC
Remaining format lines

c. The message header (format line 2) may be removed or altered, as appropriate, by the refiling station and a new heading prepared as required.

d. When transmission instructions are essential in multiple call messages, the routing indicator of the station having transmission responsibility will immediately precede the prosign "T", separated by one space, and followed by the identification of the addressee. If more than one called station has transmission responsibility, separate line listings composed as above will be included.

408. Rules for Routing Messages.

a. Routing of messages will be accomplished by use of authorized routing indicators and in accordance with the instructions contained in the appropriate routing indicator publication (ACP 117 series) and as prescribed by the record traffic on-line cryptographic operation policy contained in ACP 121 US SUPP-1.

b. When two or more addressees of a message are to be served by a single station, the routing indicator of that station will appear only once in format line 2 irrespective of the number of times it appears in format lines 7 and/or 8.

Example:

```
RTTUZYUW RUCLFEA1234 2801330-UUUU--RUCLBEA RUWTKBA.
ZNR UUUUU
R 071300Z OCT 69
FM NAVAL AIR STA MAYPORT FL
TO RUCLBEA/NAVAL SHIPYARD CHARLESTON SC
RUCLBEA/NAVY REGIONAL FINANCE CEN CHARLESTON SC
INFO RUWTKBA/NAVAL AIR STA KINGSVILLE TX
BT
TEXT
BT
#1234
NNNN
```

409. Rules Regarding Use of Address Designations.

a. Plain language designations, routing indicators, call signs or address groups may be used in message headings to indicate originators and addressees. However, for any given addressee, plain language address designations shall not be used in conjunction with call signs or address groups in the address component of any message. Tactical call signs, with the exception of task organization call signs, shall not be used in message headings.

b. Collective Address Designators (CADs) other than AIGs; e.g., general message address designators, collective call signs, etc., shall be treated as follows:

(1) In PLAINDRESS messages, the designation of the originator shall appear in format line 6, the CAD(s) in format line 7 and/or 8, and exempted addressees, if any, in format line 9. ACTION or INFORMATION addressees not included in the CAD shall be in format line 7 or 8, as approriate.

409.b. Continued

(2) In CODRESS messages, the address component (see Annex C) is encrypted in the text. The CAD(s) and exempted addressee(s), if any, may appear in the external heading (format line 4). To avoid defeating the purpose of CODRESS, they should not be placed in format line 4 unless essential.

c. AIGs shall be treated as follows:

(1) In PLAINDRESS messages:

(a) Format line 6 shall be used even though the AIG composition includes an originator.

(b) The plain language or address group designator for an AIG shall be used in format line 7.

(c) When a message is addressed to an authority(ies) not included in the AIG selected, the additional addressee(s) shall be included in format lines 7 and/or 8, as appropriate.

(d) When an AIG is used by other than the permanently listed originator, and the permanently listed originator is an addressee of the message in question, the permanently listed originator shall be listed as an additional addressee in format line 7 or 8, as appropriate.

(e) Addressees exempted from an AIG shall be included in format line 9.

(2) In CODRESS messages:

(a) The address group representing the AIG, additional addressee(s), and/or exempted addressee(s) shall appear in format line 4 only when one or more of the stations called in format line 2 is required to pass on the message in its encrypted form.

(b) The address designator used in the encrypted text shall be the AIG number rather than the address group representing the AIG. Additional, and/or exempted addressees, if any, shall be indicated in the text by use of plain language designators.

409. Continued

d. Where non-US addressees are included in the address composition of the message (a through c above) and the message is routed to other than a US routing indicator, an appropriate TRC is required.

410. Rules Regarding Voluntary Correction of Transmitted Messages.

a. When an originating station subsequently detects an error after transmission of a message has been completed, a voluntary correction message will be prepared and sent to the addressee station(s).

b. Voluntary correction messages will only be used in US networks to correct those errors determined by competent authority to be significant enough to affect the substance of the original message.

c. Voluntary corrections may be in the form of a brief service message, or a repunched and retransmitted message, dependent upon message length, whether tabulated or off-line encrypted, etc.

d. All voluntary correction messages will be distinctly identified by use of either the abbreviation "VOL CCN" or the prosign "C".

Example 1:

```
RTTUZYVW RUADAFA1234 2621245-UUUU--RUWJFAA.
ZNR UUUUU
BT
UNCLAS SVC VOL CCN RUADAFA1229 2621200
191145Z SEP 69 FIFTH GR NOT IMI NOT
BT
#1234
NNNN
```

Example 2:

```
RTTUZYVW RUADAFA1234 2621245-UUUU--RUWJFAA.
ZNR UUUUU
BT
UNCLAS SVC VOL CCN RUADAFA1229 2621200
191145Z SEP 69
"(REPUNCHED MESSAGE OR PORTION OF TEXT)"
BT
#1234
NNNN
```

410.d. Continued

Example 3:

```
RTTUZYVW RUHHAFB1549 2621115-UUUU--RUEDGFA.
ZNR UUUUU
R 190315Z SEP 69
BT
UNCLAS SVC C RUHHAFB1540 2621100
191030Z SEP 69 IN TEXT LINE 7 CHANGE DURING TO
HOURS TO READ DURING THE EVENING HOURS
BT
#1549
NNNN
```

411. Rules Regarding Message Header Changes - Tributary Stations.

a. Message header changes are applied to PLAINDRESS, ABBREVIATED PLAINDRESS, and CODRESS messages for the purpose of providing special handling and transmission instructions. Message header changes with appropriate TRC will also be applied to DATA PATTERN traffic addressed and routed to a regional defense organization or foreign nation.

b. Message header changes are normally performed by substituting the appropriate communication action identifier (Table III, Annex B) in the Content Indicator Code (CIC) field of format line 2 and adding the appropriate communication operating signal (ACP 131) to format line 4 of the original message. However, if the CIC in the original format line 2 is other than ZYUW, the CIC will not be changed and the appropriate operating signal will be added to format line 4 of the original transmission.

c. Message header change procedures and format examples are contained in appropriate paragraphs throughout this chapter.

SECTION II

HEADER AND EOM FORMAT

412. General.

a. The rapid and accurate exchange of traffic via AUTODIN requires that message headings and endings be prepared in standard format to insure uninterrupted transmission between originating and addressee stations.

b. The basic teletypewriter header format is described in detail in paragraphs 413 through 425. Each separate element of the header is described in the sequence in which it appears in the header. The field used is identified in parentheses in each paragraph heading. An example of the prescribed header format is shown in paragraph 426.

413. Precedence (Position 1).

a. Four categories of precedence, as prescribed in ACP 121 US SUPP-1, are authorized for use. Precedence is assigned by the originator, and shall not be altered by operating personnel. The following prosigns are used in Position 1:

Z	FLASH
O	IMMEDIATE
P	PRIORITY
R	ROUTINE

b. In addition to the four prosigns above, the letter "Y" is designated for use on certain time-sensitive command and control emergency action messages. The letter "Y" indicates a message that has a FLASH preemption capability designated Emergency Command Precedence (ECP) which will be processed ahead of all other traffic and interrupt lower precedence traffic already in processing in the AUTODIN system. Only the National Command Authority (NCA) and certain designated commanders of Unified and Specified Commands are authorized to use the EXP capability of the AUTODIN system and, then, only for certain designated emergency action command and control messages.

414. Language Media and Format (Positions 2 and 3).

a. The language media and format (LMF) consists of two alphabetical characters. The LMF of the originating station is placed in Position 2, and the LMF of the preferred output device of the addressee is placed in Position 3.

414. Continued

b. The LMF character A (ASCII) or T (5 level Baudot Code) will be placed in Position 2 on all teletypewriter messages. See Annex A for authorized LMF pairings.

415. Classification (Position 4). The classification or special handling to be afforded a message is indicated by the appropriate letter designator from the list below:

T	TOP SECRET
S	SECRET
C	CONFIDENTIAL
R	RESTRICTED (not authorized for US use)
E	UNCLASSIFIED EFTO
U	UNCLASSIFIED

416. Content Indicator Code/Communication Action Identifier (Positions 5 through 8). The content indicator code/communication action identifier consists of four alphabetical characters or three alphabetical characters and one numerical character. The appropriate content indicator code/communication action identifier will be selected from Annex B. When Position 8 contains a numeric, the downshift (letters) will appear before the separator contained in Position 9.

417. Separator (Position 9). A separator (space) will be placed in this position.

418. Originator (Positions 10 through 16). The appropriate routing indicator of the originating station will be placed in these positions. This field must contain seven appropriate alpha characters.

419. Station Serial Number (Positions 17 through 20).

a. Station Serial Numbers (SSNs) are used for two purposes:

(1) In combination with the originating station's routing indicator, they provide positive identification for each transmission, and

(2) As the EOM validation number appearing in format line 15, they provide a means by which the ASCs can check for the existence of straggler messages.

b. The SSN is expressed in four numeric characters beginning with 0001 and continuing consecutively through 9999. On completion of each series of 9999 numbers, a new series begins.

419. Continued

c. Originating stations may identify local activities, channels, or positions within the station by assigning blocks of numbers to the activities concerned. Blocks of SSNs must contain sufficient numbers to preclude their reuse within one week of normal message activity. SSNs assigned in blocks will be consecutive; when the entire block has been used, the numbers will be repeated beginning with the first SSN of the block.

420. Separator (Position 21). A separator (space) will be placed in this position.

421. Date (Positions 22 through 24). The Julian date is the date on which the message was received from an originator by the communications center for transmission. The first day of the calendar year is Julian 001, and each day is numbered consecutively thereafter.

422. Time Filed (Positions 25 through 28). The time filed is the time (GCT) the message was received from an originator by the communications center for transmission. Each filing time must contain four numerical characters.

423. Classification Redundancy (Positions 29 through 33). For security reasons, the classification designator used in Position 4 (paragraph 415) will be repeated in these positions. Position 29 will be filled with a hyphen as a sentinel, and the classification designator in Position 4 will be repeated in Positions 30 through 33, except when TRCs are required. When TRCs are required, the security field will be split to show the security classification and the TRC; i.e., CCBB (Confidential message addressed to the United Kingdom). Rules regarding the use of TRCs are outlined in Chapter 7.

424. Routing (Positions 34 through As Required). The positions reserved for routing are comprised of two sections, the start-of-routing signal, and the addressee routing indicators.

a. The start-of-routing signal consists of two consecutive hyphens and will always precede the first addressee's routing indicator.

b. Addressee routing indicators are listed immediately following the start-of-routing signal. A maximum of 500 routing indicators can be listed in these positions. In multiple call messages, all routing indicators associated with the first four letters of the relay station will be grouped together, but need

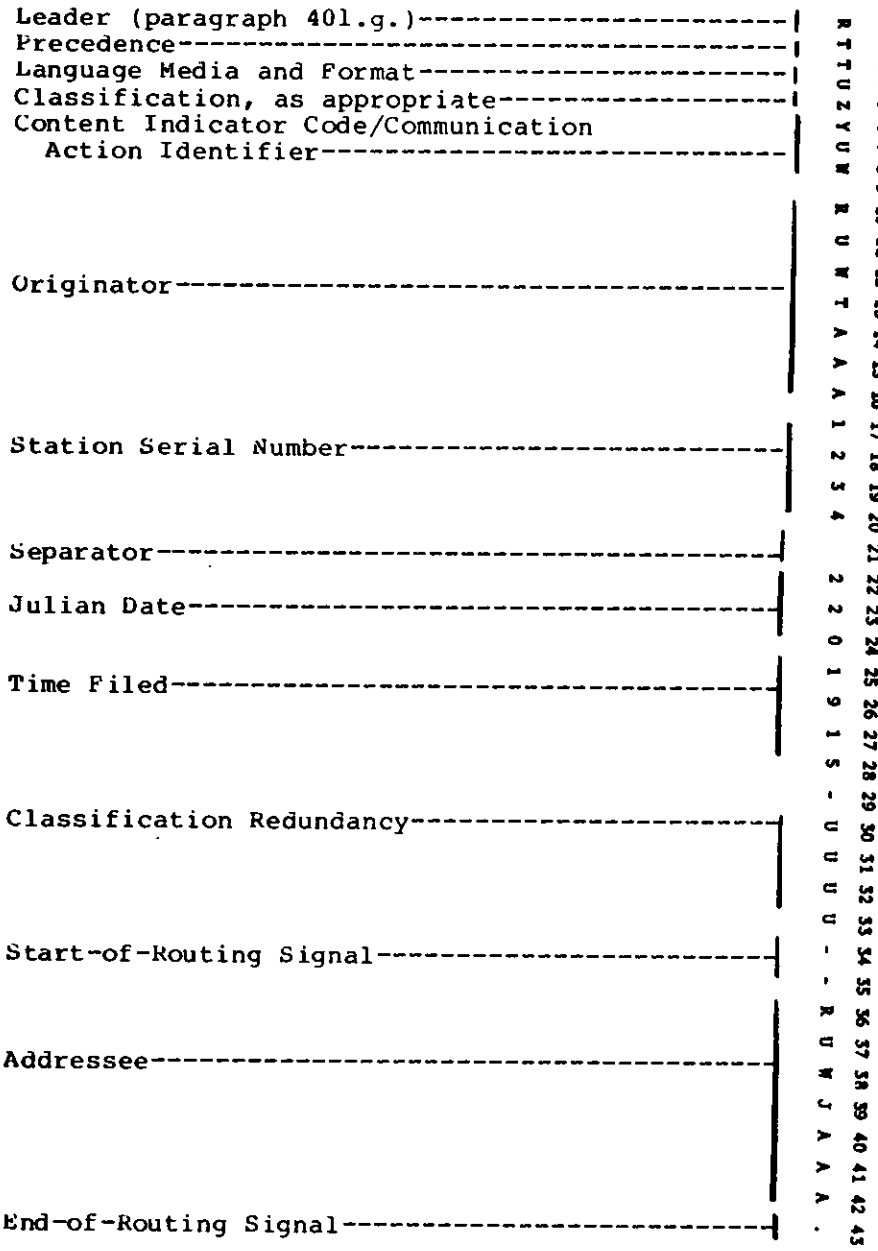
424.b. Continued

not be in alphabetical order. Example: RUEBPBA, RUEBABA, RUEDROA, RUEDCAC, etc. Each routing indicator must be separated by a space. If a message contains 501 or more routing indicators, thus requiring two separate transmissions, all routing indicators pertaining to a given four-letter routing indicator will be on one transmission. Routing indicators will not be split between lines; i.e., RUFT, 2CR, 1LF, ABC.

425. End-of-Routing Signal (Position As Required). The end-of routing signal consists of a period (.) and is inserted in the position immediately following the last addressee's routing indicator.

NOTE: The use of a format line 4 is required on all narrative messages. Format line 4 must be accurately prepared; if not, the transmission will be rejected on input by the connected ASC. The LETTERS (downshift) key must be depressed immediately following the end-of-routing signal (.) in format line 2 and preceding the end-of-line functions, 2CR and 1LF. The insertion of extraneous machine functions, such as a downshift or space, between the 2CR 1LF end-of-line function and the security warning, operating signal characters (ZNR/ZNY), and the TRC/SPECAT characters is prohibited. Format line 4 commences with a security warning operating signal (ZNR/ZNY) followed by five redundant security characters; e.g., SSSSS, if the message is routed only to US routing indicators, other operating signals, procedure signal "T" and address designators or routing indicators. When a message is addressed and routed to a regional defense organization or foreign nation, the redundant security designator composition is modified to reflect a two-letter TRC in the fourth and fifth position; e.g., SSSBB. SPECAT messages will include an oblique (/) and five repeated SPECAT designators (AAAAA SIOP-ESI and BBBBB for all others) immediately following the five redundant security designators; e.g., ZNY TTTTT/AAAAA. Rules regarding the use of TRCs and SPECAT designators are outlined in Chapter 7.

426. Teletypewriter Header Format.



427. End-of-Message (EOM) Format. The EOM format (format line 16) will consist of two carriage returns, eight line feeds, four Ns, and twelve letters (with five level Baudot code) or twelve delete functions (with ASCII). See paragraph 404.b. The unique group of four Ns must not appear in the text of any message.

SECTION III

MISROUTED AND MISSENT MESSAGES

428. Misrouted Messages. A misrouted message is one which contains an incorrect routing instruction.

a. A misroute condition will occur when the originating communications center assigns incorrect routing indicators during message header preparation.

b. A misrouted message will be processed until it reaches the communications center of the called routing indicator. A tributary station in receipt of a misrouted message will:

(1) If possible, obtain the correct routing indicator from the applicable ACP 117 series publication.

(2) Apply a header change to the misrouted message and retransmit to the correct routing indicator (see sub-paragraphs 428.d, e., and h.).

(3) Transmit a service message to the originating station advising of the reroute action and correct routing indicator. The service message will also contain the actual Time-Of-Transmission (TOT) of the rerouted message (with any reason for delay), which should satisfy any tracer actions for excessive delay. The operating signal ZEQ3 will be used in the text.

c. If the correct routing indicator cannot be determined due to insufficient address information or lack of station delivery responsibility (paragraph 406) in format lines 7 or 8, or reroute cannot be effected due to receipt of garbled or incomplete copy or the receiving station does not have a receive tape capability, the originating station will be notified by service message. The operating signal ZEQ4 or ZEQ5, as appropriate, will be used in the text. On receipt by the originating station of a ZEQ4 service message, the entire message will be retransmitted, adding the operating signal ZEQ6 to format line 4 to indicate that the delay was the result of misrouting the message.

d. When applying a header change to a misrouted message, substitute the following in format line 2 of the original message:

428.d. Continued

(1) Own first position LMF designator, if necessary.

(2) The communication action identified ZOVW if the CIC is ZYUW. If the CIC is other than ZYUW, it will not be replaced.

(3) Own OSRI.

(4) SSN of message being rerouted.

(5) Own Julian date and time filed.

(6) Correct routing indicator of the station to effect delivery or refile.

(7) If the message requires rerouting to a non-US routing indicator, the redundant security characters in format line 2 and 4 will be changed to reflect the appropriate TRC (see Chapter 7).

e. In addition to the action required in subparagraph d above, the following will be added to format line 4 of the original message:

(1) Operating signal ZOV.

(2) Routing indicator of the station preparing the header change.

(3) SSN of the station preparing the header change.

(4) The words "Reroute of" following the OSRI, SSN and Julian date and time filed as appearing in format line 2 of the original message.

(5) In the case of multiple address messages, the prosign T preceded by routing indicator(s) (when required) and followed by the addressee(s) address designator(s).

f. A station receiving a multiple address message bearing a header change containing transmission instructions, shall effect delivery to only the addressee(s) whose designator(s) appears following the prosign T in the message header change. Delivery responsibility appearing in the message address shall be ignored.

428. Continued

g. When messages involving mobile units require rerouting for delivery or further relay, they shall be treated as misrouted messages except that the originating station need not be advised.

h. Examples:

(1) Example of a single call message received as a misroute:

```
RTTUZYUW RUEDABA6725 1831330-UUUU--RUCLAKA.
ZNR UUUUU
R 021315Z JUL 69
Remaining format lines
```

Example of above message after header change performed:

```
RTTUZOVW RUCLAKA6725 1831410-UUUU--RUEBALA.
ZNR UUUUU ZOV RUCLAKA1294 REROUTE OF RUEDABA6725
1831330
R 021315Z JUL 69
Remaining format lines
```

Example of service message to originating station advising of reroute action taken above:

```
RTTUZYVW RUCLAKA6803 1831430-UUUU-RUEDABA.
ZNR UUUUU
BT
UNCLAS SVC ZEQ3 RUEDABA6725 1831330
021315Z JUL 69 RUEBALA 021415Z.
BT
#6803
NNNN
```

(2) Example of a multiple address message received as a misroute:

```
PTTCZYUW RUENAAA5432 1831625-CCCC--RUEDBDA.
ZNY CCCCC
P 021605Z JUL 69
FM CNO WASHDC
TO RUEDBDA/35ADIV HANCOCK FIELD NY
INFO RUEDBDA/DCASO GENELCO SYRACUSE NY
RUEFHQA/CSAF
Remaining format lines
```

428.h.(2) Continued

Example of above message after header change performed:

```
PTTCZOVW RUEDBDA5432 1831640-CCCC--RUEDGAA RUEDGJA.
ZNY CCCCC ZOV RUEDBDA1234 REROUTE OF RUENAAA5432 1831625
RUEDGAA T 35ADIV HANCOCK FIELD NY
RUEDGJA T DCASO GENELCO SYRACUSE NY
P 021605Z JUL 69
FM CNO WASHDC
TO RUEDBDA/35ADIV HANCOCK FIELD NY
INFO RUEDBDA/DCASO GENELCO SYRACUSE NY
RUEFHQA/CSAF
Remaining format lines
```

Example of service message to originating station advising of reroute action taken above:

```
RTTUZYVW RUEDBDA2341 1831700-UUUU--RUENAAA.
ZNR UUUUU
BT
UNCLAS SVC ZEQ3 RUENAAA5432 1831625
021605Z JUL 69 RUEDGAA/35ADIV HANCOCK FIELD
NY AND RUEDGJA/DCASO GENELCO SYRACUSE NY
021650Z.
BT
#2341
NNNN
```

(3) Example of service message to originating station advising to protect delivery of misrouted message:

```
RTTUZYVW RUFTLBA3249 1830825-UUUU--RUCIBAD.
ZNR UUUUU
BT
UNCLAS SVC ZEQ4 RUCIBAD2419 1830750
020730Z JUL 69 GARBLED.
BT
#3249
NNNN
```

(4) Example of a misrouted message requiring application of a TRC.

```
RTTUZYUW RUFTABA1647 0131749-UUUU--RUFLFDA.
ZNR UUUUU
R 131745Z JAN 76
Remaining format lines
```

428.h.(4) Continued

Example of above message after TRC application:

```
RTTUZOVW RUFLFDA1647 0131802-UUXX--RGFAB.
ZNR UUUXX ZOV RUFLFDA0872 REROUTE OF RUFTABA1647 0131749
R 131745Z JAN 76
Remaining format lines
```

(5) Example of a single address message received as a misroute with CIC other than ZYUW:

```
PTCUDJBD RUDONBA0124 1471242-UUUU--RUFTDEA.
ZNR UUUUU
P 261237Z MAY 76
FM CINCUSNAVEUR LONDON UK
TO DCA EUR VAIHINGEN GE
Remaining format lines
```

Example of above message after header change performed:

```
PTCUDJBD RUFTDEA0124 1471427-UUUU--RUFTDCA.
ZNR UUUUU ZOV RUFTDEA1479 REROUTE OF RUDONBA0124 1471242
P 261237Z MAY 76
FM CINCUSNAVEUR LONDON UK
TO DCA EUR VAIHINGEN GE
Remaining format lines
```

A service message to the originating station advising of reroute action taken will be the same as the example in paragraph 428.h.(1).

(6) Example of a misrouted message originated in ACP 127 format and received in JANAP 128 format:

```
RFTUZYUW RXCACAA0639 0161812-UUUU--RUEJDCA.
DE RXFPSX 0088 0161705
ZNR UUUUU
R 161705Z JAN
FM NICS COA
TO DCAEUR VAIHINGEN GE
BT
TEXT
BT
NNNN
```

428.h.(6) Continued

Example of the above message after header change:

```
RTTUZOVW RUEJDCA1214 0161915-UUUU--RUFTDCA.
ZNR UUUUU ZOV RUEJDCA4217 REROUTE OF RXFPSX 0088 0161705
R 161705Z JAN
FM NICS COA
TO DCAEUR VAIHINGEN GE
BT
TEXT
BT
#1214
NNNN
```

A service message to the originating station advising of reroute action taken will be the same as the example in paragraph 428.h.(1).

429. Missent Messages. A missent message is one which contains a correct routing indicator but is transmitted to a station other than the one represented by the routing indicator.

a. Missent message may be caused by:

(1) Equipment malfunction.

(2) Incorrect switching.

(3) Operator error.

b. A tributary station in receipt of a missent message will:

(1) Reintroduce the message as a suspected duplicate. A message header change (paragraph 411) will be applied to a missent message.

(2) Forward a service message to the originating station if the message is received incomplete or garbled. The operating signal ZEQ2 will be used in the text.

(3) Forward a routine service message to the connected ASC citing the complete header, time of receipt, and advise that message has been protected. The operating signal ZEQ1 will be used in the text.

429. Continued

c. Examples:

(1) Example of missent message as received at RUWTAAA from relay station RUWT:

```
RTTUZYUW RUEBAAB1349 1811545-UUUU--RUWJBBB.
ZNR UUUUU
R 031520Z JUL 69
Remaining format lines
```

(2) Example of above message after header change performed:

```
RTTUZFDY RUEBAAB1349 1811545-UUUU--RUWJBBB.
ZNR UUUUU ZFD RUWTAAA
R 031520Z JUL 69
Remaining format lines
```

(3) Example of service message sent by RUWTAAA to relay station RUWT:

```
RTTUZYVW RUWTAAA0123 1811555-UUUU--RUWTCSA.
ZNR UUUUU
BT
UNCLAS SVC ZEQ1 RUEBAAB1349 1811545 031520Z JUL 69
1811550
Remaining format lines
```

(4) Example of service message sent by RUWTAAA to RUEBAAB:

```
RTTUZYVW RUWTAAA01234 1811556-UUUU--RUEBAAB.
ZNR UUUUU
BT
UNCLAS SVC ZEQ2 RUEBAAB1349 1811545 031520Z JUL 69
INCOMPLETE TEXT.
```

d. An ASC receiving a service message missent notification will perform a search to determine the cause of the missent message. If the cause is due to ASC equipment malfunction or program deficiency, all details will be documented and forwarded by message to DCA for evaluation and necessary corrective action. The appropriate DCA area center and communications headquarters (CDRUSACC, COMNAVTELCOM, or AFCC) will be included as information addressees.

429. Continued

e. Messages assigned ECP.

(1) The collective routing indicator RUCRYYY is used to route messages in conjunction with the ECP designator "Y" (see paragraph 413.b.).

(2) RUCRYYY is strictly controlled within AUTODIN and, therefore, the possibility of its receipt by a station not included in the collective routing indicator composition is extremely remote. However, should such a station receive a message bearing the collective routing indicator RUCRYYY, the following procedures will apply to the station and the involved ASC.

(a) Stations directly connected to AUTODIN ASCs. Immediately notify connected ASC by telephone and/or FLASH precedence service message of the RUCRYYY message receipt. Reporting service message will cite transmission identification, if applicable; OSRI; SSN; Julian date-time filed; and message time of receipt. In addition, service message will include statement "REQUEST URSTA PROTECT TRANSMISSION WE ZOB.".

(b) ASCs. Immediately upon receipt of the above notification, the message involved will be retrieved and following actions taken:

1 Immediately verify that ASC collective routing indicator tables are correctly established. If tables are incorrect, take appropriate corrective action and reprotect transmission of reported ECP message.

2 If ASC records indicate that the reporting station is to receive RUCRYYY messages, a FLASH service message will be forwarded to that station stating that: "ASC records indicate your station is a recipient of referenced message. If message still not intended your station, request you service originating station accordingly.".

3 Ascertain if a switch processing failure occurred; i.e., software, hardware, personnel error, and take corrective action to reprotect transmission of reported message, as well as the cause of the switch processing failure.

429.e.(2) Continued

(c) In the event an originating station is advised by a FLASH service message regarding the receipt of a RUCRYYY message without known delivery responsibility, the message will be retrieved and reprotected to correct station and transmission cancelled to the reporting station. Action will also be initiated to correct the collective routing indicator composition.

(3) ALSIOP collective address messages occasionally will have to be routed to Phase I/II AUTODIN altroute stations, when terminal or line outages make delivery direct to an addressee impossible. In those cases, the altroute stations will receive the ALSIOP under a JANAP 128 format line 1 pilot calling the addressee(s) routing indicator for which the message is destined, and display the CIC ZZGW in field positions 5 through 8. Delivery should be in accordance with established procedures by the altroute station. In the event that AUTODIN communications are restored to the addressee station, the Phase I/II altroute station may find it advantageous to protect the addressee by reintroducing the message back into AUTODIN. Altroute stations not conditioned to input ECP (Y) into AUTODIN, will change the precedence to FLASH (Z), remove any line 1 pilots, accomplish message header change as outlined in paragraphs 411 and 428 using the communications action identifier ZZGW in place of the CIC, and replace the collective routing indicator RUCRYYY with the routing indicator contained in the routing indicator field of the pilot. If the altroute station has the ECP capability and the ALSIOP message requiring relay was received using the ECP (Y) and precedence prosign, the reroute can be effected without change of precedence. In no event, however, should the message be reintroduced using the RUCRYYY CRI.

(a) Example of ECP message as received at RUCLGBA alternate delivery station:

```
YTTUZZGW RUEKJCS1234 0011530 RUCL-UUUU--RUCLABA.
YTTUZYUW RUEKJCS1234 0011520-UUUU--RUCRYYY.
ZNR UUUUU
Y 011528Z JAN 76
Remaining format lines
```

429.e.(3) Continued

(b) ECP messages that must be re-entered into the AUTODIN system by an alternate delivery station not conditioned to input ECP (Y) messages will require a ZOV header change in accordance with Section III, paragraph 428. The precedence of the re-entered message will be FLASH.

Example of the above ECP message after header change performed:

```
ZTTUZOVW RUCLGBA1234 0011534-UUUU--RUCLABA.
ZNR UUUUU ZOV RUCLGBA2144 REROUTE OF RUEKJCS1234 0011530
Y 011528Z JAN 76
Remaining format lines
```

(4) If the ASC or the Phase I/II AUTODIN altroute station cannot effect delivery of an ECP message to the addressee, the originator of the message will be informed by the AUTODIN facility holding the message that it could not be delivered to the addressee.

SECTION IV

SUSPECTED DUPLICATES

430. Suspected Duplicate Procedure.

a. When a station has cause to suspect that a message may have been previously transmitted, but definite proof of prior transmission cannot be readily determined, the message shall be forwarded as a "suspected duplicate" by applying a header change.

(1) Example of message presumed to have been previously transmitted by an originating station:

PTTSZYUW RUKKAFA1275 1911820-SSSS--RUWMABA.
ZNY SSSSS
P 101810Z JUL 69
Remaining format lines

(2) Example of above message after suspected duplicate header change applied (NOTE: OSRI, SSN and TOF must be exactly the same as the original transmission in order to process as a suspected duplicate in automated communications centers):

PTTSZFDY RUKKAFA1275 1911820-SSSS--RUWMABA.
ZNY SSSSS ZFD RUKKAFA
P 101810Z JUL 69
Remaining format lines

b. Messages will not be reintroduced as "suspected duplicates" at the request of the originator because the addressee(s) failed to reply or take action on the message. In those instances, a new messages must be generated by the originator.

c. Messages recovered by an ASC as the result of a retransmission request or when an acknowledgment for an EOM is not received will contain a suspected duplicate pilot (see paragraph 328.d.(1)).

(1) Example of message as originally transmitted by an ASC to a tributary station:

RTTUZYUW RUCIABA2405 1911345-UUUU--RUHHBFA.
ZNR UUUUU
R 101330Z JUL 69
Remaining format lines

430.c. Continued

(2) Example of above message recovered by an ASC and transmitted as suspected duplicate:

```
RTTUZFDY RUCIABA2405 1911345 RUHH-UUUU--RUHHBFA.
RTTUZYUW RUCIABA2405 1911345-UUUU--RUHHBFA.
ZNR UUUUU
R 101330Z JUL 69
Remaining format lines
```

d. When a station receives a message marked as a suspected duplicate, that station will:

(1) File the message if it was previously received and delivered to the addressee.

(2) Forward the message, marked as a "SUSPECTED DUPLICATE", to the addressee if there is no indication that it was previously received and delivered.

431. Receipt of Unmarked Duplicate Messages.

a. Duplicate messages received without the appropriate marking (ZFDY, ZFGY, ZFD, ZFG) are primarly caused by operator error and, in some cases, by equipment/ASC operating program malfunctions. Stations receiving unmarked duplicate transmissions will:

(1) Immediately forward a routine precedence service message to the originating station (OSRI in format line 2) citing the complete header format of the duplicate message, including the time of receipt of the original and duplicate transmissions.

Example service message to originating station:

```
RTTUZYVW RUHHABA1234 1881130-UUUU--RUMLDFA.
ZNR UUUUU
BT
UNCLAS SVC ZUI RUMLDFA3124 1881010 DUPED
TOR 1881035 AND 1881120 HEADER FOLLOWS
RTTUZYUW RUMLDFA3124 1881010-UUUU--RUHHABA.
BT
#1234
NNNN
```

431.a. Continued

(2) File the message if initial copy was delivered to the addressee.

b. The originating station upon receipt of the addressee station's service message will:

(1) Check transmit records to determine the validity of the duplication report.

(2) Insure in-station procedures are adequate to guide operating personnel in retransmission of messages for which confirmed transmission is in doubt.

(3) Have maintenance accomplish equipment checks if equipment malfunction is suspected to be cause of duplication.

(4) Advise connected ASC by a routine service message if only one transmission can be accounted for. The service message to the ASC will cite the complete header, time of transmission, and the routing indicator of the station reporting the receipt of duplicate transmission, and the times of receipt of both transmissions.

Example service message to ASC:

```
RTTUZYVW RUMLDFA1263 1881215-UUUU--RUMLCSA.
ZNR UUUUU
BT
UNCLAS SVC ZUI RUMLDFA3124 1881010 TOT 1881015
UNMARKED DUPE TO RUHHABA TOR 1880135 AND 1881120.
HEADER FOLLOWS
RTTUZYUW RUMLDFA3124 1881010-UUUU--RUHHABA RUMMFDA.
BT
#1263
NNNN
```

c. An ASC receiving notification of duplicate transmission will:

(1) Search records to determine if message was received in duplicate.

(2) If a duplicate message was received, investigate further to determine why ASC records indicate duplication and the connected station's records indicate one transmission.

431.c. Continued

(3) If the message was not received in duplicate, it will be traced on a station-to-station basis to determine point of duplication.

d. If the investigation reveals the duplicate transmission was caused by equipment malfunction or program deficiency at the AUTODIN switching center, all details will be documented and forwarded by message to DCA for evaluation and necessary corrective action. The appropriate DCA area center and communications headquarters (CDRUSACC, COMNAVTELCOM, OR AFCC) will be included as INFORMATION addressees.

e. If the investigation reveals the duplication was caused by addressee terminal malfunction, the station will:

(1) Coordinate with applicable activity; i.e., maintenance, programming, etc., to determine if deficiency can be corrected locally.

(2) Request command assistance if problem cannot be resolved locally.

SECTION V

RETRANSMISSION

432. Requesting Retransmission.

a. Requests for retransmission of messages received at a station either incomplete, garbled or mutilated will be forwarded to the originating station by service message as prescribed in paragraphs 434 and 435. Request for retransmission of theater tactical originated messages routed by Section IV, ACP 117 CAN-US SUPP-1 must be forwarded within 4 days of the original time of transmission.

b. Requests for retransmission of messages wherein the originating station is unidentifiable will be forwarded to the connected ASC using the same precedence as the garbled messages. Each request for a retransmission will include, as accurately as possible, the approximate time of receipt of garbled message.

Example (Mode II, IV, and V):

```
(TI)
PTTUZYVW RUEDBDA1237 2121330-UUUU--RUEDCSA.
ZNR UUUUU
BT
UNCLAS SVC DBA560 IMI DBA560 ZES2 APPROX TOR 2121315
UNABLE TO IDENTIFY ORIGINATING STATION
BT
#1237
NNNN
```

Example (Mode I):

```
RTTUZYVW RUMOADA1274 2171300-UUUU--RUMOCSA.
ZNR UUUUU
BT
UNCLAS SVC REQUEST RETRANSMISSION OF
TRAFFIC BETWEEN FOLLOWING MESSAGES ON
CIRCUIT (Number) .
LAST GOOD MSG RTTUZYUW RUWTLGA1786 2171235-UUUU--RUMOADA.
TOR 2171238
NEXT GOOD MSG RTTUZYUW RUMOFDA1276 2171240-UUUU--RUMOADA.
TOR 2171244
REASON: GARBLED MSG(S), PAPER, JAM, ETC. (Give exact reason)
BT
#1274
NNNN
```

432.b. Continued

NOTE: Mode I terminals will not cite test or quality control messages containing all zeros as the station serial number in the last good - next good message received. The last good - next good messages cited must be actual messages and must include the complete format line 2 as received.

c. Requests for retransmission of missing, incomplete, garbled or mutilated Joint General Messages transmitted by collective routing (JAFPUBs, ALMILACTs, etc.) will be forwarded to the connected ASC and include the general message title as part of the message identification (reference ACP 121 US SUPP-1).

d. Messages recovered at the ASC as the result of a retranmission request will contain suspected duplicate pilots.

e. An originating station, upon receipt of a retransmission request, will retransmit the message involved by applying a message header change (see paragraph 435 for examples of service messages).

f. Each station is responsible for the establishment of in-station procedures and safeguards to determine definitely that all requests are promptly and correctly handled.

g. Replies to requests for retransmissions from a regional defense organization or foreign nation communications center or terminal must employ TRCs (see Chapter 7).

433. Open Channel Sequence Numbers.

a. The responsibility for the continuity of received channel sequence numbers rests with the station receiving the traffic. It is the responsibility of the receiving operator to ensure that a transmission is received under each number and that numbers are not duplicated or omitted.

b. When an open number; i.e., a sequential number for which no transmission was received at a Mode II, IV, or V tributary station, is discovered, the connected ASC will be so advised by an IMMEDIATE precedence service message. The service

433.b. Continued

message will report the number(s) open, the exact time-of-receipt, if available, of the message preceding the open number, and the time-of-receipt of the message following the open number. The service message will not contain a request for retransmission. After appropriate record is made, the matter shall be considered closed insofar as the reporting station is concerned.

Example (one message):

```
OTTUZYVW RUEODLA1234 2201400-UUUU--RUEOCSA.
ZNR UUUUU
BT
UNCLAS SVC ZFX LDA327 IMI LDA327.  TOR PRE AND FOL
MSG 2201350 2201400.
BT
#1234
NNNN
```

Example (two or more messages):

```
OTTUZYVW RUMMAFA1234 2201630-UUUU--RUMMCSA.
ZNR UUUUU
BT
UNCLAS SVC ZFX FAA127 THRU FAA130 IMI FAA127 THRU
FAA130.  TOR PRE AND FOL MSG 2201615 2201630.
BT
#1234
NNNN
```

c. Upon receipt of a report of an open number, the ASC shall determine whether or not a transmission has been made under that number. If not, no further action will be taken. If so, the transmission shall be retransmitted with a suspect duplicate pilot affixed.

Example of RUCLBDA reporting one open number to RUCLCSA.

```
OTTUZYVW RUCLBDA1249 2201520-UUUU--RUCLCSA.
ZNR UUUUU
BT
UNCLAS SVC ZFX BDA124 IMI BDA124. TOR PRE AND FOL
MSG 2201510 2201520.
BT
#1249
NNNN
```

433.c. Continued

RUCLCSA, after ascertaining that a transmission was made under BDA124, retransmits.

PTTUZFDY RUHHABA1279 2201430 RUCL-UUUU--RUCLDBA.
PTTUZYUW RUHHABA1279 2201430-UUUU-RUCLDBA.
ZNR UUUUU
P 091400Z AUG 69
Remaining format lines

SECTION VI

SERVICE MESSAGES

434. General.

a. Service messages are short concise messages used by communications personnel to exchange information and instructions concerning conduct of communications; e.g., to expedite traffic, corrections, retransmissions, verifications, acknowledgments, tracer actions and other matters relative to network management and operation.

b. Service messages will normally be assigned the same precedence as the message being serviced and will normally be prepared in abbreviated PLAINDRESS format (paragraph 302.b. using CIC ZYVW). Authorized operating signals will be used to the greatest extent possible. However, clarity will not be sacrificed for brevity.

c. Service messages may be assigned sequential reference numbers. The service message number will immediately follow the abbreviation SVC in the message text. If used, sequential service reference numbers may continue throughout the remainder of the calendar year.

d. When replying to a service message received with a reference number, the text of the reply shall make reference to the number.

Example:

UNCLAS SVC ZUI SVC 0245 RUEDCSA1234 1921600.

e. The abbreviation COSIR (Cite Our Service In Reply) may be used as the last word after the service message text.

f. The text of all service messages will begin with an indication of security as first word of text followed by abbreviation SVC unless the service message is one requiring special handling. In this case, the abbreviation SVC will follow the Special Handling Designator (SHD); e.g., UNCLAS SVC or S E C R E T SPECAT SIOP-ESI SVC. Whenever a service message requires classifying because of the inclusion of part or all of the message being serviced, all the information in the classification portion of the original message (everything between the BT in format line 11 and the delimiter SUBJ in format line 12G) must be included in the classification portion of the service.

434. Continued

g. If a service message quotes the textual content of a classified message or refers to the classified message in a manner which reveals text content, the service message must be assigned the same classification as the classified message being serviced.

h. Off-line encrypted service messages will be identified as a service message only within the encrypted text. The content indicator code/communication action identifier will be used for these messages.

i. Service messages which reference messages for reasons other than tracer actions will include the following items extracted from the message referenced:

(1) OSRI, SSN, Julian date and time filed (format line 2).

(2) OSRI and SSN when appearing immediately after the operating signal ZOV (format line 4).

(3) Message date-time group (format line 5).

j. Service messages pertaining to messages containing LMF KA, LA, NT, FT will be addressed to the originating station shown in the DE line (ACP 127 format line 3) that appears following the AUTODIN header. The number sign (#) if used in the ACP 127 format line 3, will be omitted when referencing the OSRI and SSN.

k. Service messages addressed to a routing indicator of a regional defense organiation or foreign nation must contain a TRC in format lines 2 and 4 (see Chapter 7).

l. When it is necessary to show action and information status in multiple address service messages,

m. Each station is responsible for the establishment of in-station procedures and safeguards to determine definitely that all service message requests and replies are promptly and correctly handled.

n. Examples and the action to be taken upon receipt of ASC automatically generated service messages are prescribed in paragraph 329.

435. Examples of Service Messages.

a. Tributary Station - A tributary station receiving a transmission which is incomplete, or in a garbled or mutilated condition will transmit the following service message to the originating station:

```
RTTUZYVW RUMOAFA1234 2691115-UUUU--RUEBFDA.
ZNR UUUUU
BT
UNCLAS SVC 147 RUEBFDA1569 2690930 260915Z SEP 69
ZES2
BT
#1234
NNNN
```

b. Originating Station - An originating station in receipt of above service message will respond by performing a header change as follows:

```
RTTCZDKW RUEBFDA1569 2691130-CCCC--RUMOAFA.
ZNY CCCCC RUEBFDA1725 ZUI SVC 147 RUMOAFA1234 2691115 ZDK
R 260915Z SEP 69
Remaining format lines
```

c. Tributary Station - A tributary station requesting retransmission of a specific portion of a message will transmit the following:

```
PTTUZYVW RUWJADA1234 2731330-UUUU--RUDOLTA.
ZNR UUUUU
BT
UNCLAS SVC INT ZDK RUDOLTA0249 2731115 301100Z SEP 69
PAGE 1 LINES 3 AND 4
BT
#1234
NNNN
```

d. Originating Station - An originating station in receipt of above service message will respond as follows:

```
PTTUZDKW RUDOLTA1426 2731420-UUUU--RUWJADA.
ZNR UUUUU
BT
UNCLAS SVC ZUI RUWJADA1234 2731330 ZDK RUDOLTA0249
2731115 301100Z SEP 69 PAGE 1 LINES 3 AND 4
(TEXT OF PAGE 1 LINES 3 AND 4)
Remaining format lines
```

436. Tributary Stations Follow-Up Action.

a. The responsibility of providing a retransmission promptly is placed upon the station to which the transmission request is routed. Elapsed time allowed between the first and succeeding requests is determined by such factors as: precedence of the message involved, indication of previous delay, nature of the request, speed of service between originating and terminating station, operative hours of the station to which the service is destined, if known, and any indication of abnormal traffic/circuit conditions which may exist. When no reply is received to a service request within times prescribed below, as influenced by factors stated above, another request will be originated.

IMMEDIATE	2 hours
PRIORITY	8 hours
ROUTINE	16 hours

b. When a reply to a service request for a retransmission is not received within time criteria specified in paragraph a. above, a second request will be sent to the originating station. This request will be so identified by the use of the operating signal ZAR2.

Example:

```
PTTUZYVW RUWJADA2341 2732130-UUUU--RUDOLTA.
ZNR UUUUU
BT
UNCLAS SVC ZAR2 INT ZDK RUDOLTA02498 2731115 301100Z
SEP 69 PAGE 1 LINES 3 AND 4.
BT
#2341
NNNNN
```

c. When no reply is received to a second or subsequent request within the time criteria specified in paragraph a. above, an official message will be sent to the terminal operating organization/activity requesting a response to the previous service message transactions.

437-439. Reserved.

SECTION VII

READDRESSING MESSAGES

440. General.

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

b. Readdressed messages are new messages and are processed accordingly. Readdressal requests are prepared and submitted to the communications centers in accordance with appropriate Service/Agency directives.

44. Rules for Readdressing Messages.

a. If the message being readdressed is held in the files of the communications centers serving the additional addressees, the readdressal may be accomplished by a service message containing appropriate operating signals.

b. If the message being readdressed is not held in the files of the communications centers serving the additional addressees, it will be processed as follows:

(1) A supplementary heading will be prepared including format lines 1 through 10, as appropriate, and inserted in front of the original header. All format lines before line 5 will be removed from the original heading.

(2) Under no circumstances will the original date-time group be deleted or altered.

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

(4) The originating station routing indicator and station serial number in the supplementary heading will be used for identification by the receiving terminal station(s) if retransmission or corrections are required.

(5) The filing time (format line 2) appearing on the readdressed message will be the time of receipt of the readdressal request in the communications center.

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

441.b. Continued

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

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

(9) If the communications center serving the readdressal authority no longer holds a copy of the message in question, the readdressal authority must either furnish a copy of the message to be readdressed, or accomplish the readdressal by preparing a new message. Users served by communications centers equipped with OCRE must prepare a new message.

c. Special attention must be given to applying the EOM validation procedure when performing a readdressal action. The station serial number appearing in the header must always correspond to the EOM validation number appearing in format line 15. This may be accomplished by changing the EOM validation number (format line 15) in the original message to agree with the SSN used in the readdressal heading, or using the incoming original SSN in the readdressal header.

d. The following rules apply when readdressing multiple page messages:

(1) The page identification will normally be changed to be in agreement with the originating station routing indicator and station serial number appearing in the header (format line 2) of the supplementary heading. However, when time or equipment capability does not permit, such messages may be relayed with the page identifications as they were originally received.

(2) If the message being readdressed was originated by a non-DoD activity and does not contain page identification information and line functions, the appropriate page identification information associated with the readdressal will be inserted if a new tape must be prepared. However, if a tape copy of the original transmission is available, the page identification information and line functions need not be inserted.

e. When preparing readdressals of multiple address or book messages, the routing indicators or operating signal ZEN preceding the original address designators will not be inserted if a new tape must be prepared. However, if a tape copy of the original transmission is available, the routing indicators or ZEN need not be deleted.

441. Continued

f. Off-line encrypted messages shall not be readdressed without prior reference to the cryptocenter.

g. When preparing readdressals of multiple address messages originated in the theater networks, the routing indicators contained in the address component of the original heading will be deleted.

h. When a readdressed message is to be processed as a book message, all addressees except the readdressing authority may be deleted from the original heading.

i. In some cases, the readdressal authority may include the originator or other addressees of the original message as addressees in his readdressal request to the communications center. Notification of readdressal action may be accomplished by service message and use of operating signal ZFH or by inclusion of addressees in the supplementary heading. Use of latter procedure to inform an originating station of a misroute is prohibited.

j. Messages readdressed and routed to a regional defense organization or foreign nation addressee must contain the proper TRC in format lines 2 and 4.

442. Examples of Readdressed Messages.

a. As received by original addressee:

```
PTTUZYUW RUADLKA1275 2271430-UUUU--RUEOFMA.
ZNR UUUUU
P 1514000Z AUG 69
FM US ARMY JAPAN CAMP ZAMA JAPAN
TO RUEOFMA/LETTERKENNY ARMY DEPOT CHAMBERSBURG PA
INFO RUEDEIA/FORT MONROE VA
BT
TEXT
BT
#1275
NNNN
```

b. As readdressed to a new addressee served by a communications center which holds the original message in its file:

442.b. Continued

```
RTTUZYVW RUEOFMA2480 2281330-UUUU--RUEOEIA.
ZNR UUUUU
R 161320Z AUG 69
ET
UNCLAS SVC ZOG2 RUADLKA1275 2271430
151400Z AUG 69 CGUSCONARC
FM LETTERKENNY ARMY DEPT CHAMBERSBURG PA
BT
#2480
NNNN
```

c. As readdressed by an original addressee to a new addressee served by a communications center which did not receive the original transmission:

```
RTTUZYUW RUEOFMA1149 2291130-UUUU--RUWJSHA.
ZNR UUUUU
R 161100Z AUG 69
FM LETTERKENNY ARMY DEPOT CHAMBERSBURG PA
TO DEFENSE DEPOT TRACY CA
P 151400Z AUG 69
FM US ARMY JAPAN CAMP ZAMA JAPAN
TO RUEOFMA/LETTERKENNY ARMY DEPOT CHAMBERSBURG PA
INFO RUEDEIA/FORT MONROE VA
BT
TEXT
BT
#1149
NNNN
```

d. As readdressed and routed to a regional defense organization or foreign nation which did not receive the original transmission:

```
RTTUZYUW RUEOFMA1616 3500825-UUXX--RGFAB.
ZNR UUUXX
R 171800Z DEC 75
FM LETTERKENNY ARMY DEPOT CHAMBERSBURG PA
TO MOD GERMANY
R 031420Z DEC 75
FM DA WASHDC
TO LETTERKENNY ARMY DEPOT CHAMBERSBURG PA
BT
TEXT
BT
#1616
NNNN
```

SECTION VIII

TRACER ACTION

443. Definition. Tracer action is the process by which an investigation is conducted to determine the reason for inordinate delay or non-delivery of a message.

444. Rules for Tracer Action.

a. Normally, requests for tracer action will be initiated by a message originator or addressee. However, should circumstances so dictate, tracer actions may be initiated by an originating communications station, relay station, or addressee communications station.

b. Time limits.

(1) Theater Tactical - Tracer action requests for messages originated by or destined for a theater tactical network addressee will be initiated as soon as the discrepancy is discovered, but no later than 4 days after the original time of transmission. (NOTE: A reduced retention time may become necessary due to the tactical situation).

(2) All others - Tracer action requests will be initiated as soon as the discrepancy is discovered, but no later than 30 days from the original time of transmission.

c. Separate tracer action logs and individual case files will be maintained at all communications facilities involved. Case files will be retained for at least six months.

d. Tracer actions shall maintain continuity throughout the system beginning with the originating station. The originating station will be advised of all transactions as the tracer action progresses through the system. Intermediate stations, who have completed tracer action on a message, should not be made an information addressee on tracer services as the message is traced through succeeding communications stations.

e. The originating station will formulate a final report, composed in nontechnical language and summarizing the investigation and the remedial actions taken or required to prevent recurrence. The final report will be submitted through command channels to the originator of the tracer action request and the appropriate Service/Agency headquarters for final disposition.

444. Continued

f. Tracer actions concerning FLASH messages will be handled as expeditiously as possible.

g. Delay tracer actions will be discontinued as soon as station-to-station reporting has accounted for the excessive delay claimed.

h. PLAINDRESS headings will be used on tracer messages addressed to Navy Afloat and Mobile Units.

i. Delay or nondelivery tracer actions which were caused by equipment malfunction or software deficiency at the ASC will be completely documented and forwarded by message to DCA for evaluation and corrective action. In addition, any message of IMMEDIATE and above precedence that experiences inordinate delay or nondelivery attributed to action taken by DCA ACOCs in the course of operational direction or traffic management of the AUTODIN network will also be reported. The appropriate DCA area center and communications headquarters (CDRUSACC, COMNAVTELCOM, or AFCC) will be included as INFORMATION addressees.

445. Tracer Action Procedure.

a. Delayed Message.

(1) Prior to initiating tracer action, the communications center serving the addressee will carefully examine records, logs and the message heading to determine if the cause of delay can be ascertained and adequately explained prior to advising the originator to commence tracer action. Consideration must be given to any adverse circuit conditions, in-house backlog conditions, terminal outage (demand or preventive maintenance), ASC outage, or a message header change which could be pertinent to the reason for delay. After all efforts have been exhausted, the addressee's communications center will advise the originator of the delay message including the exact amount of delay claimed (hours and minutes).

(2) Upon receipt of a tracer action request for excessive delay, the communications center serving the originator will carefully examine its logs and records to determine if the cause of delay can be ascertained and adequately explained. Special emphasis will be placed on in-house backlog conditions, elapsed time between the TOF and the actual time of transmission,

445.a.(2) Continued

circuit or equipment outage, ASC outage, or service action taken on the message being traced; e.g., ZDK furnished, invalid TI, etc. NOTE: Use of the releaser's time and the TOF will compensate for the loss of accuracy resulting from variations in the means used by manual and automated tributary stations in message header preparation.

(3) If the cause of delay cannot be locally established, delay tracer action will normally be initiated by routing message to the directly connected relay station, citing the exact amount of delay being claimed.

Example of delay tracer to the first relay by originating station:

```
RTTUZYVW RUEDABA1481 0751630-UUUU--RUEDCSA.
ZNR UUUUU
BT
UNCLAS SVC T-104 ZUI RUEDABA1127 0711835 121747Z
JUL 69 TOR RUDOALA 0720722 12 HRS 47 MINS DELAY
TOT TO RUED 0711925.  50 MIN DELAY FOR NORMAL
MESSAGE PROCESSING. INT ZDN
BT
#1481
NNNN
```

(4) Upon receipt of an excessive delay tracer, each station will examine its records for time of receipt and time of transmission or delivery of the message being traced. This information will be compiled and transmitted to the next station in the transmission path. The originator will be included as an INFORMATION addressee on all service messages pertaining to the message being traced. Any station responsible for any portion of the delay will include the reason for the delay and the corrective action taken to prevent a recurrence.

Example of relay station report on an excessive delay tracer:

```
RTTUZYVW RUEDCSA9423 0751845-UUUU--RUEDABA.
ZNR UUUUU
BT
UNCLAS SVC ZUI RUEDABA1127 0711835 121747Z JUL 69.
TOR 0711925 TOT RUDO 0720705.  DELAYED 11 HRS 40 MINS
THISTA DUE TO ON-LINE PROGRAM PROBLEM WHICH PROHIBITED
```

445.a.(4) Continued

A SYSTEM RECOVERY. PROBLEM HAS BEEN DOCUMENTED AND FORWARDED IN ACCORDANCE WITH PARA 444I, JANAP 128.
BT
#9423
NNNN

b. Nondelivered Message.

(1) Upon notification of a nondelivery claim the originator's communications center will retransmit the message as a duplicate to the address claiming nonreceipt unless the originator prefers to cancel it. If a duplicate transmission is made, substitute the communications action identifier ZFGY for the CIC ZYUW in format line 2 of the original message and add the operating signal ZFG to format line 5. No CAI substitution will be made when the CIC is other than ZYUW. Any message bearing ZFG in format line 5 will be delivered to the addressee.

(2) The originator's communications center will carefully examine its in-station records to determine if the original transmission of the message was, in fact, properly transmitted to the addressee claiming nonreceipt.

(3) If the message was properly transmitted, a service message of equal precedence will be forwarded to the communications center serving the addressee. The service message will properly identify that particular message, requesting verification of receipt or nonreceipt. If the addressee's communications center advises the message was not received, formal tracer action will be initiated by the communications center serving the originator.

(4) The communications center serving the originator will transmit a service message to the first relay station involved in the original transmission. The service message will contain appropriate header information, channel sequence number, if applicable, routing indicator of station claiming nonreceipt and time of transmission, and identification of service message in which the addressee communications center concerned verified nonreceipt

Example of nondelivery tracer to the first relay by originating station:

445.b.(4) Continued

```
(TI)
RTTUZYVW RUEDBDA1234 0771830-UUUU--RUEDCSA.
ZNR UUUUU
BT
UNCLAS SVC T-0197
RUDOALA CLAIMS NONRECEIPT OF RUEDBDA0990 0751315
R 161236Z MAR 70.  ZDQ RUED CSN BDA143 AT 0751445Z.
INT ZDN.  RUDOALA2345 0771730 VERIFIED NONRECEIPT
AT ADDEE COMMCEN.
BT
#1234
NNNN
```

(5) The tracer action shall maintain continuity throughout the system, progressing from relay to relay, until the point of loss or nondelivery of the message occurred. If a nondelivery has occurred, the responsible station will conduct an investigation to determine the cause and corrective actions taken to prevent a recurrence and notify the originating station accordingly.

(6) In-station records, files, logs and tapes will be retained beyond the 30 day limit if a tracer action is in progress prior to the expiration date.

c. Tracer actions involving notification or requesting action from communications centers of a regional defense organization or foreign nation must contain the proper TRC in format line 2 and 4 of the service message (see Chapter 7).

SECTION IX

FILING MESSAGES WITH INTERNATIONAL OR DOMESTIC TELECOMMUNICATIONS CARRIERS (AGENCIES)

446. General.

a. International or domestic telecommunications service as furnished by private enterprises or Government telegraph agencies is provided by several electrical means of transmission; i.e., radio, cable and land-line telegraph, including TWX (Teletypweriter Exchange Service) and TELEX (International Teleprinter Network).

b. Messages may be filed over these facilities in two ways:

(1) By physical delivery of a copy of the message to a communications center of the carrier or agency.

(2) By electrical transmission of a copy of the message to a communications center of the carrier or agency.

447. Rules.

a. Consideration should be given to the service available and the different methods of computing charges.

(1) The charges for messages handled by TWX/TELEX are computed on a "time and distance" basis. Message precedence has no bearing upon the rates charged.

(2) The charges for messages handled by other carriers are computed on a class of service, distance, and word count basis. The class of service which will meet requirements and result in the lowest charge will be utilized.

b. The procedure used will conform with procedures prescribed by the carrier.

c. When communications are established with TWX/TELEX stations where personnel are trained in tape relay or AUTODIN procedures, messages may be transmitted using the same procedures as for messages handled over tape relay networks and AUTODIN.

447. Continued

d. Classified messages will not be filed in plain language with international or domestic telecommunications carriers or agencies except when Service or National policy permits transmission of messages of this type over approved facilities, or in special cases when "in the clear" transmission has been authorized by the originator.

e. Only plain language designations or registered cable addressees will be employed in the address portion of messages filed with a commercial carrier for delivery. Commercial communication companies provide for the registering with their company of short cable addresses. These cable addresses are used as message address designators in lieu of the complete long title and mailing address. Refile stations receiving these messages for refile with a commercial carrier should forward the message as received without service actions to obtain the complete mailing address. The following are examples of a cable address.

BIEHL HOUSTON TX	MANIPORT CADIZ SPAIN
DOLDOFF GLASGOW UK	CONFIDENCE RAS TANURA SA
NAVAP ST NAZAIRE FRANCE	SEABSEA NAHA JAPAN
NAM YANG FAITH PUSAN KOREA	

f. In filing multiple address messages, it is necessary to show in the message heading only the addressee(s) to whom the carrier is responsible for effecting delivery. The entire original message address will appear as the first part of the message text in the briefest form that is possible to use and still retain clarity. If the date-time group is required as a message reference or is of a noncurrent date, or if the message is encrypted, the date time group will appear in the beginning of the message text preceding the original message address. The designation of the originator, and the point of origin, when applicable, will be shown as the message signature. The classification designation (UNCLAS' and internal passing instructions not applicable to the addressee receiving the message via commercial means will be deleted prior to filing the message with the commercial carrier.

447. Continued

g. In filing book messages, it is necessary to show in the message heading ONLY the addressee(s) to whom the carrier or agency is responsible for effecting delivery. The addressees not being served by the carrier will not be included in the transmission. The rules governing the use of a date-time group and designation of the originator as applied to multiple address messages above are also applicable to book messages.

h. The following commercial communications services are available for the refiling of messages with a commercial carrier:

(1) TWX to TWX (subscriber to subscriber). In a direct-dial 65 to 100 WPM teletypewriter to teletypewriter exchange service, it is an economical transmission method and should be used in the event that TELEX to TELEX service is not available.

(2) TELEX to TELEX (subscriber to subscriber). This service is a direct dial 66 WPM teletypewriter exchange service. This service, within the contiguous 48 states, is divided into 12 TELEX area rate zones and is the most economical method available.

(3) TEL(T)EX (subscriber to non-subscriber). A TELEX service available in specific locations.

(4) Public Message Service (PMS). Full rate telegram (non-subscriber to non-subscriber). This service is the most expensive method available and delivery is normally effected by commercial carrier messenger unless telephone delivery is authorized.

(- Service (PMS), Overnight Telegram. Processed in the same manner as a full rate telegram, however, the message is held overnight and delivery is effected at the beginning of business the next day.

(6) FAX Gram Service (non-subscriber to non-subscriber). Messages are transmitted to the commercial carrier via TELEX or TWX for delivery as FAX Grams. FAX Gram processing and delivery is comparable to the methods used for the telegram or overnight telegram. Classes of service provide for various FAX Gram delivery methods within specific time frames. Physical delivery service is limited to those metropolitan areas designated in the FAX Gram tariff.

447. Continued

i. For Official Use Only (FOUO) marked messages, requiring commercial refile action, will be released to carriers in CONUS, Alaska, and Hawaii for Intra-CONUS, Intra-Alaska, and Intra-Hawaii delivery only, intact with the FOUO marking at the beginning of the text. FOUO marked messages will not be released to international or foreign carriers, but will be returned by service action to the original station for delivery by other means.

j. Messages for US Naval ships and Merchant ships under Military Sealift Command Charter may require delivery via commercial refile. These messages are forwarded to a commercial broadcast radio station for delivery or to the commercial agent for the ship. Delivery instructions for the refile station will be included in format line 4 of the message. The transmission instructions will normally be composed of routing indicator, prosign "T", registered cable address of the shipping company or agent or commercial broadcast radio station, and international call sign in parentheses, the phrase PASS TO, plain language name of the ship or international call sign.

Examples:

(1) RUADJKA T SOKO SASEBO PASS TO SS COUNCIL GROVE

(2) RUFTMSA T NORRDEICH RADIO (DAN) PASS TO AHNU

(3) RUCLAKK T SEAPOST CHARLESTON SC PASS TO SS PIONEER COMMANDER

448. Refile Handling by Precedence.

a. Messages routed to designated refile stations for commercial handling do not require that the TWX and TELEX station call or the commercial class of service be indicated in format line 4. The TWX/TELEX station calls of activities served are normally available at the joint refile station and the commercial class of service will be applied, when necessary, by the refile station in accordance with the precedence and class of service equivalents shown below. The unavoidable delay provision of paragraph 340 applies to commercial refile points.

448. Continued

b. The chart below lists the Federal Government (military) and the public correspondence service (commercial) precedence designators to be used when refiling message traffic between military/commercial networks. There are no commercial equivalents for the routine precedence; "GOVT" and "ETAT" are therefore used to distinguish this as a category of Government message from messages designated as public correspondence. Also shown are commercial priority of service indicators used on traffic refiled for transmission. It should be noted that the only precedence designator available for use on international messages is ETAT PRIORITE as there are no ITU equivalents for the military/domestic precedence designators. Thus, PRIORITY messages will receive the same treatment in processing and transmission as IMMEDIATE or FLASH messages.

US GOVT/MILITARY	COMMERCIAL	
	DOMESTIC	INTERNATIONAL
FLASH	XV GOVT/FLASH EMERGENCY	US GOVT/ETAT PRIORITE
IMMEDIATE	XV GOVT/IMMEDIATE EMERGENCY	US GOVT/ETAT PRIORITE
PRIORITY	XV GOVT/PRIORITY EMERGENCY	US GOVT/ETAT PRIORTIE
ROUTINE	GOVT OR NL GOVT	US GOVT/ETAT OR LT US GOVT

NOTE: The priority of service designators XV, NL and LT, as applicable, appear in the heading of the commercial transmission preceding the place of origin. The precedence designators FLASH, EMERGENCY, IMMEDIATE EMERGENCY, PRIORITY EMERGENCY, or ETAT PRIORITE, must be written in full and appear preceding the address designation, i.e., ETAT PRIORITE USDAO MOSCOW USSR. Messages assigned any one of these precedences shall contain the bell signals prescribed for FLASH messages and shall precede the transmission of the message.

448. Continued

c. A PRIORITY message addressed to a Government activity or civilian firm may be filed with Western Union and processed as a Government Night Letter (Overnight telegram, TCS night letter) when the station filing such a message has definite knowledge that the addressed activity or firm is not open for business at the time the message is ready for filing, and provided it is passed to Western Union prior to 0001 hours (local) on the day that the addressed activity or firm is again open for business. In addition, the station filing such a message must also have definite knowledge that Western Union would not be able to deliver the message to the addressee at another address prior to the start of the next normal working day; e.g., lengthy tabulated texts or other conditions which would preclude delivery by telephone.

d. Routine precedence messages which are addressed to government activities, civilian firms, or which contain a Post Office Box address, may be mailed when received after 1700 hours local time on weekdays, or on Saturdays or Sundays providing:

(1) It is definitely known that the addressee activity is not open for business, and

(2) Mail delivery to the addressee can be assured during the next working day.

e. Service transactions on previously transmitted messages may be made. Appropriate in-station instructions should be developed and subsequent to the coordination and approval of the local commercial carrier representative, included in each station standing operating procedure.

449. Assignment of Accounting Symbols and Program Designator Codes (PDC).

a. Accounting symbols and PDCs are assigned to most of the authorized users of US military communications facilities. These symbols and PDCs are used to establish accountability for charges incurred when messages require transmission entirely or partially via domestic or international commercial communications systems.

449. Continued

b. Assigned accounting symbols, PDCs and the agency or activity responsible for reimbursement of charges associated with each accounting symbol and PDC are listed in Appendix 1 to Annex C. The two-character accounting symbols listed in the appendix may be suffixed by up to four characters for user identification.

Example:

The basic accounting symbol assigned to the Treasury Department is TR. Intradepartmental accountability is established for the Secret Service, by TRTSSU; for the Bureau of Customs, by TRTBCU. Thus, accounting symbols of authorized users which contain the basic assignment or the basic assignment plus suffixed letters will be honored.

c. In reporting refile charges to the military department and non-DoD agencies for reimbursement, Defense Commercial Communications Office will cite the complete accounting symbol and PDC used. When reporting refile charges for traffic received from the General Services Administration (GSA), Advance Record System (ARS), the GSA charge symbol, PDC and routing indicator will be cited. Accounting symbols and PDCs on DoD traffic refiled at an overseas refile facility will not be used for reporting refile charges. Previously established service reimbursement procedures apply.

d. Accounting symbols assigned to agencies, activities, or other authorized users not supported by appropriated funds always end in the letter "X". All messages using the assigned accounting symbols ending in the letter "X" will use the corresponding PDC (-9999) and will be refiled "COLLECT".

e. Occasionally, an authorized user of the type described in d. above is not assigned a specific accounting symbol or PDC. Messages originated by such users will bear the accounting symbol "NIX" and use the "COLLECT" PDC.

f. Only the accounting symbol "NIX" and its corresponding PDC, those listed in Appendix 1 to Annex C and GSA charging symbols will be honored by the refile facility. Traffic received from the GSA operated ARS will contain GSA charging symbols in lieu of accounting symbols listed in Appendix 1 to Annex C and will also be honored by the refile facility.

450. Transmission of Accounting Symbols and Program Designator Codes (PDCs).

a. Each message requiring commercial refile transmitted by a military communications center to the commercial refile center, must have a format line 10 which contains the accounting symbol prosign "ACCT" followed by a space and the appropriate accounting symbol, when applicable, the group count prosign "GR" and group count, a dash (-) and the appropriate PDC.

Examples:

ACCT DA GR123-BHCSVD

ACCT DA-BHCSVD

(1) The accounting symbol and PDC need not be transmitted when messages are entered directly into a commercial system at the point of origin as the originator will be billed directly by the commercial carrier.

(2) The accounting symbol and corresponding PDC shall be transmitted on messages originated by non-DoD agencies regardless of the addresses and whether or not commercial refile will be required to effect delivery.

b. When necessary to use an accounting symbol and PDC on a service message in connection with a.(2) above, the accounting symbol and corresponding PDC assigned shall be the one appearing on the message being serviced.

451. Refile Station Instructions.

a. Messages bearing accounting symbols not ending in "X" and corresponding PDCs shall be refiled "PAID" unless the originating activity has requested they be refiled "COLLECT". The commercial charges incurred will later be recovered by the military department operating the refile facility or by the Defense Commercial Communications Office from the agency or activity which originated the message.

b. Messages bearing an accounting symbol ending in "X" or refiled "COLLECT" and a corresponding PDC shall be treated as follows:

451.b. Continued

(1) Within CONUS, they may be refiled "COLLECT" if it can be determined that the intended recipient will accept the commercial charges involved; if not, they shall be delivered by mail, messenger, or some other means that will not involve use of appropriated funds.

(2) Outside CONUS, refiling "COLLECT" is not permitted; and in foreign countries, mail cannot be used without using appropriated funds to pay the postage required. In such instances, if the message cannot be delivered by some other means which will not involve use of appropriated funds, the originating station shall be informed of the circumstances by service message and requested to cancel the transmission. Upon receipt of such a service message by an originating station, the message in question shall be cancelled to the refile facility and shall be filed commercially at the point of origin or the originator shall be contacted for disposition instructions.

c. Messages requiring commercial refile and having no accounting symbol will be handled as follows:

(1) If the originating activity is indicated in format line 6 of the message heading and appears in the Encode Section of Appendix 1 to Annex C:

(a) The assigned accounting symbol shall be marked on the message and the message shall be filed on a paid basis.

(b) The originating station shall be informed by service message of the action taken and shall be requested to include the accounting symbol and PDC on future messages to the addressee(s) involved.

(2) If the originating activity, as shown in format line 6, does not appear in the Encode Section of Appendix 1 to Annex C, the originating station shall be informed that the message cannot be refiled and should be filed commercially or handled by other means at the originating station.

d. DoD originated CODRESS messages will contain the plain language designator or cable address of the recipient and the signature will be the identify of the refiling facility or indicated as unsigned as prescribed by the commercial carrier regulations. DoD AIG messages will be processed as a normal multiple address message and the originator of the AIG message will be indicated as the signature.

451. Continued

e. Immediately after establishment of the connection, all traffic on hand at the DoD TWX station should be transmitted to the refile facility. To prevent the originator from disconnecting, the refile facility should indicate whether it has any traffic to transmit by some phrase such as "MSG TO FOLLOW" before receipting. After receipting, the refile station should transmit the message(s) it has on hand.

f. Grouping of messages between DoD TWX subscribers and DCS refile facilities will result in a reduction of charges, as well as, more efficient handling of traffic because connections of less than three minutes are reduced to a minimum.

g. Commercial firms forwarding messages for transmission via the DCS must document contract authority. In cases where commercial firms cannot specifically identify such documented contract authority, use of DoD communications facilities will be refused.

h. Commercial refile facilities are not authorized to commercially refile messages from commercial firms with documented contract authority, which are addressed to other commercial firms and contain information not related to a government contract.

452. TWX and TELEX Message Handling.

a. Dialing (calling) and establishment of circuit connections between designated refile stations and customers served by TWX and TELEX or TEL(T)EX will be accomplished in accordance with the operating instructions contained in the directory furnished by the respective commercial companies or ACP 117 US SUPP-5. In addition, difficulties encountered in reaching the called station and maintaining contact once established, or failure of lines and equipment should be reported in accordance with the vendor's instructions. Strict adherence to these instructions will insure efficient completion of calls with minimum delay.

b. TWX and TELEX stations maintaining unattended status will advise their respective refile station of alternative means for receiving high precedence messages during unattended periods. This may be accomplished by number and address of an individual authorized to receive official messages.

452. Continued

c. The following special instructions apply when military operated TWX stations are transmitting from teletypewriters equipped with keyboard arrangement A to TWX stations equipped with the normal TWX keyboard arrangement C; or when transmitting tapes prepared on military teletypewriters (keyboard arrangement A) to TWX stations equipped with keyboard arrangement C:

(1) The FIGs key must always be depressed following a space which separates figure groups

(2) The punctuation symbols listed below must be converted to their equivalent abbreviation.

Symbol	Abbreviation
?	Query
:	Cln
!	Exclam Point
(	Paren
)	Paren
,	Cmm
;	Smcln
'	(Delete - Do not convert)

(3) An exception to c.(2) above is authorized when, through mutual agreements with receiving TWX stations, arrangements have been made for the conversion to be performed by the receiving stations. In such cases, the receiving stations should be provided with following conversion table:

Symbol Received For		Convert to Symbol For
Fraction Five-eights	-----	Question Mark
Fraction One-Fourth	-----	Exclamation Point
Comma	-----	Apostrophe
Fraction One-Half	-----	Begin Parenthesis
Fraction Three-Fourths	-----	End Parenthesis
Reverse Slant	-----	Comma
Fraction Three-Eights	-----	Semicolon

NOTE: The colon symbol should never be transmitted since that symbol activates the TWX automatic answer-back code; therefore, transmission of the colon will produce a garble.

452. Continued

d. Direct TWX-TELEX And TELEX-TWX communication is possible. While there are variations in the keyboards, all commercial companies provide automatic character conversion which permits normal keyboard operation.

e. Stations receiving tapes from TELEX stations for introduction into a tape relay network or AUTODIN will check all messages for the presence of the dollar sign (upper case F) symbol. Whenever the dollar sign symbol appears, the tape will be reprocessed to delete the symbol and insert the abbreviation DLRS prior to transmission into the tape relay network or AUTODIN.

f. It is the responsibility of the transmitting station to obtain a receipt for sent traffic.

(1) A receipt for message(s) transmitted to stations having an automatic answering capability will be obtained by depressing the WRU key before and after the transmission of the message(s). This receipt will be in the form of:

(a) An identification answer-back code as shown in ACP 117 US SUPP-5 or commercial directories.

(b) An indication answer-back code (the letter "V").

(2) Where automatic answer-back codes are not employed, receipts should always be requested/acknowledged promptly since TWX and TELEX charges are based on the time element. To receipt for traffic stations transmit the prosign "R" followed by the station-to-station sequence numbers of messages received.

Example:

R W26-28 (TWX NUMBER OF RECEIVING STATION, DATE AND TIME).

g. A receiving station is responsible for informing the transmitting station upon receipt of a missent message. The transmitting station will solicit missent notification from commercial addressees by appending a note on single transmission or, on the last message of multiple transmissions, to read as follows:

"Please advise if message(s) missent to you."

453. Records of Sent and Received Traffic. A record of all sent and received traffic handled in a TWX/TELEX station will be maintained. To facilitate this, a TWX number sheet should be provided daily on which sufficient information will be recorded for every sent and received message. Communication records at TWX/TELEX stations will be maintained and destroyed in accordance with Service instructions.

SECTION X

MODE II OPERATING PROCEDURES

454. General. The operating procedures prescribed in this section are applicable between ASCs and their Mode II tributary stations. These procedures augment applicable Mode II procedures contained in Chapter 4.

455. Receipting for ECP and FLASH Messages.

a. Tributary Station - Service message receipting for received ECP or FLASH messages will be assigned an IMMEDIATE precedence and routed to the ASC CSA position within 10 minutes of receipt. The service message will cite the three station/channel designator letters, three digit channel sequence number, originating station routing indicator, station serial number, and Julian date-time filed.

Example:

(TI)
OTTUZYVW RUADLGA8137 0971143-UUUU--RUADCSA.
ZNR UUUUU
BT
UNCLAS SVC R Z GLA901 RUAOABA0315 0971130
BT
#8137
NNNN

The condition of the ECP or FLASH message does not relieve the receiving station of its responsibility to acknowledge receipt.

b. ASC - the ASC will provide an automatic receipt for ECP or FLASH messages, indicating "HI PREC ACC". If ASC receipt is not received within 10 minutes, the message will be retransmitted by the tributary station as a suspected duplicate over the same circuit or any alternate route. The ASC will be contacted by any means available to determine the cause for non-receipting on the original transmission.

456. Transmission Identification (TI). A TI will be assigned each message in accordance with paragraph 403.

457. Ensuring Continuity of Traffic.

a. Responsibility for continuity of received channel numbers rests with the station receiving the traffic. Open channel numbers will be reported as they occur direct to the ASC CSA position. Service messages reporting open numbers will be assigned an IMMEDIATE precedence and handled in accordance with paragraph 433.

b. The ASC will automatically transmit a channel check to tributary stations when traffic is not received for 30 minutes.

c. Tributary stations will transmit a PRIORITY precedence self-addressed (routed) service providing a channel check when traffic has not been received from the ASC for 30 minutes. Immediate follow-up action will be taken if the channel check is not returned by the ASC within 10 minutes.

d. Tributary stations will contact the ASC traffic section (not the technical control) to determine status of their traffic.

e. Immediate notification will be made to the ASC, by alternative means if necessary, when equipment or transmission line failures occur at the Mode II terminal.

458. Stop and Go Ahead Notices.

a. When required, the tributary station operator will stop the sending ASC by transmitting an IMMEDIATE precedence service message to the CSA position, citing operating signals and identity of last good message received; e.g., text to read: "UNCLAS QRT (reason) ZID ATA142 PTTUZYUW RUKKDBA1234 1191230-UUUU--RUKKAAA, TOR 1191250.".

b. A subsequent start notice (GO AHEAD) will be transmitted (by telephone or other alternative means) to the ASC CSA position by the station originating the stop notice; e.g., text reading: "UNCLAS QRV ZID (last good message identification)" as in subparagraph a. above.

459. Retransmission Requests. Retransmission requests will be handled in accordance with paragraph 432.

460. Tributary Station Messages Rejected and Serviced by ASC. Messages will be rejected and serviced automatically by the ASC to the connected tributary station, when header format or EOM validation errors occur. Paragraph 329 contains examples of ASC automatically generated service message error notifications and corresponding actions required by the receiving station. The word "reject" is abbreviated "REJ" in such services. "Reprotect" as used in following examples means "Correct identified error and retransmit message."

461. Message Quality Control Tests. Tributary stations will periodically transmit a self-addressed (routed) test message to the connected ASC to check transmission and equipment integrity in accordance with paragraph 341.

462. Crypto Operations. On circuits secured by a crypto unit equipped with a No Transmission Alarm (NTA), the NTA should be switched off. Under this condition, any failure of the tributary station receive line will be indicated by a continuous garble condition. When garbling is observed, the tributary station operator should immediately notify ASC operations.

463. Monitoring Check of Channels. The patch and test facility of an ASC, having Mode II channels, should provide a monitoring check to determine operational status as frequently as working conditions permit. When operational status is found to be questionable, corrective action should be taken.

SECTION XI

EFFECTIVE TRANSMISSION RATE (ETR) PROCEDURES

464. General. Inherent within all CONUS ASCs is a program for improved channel efficiency defined as ETR. Subscribers electing this service derive the benefit of reduced end-of-message delays thus improving channel efficiency. Terminals utilizing this service must be connected to AUTODIN with 1200 baud access lines or higher operating in a continuous mode. The operating procedures prescribed in this section are applicable to terminals connected to ASCs using the ETR feature.

465. Transmission Identification.

a. As a means of maintaining traffic continuity, terminals will prefix each message header with a message transmission identification constructed as outlined below. The transmission identification will be accurately constructed without corrections or intervening spaces. Transmission identification differs from the normal procedures utilized by Mode II, IV and V terminals that do not utilize ETR. The elements of the transmission identification for ETR are as follows:

(1) The letter "C" to indicate start of message.

(2) Three station/channel designator letters.

(3) A four-digit number to indicate the sequential number of the transmission. These numbers shall commence with number 0001 and continue consecutively through 9999.

(4) In preparation of transmission identification, appropriate machine functions associated with terminal devices will be utilized.

b. Station/channel designators will be constructed from the fifth and sixth position of the station routing indicator and the third alpha character will identify the specific channel. Channel designators will commence with the letter A, progressing alphabetically, and will be assigned to all connected channels. For example, a tributary station having the routing indicator RUEOABA will use the station/channel designator ABA for the first outgoing channel and ABB, ABC, etc., for each additional outgoing channel. AUTODIN ASCs will not utilize transmission identification to the ETR tributary.

465. Continued

c. ASC validation procedure for the transmission identification line is prescribed in paragraph 466.

d. Dump and acknowledge. Stations operating with the ETR feature will not encounter a message reject. The switch will dump and acknowledge a faulty transmission; i.e., invalid header will be accepted by the switch, the message destroyed and a service message sent to the tributary advising of the condition. The tributary must take action to reprotect the message.

466. Ensuring Continuity of Tributary Transmitted Traffic.

a. Responsibility for continuity of traffic utilizing ETR rests with the tributary station.

b. The following conditions will cause automatic service actions by the ASC.

(1) CSN higher than the expected CSN - The ASC will accept the message, and a ZFX at IMMEDIATE precedence and expect the next message to be one greater than the last processed.

(2) CSN lower than the expected CSN - The ASC will accept the message, send a ZFX at IMMEDIATE precedence, set the suspected duplicate indicator on input message, and expect the next message to be one greater than the last processed.

(3) CSN equal to last processed CSN - The ASC will dump and acknowledge the message, send an IMMEDIATE precedence service message to notify the tributary that he is repeating the CSN number. The service message will cite the repeated number.

(4) CSN is garbled - The ASC will accept the message and send an IMMEDIATE precedence invalid CSN message to the tributary. The next message transmitted must be two numbers greater than the last good CSN. Example: 0923 last good CSN; 0924 garbled CSN; 0925 next number expected. See paragraph 469 for examples of service messages involving CSNs for ETR.

NOTE: Receipt of a valid response from the ASC or an EOM sequence does not insure that ASC processor has accepted the message. It is, therefore, possible that an ackowledgment could be followed by a service message requesting retransmission.

467. Retransmission Requests. Retransmission requests will be handled in accordance with paragraph 432.

468. Tributary Station Messages Rejected and Serviced by ASC. In addition to those automatically generated service messages described in paragraph 466.b., messages will also be serviced automatically by the ASC to the connected tributary station, when header format, invalid routing indicator or EOM validation errors occur. Under these conditions, the ASC will employ the dump and acknowledge method (see paragraph 465.d.). Paragraph 329 contains examples of ASC automatically generated service messages other than those contained in paragraph 469 for ETR, together with the error notifications and corresponding actions required by the receiving station.

469. Automatically Generated Service Messages - ETR.

a. The ASCs, upon detection of certain faulty CSN conditions described in paragraph 466, will advise the violating station by means of an automatically generated service message.

b. All ASCs automatically generated service messages are identified by use of the letters "CSD" appearing as the 5th, 6th, and 7th letters of the OSRI; i.e., RUCICSD or RUEOCSD.

c. Listed below are examples of ASC automatically generated service messages along with the reason(s) for the generation and action to be taken upon receipt.

(1) Invalid Channel Sequence Number.

```
PTTUZYVW RUEBCSD0001 1241624-UUUU--RUEBABC.
ZNR UUUUU
UNCLAS SVC RUEBABA0001 1231624
INVALID CSN EXPECTED ABA0001 RCVD ABA0002 ACC
#0001
NNNN
```

Reason:

(a) Generated when the received CSN is either non-numeric or out of sequence.

(b) Message will be accepted for processing and a ZFX sent at IMMEDIATE precedence.

469.c.(1) Continued

(c) Precedence of service message will be equal to that of the message in question.

(d) applicable to ETR tributaries only.

(e) See paragraph 466.b.

Action Required:

(a) Check for possible equipment/software malfunction.

(b) Protect open numbers as required.

(2) Duplicate Channel Sequence Number.

```
OTTUZYVW RUEOCSD0623 1641800-UUUU--RUEODEA.
ZNR UUUUU
UNCLAS SVC RUEODEA0222 1641759
DUPE CSN EXPECTED DEA0124 REC DEA0123 ACC/REJ
#0623
NNNN
```

Reason:

(a) Generated when the received CSN is a duplicate.

(b) ECP/FLASH traffic will be accepted for processing and the CSN counter will be incremented by one.

(c) Precedence of service message will always be IMMEDIATE.

(d) Applicable to ETR tributaries only.

(e) See paragraph 466.b.

Action Required:

(a) Check for possible equipment/software malfunction.

(b) Reprotect the message in question.

(c) Suspected duplicate procedures are not required.

469.c. Continued

(3) Invalid Channel Designator.

```
PTTUZYVW RUCICSD0812 1961700-UUUU--RUCIPBA.
ZNR UUUUU
UNCLAS SVC RUCIPBA0826 1961658
INVALID CD EXPECTED PBA0246 RCVD BBA0246
#0812
NNNN
```

Reason:

(a) Generated when the three-letter station/channel designator is received invalid.

(b) Message will be accepted for processing and a ZFX sent at IMMEDIATE precedence.

(c) Precedence of service message will be equal to that of the message in question.

(d) Applicable to ETR tributaries only.

Action Required:

(a) Check for possible equipment/software malfunction.

(b) Applicable to ETR tributaries only.

(4) Open Channel Sequence Number.

```
OTTUZYVW RUWTCSD0554 3120801-UUUU--RUWTLFA.
ZNR UUUUU
ZFX LFA0001 THRU LFA0003
#0554
NNNN
```

Reason:

(a) Generated when an open number is detected; i.e., a sequential number for which no transmission was received.

(b) Precedence of service message will always be IMMEDIATE.

Action Required: Determine if a transmission(s) was involved. If a transmission(s) was involved, the message(s) will be retransmitted as suspected duplicate(s).

CHAPTER 5

DATA PATTERN MESSAGES

SECTION I

RULES

501. General Rules.

a. DATA PATTERN messages will normally be prepared in the format specified in paragraph 302.d. and Annex C. Only messages that are authorized the record count field in the header will be considered DATA PATTERN messages. This limits DATA PATTERN messages to those containing an originating station LMF of B, C, D, or I. Examples of these formats are shown in paragraph 541.

b. DATA PATTERN messages consist of 80 character line-blocks of data or line blocks of up to 79 characters of data and end with a special control character. When the special control character is used between magnetic tape data records and the last line block of the record contains 80 data characters, the special control character will be placed in a line block by itself. For the purposes of this publication, a line block is defined as the accumulation of a number of characters, not to exceed 80, to be transmitted as a block or unit. Details of line block construction to AUTODIN are specified in the DCS AUTODIN interface and control criteria.

c. The normal DATA PATTERN message consists of format lines 2, 12, and 16 (header, text, and EOT record). The originating agency will provide sufficient information in these lines to ensure positive identification of the intended addressee and thereby accurate delivery at the end telecommunications facility. Text header cards will be included by the originating agency except in those cases where the addressee and type traffic are clearly identifiable through:

(1) The addressee routing indicator;

(2) The originator-assigned content indicator code; and

(3) Prearrangement between the originator and the addressee in the case of direct input, data/record, computer-to-computer transactions.

501.c.(3) Continued

When applicable, text header cards will be included by the originating agency. When applicable, text header cards will include as a minimum a "FM" and "TO" element (format lines 6 and 7) to facilitate identification of the intended addressee, and will be placed behind the communications header record and will be included in the record count.

d. DATA PATTERN messages transmitted via message switching facilities are limited to 500 line blocks. However, additional line blocks used to pilot messages constitute an exception to the maximum length and will be accepted by message switching facilities.

e. Messages containing more than 500 line blocks will be transmitted as two or more transmission sections and each section assigned a separate station serial number. For procedures to maintain continuity of multiple section messages see appropriate Service/Agency instructions.

f. The message header (format line 2) must be accurately prepared. ASC functions depend on the correct sequence of characters and elements comprising the header format. If the message header is inaccurate, it will be rejected by the ASC.

502. Rules Regarding End-Of-Message (EOM) Validation.

a. An EOM validation (paragraph 316) is performed by the ASC upon receipt of each DATA PATTERN message.

b. Special attention must be given to applying the EOM validation when performing such actions as message pilots. The SSN used in the heading (format line 2) of these messages must agree with the EOM validation number (SSN) in the EOT record.

503. Rules Regarding Single Card Messages.

a. A single card message can be produced by a variation of the basic message header format.

b. Since the entire message consists of only one record, a record count indication is not required.

c. Single card messages are limited to a single addressee, and the end-of-routing signal will appear immediately following the addressee routing indicator.

503. Continued

d. Classified single card messages are not authorized, therefore, the classification redundancy provisions of paragraph 533 are not required. The start-of-routing signal will immediately follow the time filed, in positions 29 and 30.

e. Single card messages will be duplicated by the receiving communications facility; the duplicate will be retained as a communications record, and the original delivered to the addressee.

f. Example of a Single Card Message (unclassified only):

PSCUZYVW RUWTAAA1234 1051320--RUWTCSA. (TEXT) N

NOTE: Positions 39 through 79 will be used for the message text. Positions not used for message text will be filled with separators (spaces). The EOT signal (N) will always appear in position 80.

504. Rules Regarding Message Pilots - Tributary Stations.

a. Message pilots (format line 1) are applied to DATA PATTERN messages for the purpose of providing special handling and transmission instructions, except as stated in subparagraph 302.d.

b. Message pilots normally consist of a single card preceding the original message header (format line 2).

c. The appropriate communication action identifier (Table III, Annex B) will be used in the CIC field, and the abbreviation PLTS (pilot) will be used in the record count field of the pilot card.

d. Except as specified in subparagraph c. above and paragraph 542.e., all other elements of the pilot through the start-of-routing signal will be identical to those contained in format line 2 of the original message.

e. Message pilot procedures and format examples are contained in appropriate paragraphs throughout this chapter.

f. Messages will not contain more than one pilot (format line 1) except messages containing ASC generated pilots as specified in paragraph 328.

504. Continued

g. Single card messages will not be piloted except messages requiring ASC generated pilots as specified in paragraph 328.

505. Rules Regarding DATA PATTERN Message Addressing. DATA PATTERN message originators are responsible for providing accurate address information. Except in those cases outlined below where the addressee and type traffic is clearly identifiable through the addressee routing indicator, originator assigned CIC and/or originator prearrangement with the distant end telecommunications center and addressee, text header cards will be incorporated into each message.

a. Text header cards will include:

(1) A "FM" and "TO" (format lines 6 and 7) element including geographical locations.

(2) Other identifying data which would enhance delivery to the intended recipient, beyond that provided by the originator assigned CIC.

b. Text header cards are not required when:

(1) Addressee is assigned a seventh letter routing indicator derivative.

(2) Messages are pro-forma type (DAAS, JUMPS, etc.).

(3) Arrangements have been made between originator, addressee and respective telecommunications centers to process traffic by CIC or other appropriate means.

506. Rules Regarding Message Batching. Message batching, or comingling, is defined as the storing of a number of DATA PATTERN messages, composed of one or more DATA PATTERN record transactions, for one geographical location and the forwarding of such stored messages as one message transmission with one AUTODIN transmission header card, and one EOT card. DATA PATTERN message originators may batch DATA PATTERN records of differing subject/content provided that:

a. The message is addressed to an addressee who by pre-arrangement has agreed to accept responsibility for separating and/or distributing the records to the activities of primary

506.a. Continued

interest. Receiving telecommunications facilities will not be required to separate and distribute batch processed DATA PATTERN transactions to other than the addressee specified by the prearranged CIC assignment or other appropriate means, or the "TO" element of the text header information.

b. The batched message is assigned only one precedence, which will apply to all of the records and messages in the batch, and a classification equal to that of the highest classified material included therein.

c. No more than 500 cards or records are included in each transmission section.

d. The overall card and record message batch is assigned a single, general purpose CIC by the originator, that will accommodate the general subjective content of the batched transmission.

507-509. Reserved.

SECTION II

OPERATING INSTRUCTIONS

510. Originated Traffic.

a. Message originators having automatic capabilities may deliver DATA PATTERN messages with prepared communications header (format line 2), text, including complete text header information (format line 12), and EOT formats (format line 16) containing all the necessary information. However, other message format lines may be used in accordance with the rules contained in paragraph 501.c. and 505. SSNs may be assigned on a preallocated basis. The Julian date and time entered in format line 2 of DATA PATTERN traffic by message originators will not normally be the time that the message was filed (TOF) into the serving AUTODIN telecommunications center for processing as an outgoing message. If the header and EOT cards are prepared by the telecommunications center, the true TOF will be entered in the Julian date-time field. The actual message processing time will be determined from the record of the TOF and the Time Available for Delivery (TAD) made in accordance with paragraph 401.n.

b. Originating stations may identify local activities, channels, or positions within a station by assigning blocks of SSNs to the activities concerned. Blocks of SSNs must contain sufficient numbers to preclude their reuse within one week of normal message activity. SSNs assigned in blocks will be consecutive; when the entire block has been used, the numbers will be repeated beginning with the first SSN of the block.

c. Message originators may deliver header cards to the communications facility with all header information contained on a punched header card format except for the SSN if the provisions of paragraph b. above are not used. Blank columns will be filled in by the communications facility.

d. DATA PATTERN message originators who do not prepare the header format for transmission will deliver the message text to the commmunications facility along with a completed DD Form 1392, DATA MESSAGEFORM (see paragraph 513). Addressees and their geographical location must be entered on this form in plain language; coded addressees and APO/FPO numbers will not be used.

510. Continued

e. Communications personnel will verify the message record count provided by the originator except when magnetic tape messages are prepared by computers. When the header or any part of the header and/or EOT record is provided or prepared by other than the communications station, its completeness and accuracy will be verified by the communications station personnel. Any errors noted in these originator-produced header and/or EOT records will be reported to the originator by use of DD Form 1503 (see paragraph 512).

f. Communications personnel will time-stamp or otherwise log messages when received from the originator.

g. Criteria for retention of messages:

(1) Each DATA PATTERN message (including complete header and text) will be maintained intact for a period of at least ten days. When storage space or other operating considerations preclude compliance with the ten day retention period, Services/Agencies may grant exceptions to specified stations in accordance with the following rules:

(a) All messages must be retained and be available for a period of not less than 72 hours except:

1 Magnetic tape DATA PATTERN formatted messages transmitted by HARPS.

2 Card DATA PATTERN messages which contain a master data base that is updated on a daily basis.

(b) For those messages meeting the criteria in (a)1 and (a)2 above, coordination must be effected with the originator to assure that a request for retransmission can be honored, by the originator making the message in its original form available for retransmission on a timely basis, or a determination that the required message is outdated and should not be retransmitted. Time delays encountered in providing such retransmissions are not accountable as communications handling time.

(2) After the mandatory retention period, the header and text may be separated. The text may be destroyed or diverted to other uses as dictated by local policy. The header will be retained for a period of not less than 30 days as a communications record. Header and text information will be retained beyond the specified retention periods for the completion of tracer or other investigative actions on hand.

510.g. Continued

(3) DD Form 1392 will be filed with and disposed of in the same manner as the header card.

h. Tributary stations operating procedures will ensure that a record is made of the TOF. This time will be used when determining message processing times; it may or may not correspond to the message header file time depending upon whether the message preparation was by manual or automated means.

i. Communications personnel will ensure that DATA PATTERN messages addressed and/or routed to non-US routing indicators contain a TRC in format lines 2 and 4. Messages designated SPECAT must contain format line 4 with appropriate SPECAT designators. See Chapter 7 for rules regarding use of TRCs and SPECAT designators.

511. Terminated Traffic. All received DATA PATTERN messages addressed to agencies served by the communications facility will be processed as follows:

a. Endorse the header card to indicate the time that the message was received. Time of receipt is defined as the time of receipt of the EOT record. Automated terminals which receive printed journal entries indicating receipt and time of receipt of the message are exempt from this requirement.

b. Verify the message record count. If the record count is incorrect, request retransmission from the originating station. Such messages will be delivered marked "subject to correction" pending receipt of corrected copy and the addressee will be advised of the discrepancy.

c. Remove the header card and file as a communications record for a period of not less than 30 days. For those terminals which receive a header printout or a journal printout, either of these records may be retained as a communications record in lieu of the header card. Text and EOT records will be delivered to the addressee. The message header card may also be delivered if a system generated header printout or journal printout is maintained. Tributary stations operating procedures will insure that a record is made of the time available for delivery (TAD). This time will be used when determining message processing times. An appropriate form, such as a message delivery register, may be used to validate message delivery to the addressee(s).

511. Continued

d. Headers of cancelled messages will be logged on an appropriate form and will be filed as a communications station record in accordance with paragraph 510.g.(2).

e. Messages received with the letter "U" in the classification field of the header and the word "CLEAR" as the first word of the text will be handled in accordance with the procedures contained in paragraph 326, ACP 121.

512. Data Message Form (DD Form 1392).

a. The DATA MESSAGEFORM is designed to provide the originating communications facility with information to prepare header cards for transmission.

DD Form 1392

DATA MESSAGE FORM	PRECEDENCE	LMF	CLASSIFICATION	
ADDRESSEE *(Clear Text)*				CARD COUNT *(Detail cards)*
ORIGINATOR'S IDENTIFICATION *(RCS, follow-up, status, etc.)*	CONTENT IND	RELEASING OFFICER'S SIGNATURE		OFFICE SYMBOL & EXT.
REMARKS				
FOR COMMUNICATIONS CENTER USE ONLY				
ORIGINATOR'S ROUTING INDICATOR	STATION SERIAL NUMBER	DATE-TIME *(Time filed)*		
TOTAL CARD COUNT	ADDRESSEE ROUTING INDICATOR	SUPERVISOR'S SIGNATURE		
OPERATOR'S SIGNATURE	TIME TRANSMITTED	CLASSIFICATION		

DD FORM 1392, 1 AUG 62

Figure 5-1

b. This information is required in the originating communications facility for retransmission actions, tracer actions, authentication purposes, and analysis of station activities by management.

513-519. Reserved.

SECTION III

HEADER AND END-OF-TRANSMISSION (EOT) FORMATS

520. General.

a. The accurate preparation of message header and EOT formats is mandatory. ASC functions depend on the correct sequence of characters and elements comprising the header and EOT format.

b. The DATA PATTERN header format is described in detail in paragraphs 521 through 536. It is prescribed for use on all DATA PATTERN messages transmitted within AUTODIN, except for those special variations specifically authorized herein. Each separate element of the header is described in the sequence in which it appears in the header. The field used is identified in parentheses in each paragraph heading. Example of the prescribed header format is shown in paragraph 537.

521. Precedence (Position 1). Four categories of precedence as prescribed in ACP 121 US SUPP-1 are authorized for use. Precedence is assigned by the originator, and shall not be altered by operating personnel. The FLASH preemption capability, designated ECP, of the AUTODIN system is not applicable to DATA PATTERN messages (see paragraph 413.b.). The following prosigns are used in Position 1:

Z	FLASH
O	IMMEDIATE
P	PRIORITY
R	ROUTINE

522. Language Media and Format (Positions 2 and 3). The LMF consists of two alphabetical characters. The LMF of the originating station is placed in position 2, and the LMF of the preferred output device of the addressee is placed in position 3. See Annex A for authorized LMF pairings.

523. Classification (Position 4). The classification or degree of security to be afforded a message is indicated by the appropriate letter designator from the list below:

T	TOP SECRET
S	SECRET
C	CONFIDENTIAL
R	RESTRICTED (not authorized for US use)
E	UNCLASSIFIED EFTO
U	UNCLASSIFIED

524. Content Indicator Code/Communication Action Identifier (Positions 5 through 8). The content indicator code/communication action identifier consists of four alphabetical characters or three alphabetical characters and one numerical character. The appropriate content indicator code/communication action identifier will be selected from Annex B.

525. Separator (Position 9). A separator (space) will be placed in this position.

526. Originator (Positions 10 through 16). The appropriate routing indicator of the originating station will be placed in these positions. This field must contain seven appropriate alpha characters.

527. Station Serial Number (SSN) (Positions 17 through 20).

a. SSNs are used for two purposes:

(1) In combination with the originating station's routing indicator they provide positive identification for the transmission, and

(2) As the EOM validation number appearing in format line 16, they provide a means by which the ASCs can check for the existence of straggler messages.

b. The SSN is expressed in four numeric characters beginning with 0001 and continuing consecutively through 9999. On completion of each series of 9999 numbers, a new series begins.

528. Separator (Position 21). A separator (space) will be placed in this position.

529. Date (Positions 22 through 24). The Julian date is the date on which the message was received from an originator by the communications center for transmission. The first day of the calendar year is Julian 001, and each day is numbered consecutively thereafter.

530. Time Filed (Positions 25 through 28). The time filed is the Greenwich Mean Time (GMT) the message was received from an originator by the communications center for transmission. Each filing time must contain four numerical characters.

531. Separator (Positions 29). A separator (space) will be placed in this position.

532. Record Count (Positions 30 through 33). The record count is the total number of 80-character records in the DATA PATTERN message, including the heading and EOT records. Left most positions are filled with zeros when they do not contain other numerics. Messages may use the alphabetical characters "MTMS" in the field with the actual record count placed in this field in the EOT record. In the event an ASC must reduce the record count of a message through routing line segregation and compression, the record count field in format line 2 will be overlaid, on output to the tributary, with "MTMS" and a true record count will be placed in this field in the EOT.

533. Classification Redundancy (Positions 34 through 38). For security reasons, the classification designator used in position 4 (paragraph 523) will be repeated in these positions. Position 34 will be filled with a hyphen (-) as a sentinel, and the classification designator in position 4 will be repeated in positions 35 through 38, except in those cases where a TRC is required. When TRCs are used, the security field will be split to show the security classification and the TRC; e.g., CCBB (CONFIDENTIAL message addressed and/or routed to the United Kingdom). The TRC must be the same as the TRC used in format line 4 (see paragraph 702).

534. Routing (Positions 39 through As Required). The positions reserved for routing are comprised of two sections, the start-of-routing signal, and the addressee routing indicators.

a. Start-of-Routing Signal. The start-of-routing signal consists of two consecutive hyphens (--) and will always precede the first addressee's routing indicator.

b. Addressee routing indicators are listed immediately following the start-of-routing signal. A maximum of 500 routing indicators can be listed in these positions. In multiple call messages, all routing indicators associated with the first four letters of a relay station will be grouped together, but need not be in alphabetical order. Example: RUEBPBA, RUEBABA, RUEDROA, RUEDCAC, ETC. Each routing indicator will be separated by a space. If a message contains 501 or more routing indicators thus requiring two separate transmissions, all routing indicators pertaining to a given four-letter routing indicator will be on one transmission. Routing indicators will not be split between two cards (records).

534. Continued

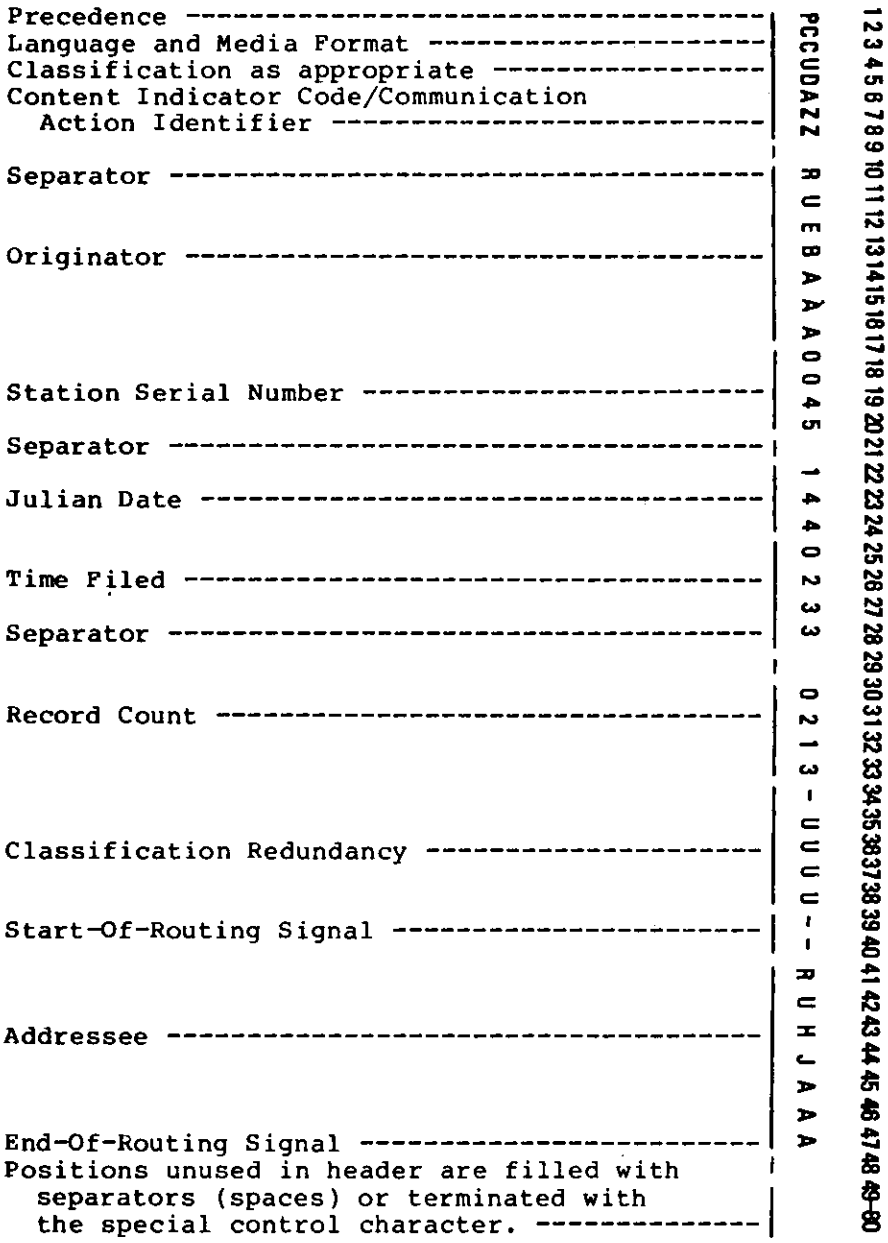
c. The first addressee station is identified beginning in position 41. Additional addressees are contained in subsequent positions, separated by a space. On output to a tributary the ASC uses routing line segregation and compresses the routing indicator field. The receiving telecommunications center will normally receive only those routing indicators for which it has a responsibility. Blank cards should not be received and the end-of-routing signal would immediately follow the last routing indicator received.

535. End-of-Routing Signal (Position As Required). The end-of-routing signal consists of a period (.) and is inserted in the position immediately following the last addressee's routing indicator.

536. Separators (As Required). Unused positions in the DATA PATTERN headers are filled with separators (spaces) or terminated with the special control character.

NOTE: Format line 4 is required on all data traffic that is addressed and/or routed to a regional defense organization or foreign nation. Format line 4 is also required on all data traffic that is designated SPECAT. Rules for the use of TRC/SPECAT designators are outlined in Chapter 7.

537. DATA PATTERN Header Format.



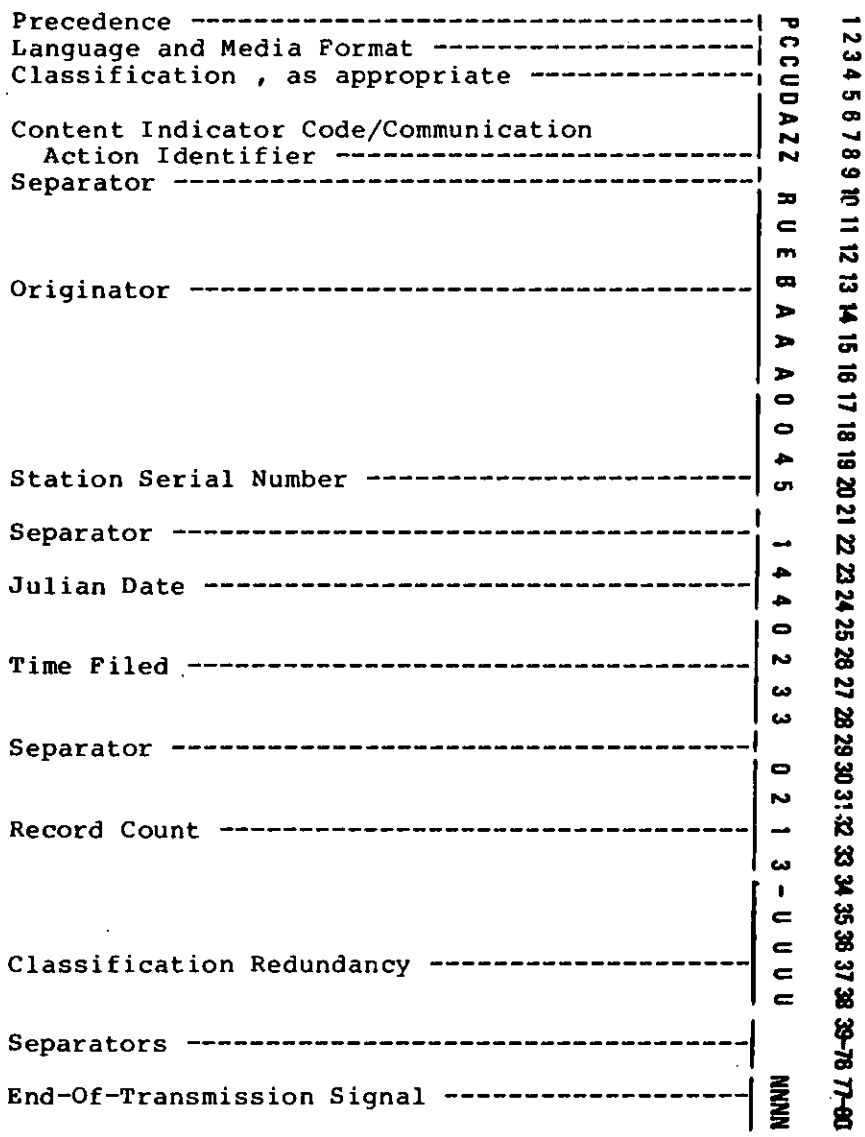
538. End-Of-Transmission (EOT) Format. The final record of a DATA PATTERN message is used to identify the originating station and other associated transmission information to the addressees after the header (format line 2) is stripped from the message by the communications facility. The EOT is an 80-position record for card and magnetic tape. The EOT consists of a repeat of all header (format line 2) information starting with the precedence, including all intervening elements, and ending with the character before the start-of-routing signal. When MTMS is used in the record count field of format line 2 the actual record count must be placed in the EOT record. The remaining positions are filled with separators (spaces) up to the positions required for the End-of-Transmission Signal (EOTS).

539. End-of-Transmission Signals (EOTS). The appropriate EOTS described below will be used to terminate a DATA PATTERN message:

a. In a series (multiple) record transmission (three or more records) the EOTS consists of the letter "N" repeated four times, in positions 77 through 80 of the EOT record. The unique group of four "Ns" must not appear in the text of any message.

b. The EOTS used in a single-record message is a single letter "N" appearing in the 80th position of the record.

540. EOT Record Format.



541. Examples of DATA PATTERN Messages.

a. In addition to the normal DATA PATTERN message format as shown in paragraph 302.d., the following examples of DATA PATTERN message formats using the LMFs CT/CA are illustrated below.

Originated using LMFs CT or CA:

```
RCTUDEAA RUWTFHA1234 3571104 0050-UUUU--RUFLAFA.
ZNR UUUUU
R 231104Z DEC 69
FM SAC OFFUTT AFB NE
TO 2188 COMM SQ MORON AB SPAIN
BT
TEXT - 42 CARDS
BT
RCTUDEAA RUWTFHA1234 3571104 0050-UUUU     NNNN
```

Delivered in teletypewriter format:

```
RCTUDEAA RUWTFHA1234 3571104-UUUU--RUFLAFA.
ZNR UUUUU
R 231104Z DEC 69
FM SAC OFFUTT AFB NE
TO 2188 COMM SQ MORON AB SPAIN
BT
TEXT - 42 LINE BLOCKS
BT
#1234
NNNN
```

NOTE: The ASC will insert 2CR and 1LF at the end of each format line, insert the EOM validation number, and replace the EOT record with an EOM sequence.

b. For examples of data traffic formats employing TRC/SPECAT designators see Chapter 7.

SECTION IV

MISROUTED AND MISSENT MESSAGES

542. Misrouted Messages. A misrouted message is one which contains an incorrect routing instruction.

a. The condition above will occur when:

(1) Originators having mechanized capability assign incorrect routing indicators during message header preparation.

(2) The originating communications facility assigns an incorrect routing indicator to the message when preparing the message for transmission.

b. In both cases, the misrouted message will be processed until it reaches the addressee (called station). Addressees receiving a misrouted message will return the message to the communications facility with the correct address of the message. If the addressee cannot determine the correct address, the communications facility will be notified and the correct message references will be furnished.

c. A communications facility unable to ascertain for whom a misrouted message is destined, will notify the originating station by service message and request that delivery of message involved be protected. The operating signal ZEQ4 will be used in the text.

(1) UNCLAS example of service message to originating station advising to protect delivery of misrouted message:

```
RXTUZYVW RUWMFDA1013 0061400 0007-UUUU--RUHHBAA.
ZNR UUUUU
BT
UNCVLAS SVC ZEQ4 RUHHBAA1264 0061320 UNABLE TO
DETERMINE CORRECT ROUTING
BT
RCTUZYVW RUWMFDA1013 0061400 0007-UUUU      NNNN
```

(2) The originating station receiving a misrouted service message notice as outlined in c.(1) above is responsible for any further action required to correctly route or otherwise protect the reported message.

542. Continued

d. A communications facility able to ascertain the correct routing for the message will:

(1) Apply a format line 1 pilot to the misrouted message or perform a header change and transmit to the correct routing indicator (see paragraphs 542.e., f., and g.).

(2) Transmit a service message to the originating station advising of the reroute action and correct routing indicator. The service message will also contain the actual TOT of the rerouted message (with any reason for delay), which should satisfy any tracer actions for excessive delay. The operating signal ZEQ3 will be used in the text.

e. When applying a format line 1 pilot for a misrouted message, the following will be placed in the pilot card:

(1) Content Indicator Code/Communication Action Identifier ZOVW.

(2) Own OSRI.

(3) SSN of message being rerouted.

(4) Own Julian date and time filed.

f. A header change will be accomplished on those misrouted messages requiring rerouting to a non-US routing indicator. The appropriate TRC will be included in format line 2 and a format line 4 prepared accordingly. See Chapter 7 for rules regarding use of TRCs and SPECAT designators.

g. Examples:

(1) Example of a single call message received as a misroute:

```
RCCUDAAA RUCIABA0123 0061330 0050-UUUU--RUMMTFA.
TEXT - 48 CARDS
RCCUDAAA RUCIABA0123 0061330 0050-UUUU     NNNN
```

Example of above message after format line 1 pilot applied:

542.g.(1) Continued

```
RCCUZOVW RUMMTFA0123 0061400 PLTS-UUUU--RUMOABB.
RCCUDAAA RUCIABA0123 0061330 0050-UUUU--RUMMTFA.
TEXT - 48 CARDS
RCCUDAAA RUCIABA0123 0061330 0050-UUUU      NNNN
```

Example of service message to originating station advising of reroute action taken:

```
RCTUZYVW RUMMTFA1432 0061410 0006-UUUU--RUCIABA.
ZNR UUUUU
BT
UNCLAS SVC ZEQ3 RUCIABA0123 0061330 RUOMABB 0061413
BT
RCTUZYVW RUMMTFA1432 0061410 0006-UUUU      NNNN
```

(2) Example of a misrouted message requiring application of a TRC:

```
RCTUZYUW RUCLACB1242 0130420 0050-UUUU--RUMMTFA.
TEXT - 48 CARDS
RCTUZYUW RUCLACB1242 0130420 0050-UUUU      NNNN
```

(3) Example of above message processed under header change procedures and the addition of a format line 4:

```
RCTUZOVW RUMMTFA1242 0130513 0051-UUAA--RAMQC.
ZNR UUUAA ZOV RUMMTFA0255 REROUTE OF RUCLACB1242 0130420
TEXT - 49 CARDS
RCTUZYUW RUMMTFA1242 0130513 0051-UUAA      NNNN
```

NOTE: The card count is changed to reflect the addition of the format line 4 card.

543. Missent Message. A missent message is one bearing a correct routing indicator but transmitted to a station other than the one represented by the routing indicator.

a. Missent messages may be caused by:

(1) Equipment malfunction.

(2) Incorrect switching.

(3) Operator error.

543. Continued

b. A tributary station in receipt of a missent message will:

(1) Reintroduce the message as a suspected duplicate. A format line 1 pilot will be applied to a missent message.

(2) Forward a service message to the originating station if the message is received incomplete or garbled. The operating signal ZEQ2 will be used in the text.

(3) Forward a routine service message to the connected ASC citing the complete header, time-of-receipt (TOR), and advise that message has been protected.

c. Examples:

(1) Example of a missent message as received at RUFTABA from relay station RUFT:

```
RCCUDKAA RUEOLGA1234 0081720 0050-UUUU--RUFLDBA.
TEXT - 48 CARDS
RCCUDKAA RUEOLGA1234 0081720 0050-UUUU     NNNN
```

(2) Example of above message after format line 1 pilot applied:

```
RCCUZFDY RUEOLGA1234 0081720 PLTS-UUUU--RUFLDBA.
RCCUDKAA RUEOLGA1234 0081720 0050-UUUU--RUFLDBA.
TEXT - 48 CARDS
RCCUDKAA RUEOLGA1234 0081720 0050-UUUU     NNNN
```

(3) Example of service message as sent by RUFTABA to relay station RUFT:

```
RCTUZYVW RUFTABA1104 0081740 0006-UUUU--RUFTCSA.
ZNR UUUUU
BT
UNCLAS SVC ZEQ1 RUEOLGA1234 0081720
BT
RCTUZYVW RUFTABA1104 0081740 0006-UUUU     NNNN
```

(4) Example of service message as sent by RUFTABA to RUEOLGA:

543.c.(4) Continued

```
RCTUZYVW RUFTABA1105 0081741 0006-UUUU--RUEOLGA.
ZNR UUUUU
BT
UNCLAS SVC ZEQ2 RUEOLGA1234 0081720 GARBLED
BT
RCTUZYVW RUFTABA1105 0081741 0006-UUUU     NNNN
```

d. An ASC receiving a service message missent notification will comply with the provisions of paragraph 429.d.

SECTION V

SUSPECTED DUPLICATES

544. Suspected Duplicate Procedure.

a. When definite proof cannot be readily determined that a message has been previously transmitted, the message shall be forwarded as a "suspected duplicate" by applying a format line 1 pilot. However, in those instances wherein the ASC does not acknowledge message receipt due to a determinable cause, the message will not be processed as a suspected duplicate but will be corrected and reintroduced as an original message.

(1) Example of a message presumed to have been previously transmitted:

```
PCCUDHAB RUADFBA1643 0081240 0050-UUUU--RUWJAFA.
TEXT - 48 CARDS
PCCUDHAB RUADFBA1643 0081240 0050-UUUU      NNNN
```

(2) Example of above message after suspected duplicate format line 1 pilot applied:

```
PCCUZFDY RUADFBA1643 0081345 PLTS-UUUU--RUWJAFA.
PCCUDHAB RUADFBA1643 0081240 0050-UUUU--RUWJAFA.
TEXT - 48 CARDS
PCCUDHAB RUADFBA1643 0081240 0050-UUUU      NNNN
```

b. Messages transmitted by an ASC as the result of a retransmission request will contain a format line 1 suspected duplicate pilot.

(1) Example of message as originally transmitted by an ASC to a tributary station:

```
RCCUDFAA RUEOABA1243 0121115 0050-UUUU--RUAOLDA.
TEXT - 48 CARDS
RCCUDFAA RUEOABA1243 0121115 0050-UUUU      NNNN
```

(2) Example of above message transmitted by an ASC as a suspected duplicate:

```
RCCUZFDY RUEOABA1243 0121115 RUAO-UUUU--RUAOLDA.
RCCUDFAA RUEOABA1243 0121115 0050-UUUU--RUAOLDA.
TEXT - 48 CARDS
RCCUDFAA RUEOABA1243 0121115 0050-UUUU      NNNN
```

544. Continued

c. When a station receives a message marked as a suspected duplicate, that station will:

(1) File the pilot and header card as a communications record, if verified with addressee that the message was previously received and delivered. The remainder of the message (text and EOT card) will be destroyed.

(2) Forward the message with the top and bottom cards marked in large red letters with the words "SUSPECTED DUPLICATE" to the addressee if there is no indication that it was previously received and delivered.

545. Receipt of Unmarked Duplicate Messages.

a. Duplicate messages received without the appropriate marking (ZFDY, ZFGY) are primarily caused by operator error and, in some cases, by equipment/ASC operating program malfunctions. Stations receiving unmarked duplicate transmissions will:

(1) Immediately forward a routine precedence service message to the originating station (OSRI in format line 2) citing the complete header of the duplicated message including the time of receipt of the original and duplicate transmission.

Example of service message to originating station:

```
RCTUZYVW RUKKBAA1065 0121720 0008-UUUU--RUEBDAA.
ZNR UUUUU
BT
UNCLAS SVC 0104 ZUI RUEBDAA2136 0121650 DUPED TOR
0121700 AND 0121715 HEADER FOLLOWS
RCCUDFAZ RUEBDAA2136 0121650 0150-UUUU--RUKKBAA.
BT
RCTUZYVW RUKKBAA1065 0121720 0008-UUUU     NNNN
```

(2) Coordinate with the addressee to determine if delivery is desired. File the header card as a communications record if verified with the addressee that the mssage was previously received and delivered. The remainder of the message (text and EOT card) will be destroyed.

545. Continued

b. Originating stations notified by service message (paragraph 545.a.(1)) of the receipt of an unmarked duplicate transmission will comply with the provisions of paragraph 431.b.

c. ASCs notified by service message of the receipt of an unmarked duplicate transmission will comply with the provisions of paragraphs 431.c. and d.

SECTION VI

RETRANSMISSIONS AND RESUBMISSIONS

546. Requesting Retransmission.

a. Request for retransmission of a message received by either the addressee or communications facility which cannot be processed due to local circumstances; i.e., equipment malfunction, dropped deck, etc., will be forwarded to the originating station shown in the OSRI field of the header card. Each request will identify the reason for the requested retransmission.

Example of service message:

```
RCTUZYVW RUAOLDA1469 0161540 0007-UUUU--RUEOABA.
ZNR UUUUU
BT
UNCLAS SVC 1201 REQUEST RETRANSMISSION RUEOABA2179
0161515.  REASON:  EQUIP MALFUNCTION
BT
RCTUZYVW RUAOLDA1469 0161540 0007-UUUU      NNNN
```

b. Requests for retransmission of a number of card messages due to local equipment malfunction will be forwarded to the connected ASC. Each request will include, as accurately as possible, the time of receipt of the last good message received and the next good message received. Also, reason for requested retransmission will be stated.

Example of service message:

```
RCTUZYVW RUWTBDA1642 0141550 0013-UUUU--RUWTCSA.
ZNR UUUUU
BT
UNCLAS SVC REQUEST RETRANSMISSION OF TRAFFIC
BETWEEN FOLLOWING MESSAGES ON CIRCUIT (Number).
LAST GOOD MSG RCCUDGAZ RUMMFDA2173 0141420
0025-UUUU--RUWTBDA.  TOR 0141435.  NEXT GOOD MSG
RCCUDGAZ RUEBAFA1324 0141443 0150-UUUU--RUWTFBA.
TOR 0141447.  REASON: CARD JAM, EQUIP DROPPING
PUNCHES, ETC. (Give exact reason)
REMARKS:  ONLY CARD TRAFFIC REQUIRED
BT
RCTUZYVW RUWTBDA1642 0141550 0013-UUUU      NNNN
```

546. b. Continued

NOTE: Stations will not cite test or quality control messages containing all zeros as the station serial number in the last good - next good message received. The last good - next good messages cited must be actual messages and must include the complete format line 2 as received.

c. Requests for retransmission of missing, incomplete, garbled or mutilated joint general messages transmitted by collective routing (JAFPUBs, ALMILACTs, etc.) will be forwarded to the connected ASC and include the general message title as part of the message identification, reference ACP 121 US SUPP-1.

d. Messages received at the ASC as the result of a retransmission request will contain a format line 1 suspected duplicate pilot (see paragraph 544.b.).

e. Each station is responsible for the establishment of in-station procedures and safeguards to assure that all requests for message retransmission are promptly and correctly handled.

f. Responses to retransmission requests from regional defense organization or foreign nation communications centers must contain a format line 4 together with the proper TRC (see Chapter 7).

g. Unique routing indicators have been assigned to data processing installations to insure that DATA PATTERN messages are received by the serving TCC on designated output devices. This service is disrupted when retransmissions are made to the routing indicator of the TCC initiating the retransmission request. To preclude this happening, TCCs originating service messages requesting retransmission of DATA PATTERN messages will insert within the service message text, specific instructions to direct the response to the unique routing indicator of the data processing installation. Alternatively, the routing indicator of the data processing installation can be employed in the OSRI field of the service message requesting retransmission originating by the servicing TCC.

Example of a service message originated by TCC RUEOAGA for ultimate delivery of retransmitted message to RUEOAGQ:

546.g. Continued

```
RCTUZYVW RUEOAGA0526 3552316 0007-UUUU--RUEOFUA.
ZNR UUUUU
BT
UNCLAS SVC INT ZDK RUEOFUA2222 3551815 DIR RUEOAGQ.
BATCH MISSING.
BT
RCTUZYVW RUEOAGA0526 3552316 0007-UUUU     NNNN
```

Example of service message requesting retransmission originated by TCC RUEOAGA substituting the data processing installation routing indicator RUEOAGQ in the OSRI field:

```
RCTUZYVW RUEOAGQ0526 3552316 0006-UUUU--RUEOFUA.
BT
UNCLAS SVC INT ZDK RUEOFUA2222 3551815 BATCH MISSING
BT
RCTUZYVW RUEOAGQ0526 3552316 0006-UUUU     NNNN
```

547. Providing Retransmission.

a. Receipt of retransmission requests by an originator or communications facility need not be referred to the data processor prior to providing the retransmission.

b. Upon receipt of a retransmission request, the message involved will be retransmitted with a format line 1 pilot affixed.

Example of a piloted retransmission message:

```
RCCUZDKW RUEOABA2179 0161600 PLTS-UUUU--RUAOLDA.
RCCUDGAZ RUEOABA2179 0161515 0050-UUUU--RUAOLDA.
TEXT - 48 CARDS
RCCUDGAZ RUEOABA2179 0161515 0050-UUUU     NNNN
```

If the retransmission request required referencing a service message (COSIR), the retransmission may contain an additional card citing the service message; however, periods will not appear in this card.

Example:

547.b. Continued

```
RCCUZDKQ RUEOABA2179 0161600 PLTS-UUUU--RUAOLDA.
ZUI SVC 0147 ZDK RUEOABA3215
RCCUDGAZ RUEOABA2179 0161600 0050-UUUU--RUAOLDA.
TEXT - 48 CARDS
RCCUDGAZ RUEOABA2179 0161600 0050-UUUU     NNNN
```

548. Resubmission.

a. A message resubmission is the transmission of a new message by the originator as the result of a specific request from the addressee.

b. A message resubmission request received by an originator implies that the accuracy of the message is in doubt and it could not be processed as originated. The originating data processor then must reconstitute the original message, making certain that all of the data submitted is in the correct format and that his equipment is working so that the reconstituted message contains no double-punched cards, offset punches, etc.

c. Messages requesting resubmissions will cite the OSRI, SSN, and Julian date and time filed of the message involved.

d. Messages transmitted as a result of a resubmission request will be handled as a completely new message with a new SSN and Julian date and time filed.

549. Reserved.

SECTION VII

SERVICE MESSAGES

550. General.

a. Service messages are short concise messages used by data communications personnel to exchange information and instructions concerning conduct of communications; e.g., to expedite traffic handling, message corrections, retransmissions, verifications, acknowledgements, tracer actions and other matters relative to network management and operation.

b. Service messages normally will be assigned the precedence of the message being serviced.

c. A record of file of service messages should be maintained and should reflect the date and time received or transmitted. Coordination conducted in technical control facilities via technical control coordination facilities is not identified as a service message. Conversely, service messages will not be exchanged via technical control coordination facilities.

d. If a service message quotes the textual contents of a classified message or refers to the classified message in a manner which reveals text content, the service message must be assigned the same classification as the classified message being serviced.

551. Service Message Preparation.

a. Service messages will be prepared as either a single or series card message.

b. The content indicator code/communication action identifier ZYVW will be used on service messages.

c. Authorized operating signals (ACP 131) will be used to the greatest possible extent.

d. Service messages may be assigned sequential reference numbers. The service message number will immediately follow the abbreviation SVC in the message text. If used, sequential service reference numbers may continue throughout the remainder of the calendar year.

551. Continued

e. When replying to a service message received with a reference number, the text of the reply shall make reference to the number.

f. The abbreviation COSIR may be used as the last word of the service message text.

g. Service messages which reference messages for reasons other than tracer actions will cite the OSRI, SSN, and Julian date and time filed extracted from the header of the referenced message.

h. Manually prepared service messages will use the appropriate LMF designator "A" or "T" in the second position as determined from ACP 117 CAN-US SUPP-1.

i. Each station is responsible for the establishment of in-station procedures and safeguards to determine definitely that all service message requests and replies are promptly and correctly handled.

j. Examples and the actions to be taken upon receipt of ASC automatically generated service messages are prescribed in paragraph 329.

k. Service messages addressed to a routing indicator of a regional defense organization or foreign nation must contain a format line 4 with a proper TRC reflected in format line 2 and 4 of the service message.

552. Tributary Stations Follow-up Action.

a. The responsibility of providing a retransmission promptly is placed upon the station to which the transmission request is routed. Elapsed time allowed between the first and succeeding requests is determined by such factors as: precedence of the message involved, indication of previous delay, nature of the request, speed of service between originating and terminating station, operative hours of the station to which the service is destined, if known, and any indication of abnormal traffic/circuit conditions which may exist. When no reply is received to a service request within times prescribed below, as influenced by factors stated above, another request will be originated.

552.a. Continued

IMMEDIATE:	2 hours
PRIORITY:	8 hours
ROUTINE:	16 hours

b. When a reply to a service request for a retransmission is not received within time criteria specified in paragraph a. above, a second request will be sent to the originating station. This request will be so identified by the use of the operating signal ZAR2.

c. When no reply is received to a second or subsequent request within the time criteria specified in paragraph a. above, an official message will be sent to the terminal operating organization/activity requesting a response to the previous service message transactions.

553-554. Reserved.

SECTION VIII

TRACER ACTION

555. Definition. Tracer action is the process by which an investigation is conducted to determine the reason for inordinate delay or nondelivery of a message.

556. Rules for Tracer Action.

a. Normally, requests for tracer action will be initiated by a message originator or addressee. However, should circumstances so dictate, tracer actions may be initiated by an originating communications station, relay station, or addressee communications station.

b. Tracer action requests will be initiated as soon as the discrepancy is discovered, but not later than 30 days from the original time of transmission.

c. Separate tracer action logs and individual case files will be maintained at all communications facilities involved. Case files will be retained for at least six months.

d. Tracer actions shall maintain continuity throughout the system beginning with the originating station. The originating station will be advised of all transactions as the tracer action progresses through the system. Intermediate stations, who have completed tracer action on a message, should not be made an information addressee on tracer services as the message is traced onward through succeeding communications stations.

e. The originating station will formulate a final report, composed in nontechnical language and summarizing the investigation and the remedial actions taken or required to prevent recurrence. The final report will be submitted through command channels to the originator of the tracer action request and the appropriate Service/Agency headquarters for final disposition.

f. Tracer action concerning FLASH messages will be handled as expeditiously as possible.

g. Delay tracer actions will be discontinued as soon as station-to-station reporting has accounted for the excessive delay claimed.

556. Continued

h. Delay or nondelivery tracer actions which were caused by equipment malfunction or software deficiency at the ASC will be completely documented and forwarded by message to DCA for evaluation and corrective action. In addition, any message of IMMEDIATE and above precedence that experiences inordinate delay or nondelivery attributed to action taken by DCA ACOCs in the course of operational direction of traffic management of the AUTODIN network will also be reported. The appropriate DCA area center and communications headquarters, (CDRUSACC, COMNAVTELCOM, or AFCC) will be included as information addressees.

557. Tracer Action Procedure.

a. Delayed Message.

(1) Prior to initiating tracer action, the communications center serving the addressee will carefully examine records, logs and the message heading to determine if the cause of delay can be ascertained and adequately explained prior to advising the originator to commence tracer action. Consideration must be given to any adverse circuit conditions, in-house backlog conditions, terminal outage (demand or preventative maintenance), ASC outage, or a message header pilot which could be pertinent to the reason for delay. After all efforts have been exhausted, the addressee's communications center will advise the originator of the delayed message including the exact amount of delay claimed (hours and minutes).

(2) Upon receipt of a tracer action request for excessive delay, the communications center serving the originator will carefully examine its logs and records to determine if the cause of delay can be ascertained and adequately explained. Special emphasis will be placed on in-house backlog conditions, elapsed time between the TOF and the actual time of transmission, circuit or equipment outage, ASC outage, or service action taken on the message being traced. NOTE: Use of the TOF will compensate for the loss of accuracy resulting from variations in the means used by manual and automated tributary stations in message header preparation.

(3) If the cause of the delay cannot be locally established, delay tracer action will normally be initiated by routine message to the directly connected relay station, citing the exact amount of delay being claimed.

557.a.(3) Continued

Example of delay tracer to the first relay by the originating station:

```
RCTUZYVW RUADBDA1279 0261750 0008-UUUU--RUADCSA.
ZNR UUUUU
BT
UNCLAS SVC 1064 ZUI RUADBDA1063 0260400 TOR RUWMAFA
0261600 12 HRS DELAY TOT TO RUAD 0260450.  50 MIN
DELAY FOR NORMAL MESSAGE PROCESSING. INT ZDN
BT
RCTUZYVW RUADBDA1279 0261750 0008-UUUU     NNNN
```

(4) Upon receipt of an excessive delay tracer, each station will examine its records for time of receipt and time of transmission of the message being traced. This information will be compiled and transmitted to the next station in the transmission path. The originator will be included as an information addressee on all service messages pertaining to the message being traced. Any station responsible for any portion of the delay will include the reason for the delay and the corrective action taken to prevent a recurrence.

Example of relay station report on an excessive delay tracer:

```
RTTUZYVW RUADCSA2478 0261230-UUUU--RUADBDA.
ZNR UUUUU
BT
UNCLAS SVC ZUI RUADBDA1279 0261750.  TOR 0260450
DUE TO ON-LINE PROGRAM PROBLEM WHICH PROHIBITED
A SYSTEM RECOVER.  PROBLEM HAS BEEN DOCUMENTED
AND FORWARDED IN ACCORDANCE WITH PARA 556H, JANAP
128()
BT
#2478
NNNN
```

b. Nondelivered message.

(1) Upon notification of a nondelivery claim, the originator's communications center will retransmit the message as a duplicate to the addressee claiming nonreceipt unless the originator prefers to cancel it. If a duplicate transmission is made, a format line 1 pilot will be applied with the communication action identifier ZFGY inserted in the content indicator field. Messages received with ZFGY in format line 1 of the pilot card will be delivered to the addressee.

557.b. Continued

(2) The originator's communications center will carefully examine its in-station records to determine if the original transmission of the message was, in fact, properly transmitted to the addressee claiming nonreceipt.

(3) If the message was properly transmitted, a service message of equal precedence will be forwarded to the communications center serving the addressee. The service message will properly identify that particular message, requesting verification of receipt or nonreceipt. If the addressee's communications center advises the message was not received, formal tracer action will be initiated by the communications center serving the originator.

(4) The communications center serving the originator will transmit a service message to the first relay station involved in the original transmission. The service message will contain complete header information, routing indicator of station claiming nonreceipt, time of transmission, and identification of service message in which the addressee communications center concerned verified nonreceipt.

Example of nondelivery tracer to the first relay by originating station:

```
RCTUZYVW RUEBLFA1376 0271830 0009-UUUU--RUEBCSA.
ZNR UUUUU
BT
UNCLAS SVC RUDOALA CLAIMS NONRECEIPT
RCCUDFAA RUEBLFA1124 0251712 0050-UUUU--RUDOALA RUADBOA.
ZDQ RUEB AT 0251732.  INT ZDN RUDOALA2345 0271830
VERIFIED NONRECEIPT AT ADDEE COMMCEN.
BT
RCTUZYVW RUEBLFA1376 0271830 0009-UUUU     NNNN
```

(5) The tracer action shall maintain continuity throughout the system, progressing from relay to relay, until the point of loss or nondelivery of the message occurred. If a nondelivery has occurred, the responsible station will conduct an investigation to determine the cause and corrective actions taken to prevent a recurrence and notify the originating station accordingly.

557.b. Continued

(6) In-station records, files, logs, and tapes will be retained beyond the 30 day limit if a tracer action is in progress prior to the expiration date.

c. Tracer actions involving notification or requesting action from communications centers of a regional defense organization or foreign nation must contain the proper TRC in format lines 2 and 4 of the service message (see Chapter 7).

CHAPTER 6

MAGNETIC TAPE TERMINAL STATION PROCEDURES

SECTION I

GENERAL

601. Introduction. Magnetic tapes are one of the principal media used in EDPE systems. There are many different applications of magnetic tape, all of which have a direct bearing on the format of the recorded data. Magnetic Tape Terminal Stations (MTTS) in the AUTODIN provide for rapid exchange of large volumes of data in a relatively short period of time. Terminals in CONUS which have compatible equipment and circuit speeds and are connected to the same ASC, may communicate directly via HARPS (see paragraph 343). Other terminals communicate via the MSU which automatically performs the necessary speed, format and code conversions.

602. Equipment Operating Procedures. MTTS basic operating procedures are contained in the equipment operator's manuals for the types of equipment concerned. If any conflict of procedures exists, the procedures prescribed by this publication will apply.

603-604. Reserved.

SECTION II

OPERATION

605. Modes of Operations. The basic mode of MTTS operation for communication with other AUTODIN tributary stations is usually full duplex and via the message switching store and forward method provided by AUTODIN.

606. Operating Rules.

a. All received tape reels will be periodically dismounted and made available for delivery. Dismounting schedules will be established by coordinating with local EDPE system managers.

b. All magnetic tape reels accepted by the communications facility for transmission will be screened and arranged for transmission order according to majority message precedence levels contained on the reels.

c. In-station procedures will be established to ensure that reel accountability and message transmission has been affected. Message header and EOT printouts are furnished by the message originator with each reel of tape to be transmitted. If a message cannot be transmited, the MTTS operator will return the reel to the originator, identifying the message(s) that could not be transmitted and giving the reason for the nontransmission, if known.

d. Communications terminal equipment will not be utilized to change message media format for customer convenience; i.e., converting magnetic tape messages to card or narrative records.

e. MTTSs will be operated in an attended status at all times.

607. Operating Precautions. To insure reliable communications with the MTTS, the following precuations must be observed:

a. Communications station master records, such as history tapes and journal records, will remain within the communications facility until destroyed. History tapes will be appropriately labeled to preclude a possibility of their being inadvertently delivered to addressees along with live traffic tapes.

607. Continued

b. Recorded information is very close to the edge of the tape. Tape edge indentations caused by careless tape handling will seriously affect the accuracy of magnetic tape recordings.

c. Tape splices are not permitted in reels of tape used for traffic.

608-609. Reserved.

SECTION III

MESSAGE PREPARATION

610. Message Formats.

a. Message formats used within the AUTODIN require that each message contain a message heading, text, and EOT record (see Chapter 5).

(1) The text material on magnetic tapes may consist of a wide variety of information recorded in either structured or non-structured formats depending upon the type of associated EDPE system. EDPE magnetic tapes may contain streams of binary signals in no common code or language, regardless of the type of information used in the text (coded or binary) and the format (structured or non-structured), the arrangement of bits as recorded on the source tape is preserved accurately. Bits may be added to the binary stream to create ASCII characters for transmission; however, this must be accomplished in a standard manner to allow the receiver to strip these added bits and record on the receive magnetic tape a mirror image of the bits as recorded on the source tape.

(2) EOTS is either a single "N" or four consecutive "Ns" as prescribed in paragraph 539.

b. The header, text and EOT records magnetic tape messages are always transmitted in the AUTODIN common language code (ASCII). This is accomplished by automatic code conversion logic provided in the magnetic tape terminal.

c. The text of magnetic tape messages may be prepared by the EDPE system in 80-character data record images, series record images, or variable length record images. The length of data records to be transmitted via AUTODIN may vary according to user requirements. For general transmission of data throughout the system, computerized terminals must have the capability of transmitting records containing a minimum of 18 characters and a maximum of 1200 characters. This restriction is due to characteristics of existing terminal equipment. Subscribers desiring to transmit messages containing record length of less than 18 or more than 1200 characters must insure that the addressee is capable of receiving such records prior to transmission. Typical line formats of magnetic tape message records are described in Annex A.

611. Message Preparation Procedures.

a. Magnetic tape messages must be prepared in accordance with Chapter 5. The elements of the message header and EOT records are used to activate switching functions, and for the processing of traffic to its correct destination.

b. The preparation of magnetic tape messages, formats, routing, contents and sequence on tape is the responsibility of the message originator.

c. Magnetic tape messages prepared for transmission are limited to a maximum of 40,000 data characters or 500 line blocks, which includes the header, text, and EOT records.

d. EDPE system generated messages will be accuracy checked by the originator prior to delivery to the MTTS for onward transmission.

e. Each tape must be blanked by a method compatible with the associated EDPE system prior to recording information for transmission into the AUTODIN.

f. Regardless of the number of messages recorded on one tape for transmission, that tape must end with an EOTS and end-of-tape mark.

g. Magnetic tape headers may contain either the letters MTMS or the actual record count (80-character data record equivalents) in the record count field (see paragraph 532).

h. Each magnetic tape EOT must contain the actual record count in positions 30 through 33.

i. LMF "BB" and "II" may be used when preparing messages for like EDPE systems. However, messages containing LMF "II" should not be prepared on the same tape reel as any other LMF. If incompatible EDPE systems are used, only LMF "CC" or "DD" can be used.

j. Agencies responsible for magnetic tape message preparation will furnish the MTTS operator a printout of the header and EOT records for each message contained in the reel of tape presented for transmission.

611. Continued

k. Each message prepared for AUTODIN transmission will contain an LMF. Detailed information concerning each LMF is given in Annex A. LMF "SC", "CC", "BB", "DD", and "II" may be transmitted via any combination.

l. Magnetic tape messages that may be addressed and routed to a regional defense organization or foreign nation must contain a format line 4, together with the proper TRC in format lines 2 and 4 of the message.

612-614. Reserved.

SECTION IV

SYSTEM PROGRAMMING REQUIREMENTS

615. Customer Recognition Requirements. In order to realize maximum utilization of messages prepared by originators and received by addressees, it is mandatory that MTTS or served EDPE systems be programmed to perform and/or recognize certain communications functions. They must:

a. Recognize the MTTS discard message signal.

b. Recognize the Exception Code sentinel "W", the Corrected Copy sentinel "X", and the duplicate sentinel "Y" in Column 8 of message headers, or preferably, to recognize and react to each applicable communication action identifier listed in Table III of Annex B.

c. Prepare AUTODIN message header formats.

d. Prepare AUTODIN message EOT formats.

e. Printout originated header and EOT formats.

f. Recognize and printout header and EOT formats for terminated traffic. Where this function is performed by EDPE, this printout will be provided the MTTS operator within three working days from receipt of traffic.

g. Retrieve any single message or group of messages for both originated and terminated traffic to provide for retransmission or resubmission.

h. Insert the Duplicate sentinel in the content indicator field of the header format when required by retransmission procedures.

616-619. Reserved.

SECTION V

MESSAGE AND TAPE REEL ACCOUNTABILITY

620. Tape Reel Accountability.

a. Each reel of tape presented to the MTTS operator for transmission will bear a physical tape label containing the following information:

(1) Reel number.

(2) Number of messages recorded on tape.

(3) Highest transmission precedence used.

(4) Highest security classification used.

(5) Date and time filed.

(6) Tape density.

(7) LMF in which the message(s) are recorded on the tape.

(8) Beginning and ending station serial numbers.

(9) Time delivered to the MTTS operator for transmission.

b. Each blank reel of tape furnished the MTTS operator for mounting on the receive tape transport will bear a physical tape label on which the following information will be recorded in the sequence of handling:

(i) A statement that the reel of tape is blank.

(2) Reel number.

(3) Highest classification ever recorded.

(4) Time reel is mounted on the receive tape transport.

(5) Time reel is removed from the receive tape transport.

620.b. Continued

(6) Time reel is delivered to the addressee.

(7) Number of messages on the reel, type of messages, etc., if known.

621. Originated Tape Reel Retention. All originated tape reels will be retained for not less than ten days. The originated tape reel must be available to furnish retransmission/resubmission service requests.

622. Logging Procedures.

a. The header and EOT printouts furnished the MTTS operator for both originated and terminated traffic will be maintained as a station communications record for not less than 30 days. Other logs recommended for MTTS operation are the Master Station Log and the Reel Delivery Log.

(1) The Master Station Log should reflect the current operational status of the terminal equipments and circuits, and should also reflect equipment/circuit outages and their causes and the corrective actions initiated.

(2) The Reel Delivery Log will indicate the reel number and the time delivered to the transmitting operator or the addressee.

b. The information required by paragraph 620 will be recorded on the printouts for both originated and terminated traffic. Stamps may be prepared, which only require the MTTS operator to insert the pertinent information.

623. Reserved.

SECTION VI

SERVICE MESSAGE AND TRACER ACTION REQUESTS

624. Procedures.

a. When an MTTS is located on the same base, post, station, etc., having compound terminal facilities, all service messages and tracer action requests will be addressed to the compound terminal in LMF "TT", "TA", "AA", or "AT", if possible. Otherwise, LMF "SC" or "CC" will be used.

b. Compound terminal operators will deliver all service messages and tracer action requests immediately to the MTTS operators, regardless of the message precedence.

c. Compound terminal operators will prepare and transmit all service messages and tracer action requests for the MTTS according to the information furnished by the requester.

d. MTTSs receiving retransmission requests may further request the connected ASC to furnish the retransmission providing the message is not more than ten days old.

e. Service messages or tracer actions addressed to a regional defense organization or foreign nation routing indicator must contain a format line 4 together with proper TRC in format lines 2 and 4 of the service message.

f. Service messages requesting retransmission of magnetic tape messages destined for ultimate delivery to a routing indicator other than the terminating TCC will be processed as outlined in paragraph 546.g.

CHAPTER 7

TRANSMISSION RELEASE CODE (TRC)/SPECAT PROCEDURES

701. General.

a. The TRC is a two-letter element which is inserted in the message heading format in conjunction with the redundant security character group to indicate authorization for the transmission of any US DoD message to a regional defense organization or foreign nation (international traffic). TRCs are not employed on US to US national traffic except as indicated below.

b. All messages exiting the AUTODIN system destined for regional defense organizations or foreign nations will be checked for proper TRC. Once transmission authorization is determined by the ASC, the message will be converted to ACP 127 format, and format line 4 overlaid to depict five redundant security characters vice the three security characters and two position TRC placed on the message at the point of origination. Therefore, messages received from the AUTODIN by the regional defense organization or foreign nation transfer stations will not contain a TRC.

c. A SPECAT designator is only used on US national traffic to control messages during the electrical transmission process. This will be accomplished by classmarking the communications channels over which the message will pass. The classmarking inhibits the delivery of a SPECAT message to an unauthorized addressee by means of a comparative validation check of the SPECAT designator symbol shown in the message with the SPECAT designators authorized for the channel.

702. Rules Regarding Use of Transmission Release Codes (TRCs).

a. The TRC consists of two redundant letters which are the same as the second letter of the assigned addressee message routing indicator, except as noted in subparagraph c. below.

b. The TRC will be assigned by the message originator's telecommunications facility. Assignments will be based on the relationship of the routing indicators to the regional defense organization or foreign nation activities contained in the address portion of the message.

702. Continued

c. TRC designators must be listed in alphabetical sequence to preclude rejection on input by the connected ASC. TRCs will be assigned in this manner:

(1) US Addressees Only. TRCs will not be used on DoD messages addressed only to US activities. Unclassified traffic addressed to a US element served by a communications facility of a regional defense organization or foreign nation must contain the TRC (based on the routing indicator) of the regional defense organization or foreign nation providing the service.

(2) Addressees of One Regional Defense Organization or Foreign Nation. Messages containing addressees of a single regional defense organization or foreign nation or a combination of US addressees and addressees of only a single regional defense organization or foreign nation, will reflect the TRC assigned to the regional defense organization or foreign nation addressee; e.g., a message to a Canadian addressee and routing indicator would use the TRC "CC".

(3) Addressees of Two Regional Defense Organizations or Foreign Nations. Messages containing addressees of two regional defense organizations or foreign nations, or a combination thereof, with or without US addressees, will reflect the TRC assigned to each of the regional defense organization or foreign nation addressees; i.e., the TRC "BC" would indicate a message addressed and routed to a United Kingdom and a Canadian addressee. The TRC "BX" would indicate a message addressed and routed to the United Kingdom and Italy.

(4) Addressees of More Than Two Regional Defense Organizations or Foreign Nations. If a message contains more than two regional defense organizations or foreign nations addressees, or combinations thereof, multiple transmissions are required. As an example, a message addressed and routed to Australia, Canada and NATO would be processed as follows: The TRC "AC", "AX", or "CX" would be used on one transmission. The second transmission then would contain the TRC "AA". "CC", or "XX" as appropriate, dependent on what combination was employed on the first transmission.

702. Continued

d. TRCs assigned for regional defense organizations and foreign nations networks exchanging message traffic with the US are as follows:

(1) A - Australia

(2) B - British Commonwealth (less Canada, Australia, and New Zealand).

(3) C - Canada

(4) U - United States. Used only on traffic originated by an Allied/NATO terminal using JANAP 128 format.

(5) X - All traffic destined for the following regional defense organizations or foreign nations.

(a) Belgium

(b) Denmark

(c) France

(d) Germany, Federal Republic of

(e) Greece

(f) Italy

(g) Netherlands

(h) Norway

(i) Portugal

(j) Turkey

(k) NATO

(6) Z - New Zealand

703. Examples of Use of TRC.

a. Example of unclassified single address message destined for Canada:

```
PTTUZYUW RUEKJCS0123 2791744-UUCC--RCCPC.
ZNR UUUCC
P 061730Z OCT 75
FM JCS WASH DC
TO CANFORCECOM OTTAWA CANADA
BT
TEXT
BT
#0123
NNNN
```

b. Example of a classified multiple address message destined for the UK and NATO:

```
PTTCZYUW RUEJDCA0812 2801800-CCBX--RBDIC RXFPA.
ZNY CCCBX
P 071759Z OCT 75
FM DCA WASH DC
TO RBDIC/MOD UK LONDON ENGLAND
RXFPA/SHAPE BRUSSELS BELGIUM
BT
TEXT
BT
#0812
NNNN
```

c. Example of a classified multiple address message destined for more than two regional defense organizations or foreign nations (NATO, UK, CAN) which requires two transmissions:

(1)
```
RTTSZYUW RUEFHQA9871 2801754-SSBX--RXFAC RBDIC.
ZNY SSSBX
R 071750Z OCT 75
FM CSAF WASH DC
TO RXFAC/SACEUR
RBDIC/MOD UK ONDON ENGLAND
RCCPC/CANFORCECOM OTTAWA CANADA
BT
TEXT
BT
#9871
NNNN
```

703.c. Continued

(2) RTTSZUYW RUEFHQA9872 2801754-SSCC--RCCPC.
ZNY SSSCC
R 071750Z OCT 75
FM CSAF WASH DC
TO RXFAC/SACEUR
RBDIC/MOD UK LONDON ENGLAND
RCCPC/CANFORCECOM OTTAWA CANADA
BT
TEXT
#9872
NNNN

d. Example of a classified multiple address message destined for Denmark and Germany:

PTTCZYUW RUEKAAA6768 3351800-CCXX--RDFAB RGFGA.
ZNY CCCXX
P 011746Z DEC 75
FM JCS WASH DC
TO RDFAB/MOD DENMARK
RGFGA/MOD GERMANY
BT
TEXT
BT
#6768
NNNN

e. Example of unclassified message destined for a US activity served by a communications center of a regional defense organization or foreign nation.

RTTUZYUW RUWJHRA1616 2820420-UUXX--RGFDKJA.
ZNR UUUXX
R 090415Z OCT 75
FM CDRUSACC FT HUACHUCA AZ
TO CDR 552 ARTY GP SOEGEL GERMANY
BT
TEXT
BT
#1616
NNNN

NOTE: TRC authorized only on unclassified US national messages when the serving routing indicator is other than US.

703. Continued

f. Example of a CONFIDENTIAL message destined for a Canadian addressee:

```
RTTCZYUW RUEAUSA1842 2811925-CCCC--RCCPC.
ZNY CCCCC
R 081924Z OCT 75
FM DA WASH DC
TO CANFORCECOM OTTAWA CANADA
BT
TEXT
BT
#1842
NNNN
```

NOTE: In this instance the message would appear as a US CONFIDENTIAL message. However, AUTODIN software compensates for this and proper TRC checks are made.

g. In the AUTODIN, validation of the TRC against addressee routing indicator would be made both at the input ASC and the ASC serving the designated transfer point for output. If a mismatch exists, the message would be rejected and the originating station notified (see paragraph 329).

704. Rules Regarding Data Transmissions.

a. All traffic originated by a US DoD activity employing the LMFs "CC", "BB", "DD", and "II" which is addressed and/or routed to a regional defense organization or foreign nation must contain a format line 4 with a TRC appearing in format lines 2 and 4. Messages not containing the proper release code will be rejected on input by the AUTODIN switch.

b. Multiple address traffic (a mixture of US or regional defense organization or foreign nation addressees and/or routing indicators) must also contain the proper TRC and format line 4. Two tranmissions are required if the message is addressed and/or routed to more than two regional defense organizations or foreign nations addressees, or combinations thereof (see paragraph 702.b.(4)).

740.b. Continued

(1) Example of a single address card message destined for Australia:

```
RCCCDAAA RUEOFBA1646 1741715 0050-CCAA--RAMQC.
ZNY CCCAA
TEXT - 47 CARDS
RCCCDAAA RUEOFBA1646 1741715 0050-CCAA     NNNN
```

(2) Example of a multiple address message destined for NATO and the US:

```
RCCUDAAA RUEOJBA1898 3371747 0050-UUXX--RUEBAFA RXPAC.
ZNR UUUXX
TEXT - 47 CARDS
RCCUDAAA RUEOJBA1898 3371747 0050-UUXX     NNNN
```

705. Rules Regarding Use of SPECAT Designator and Special Handling Designator (SHD).

a. Messages will indicate the true security in format lines 2 and 4. In addition, the appropriate SPECAT designator or SHD repeated five times, preceded by an oblique (/) will immediately follow the security characters appearing in format line 4.

b. The SPECAT designator "A" will be used on those SPECAT messages designated as SIOP-ESI. All other SPECAT messages will use the designator "B".

c. The SPECAT designators "A" and "B" will only be used in conjunction with the SPECAT designated routing indicators listed in ACP 117 CAN-US SUPP-1, ACP 117 US SUPP-2, and/or ACP 117 US SUPP-4. Examples of the use of SPECAT for narrative traffic follows:

(1) Example of a SPECAT SIOP-ESI message at a TOP SECRET security level:

```
OTTTZYUW RUEKJCS1676 3370650-TTTT--RUEPHQA.
ZNY TTTTT/AAAAA
O 030559Z DEC 75
FM JCS WASH DC
TO HQ USAF WASH DC
BT
TEXT
BT
#1676
NNNN
```

705.c. Continued

(2) Example of a SPECAT message other than SIOP at a CONFIDENTIAL security level:

```
PTTCZYUW RUEJDCA7684 3361848-CCCC--RUFTECY.
ZNY CCCCC/BBBBB
P 021845Z DEC 75
FM DCA WASH DC
TO DCA EUR VAIHINGEN GERMANY
BT
TEXT
BT
#7684
NNNN
```

d. The SHD "F" will only be used on US originated classified messages addressed to activities of the United Kingdom that contain SHDs COSMIC, US-UK EYES ONLY, CRYPTO SECURITY, EXCLUSIVE FOR, DISCREET, LIVE OAK, and CHURCH PIKE. In addition, the on-line special routing indicator "RBOYST" will be used on messages of the type indicated above addressed to a UK activity. Multiple address messages of the type indicated addressed to a UK activity and another nation may be sent on-line to the UK, but must be handled in accordance with the general instructions outlined in ACP 117 CAN-US SUPP-1 for the remaining nation. Examples of narrative traffic that must be routed to "RBOYST":

(1) Example of a US originated message requiring SHD, all classifications are permissible:

```
RTTSZYUW RUEFHQA0002 0950001-SSBB--RBOYST.
ZNY SSSBB/FFFFF
R 050001Z APR 77
FM HQ USAF WASH DC
TO MODUK LONDON ENGLAND UK
BT
TEXT
BT
#0002
NNNN
```

705.d. Continued

(2) Example of a US originated TOP SECRET message without SHD:

```
PTTTZYUW RUEFHQA0001 0942359-TTBB--RBOYST.
ZNY TTTBB
P 042359Z APR 77
FM HQ USAF WASH DC
TO MODUK LONDON ENGLAND UK
BT
TEXT
BT
#0001
NNNN
```

e. The designator "L" will only be used on US originated classified traffic addressed to NATO activities and member nations that contain the SHD "ATOMAL". Those NATO activities capable of receiving "ATOMAL" traffic on-line are shown in ACP 117 CAN-US SUPP-1. Multiple address messages of the type indicated, addressed to another NATO command or member nation that does not have this capability, must be handled in accordance with the general instructions outlined in ACP 117 CAN-US SUPP-1 for the remaining NATO activity or nation. Examples of the use of the SHD "L" and a TOP SECRET narrative message follow.

(1) Example of a US originated message requiring the SHD "L". All classifications are permissible.

```
RTTSZYUW RUENAAA1656 3051530-SSXX--RXFNB.
ZNY SSSXX/LLLLL
R 011515Z NOV 78
FM CNO WASHINGTON DC
TO CINCNORTH KOLSAAS NORWAY
BT
TEXT
BT
#1656
NNNN
```

705.e. Continued

(2) Example of a US originated TOP SECRET message without SHD:

```
OTTZYUW RUENAAA1657 3051545-TTXX--RXFNB.
ZNY TTTXX
O 011514Z NOV 78
FM CNO WASHINGTON DC
TO CINCNORTH KOLSAAS NORWAY
BT
TEXT
BT
#1657
NNNN
```

f. Data traffic utilizing the LMFs "CC", "BB", "DD", and "II" that is designated SPECAT, must contain a format line 4.

g. Example of a SPECAT SIOP-ESI message being sent with LMF "CC":

```
RCCTDABA RUEBAFA1264 3451400 0050-TTTT--RUELPFA.
ZNY TTTTT/AAAAA
TEXT - 47 CARDS
RCCTDABA RUEBAFA1264 3451400 0050-TTTT     NNNN
```

CHAPTER 8

OPERATING PROCEDURES FOR QUERY/RESPONSE (Q/R) SERVICE

801. General. Query/response (Q/R) service provides subscribers utilizing the Defense Communications System Automatic Digital Network (DCS AUTODIN) with the capability to transmit short inquiries to a central computer or other terminal facilities, also connected to the system, and to receive responses to those inquiries, for the purpose of rapid exchange of data.

802. Operating Procedure. Operating procedures for Q/R service have been simplified for use by personnel with a minimum amount of communications operating experience. This chapter provides these operating procedures.

803. Concept of Operation. AUTODIN provides a Q/R service whereby specially designated Q/R terminals or Hosts may input a query or response message (abbreviated header, followed by text and EOM sequence). The ASC will recognize the query or response on input and convert the abbreviated Q/R header to a standard JANAP 128 message header to permit the query or response to transit the AUTODIN. ASC output of Q/R originated messages to Q/R terminals or Hosts will have the standard JANAP 128 message header stripped and replaced by the abbreviated Q/R header prior to delivery of the query or response. Queries and responses may also be addressed to non-Q/R terminals or Hosts. The procedures and formats to be used are described in this chapter.

804. Definition of Unique Terms Used for Query/Response (Q/R) Service.

a. System Generated Header. The JANAP 128 format message header generated by the ASC based on the abbreviated header received from a Q/R terminal or Host. If the input is from a Q/R terminal, part of the System Generated header may be derived from pre-stored information.

b. Prestored Header. The message header information contained in the ASC tables for a Q/R terminal. This information is based on the user activity's requirement and, unless the terminal enters exceptions for specific fields, is used to construct the System Generated Header.

804. Continued

c. Query/Response (Q/R) Terminal. A directly connected AUTODIN terminal restricted to the Q/R operating mode. The Q/R Terminal can send messages only in the abbreviated Q/R format. Q/R messages will be received in abbreviated Q/R format; non-Q/R messages will be received in JANAP 128 format. A Q/R Terminal may be Mode I, Mode II or Mode V.

d. Query/Response (Q/R) Host. A directly connected AUTODIN terminal capable of transmitting to the ASC in either the Q/R mode with an abbreviated header or in JANAP 128 format. A Q/R Host must be Mode I. There are two types of hosts, based on the manner in which they receive Q/R traffic. These are:

(1) Normal Host. A normal Q/R Host receives Q/R messages in abbreviated header format. Non-Q/R messages are received in JANAP 128 format.

(2) Special Purpose Q/R Host or "Limited Host". A Special Purpose or "Limited" Q/R Host receives all messages, Q/R and non-Q/R, in JANAP 128 format.

e. Straggler Validation. Option chosen when the terminal is established based on user requirements.

805. Security Operating Rules.

a. Required security protection will be afforded all classified queries and responses through the DCS AUTODIN.

b. As each query or response is transmitted by an originating Q/R Terminal or Host, the ASC will automatically check and compare its security classification with that authorized for the channel. TRC codes must be used whenever a non-US activity is an addressee of a query or response. TRC codes are not stored in the Prestored Header and must be specified each time they are required. For Q/R terminals, valid classifications other than the prestored classifications may be assigned queries and responses through utilization of the exception field of the Q/R header provided the classification does not exceed the security authorized for the originator or the recipient. The ASC will automatically check the security classification, whether prestored or contained in the Q/R header as an exception field, against the security classification of each addressee. A security mismatch will occur for each addressee that does not possess the necessary security level.

805. Continued

c. If a security mismatch is detected by the originating terminal or Host ASC, the following methods are employed to request reprotection of the query or response to the undelivered addressee:

(1) For the single call query or response, the ASC will reject the query or response. A service message will be received by the Terminal or Host.

(2) If the Q/R is from a Host and is multiple call with no deliverable destinations due to security mismatch, the ASC will reject the response. A service message will be received by the originating Q/R Host.

(3) If the Q/R is from a Host and is multiple call with at least one deliverable destination, the ASC will accept the Q/R and make delivery to all valid destinations. A service message will be transmitted to the originating Q/R Host advising to reprotect for the addressee(s) unacceptable due to security mismatch.

d. If a security mismatch is detected by a distant ASC, an automatic system-generated service message is transmitted to the originating Q/R Terminal or Host advising to reprotect for the addressee(s) unacceptable due to security mismatch. This method of protection is employed for both single and multiple call queries and responses.

806. Security Rules. The DCS AUTODIN will ensure that the security protection features outlined in paragraph 805 are accomplished. Q/R customers must provide adequate protection methods to prevent intrusion into their data files by illegal means.

807. Terminal and Host Operational Modes.

a. Terminal Operational Modes. Four methods of channel operation are available in AUTODIN for Q/R Terminals.

(1) Mode I.

(a) Mode I - Non-ETR (Effective Transmission Rate). A full duplex operation with automatic error and channel controls allowing independent and simultaneous two-way operation. Non-ETR operates in either block-by-block or continuous mode.

807.a.(1) Continued

(b) Mode I - ETR. A full-duplex operation with automatic error and channel controls allowing independent and simultaneous two-way operation. ETR Mode I operates in block-by-block or continuous mode. Four digit channel sequence numbers are required when utilizing the Q/R ETR feature.

(2) Mode II. A full-duplex operation, normally associated with teletypewriter equipment, allowing independent and simultaneous two-way operation. There are no automatic error and channel controls; message accountability is maintained through channel sequence numbers and service message actions.

(3) Mode V. A full-duplex operation, normally associated with teletypewriter equipment, allowing independent and simultaneous two-way operation. Message accountability is maintained through channel sequence numbers with automatic response through use of control characters by the distant terminal or switching center.

b. Host Operational Modes. All Q/R Hosts, normal and special purpose, must operate in Mode I (ETR or non-ETR).

c. Q/R Message Media. Q/R Terminals and Hosts can originate and receive queries and/or responses in either teletypewriter or card media. Teletypewriter operation may be in either 5-level (ITA2/Baudot) or in 8-level (ASCII) as determined by terminal equipment. Magnetic tape messages (see Chapter 6) may not be transmitted by Q/R Terminals and may not be transmitted by Q/R Hosts with an abbreviated format. A Q/R Host may originate magnetic tape messages using standard JANAP 128 format.

d. Query/Response (Q/R) and Sequential Delivery Service. Q/R Hosts may be classmarked for sequential delivery service in addition to Q/R service. NOTE: See Chapter 9 for SDS (Sequential Delivery Service) procedures.

808. Routing.

a. Q/R Terminal Routing Indicators. Q/R Terminals are authorized to designate a maximum of six prestored routing indicators within CONUS and twenty-six overseas, however, only one routing indicator is used per message. One routing indicator will be the Q/R Host to whom Q/R messages are normally addresssed (prestored RI). The optional (designated)

808.a. Continued

routing indicators may be used to address other AUTODIN subscribers. If a message is to be transmitted to other than the Q/R Host indicated by the prestored RI, the Q/R Terminal may select an optional addressee RI by use of the appropriate two-character combination "RX", where "X" is an alphabetic character. A-Y (overseas) and A-E (CONUS). These combinations and the matching addressee RIs are chosen when the Q/R Terminal becomes an AUTODIN subscriber. The two-letter combination "RZ" will be used by the Q/R Terminals to communicate with their respective ASC Traffic Service Sections (TSS), and "ZZ" will be used to self-address queries, responses, or test messages. Use of the optional, TSS, or self-address routing indicators requires using the exception method to address the query, response, or test message.

b. Collective Routing Indicators (CRIs). Q/R Terminals and Hosts will not normally transmit a collective routing indicator into the system; use of a CRI must be specifically authorized (see Chapter 3, Section II). Stations authorized to originate collective messages are listed in ACP 117 CAN-US SUPP-1, Section III. Q/R Terminals and Hosts receiving a message bearing a CRI shall interpret the message as addressed directly to them for distribution as required; they will not reintroduce messages bearing a CRI into the system.

809. Operating Procedures and Formats. The following rules apply to the preparation and receipt of queries and responses:

a. The query or response header must be accurately prepared without corrections. Backspacing, lettering out, double-spacing, the use of two or more figures or letters functions in sequence or the use of lower case ASCII characters within the query or response header will cause the ASC to reject the query or response during attempted transmission from the originating Q/R Terminal or Host.

b. All queries or responses originated by Q/R Terminals will be single call transactions.

c. Queries or responses originated by Q/R Hosts may be single or multiple call transactions. When the abbreviated Q/R format is employed, complete RIs will be used; a maximum of four RIs is permitted in each query or response.

809. Continued

d. Queries or responses containing more than 500 cards or 40,000 characters will be transmitted as two or more queries or responses.

e. The format for the text is the responsibility of the sender. The recipient of the query or response is responsible for identifying the textual portion. The ASC will not perform this identification. Q/R customers must provide adequate protection methods to prevent intrusion into their data files by illegal means.

f. Queries and responses are composed of three parts. Part one is the header, part two the text, and part three the EOMS. The following paragraphs will address the procedures and formats to be used by Q/R Terminals and Hosts when intiating queries and responses.

g. The use of ASCII paper tape media is illustrated in this chapter. The same formats are used for card media, except the machine functions will not be present in cards (carriage return, line feed). Four "Ns" must appear in Columns 77-80 of the EOT card and optional straggler number in colums 17-20; text Q/R data will not placed in the EOT card. Appropriate letter and figure functions must be included on ITA-2 queries and responses.

h. The formats that Q/R Terminals, Q/R Hosts, and special purpose Q/R Hosts are capable of handling are explained in paragraph 815.

i. Non-Q/R messages will be delivered to Q/R Hosts and Terminals in JANAP 128 format.

(1) Q/R Terminal Elements and Formats - Mode I Non-ETR, Without TI Line. Normal query or response to predetermined RI, using the pre-stored header information; i.e., where no exceptions are required.

(a) Mode I non-ETR Q/R Terminals will construct a Q/R preamble which consists of the sequence "QX" where "Q" identifies the message as either query or response and "X" is any alphabetic character, followed by a three-digit sequence number. The Originating Station Routing Indicator (OSRI) of the JANAP 128 header generated by AUTODIN will have its seventh letter set to this alphabetic character "X". The sequence

809.i.(1)(a) Continued

number will be converted by the ASC to a four position Originating Station Serial Number in the System Generated Header by insertion of a leading zero. No extraneous characters may appear in the abbreviated header input by the Q/R Terminal. The message destination is determined by the predetermined RI contained in the Prestored Header at the ASC.

(b) After the Q/R preamble sequence described in subparagraph (1)(a), the text is inserted.

(c) To end the transaction, two carriage returns (2CRs), eight line feeds (8LF), and four consecutive "Ns" will be used. This will indicate to the ASC that the query or response is complete.

(d) An example of this format follows:

Elements	End of Line Functions
QX123	(2CR)(1LF)
TEXT (NEW LINEBLOCK)	(2CR)(1LF)
#0123	(2CR)(8LF)
NNNN	

Explanation:

QX = Q = Identification of message as a query or response.
X = May be any alphabetic character. The OSRI generated by AUTODIN will have its seventh letter set to this alphabetic character.

123 = Sequence number of query or response.

TEXT = Actual intelligence of query or response. Must begin in new lineblock.

= Straggler sentinel.

0123 = Optional straggler number, required if specified when terminal activated.

NNNN = Identification of end of query or response.

809.i. Continued

(2) Q/R Terminal Elements and Formats - Mode I Non-ETR with TI Line. Normal query or response to predetermined RI.

(a) Mode I non-ETR Q/R Terminals which use TI lines will construct a header which consists of the letter "C", the TI sequence (channel identifier derived from the last three letters of the OSRI), a three position sequence number followed by the letter "Q". No intervening spaces will appear in the header. This format will indicate to the ASC that the message destination is determined by the predetermined RI contained in the Prestored Header at the ASC.

(b) After the start-of-message sequence described above, the text is inserted.

(c) To end the transaction, two carriage returns (2CRs), eight line feeds (8LF), and four consecutive "Ns" will be used. This will indicate to the ASC that the query or response is complete.

(d) An example of the format follows:

Elements	End of Line Functions
CABC123Q	(2CR)(1LF)
TEXT (NEW LINEBLOCK)	(2CR)(1LF)
#0123	(2CR)(8LF)
NNNN	

Explanation:

C	= Required character.
ABC	= Channel identifier.
123	= Channel sequence number of query or response.
Q	= Identification of message as a query or response.
TEXT	= Actual intelligence of query or response. Must begin in new lineblock.
#	= Straggler sentinel.
0123	= Optional straggler number, required if specified when terminal activated.
NNNN	= Identification of end of query or response.

809.i. Continued

(3) Q/R Terminal Elements and Formats - Mode I ETR. Normal query or response to predetermined RI.

(a) Mode I ETR Q/R Terminals will construct a header which consists of the letter "C", the TI sequence (channel identifier derived from the last three letters of the OSRI, and a four-position sequence number), followed by the letter "Q". No intervening spaces will appear in the header. This format will indicate to the ASC that the message destination is determined by the predetermined routing indicator in the Prestored Header of the ASC.

(b) After the start-of-message sequence described above, the text is inserted.

(c) To end the transaction, two carriage returns (2CRs), eight line feeds (8LF), and four consecutive "Ns" will be used. This will indicate to the ASC that the query or response is complete.

(d) An example of the format follows:

Elements	End of Line Functions
CABC0123Q	(2CR)(1LF)
TEXT (NEW LINEBLOCK)	(2CR)(1LF)
#0123	(2CR)(8LF)
NNNN	

Explanation:

C	= Required character.
ABC	= Channel identifier.
0123	= Sequence number of query or response.
Q	= Identification of message as a query or response.
TEXT	= Actual intelligence of query or response. Must begin a new lineblock.
#	= Straggler sentinel.
0123	= Optional straggler number, required if specified when terminal activated.
NNNN	= Identification of end of query or response.

809.i. Continued

(4) Q/R Terminal Elements and Formats - Modes II and V. Normal query or response to predetermined RI.

(a) Modes II and V Q/R Terminals will construct a header which consists of the start-of-message sequence "VZCZC", the TI sequence (channel identifier derived from the last three letters of the OSRI, and three-digit number indicating the channel sequence number of the transmission), followed by the letter "Q". No intervening spaces will appear in the header. The letter "V" is not required for valid SOMS, but is desirable to insure against loss of the following character. The three-digit sequential numbers are numbered consecutively from 001 through 000 (1000). The sequential number will be converted to a four-position number in the System Generated Header; e.g., "123" to "0123". The format will indicate to the ASC that the message destination is determined by the predetermined RI contained in the Prestored Header held at the ASC.

(b) After the start of the query or response sequence described above, the text is inserted.

(c) To end the transaction, two carriage returns (2CRs), eight line feeds (8LF), and four consecutive "Ns" will be used. This will indicate to the ASC that the query or response is completed.

(d) An example of the format follows:

Elements	End of Line Functions
VZCZCAAA123Q	(2CR)(1LF)
TEXT	(2CR)(1LF)
#0123	(2CR)(8LF)
NNNN	

Explanation:

V	= Character to insure against loss of first SOMS character.
ZCZC	= Indication of start of query or response.
AAA	= Channel identifier.
123	= Channel sequence number.
Q	= Identification of message as a query or response.
TEXT	= Actual intelligence of query or response.
#	= Straggler sentinel.
0123	= Optional straggler number. Required if specified when terminal activated.
NNNN	= Identification of end of query or response.

809.i. Continued

(e) Upon receipt of a Q/R message from a Mode II Q/R Terminal, the ASC will send an acknowledge message to the terminal. An example of the acknowledge message follows:

```
ZCZCAAA431
OTTUZYVW RUEBCSD1636 1461331-UUUU--RUEBQRI.
ZNR UUUUU
UNCLAS SVC R O AAA123 RUEBQRI0123 1461331
#1636
NNNN
```

(5) Q/R Host Elements and Formats - Mode I.

(a) When using the abbreviated Q/R format, the Q/R Host will specify all fields; i.e., precedence, security, CIC, and destination RI, on every query or response originated. The Q/R Host is required to use the complete RIs of the terminals or hosts to which the query or response is addressed; Q/R Hosts are limited to a maximum of four RIs per query or response. The EOMS or EOT card is the same as that for Q/R Terminals.

(b) An example of Q/R Host Mode I non-ETR without TI lines abbreviated Q/R format (multiple routing) follows:

Elements	End of Line Functions
QX123 P SSSSS ZYUW RUEBCSA RUWTCSA.	(2CR)(1LF)
TEXT (NEW LINEBLOCKS)	(2CR)(1LF)
#0123	(2CR)(8LF)
NNNN	

Explanation:

Q	= Identification of the message as a query or response.
X	= (May be any alphabetic character). The OSRI generated by AUTODIN will have its seventh letter set to equal the alphabetic character in this position.
123	= Sequence number of query or response which will be converted to a four-position number in the System Generated Header; e.g., "123" to "0123".
P	= Precedence

809.i.(5)(b) Continued

SSSSS = Security level (may include TRC Code; e.g., SSSAA where SSS = security and AA = TRC).
ZYUW = CIC.
RUEBCSA RUWTCSA = Routing indicators of called stations.
. = End of routing signal; a period is required to establish end of routing.
TEXT = Actual intelligence of query or response. Must begin in new lineblock.
# = Straggler sentinel.
0123 = Optional straggler number, required if specified when terminal activated.
NNNN = Identification of end of query or response.

NOTE: A Q/R Host (or Terminal) Mode I non-ETR without TI line can identify backside users by assigning an alphabetic character to the second position of the abbreviated Q/R header; such as QB123 vice QX123. The ASC builds the standard JANAP 128 message header from the abbreviated Q/R header. Therefore, Q/R messages delivered to a Q/R Host or Terminal may contain any alphabetic character in the seventh position of the originating station RI, as prescribed by the originating Q/R Host or Terminal (Mode I non-ETR without TI line).

(c) An example of Q/R Host Mode I non-ETR with TI lines abbreviated Q/R format (multiple routing) follows:

Elements	End of Line Functions
CABC123Q P SSSSS ZYUW RUEBCSA RUEBQYA.	(2CR)(1LF)
TEXT (NEW LINEBLOCKS)	(2CR)(1LF)
#0123	(2CR)(8LF)
NNNN	

Explanation:

C = Required Character.
ABC = Channel identifier.
123 = Channel sequence number of query or response.
Q = Identification of message as a query or response.
P = Precedence.
SSSSS = Security level (may include TRC code; e.g., SSSAA where SSS = security and AA = TRC).
ZYUW = CIC.

809.i.(5)(c) Continued

RUEBCSA RUEBQYA = Routing indicators of called stations.
. = End of routing signal; a period is required to establish end of routing.
TEXT = Actual intelligence of query or response. Must begin in new lineblock.
# = Straggler sentinel.
0123 = Optional straggler number, required if specified when terminal activated.
NNNN = Identification of end of query or response.

(d) An example of Q/R Host Mode I ETR abbreviated Q/R format (multiple routing) follows:

Elements	End of Line Functions
CABC0123Q P SSSSS ZYUW RUEBCSA RUEBQYA.	(2CR)(1LF)
TEXT (NEW LINEBLOCK)	(2CR)(1LF)
#0123	(2CR)(8LF)
NNNN	

Explanation:

C = Required character.
ABC = Channel identifier.
0123 = Sequence number of query or response.
Q = Identification of message as a query or response.
P = Precedence
SSSSS = Security level (may include TRC code; e.g., SSSAA where SSS = security and AA = TRC).
ZYUW = CIC.
RUEBCSA RUEBQYA = Routing indicators of called stations.
. = End of routing signal; a period is required to establish end of routing.
TEXT = Actual intelligence of query or response. Must begin in new lineblock.
# = Straggler sentinal.
0123 = Optional straggler number, required if specified when terminal activated.
NNNN = Identification of end of query or response.

(6) Special Purpose Q/R Host Elements and Formats. Special purpose Q/R Hosts will use the same formats as specified for Q/R Hosts for originated query or response messages.

810. Prestored Header.

a. A terminal whose input channel is authorized for Q/R will have a prestored header in the ASC program that contains validated information pertinent to generating a standard JANAP 128 message header (System Generated Header). The System Generated Header is used for internal processing within the AUTODIN system. Each element of the header is described in the sequence in which it appears. Fields which can be changed by the exception method are identified. Q/R Hosts do not have a Prestored Header at the ASC; they must use the standard JANAP 128 format, or the abbreviated format by using all of the exception fields on each query or response originated.

b. An example of a standard JANAP 128 header format follows:

OCAUZYUW RUEBAAA0123 1110001 MTMS-UUUU-RUEBQAA.

(1) Precedence (Position 1).

(a) Four categories of precedence are prescribed in ACP 121 US SUPP-1. The four prosigns authorized for use are:

Z	FLASH
O	IMMEDIATE
P	PRIORITY
R	ROUTINE

(b) In addition to the four prosigns above, the letter "Y" (emergency command precedence) may be used by Q/R Terminals and Hosts on certain time-sensitive command control emergency action messages providing prior approval is obtained from the JCS.

(c) The precedence level will be assigned by the Q/R Terminal will be placed in the Prestored Header held at the ASC. The precedence will remain constant unless the exception field is used, in which case it is changed in the System Generated Header for one message only.

c. Language Media Format (LMF) (Positions 2 and 3). The input LMF contained in the Prestored Header held at the ASC will be based on the characteristics of the line. The output LMF will always be "A" for ASCII.

810. Continued

d. Classification (Position 4).

(1) The security classification or special handling to be afforded is indicated by the appropriate designator from the list below:

T	TOP SECRET
S	SECRET
C	CONFIDENTIAL
E	UNCLASSIFIED E F T O
U	UNCLASSIFIED

(2) The normal security of queries or responses will be that security designated for storage in the Prestored Header held at the ASC for the input host or terminal. The stored security will be selected from those levels indicated above. The security level will remain constant unless the exception field is used, in which case it is changed in the System Generated Header for one message only.

e. Content Indicator Code (CIC) or Communications Action Identifier (Positions 5 through 8). The CIC or communications action identifier consists of four alphabetical characters. The designated CIC for each Q/R Terminal will be in the Pre-stored Header held at the ASC and called out for use in the System Generated Header. The appropriate CIC or communications action identifier will be selected from Annex B. CICs beginning with the letter "R" will not be selected. The CIC will remain constant unless the exception field is used, in which case it is changed in the System Generated Header for one message only.

f. Separator (Position 9). A separator (space) will be in this field.

g. Originator (Positions 10 through 16). The pre-stored RI of the OSRI will be placed in this field.

h. Originating Station Serial Number (OSSN) (Positions 17 through 20). OSSNs in the System Generated Header are based on the sequence number contained in the query or response. Except for Mode I ETR (which use a 4-digit CSN), a zero will be placed in the first position of the OSSN by the ASC so that a four-position OSSN will appear in the System Generated Header.

810. Continued

i. Separator (Position 21). A separator (space) will be in this field.

j. Date (Positions 22 through 24). The Julian date is the date on which the query or response was generated by the Q/R Terminal. The first day of the calendar year is Julian 001, and each day is numbered consecutively thereafter. The ASC will place this date in the System Generated Header. The date is based on the start of the query or response into the ASC.

k. Time Filed (Positions 25 through 28). The time filed is the time (Greenwich Mean Time (GMT)) the query or response was entered into the ASC. Each filing time will contain four numbers and be placed into the System Generated Header by the ASC.

l. Separator (Position 29). A separator (space) will be in this field.

m. Record Count (Positions 30 through 33). The ASC will insert the alphabetic characters "MTMS" in this field for card media queries or responses. The record count field is not present in queries or response originated in the teletypewriter media.

n. Classification Redundancy (Positions 34 through 38). Position 34 will be filled with a hyphen (-) as a sentinel. For security reasons, the classification designator in position 4 will be repeated in positions 35 through 38. Use of the exception security field in the query response header will cause this field to change accordingly in the System Generated Header.

o. Routing (Positions 39 through 48). The positions reserved for routing are composed of three sections: the start-of-routing signal, the address routing indicator, and the end-of-routing signal.

(1) Start-of-Routing Signal. This signal consists of two consecutive hyphens (--) and will always precede the called RI.

(2) Address Routing Indicator. The called (predesignated) RI is listed immediately following the start-of-routing signal. The routing field will remain constant unless the exception field is used and then one of the optional, TSS, or self-addressed RIs may be employed.

810.o. Continued

(3) End-of-Routing Signal. The end-of-routing signal consists of a period (.) immediately following the RI. NOTE: The position numbers cited herein are used in association with the example only. Actual positions numbers will vary depending on the source media used (card or paper tape).

p. In addition to building a standard JANAP 128 message header for internal processing within the AUTODIN, the ASC will build a format line 4. The format line 4 will agree with the security field of the message header; e.g., ZNR UUUUU, or ZNY XXXXX, where X = appropriate security classification other than UNCLAS; e.g., TTTTT, SSSSS, CCCCC, or EEEEE. This format line 4 will not be output unless the query is output in standard (non-Q/R) JANAP 128 format.

q. ASC Output Formats. Output formats will be determined by the ASC based on the type of Q/R Terminal or Host being serviced.

(1) An example of an ASC output format for a Q/R Terminal or Standard Host (when the query or response was originally input in abbreviated format) follows:

PQ RUEBAAA0123 SSSSS CICC RUEBQRI ZFD

Explanation:

P	= Precedence
Q	= Identification of message as a query or response.
RUEBAAA	= OSRI built from the input query or response. The seventh character of the OSRI may be any alphabetic character selected by the transmitting terminal or host.
0123	= OSSN built from the input query or response.
SSSSS	= Security level selected by input query or response (may include the TRC code, e.g., SSSAA, where SSS = security and AA = TRC).
CICC	= Content indicator code selected by input query or response.
RUEBQRI	= RI of destination station.
ZFD	= Indicator used to identify query or response as a suspected duplicate.

810.q. Continued

(2) For a Q/R Host or Q/R Terminal (when a message was originally input in standard JANAP 128 format) or a special purpose Q/R Host, the ASC output query or response will be in standard JANAP 128 format.

r. Q/R Using "Exception" Method. Certain areas of the Prestored Header may be changed by the Q/R Terminal. The four fields of the Prestored Header that may be changed are the precedence, routing, security, and CIC fields. It is not necessary to use any exception field other than that which is to be changed. Use of an exception field will be for that query or response only. All Q/R Terminals must be able to use the precedence and "RZ" or "ZZ" routing exception technique. Following are examples of how the exception method will be employed; the machine functions previously described are applicable when using the exception formats.

(1) Examples of Precedence Change.

Modes II and V	Mode I Non-ETR Without TI Lines
VZCZCAAA123Q P	QX123 P
TEXT	TEXT (NEW LINEBLOCK)
NNNN	NNNN
Mode I ETR	**Mode I Non-ETR With TI Lines**
CAAA0123Q P	CAAA123Q P
TEXT (NEW LINEBLOCK)	TEXT (NEW LINEBLOCK)
NNNN	NNNN

The letter "Q" or the sequence number is followed by a space and the letter "P", which causes the ASC to deliver the query at a priority precedence vice the precedence assigned in the normal Prestored Header.

(2) Examples of Routing Change.

Modes II and V	Mode I Non-ETR Without TI Lines
VZCZCAAA123Q RC	QX123 RC
TEXT	TEXT (NEW LINEBLOCK)
NNNN	NNNN

810.r.(2) Continued

Mode I ETR	Mode I Non-ETR With TI Lines
CAAA0123Q RC TEXT (NEW LINEBLOCK) NNNN	CAAA123Q RC TEXT (NEW LINEBLOCK) NNNN

The header uses the same format as the normal Q/R header, followed by a space and the letters "RC", which cause the ASC to deliver the query to called station designated as "RC" vice the predetermined RI in the normal System Generated Header.

(3) Examples of Security Change.

Modes II and V	Mode I Non-ETR Without TI Lines
VZCZCAAA163Q CCCAA TEXT (NEW LINEBLOCK) NNNN	QX163 CCCAA TEXT (NEW LINEBLOCK) NNNN

Mode I ETR	Mode I Non-ETR With TI Lines
CAAA0163Q CCCAA TEXT (NEW LINEBLOCK) NNNN	CAAA163Q CCCAA TEXT (NEW LINEBLOCK) NNNN

The header uses the same format as the Prestored Q/R header, followed by a space and three "Ts", and "AA" which is the TRC. The ASC is to deliver the Q/R at a security level of "T" with TRC of "A" vice the security assigned in the normal System Generated Header. TRCs must be assigned each time a Q/R is transmitted to an addressee where a TRC is required (see paragraph 805).

(4) Examples of CIC Change.

Modes II and V	Mode I Non-ETR Without TI Lines
VZCZCAAA182Q ZZEZ TEXT NNNN	QX182 ZZEZ TEXT (NEW LINEBLOCK) NNNN

Mode I ETR	Mode I Non-ETR With TI Lines
CAAA0182Q ZZEZ TEXT (NEW LINEBLOCK) NNNN	CAAA182Q ZZEZ TEXT (NEW LINEBLOCK) NNNN

810.r.(4) Continued

The header uses the same format as the normal Q/R header, followed by a space and the CIC "ZZEZ", which causes the ASC to deliver the query with the specified CIC vice the content indicator assigned in the normal System Generated Header. In the example of the CIC, "ZZEZ" means "No major category of AUTODIN CIC has been assigned to cover the contents of this message".

(5) Examples of Use of Multiple Exceptions.

Modes II and V	Mode I Non-ETR Without TI Lines
VZCZCAAA182Q P RC TTTTT ZZEZ TEXT (NEW LINEBLOCK) NNNN	QX163 P RC TTTTT ZZEZ TEXT (NEW LINEBLOCK) NNNN
Mode I ETR	**Mode I Non-ETR With TI Lines**
CAAA0128Q P RC TTTTT ZZEZ TEXT (NEW LINEBLOCK) NNNN	CAAA128Q P RC TTTTT ZZEZ TEXT (NEW LINEBLOCK) NNNN

The header uses the same format as the normal Q/R header, and a space is inserted between each exception field used. It is not necessary to enter the exceptions in any specific sequence. In the above example the "P" changes the precedence, the "RC" changes the RI, the "TTTTT" changes the classification, and the "ZZEZ" changes the CIC.

811. Delayed Transaction. A query or response may be delayed because of circuit or equipment outages. When the ASC places the host or terminal out of service, a service message will be sent to all Q/R Terminals or Q/R Hosts having queries or responses queued for that host or terminal. Additionally, the ASC will send an "out of service" message for any subsequent query or response received for the out-of-service host or terminal. The queries and responses will remain on queue until service is restored. The host's or terminal's response to these queued queries will indicate that the host or terminal is again in service. The notification service message will cite the OSRI (RUEBQAA) and SSN (0124) of the query or response. The format (standard JANAP 128) of the service message follows:

811. Continued

OTTUZYVW RUEBCSD0174 0251627-UUUU--RUEBQAA.
ZNR UUUUU
UNCLAS SVC RUEBQAA0124
RUXQSRI OUT OF SERVICE
#0174
NNNN

a. Traffic Acceptance. Q/R Terminals and Hosts must accept queries and responses on queue at the ASC for their stations. Stations that require any lockout feature must provide it internally. The ASC will not accommodate this feature.

b. Queries or Responses Rejected and Serviced by ASC. When format errors occur, queries or responses will be rejected and serviced automatically by the ASC to the connected Q/R Terminal or Host.

c. Query Identification. It is the responsibility of the host to identify, in the text, the query message being responded to, if necessary. The ASC will not perform this function.

d. Misrouted Messages. A misroute condition occurs when the originator assigns incorrect RIs during message header preparation. The message will be processed until it reaches the communications center of the called RI. A tributary station in receipt of a misrouted message is responsible for taking action as indicated below.

(1) Q/R Terminal Responsibilities. The Q/R Terminal in receipt of a misrouted message will send a service message in the format outlined below to the connected ASC Traffic Service Section (TSS) using the exception method for routing (exception Routing Designator "RZ").

Example of Service Message to the ASC TSS Advising of Misrouted JANAP 128 Message:

VZCZCAAA168Q RZ
MESSAGE ABA267 RUCIABA0123 0061330 MISROUTED THISTA.
ADVISE ORIGINATING STATION OF ERROR AND REQUEST
REPROTECTION AND CORRECTIVE ACTION.
NNNN

Example of Service Message to the ASC TSS Advising of Misrouted Query or Response.

811.d.(1) Continued

```
VZCZCAAA169Q RZ
TRANSACTION ABA267 P RUCIACB0123 SSSSS ZYUW MISROUTED
THISSTA.
REQUEST CORRECTIVE ACTION.
NNNN
```

(2) Q/R Host Responsibilities. Hosts will process a misrouted message in accordance with paragraph 428.

e. Operating Problems. If problems are encountered by a Q/R Terminal or Host; i.e., continuous misroutes of either JANAP 128 format messages or abbreviated queries and/or responses, immediate telephonic coordination will be affected to the connected ASC, who will in turn immediately coordinate with the DCA ACOC so that expeditious corrective action can be taken.

f. Cancelling Transmissions. Q/R Terminals or Hosts using a TI-line can cancel a message (CANTRAN) that has not been completely transmitted prior to any further transmission of another message. An example of the format follows:

```
VZCZCAAA131
TEXT IS NOT COMPLETED                    (2CR)(1LF)
E E E E E E E E AR                       (2CR)(1LF)
NNNN
```

812. Automatically Generated Service Messages. For detailed explanation of automatically generated service messages see paragraph 329.

CHAPTER 9

OPERATING PROCEDURES FOR

SEQUENTIAL DELIVERY SERVICE (SDS)

901. General. Sequential Delivery Service (SDS) provides users of the Defense Communications System (DCS) Automatic Digital Network (AUTODIN) with the capability of SDS of bulk data messages of unlimited lengths, which have been divided by the originating terminal into variable length segments.

902. Operating Procedures. This chapter provides standard operating procedures for terminals using SDS in the AUTODIN. Except for paragraph 928.b., the examples of all SD service messages shown in this chapter are single lineblock transmissions and do not contain carriage control characters (carriage return and line feed) imbedded within them. When the terminal receiving SD service messages is classmarked to accept EM characters, the ASC may send short lineblocks terminated by an EM character.

903. Concept of Operation.

a. The AUTODIN will process messages of unlimited length which have been segmented by the originating terminal into variable length segments of up to 550 line blocks (44,000 characters) each. AUTODIN will provide the SD of these multiple segments to the destination terminal.

b. SDS within AUTODIN is designed for use by any Mode I terminal using the American Standard Code for Information Interchange (ASCII) (7-bit plus parity code defined in Federal Information Processing standard (FIPS) Publication Number 1). The originating and the destination terminals must both be appropriately classmarked for SDS which operates as a logical link across the AUTODIN between the originating and destination terminals. There are two types of SD operation. The originating terminal requests the type to be used for each data transfer, and the destination terminal must give approval for the logical link to be established. (An ASC may be both the entry and the destination ASC when the originating and destination terminals are both connected to the same ASC). The two types of SD operations are:

901.b. Continued

(1) Standard Sequential Delivery (SS). This service allows the destination terminal in the logical link to transmit and receive normal record and/or Q/R messages interspersed between the receipt of SD segments. The advantage of using the SS is that the logical link does not have to be terminated should the destination terminal need to receive a high-precedence message.

(2) Sequential Delivery Lockout (LL). This service allows the originating terminal to establish a logical link with the destination terminal and locks out the receive side of the destination terminal. The rules applicable to lockout operation are outlined in this chapter.

904. Sequential Delivery (SD) and Query/Response (Q/R) Service. Q/R hosts may be classmarked for SDS in addition to the Q/R service. NOTE: See Chapter 8 for Q/R service procedures.

905. Security. Required security protection will be afforded all classified sequential data messages transmitted through the AUTODIN. The use of Special Handling Designators (SHDs) will not be authorized. The use of Transmission Release Codes (TRCs) will be authorized in sequential data messages.

906. Precedence. Use of FLASH precedence or Emergency Command Precedence (ECP) for SDS is not authorized. IMMEDIATE precedence is the highest authorized, since the service is provided for transfer of data files. All SD control and special service messages within the AUTODIN are processed at the IMMEDIATE precedence, except the link request message which has the true precedence of the message displayed.

907. Routing Indicator (RI) Assignment. Terminals using SDS must have a separate seven-letter RI assigned, one for each ASC to which the terminal is connected. The first four letters of the seven-letter RI must be derived from the ASC RI.

908. Collective Routing Indicators (CRI). A CRI cannot be used as a destination RI on a sequential data message. However, a CRI can be used on traffic interspersed between the sequential segments, providing the appropriate channel is classmarked to allow collectives.

909. Alternative Routing (ALTROUTE). Alternative Routing (ALTROUTE) of sequential delivery Link Requests (LRs) and sequential data segments within the AUTODIN (between ASCs) is authorized; however, destination ASCs are not allowed to use ALTROUTE or Contingency Alternate Routing Program (CARP) for delivery of LRs or sequential data segments to the destination terminal. If the destination terminal has dual access and the access line being used for a sequential data transfer fails, the originating terminal must reestablish the logical link using the second destination RI to take advantage of the second access line.

910. ASC Classmarking for Sequential Delivery Service (SDS). Each terminal using SDS must be appropriately classmarked in the ASC tables. The terminal must specify the maximum number of logical links allowed on the receive channel simultaneously; terminals connected to a leased (CONUS) ASC (including Honolulu ASC) can establish up to 26 links and terminals connected to a government onwed (overseas) ASC, up to 15 links. All terminals can establish a maximum of 26 logical links on their transmit channel simultaneously. The originating terminal may establish as many types of logical links; i.e., all lockout or a mixture of lockout and standard, as the terminal is capable of operating, up to a maximum of 26.

911. AUTODIN Standard JANAP 128 Message Format. Standard JANAP 128 message formats are not required on SD requests, sequential data segments, and certain other sequential data transactions, as specified in this chapter.

912. Data Transparency. SDS formats do not provide for the use of LMF, nor does the AUTODIN perform message or media exchange. Once a logical link is established, the originating terminal can transmit card, magnetic tape, or paper tape to the destination terminal. Each segment of a particular logical link may contain any select character (except "A") as assigned by the originating terminal; e.g., segment 001 could be "D" select, segment 002 could be "H" select, etc., and the select character is preserved by the AUTODIN and transmitted to the destination terminal.

913. Multiple Linked Channels. A terminal with multiple linked channels to the same ASC can have only the prime link of the channels classmarked for SDS. The maximum number of logical links that can be established simultaneously on a prime link is 26 (leased ASC) or 15 (government owned ASCs) on the receive and 26 on the transmit. The SD requests, sequential data segments, and all related control and service messages will be transmitted and received on the prime channel.

914. Logical Link Lockout Operation. The following rules apply for establishing and using a logical link in the lockout mode of operation.

a. Establishment of Logical Link.

(1) When a standard logical link is in effect, the destination terminal cannot accept a link lockout.

(2) Neither the originating nor the destination terminal can establish or accept a link lockout if either is classmarked for the sequential delivery positive acknowledgement method.

(3) A link lockout cannot be established if the originating or destination terminal has linked channels.

(4) While operating in the link lockout mode, the destination terminal cannot request any type of logical link.

b. Message Transmission.

(1) During the link lockout period the destination terminal is prohibited from receiving messages other than ECP and those sequential data segments for which the link lockout was established.

(2) The link lockout will be interrupted whenever an ECP message is placed on queue, the ECP message will be delivered, and the link lockout will remain in effect; i.e., no automatic termination of the link lockout. If a segment is being transmitted, it will be interrupted and after the ECP message is transmitted, the entire segment will be re-transmitted.

(3) All messages (except ECP and those sequential data segments for which the link lockout was established) are held on queue at the destination ASC until the established link lockout is terminated.

(4) The destination terminal is required to provide alternate delivery of FLASH precedence messages during the link lockout period. The ASC will not interrupt the link to deliver FLASH messages if an alternate delivery station has not been designated.

914.b. Continued

(5) The destination terminal may transmit messages during the lockout. However, if the ASC rejects a message for any reason, the resulting service message will not be delivered until the link lockout is terminated.

915. Acknowledgment of Sequential Data Segments. End-to-end acknowledgment of each sequential data segment is provided. If any problem causes an ASC timeout, the originating terminal is responsible for retransmission of the unacknowledged segments upon the request of the entry ASC. There are two methods of acknowledgment available for use between the destination ASC and destination terminal; classmarking at the destination ASC is required to specify the desired method.

a. Standard EOM-OUT-ACK Acknowledgment. The first method of acknowledgment is based on the standard EOM-OUT-ACK channel coordination functions between the ASC and the terminal. This method allows the destination ASC to immediately release the segment when the end of each segment is transmitted to the destination terminal and the standard EOM-OUT-ACK (ACK 1 or ACK 2) is received. The sequential segment accountability between the originating and destination terminal continues.

b. Positive Acknowledgment. The second method is the acknowledgment message formatted as a "GO" message specifying the last good segment received at the destination terminal. In this case, receipt of the "GO" message relieves the destination ASC of the segment table space. However, the sequential segment accountability between the originating and destination terminal continues.

916. Straggler Validation. Normally, straggler validation rules are not applied to sequential delivery service. However, an optional classmark allows the use of straggler validation. When the straggler validation classmark is set on the channel, then all messages transmitted to the ASC on that channel must use the straggler validation rules (except messages used for establishing, controlling, and terminating sequential data transfers). Intermediate segments of these messages require straggler validation numbers.

917. Suspected Duplicate Sequential Data Segments. The ASC protects the destination terminal against receipt of suspected duplicate segments. Normally, suspected duplicate segments will be detected by the destination ASC, scrubbed, and not delivered to the destination terminal. However, failure of an ASC or certain conditions occurring at the terminal or on the access line can cause delivery of a duplicate segment. The destination terminal must allow for possible receipt of a suspected duplicate segment and determine whether it was previously received. Also, the destination ASC will flag as suspected duplicates (ZFD) retransmission (rerun) segments that had previously been delivered, but not acknowledged by the destination terminal.

918. MINIMIZE. Normally, sequential data transfers will not be authorized where MINIMIZE has been imposed. However, this limitation is not intended to restrict those subscribers who have valid requirements for sequential data transfers during periods of MINIMIZE. NOTE: More detailed MINIMIZE information and instructions are contained in ACP 121 US SUPP-1 and separate Service/Agency documents.

919. Framing and Control Characters. The AUTODIN Mode I framing and control characters, which are machine generated, are not shown in the message formats. Defense Communications Agency Circular (DCAC) 370-D175-1, DCS AUTODIN Interface and Control Criteria, provides information on use of these characters.

920. Establishment of a Logical Link.

a. Originating Terminal. To establish a logical link, the originating terminal transmits a Sequential Delivery Request (SDR) message addressed to the destination terminal.

Example of Originating Terminal SDR Message.

SSA001 P SSSSS CICF RUDODRA.TEXT N

Explanation:

SS = Identifier for SD request for standard sequential delivery logical link; LL in this field indicates an SDR for lockout-type logical link.

A = Originating terminal link identification; a separate letter is required for each link up to a maximum of 26 (alphabetic characters A through Z).

920.a. Continued

001 = Segment number. The SDR is considered as the first segment. If the SDR is 001, the initial segment of data to be transferred will be number 002. The ASC will use this number to provide sequential delivery to the destination terminal. The originating terminal may start the segment with any number between 001 and 000 (1,000), and the ASC will maintain consecutive sequential delivery from whatever number is in the SDR. (After sequential number 000 has been used, segment numbering will continue with 001).

P = Precedence of data to be transferred, preceded by a space separator. Precedences authorized for use are: O - IMMEDIATE, P - PRIORITY, and R - Routine.

SSSSS = Security level of data to be transferred, may include TRC code; e.g., SSSAA where SSS = Security and AA = TRC, preceded by a space separator. Security levels authorized for use are: TTTTT = TOP SECRET, SSSSS = SECRET, CCCCC = CONFIDENTIAL, RRRRR = RESTRICTED, EEEEE = EFTO, and UUUUU = Unclassified.

CICF = Content Indicator Code (CIC), preceded and followed by a space separator.

RUDODRA. = Destination terminal RI (RUDODRA), end-of-routing (EOR) signal period (.).

TEXT = Up to 33 characters, including spaces, are permitted following the EOR signal to pass information to destination terminal on the type and size of requested data transfer, and, if applicable, use of binary. Only unclassified information is authorized in the text of the SDR.

N = Space separator and EOM signal.

NOTE: The "space N" is required to signify the EOM. If the end-of-medium (EM) control character is used to signify a short line block, a "space N" is required immediately prior to the EM. If the control character EM is not used, the "space N" must be placed in positions 79 and 80 of the line block.

920. Continued

b. Entry ASC. The requirement for a five character security field (including TRC, if required) is purely a subscriber input requirement. A five character security field must be on link requests and intermediate segments. All traffic output by the ASC (link requests and intermediate segments) will contain only a three character security field (NO TRC). From the SDR, the entry ASC constructs a LR, suitable for transmission through AUTODIN, and routed to the proposed destination of the SD data.

c. Destination ASC. Upon receipt of the entry ASC's LR message, the destination ASC verifies that the destination terminal is classmarked for sequential delivery and specified security level. After verification, the destination ASC transmits the LR message to the destination terminal and establishes a tentative logical link with the destination terminal.

Example of LR Message Received by Destination Terminal

PLRUCICF RUWTORA0001 0081128--RUDODRA.UUU-STEXT N

Explanation:

P = Precedence of data to be transferred.

LR = Identifier for "link request".

U = Security level of LR message.

CICF = CIC.

RUWTORA = First six letters of the originating terminal RI (RUWTOR). The seventh character a link identification with a value of (A-Z).

0001 = Originating terminal segment number, preceded by "0".

0081128 = Time filed (Julian date and zulu time the LR was received at the entry ASC).

--RUDODRA. = Start-of-Routing (SOR) signal (--), destination terminal RI (RUDODRA), and EOR signal (.).

920.c. Continued

UUUU = Three character value of security level of data to be transferred.

- = Signal preceding type of logical line requested (-).

S = Type of logical link requested (S = Standard, L = Lockout).

TEXT = Text as specified in originating terminal SDR. If less than 33 characters, the ASC fills with spaces.

N = Space separator and EOM signal.

d. Destination Terminal. Upon receipt of the LR message advising that a sequential data transfer has been requested and a tentative logical link has been established, the destination terminal has the option of accepting or denying the request. If the LR is accepted, the destination terminal responds to the destination ASC with a "GO" message (logical link accepted) and thus completes the requested logical link. If the LR is denied, a "NO" message (logical link denied) is transmitted to the destination ASC and destination terminal is terminated. The formats for the link accepted and link denied replies are identical except for the field containing "GO" or "NO".

Example of Logical-Link-Accepted Message (LLAM) to Destination ASC.

GO RUWTORA0001. N

Example of Logical-Link-Denied Message (LLDM) to Destination ASC.

NO RUWTORA0001. N

Explanation:

GO or NO = "GO" for logical link accepted or "NO" for logical link denied.

RUWTORA = First six letters of the originating terminal RI (RUWTOR), link identification (A).

920.d. Continued

0001 = Originating terminal segment number, preceded by "O".

. = EOR signal (.).

N = Space separator and EOM signal.

e. Logical-Link-Accepted Message (LLAM).

(1) Upon receipt of the "GO" message from the destination terminal, the destination ASC will establish a logical link with the entry ASC identifying the next segment to be transmitted and acknowledging receipt of segment 001 (LR).

(2) Receipt of the logical link notification at the entry ASC will cause the entry ASC to establish a logical link with the originating terminal for the specific logical link established. Concurrently, the entry ASC transmits a send-next-segment (SN) message to the originating terminal identifying the next segment to be transmitted and specifying the receipt of the first segment (001) and acknowledgment of segment 001 by the destination terminal. The SN message gives end-to-end acknowledgment between the originating and destination terminals for the logical link specified and established.

Example of SN Message to Originating Terminal.

SNA002 TSA001

Explanation:

SNA002 = Send-Next-Segment (SN), link identification (A), next segment number to be transmitted to the destination terminal and acknowleged.

TSA001 = Last segment transmitted to destination terminal (TS), link identification (A), last segment number transmitted to the destination terminal and acknowledged.

f. Logical-Link-Denied Message (LLDM). Upon receipt of the "NO" (LLDM) message from the destination terminal, the destination ASC will transmit a link-denied (LD) message to the entry ASC and terminate the tentative logical link to the destination terminal. The entry ASC will transmit a request-denied message to the originating terminal and terminate the tentative logical link between the entry ASC and originating terminal.

920.f. Continued

Example of Request-Denied Message to Originating Terminal.

OLDUCICF RUWTCSS0036 0081129--RUWTORA.SSA001 REQUEST DENIED RUWTORA TO RUDODRA N

Explanation.

O = Precedence.

LD = Two-character code to advise link denied.

U = Security level (U = Unclassified).

CICF = CIC.

RUWTCSS = RI code of entry aSC.

0036 = Station serial number of entry ASC.

0081129 = Time filed (Julian date and Zulu time the entry ASC originated message).

--RUWTORA. = SOR signal (--), RI of originating terminal of LR message (RUWTORA), EOR signal (.).

SSA001 = Reference to LR message (SS = Standard logical link, A = originating terminal link identification, and 001 = segment number).

Request denied RUWTORA to RUDODRA.

N = Space separator and EOM signal.

921. Intermediate Segment Transfer.

a. Segment Transmitted by Originating Terminal.

(1) Upon receipt of the initial SN message, the originating terminal transmits the next sequential segment (002) for the link specified, using an abbreviated segment header, followed by the data to be transferred.

921.a.(1) Continued

Example of Segment Transmitted by Originating Terminal.

SSA002 SSSSS
TEXT
(16 spaces) 0002N

Explanation:

SSA002 = Sequential data segment identification (SS = standard logical link, A = originating terminal link identification, 002 = segment number). For lockout entry would be LLA002.

SSSSS = Security level of data to be transferred, preceded by a space separator (may include TRC code); e.g., SSSAA where SSS = Security and AA = TRC. Security levels authorized for use are: TTTTT = TOP SECRET, SSSSS = SECRET, CCCCC = CONFIDENTIAL, RRRRR = RESTRICTED, EEEEE = EFTO, and UUUUU = Unclassified.

TEXT = Up to 80 characters of text per line block, one to 548 line blocks per segment are allowed.

(16 spaces) 0002 = Straggler validation option (16 spaces, 0002 - segment number preceded by "0"). Must be present when originating terminal is classmarked for straggler validation.

N = End-of-Segment (EOS) signal. The "N" followed by the EM control character may fall anywhere in the line block between columns 2 and 80, except when straggler validation is used. Then the "N" and EM must be in columns 21 and 22.

(2) Upon receipt of the sequential data segment 002, the entry ASC will format a control header and transmit it throught the AUTODIN to the destination ASC. Concurrently, the entry ASC will transmit a SN message to the originating terminal which specifies the next sequential message number and the last segment number acknowledged by the destination terminal.

921.a.(2) Continued

Example of SN Message.

SNA003 TSA001

Explanation:

SNA003 = Send next segment (003) for link (A); confirms segment 002 received by entry ASC.

TSA001 = Last segment (001), link (A), transmitted to destination terminal and acknowledged.

(3) The entry ASC will continue requesting segments until seven segments have been received which have not been acknowledged by the destination terminal. At this time the entry ASC will withhold any additional requests for segments and reject any additional segments from the originating terminal with a wait-before-transmitting (WB) message. As segments are delivered to the destination terminal and acknowledged, the entry ASC will request additional segments from the originating terminal.

Example of WB Message.

WBA009 TSA001

Explanation:

WBA009 = Wait before transmitting - segment (009) on link (A) received and rejected because link table is full.

TSA001 = Last segment (001), link (A), transmitted to destination terminal and acknowledged.

(4) A situation may exist where the originating terminal is simultaneously transmitting and receiving sequential data segments, making it possible for a SN message to be queued up behind a segment being transmitted to the originating terminal. To preclude unnecessary delay to the originating terminal in transmitting the next segment, the entry ASC will allow continuous input of sequential data segments as long as the originating terminal does not attempt to send more than seven segments which have not been acknowledged by the destination terminal. When this procedure is used, it is possible for more

921.a.(4) Continued

than one SN message to queue up at the entry ASC, because the originating terminal is receiving a sequential data segment. Therefore, the segment number specified in the SN message may have already been transmitted.

b. Segment Delivered to Destination Terminal.

(1) The entry ASC queues the segments for output on the AUTODIN trunks and transmits segments to the destination ASC.

(2) Upon receipt of a segment, the destination ASC determines that the segments received are in sequence. If the segment on queue for the destination terminal is the next sequential segment, it is transmitted to the destination terminal.

Example of Segment delivered to Destination Terminal.

PS RUWTORA0002 UUU CICF ZFD RUDODRA
TEXT
(16 spaces) 0002N

Explanation:

P = Precedence of data being transferred.

S = Type of logical link (S = Standard Sequential Delivery, L = Lockout Sequential Delivery).

RUWTORA = First six letters of the originating terminal RI (RUWTOR), link identification (A).

0002 = Originating terminal segment number, preceded by "0".

UUU = Three character value of security level of data being transferred.

CICF = CIC.

ZFD = Suspected duplicate signal (normally not present).

RUDODRA = Destination terminal RI.

921.b.(2) Continued

TEXT = Text as specified in segment input by originating terminal.

(16 spaces) 0002 = Straggler validation option (16 spaces, 002 = segment number preceded by "0"). Must be present when originating terminal is classmarked for straggler validation.

N = EOS signal. The "N" followed by the EM control character may fall anywhere in the line block between columns 2 and 80, except when straggler validation is used. In the latter case the "N" and EM must follow the straggler validation number; i.e., after column 20.

c. Segment Acknowledgment.

(1) If the standard acknowledgment method is used after the destination ASC transmits a segment to the destination terminal, the destination ASC sends a trunk-send-next-segment message (TSNSM) to the entry ASC.

(2) If the positive acknowledgment method is used, the destination ASC, after transmitting segment to the destination terminal, must wait for a "GO" message from the destination terminal, then upon receipt of the "GO" message, sends a TSNSM to the entry ASC.

Example of "GO" Message from Destination Terminal.

GO RUWTORA0002. N

Explanation:

GO = GO for segment accepted.

RUWTORA = First six letters of the originating terminal RI (RUWTOR), link identification (A).

0002 = Originating terminal segment number, preceded by "0",

. = EOR signal (.).

N = Space separator and EOM signal.

921.c. Continued

(3) In the positive acknowledgment method a single "GO" message can provide acknowledgment for the specified segment number plus any lower segment numbers not previously acknowledged. Upon receipt of the "GO" message, the destination ASC assumes acknowledgment of all outstanding lower segment numbers.

(4) Receipt of a TSNSM will clear that segment accountability at the entry ASC and generate a SN message to the originating terminal.

d. Segment Retransmission Request (RS).

(1) Destination terminals using the standard acknowledgment method can request retransmission of segments only by use of the normal AUTODIN operating procedures.

(2) Destination terminals using the positive acknowledgment method can request retransmission of a segment providing the "GO" message has not been transmitted to the destination ASC for that segment. The following actions are taken to obtain retransmission of a segment.

(a) The destination terminal transmits an RS message to the destination ASC for the desired segment; i.e., destination terminal received segments 002 through 007 and transmitted "GO" message for 002 only; and transmits an RS for 0007.

Example of RS Message.

RS RUWTORA0007. N

Explanation:

RS = Retransmission request.

RUWTORA = First six letters of the originating terminal RI (RUWTOR), link identification (A).

0007 = Segment number, preceded by an "0".

. = EOR signal (.).

N = Space separator and EOM signal.

921.d.(2) Continued

(b) Upon receipt of the retransmission request, the destination ASC resets the segment counter to expect one greater than the last "GO" from the destination terminal (003), issues a supervisory printout for Logical Link Rerun (LLR), and transmits a TSNSM to the entry ASC. All segments on queue at the destination ASC will be scrubbed.

(c) The entry ASC resets the local segment counter to the number specified in the TSNSM (003) and generates a rerun segment (RR) message to the originating terminal specifying that all segments starting with segment number 003 must be retransmitted.

Example of RR Segment Message.

RRA003 TSA002

Explanation:

RRA003 = Rerun Segment (RR), link identification (A), segment number (003).

TSA002 = Last segment transmitted to destination terminal (TS), link identification (A), last segment number transmitted to the destination terminal and acknowledged (002).

(d) The originating terminal starts retransmission with segment 003 and retransmits all segments thereafter. NOTE: The entry ASC can transmit only one rerun request message to the originating terminal for a given segment on a specified logical link; any additional rerun requests received by the entry ASC for the same logical link segment number will be scrubbed until the originating terminal has retransmitted the segment requested.

922. Completion of Sequential Data Transfer (Last Segment).

a. Originating Terminal. The last segment uses the same format as is used for intermediate segments, except the last line block must have an EOM sequence. The EOM sequence "NNNN" in positions 77-80 identifies to the entry ASC that this segment will terminate this sequential data transfer. Also, if the straggler validation option is used, the straggler number must appear in the last segment in positions 17-20.

922.a. Continued

Example of Originating Terminal's Last Segment Message.

SSA004 SSSSS
TEXT
(16 spaces) 0004 (56 spaces) NNNN

Explanation:

SSA004 = Sequential data segment identification (SS = Standard Logical Link, A = originating terminal link identification, 004 = segment number). If lockout, example would be LLA004.

SSSSS = Security level of data to be transferred, preceded by a space separator (may include TRC code), SSSAA where SSS = security and AA = TRC. Security levels authorized for use are: TTTTT = TOP SECRET, SSSSS = SECRET, CCCCC = CONFIDENTIAL, RRRRR = RESTRICTED, EEEEE = EFTO, UUUUU = Unclassified.

TEXT = Text as specified in segment.

(16 spaces) 0004 = Straggler validation option (16 spaces, 0004 = segment number preceded by "0") must be present when originating terminal is classmarked for straggler validation.

NNNN = EOM (sequence positions 77-80).

b. Entry ASC.

(1) As each segment remaining in the AUTODIN is acknowledged by the destination terminal, the SN message, specifying the last segment acknowledged, will be transmitted by the entry ASC to the originating terminal.

Example of Entry ASC Response to Originating Terminal.

SNAEND TSA003

Explanation:

SNAEND = Verifies that the input of an EOM was recognized on the specified line (A).

TSA003 = Last segment (003), link (A), acknowledged by destination terminal.

922.b. Continued

(2) Upon receipt of the last segment acknowledged by the destination terminal, the entry ASC transmits an SN message to the originating terminal with "END" in the TSA field; the logical link is terminated, and responsibility for protection of the traffic is terminated at both the entry and destination ASCs.

923. Invalid Sequential Delivery Request (SDR) Messages.

a. An additional SDR with the same input link identifier is received. Result: The entry ASC rejects the SDR with an Invalid Header (IH) reject special service message.

Example.

OIHUCICF RUWTCSS0001 0082359--RUWTORA.SSA001 INV HDR REJECT N

b. Precedence prosign, security, or the CICF is invalid. Result: The entry ASC rejects the SDR with an IH special service message (see subparagraph a. above).

c. The RI or EOR signal is not valid. Result: The entry ASC rejects the SDR with an Invalid Routing Field reject (IF) special service message.

Example.

OIFUCICF RUWTCSS0001 0082359--RUWTORA.SSA001 INV RTG FIELD N

d. Text area in SDR exceeds 33 characters (including spaces). Result: The entry ASC rejects the SDR with an IH special service message (see subparagraph a. above).

e. The EOM sequence is not properly formatted in the SDR. Result: The entry ASC rejects the SDR with an IH special service message (see subparagraph a. above).

f. Security level specified in the SDR is greater than the originating terminal is authorized to input. Result: The entry ASC rejects the SDR with an IF special service message.

Example.

OIFUCICF RUWTCSS0001 0082359--RUWTORA.SSA001 INV SEC FIELD N

923. Continued

g. An SDR message attempts to establish a logical link with a destination terminal using a security greater than the destination terminal is authorized to receive. Result: Link is not established and the destination ASC rejects the SDR with an IR special service message.

Example.

OIRUCICF RUDOCSS0001 0082359--RUWTORA.SSA001 INV RTG SEC RUWTORA TO RUDODRA N

h. An SDR message attempts to establish a logical link to a destination terminal (RI) not classmarked for SDS at the destination ASC. Result: Link is not established and the destination ASC rejects the SDR with an IR special service message.

Example.

OIRUCICF RUDOCSS0001 0082359--RUWTORA.SSA001 INV RTG SEQDEL RUWTORA TO RUDODRA N

924. No Response to Sequential Delivery (SD) Request. Originating terminal sends an SDR; however, the destination terminal does not reply with a "GO" (logical link accepted) or "NO" (logical link denied) message, which causes a link hiatus timing condition. Result: Upon receipt of the LR message at the destination ASC, the link hiatus timer is activated for the tentative link established and after an elapsed time of 36 minutes with no response from the destination terminal, the destination ASC issues a supervisory printout for Logical Link Timeout (LLT), followed by a Logical Link Terminated (LLD) printout, sends a link disconnect message to the entry ASC, and automatically terminates the link with a Link-Terminated (LT) special service message to the originating and destination terminals, with a reason code of "F" in card column 59.

Example.

OLTUCICF RUDOCSS0001 0082359--RUDODRA.TSAREQ LINK ABORTED F RUWTORA TO RUDODRA N

NOTE: Where "F" is reason code to specify monitor timeout - no response from receiving terminal. A copy is also generated to the originating terminal (RUWTORA).

925. Destination Terminal Channel Out of Service. The destination ASC has the next segment on queue and the destination terminal's channel is out of service. Result: If the condition persists for 36 minutes, the destination ASC takes the same action as outlined in paragraph 924. LT service will have a reason code of "D" in card column 59.

926. Destination Terminal Logical Links Busy.

a. An SDR message attempts to establish a logical link with a destination terminal which has conflicting link-terminal conditions that exist; e.g., all allowable links in use receiving other sequential data transfers, SDR is a standard type and destination terminal has already accepted a lockout link, SDR is a lockout type and destination terminal has already accepted at least one standard link. Result: The SDR message is converted by the destination ASC to a link-busy (LB) message. If the links established are standard (SS), the LB message will be delivered between segments to the destination terminal as notification that another sequential data transfer has been requested. If the links are lockout (LL), the LB message will be kept on queue at the destination ASC and transmitted when a link is freed.

Example of Destination ASC LB Message.

OLBUCICF RUDOCSS0001 0082359--RUDODRA.SEC-S(TEXT FROM LR) N

b. The destination ASC also transmits a request denied-busy message to the entry ASC. Upon receipt of this message, the entry ASC transmits an LB message to the originating terminal and releases the tentative logical link to the originating terminal.

NOTE: In this message the "LB" is converted to "BL" by the originating ASC. Upon receipt of the LB message, the destination terminal is responsible for advising the originating terminal to again attempt to establish a logical link for the sequential data transfer.

Example of Entry ASC LB Message.

OBLUCICF RUWTCSS0001 0082359--RUWTORA.SSA001 REQUEST DENIED RUWTORA TO RUDODRA N

927. Destination ASC Logical Link Tables Full. An SDR message attempts to etablish a logical link with a destination terminal and the destination ASC has no vacant logical link control table entries. Result: The same procedures as outlined in paragraph 926 are followed.

928. Destination Terminal Out of Service. An SDR message attempts to establish a logical link with a destination terminal which is in an out-of-service condition at the destination ASC. Result: Link is not established and the destination ASC rejects the SDR with a host Line Down (LD) message to the entry ASC and generates an LB special service message (see paragraph 926.a.) and places it on queue for the destination terminal. Upon receipt of the LD message the entry ASC sends a request for link denied, host LD special service message to the originating terminal and terminates the tentative logical link. Upon receipt of the LB message, the destination terminal is responsible for notifying the originating terminal to again attempt to establish a logical link.

Example of Entry ASC LD Message.

```
OLDUCICF RUWTCSS0001 0082359--RUWTORA.SSA001 HOST LINE
DOWN RUWTORA TO RUDODRA N
```

929. Invalid or Abnormal Conditions of Intermediate Segments.

a. Segment header contains errors; e.g., alphabetic characters in segment number field, other than three-digit segment number, incorrect use of "SS" or "LL" codes. Result: The entry ASC rejects the segment with an IH special service message (See example under paragraph 922.a.).

b. Entry ASC receives a segment with a straggler number error or no straggler number present (channels on which straggler detection has been requested). Result: The entry ASC rejects the segment with a suspected straggler standard service message. Also, the entry ASC transmits an SN message to the originating terminal (expecting the same segment number) (See example under paragraph 920.e.).

Example.

```
OTTUZYVW RUWTCSS1212 2732255-UUUU--RUWTORA.
ZNR UUUUU
UNCLAS SVC SSA111 RUWTORA0111 2732254
SUSPECTED STRAGGLER REJ
#1212
NNNN
```

929. Continued

c. Entry ASC receives segment out of sequence; e.g., expects segment 008 and originating terminal transmitted 011. Result: The entry ASC rejects the segment with an invalid header reject-segment number error (IH) special service message. The IH message will be sent if the segment number is too high or too low.

Example.

OIHUCICF RUWTCSS0001 0082359--RUWTORA.SSA011 INV EXPECT 008 RUWTORA TO RUDODRA N

d. Entry ASC receives a segment without an EOM (end-of-segment) signal (N) or the EOM signal is not positioned correctly in the ETX line block. Result: The segment will be rejected and the entry ASC will send an SN message to the originating terminal specifying the last good segment received (See example under paragraph 920.e.).

e. Destination ASC receives a segment out of sequence which indicates a missing segment and causes a link hiatus timing condition. Result: The destination ASC holds the out-of-sequence segment on queue for the destination terminal and activates a link hiatus timer, causing the following sequence of events:

(1) If the missing segment is not received within 18 minutes, the destination ASC issues a supervisory printout for LLT, to alert the ASC supervisor of the condition. Concurrently, the destination ASC generates an RR message to the entry ASC for the missing segment and an LH special service message to the destination terminal. In turn, the entry ASC generates an RR message (see paragraph 921.d.(2)(c)) to the originating terminal. The entry and destination ASCs reset their tables to expect the segment number specified in the RR message and, at this time, the destination ASC scrubs all segments on queue for the link.

Example Destination ASC LH Message.

OLHUCICF RUDOCSS0001 0082359--RUDODRA.TSA007 HIATUS ON LINK RUWTORA TO RUDODRA N

929.e. Continued

(2) If the missing segment is received prior to the 36-minute timeout threshold (i.e., 36 additional minutes after generation of the RR), timing ceases, the link hiatus timer is cleared, and segment delivery continues. If the time expires, the destination ASC issues a supervisory printout for LLT, followed by an LLD printout and automatically terminates the link with an LT special service message to the originating and destination terminals. The LT service message will contain a reason code of "E" in column 59. This character will identify to the recipients the reason the link was aborted.

Example.

OLTUCICF RUDOCSS001 0082359--RUDODRA.TSA007 LINK ABORTED E RUWTORA TO RUDODRA N

NOTE: Copy will also be sent to originating terminal (RUWTORA).

f. Destination ASC has no segments available for delivery on a link, and a link hiatus timing condition results. Result: If a segment is not received within 36 minutes, the destination ASC issues a supervisory printout for LLT, followed by an LLD printout and automatically terminates the link with an LT special service message to the originating and destination terminals with a reason code of "E" in column 59 (see example under paragraph 924).

g. Destination ASC receives a duplicate segment. Result: The destination ASC scrubs the segment. It is possible that the destination ASC could deliver an unmarked duplicate segment (without the suspected duplicate signal) and scrub the original segment as the duplicate.

930. Invalid Sequential Delivery Acknowledgments. The destination terminal transmits a "GO" message that specifies a segment number lower than a previous "GO" message for a link or a segment number higher than a previously received segment. Result: The destination ASC rejects the "GO" message with an invalid GO (IA) special service message.

Example.

OIAUCICF RUDOCSS0001 0082359--RUDODRA.INV GO 007 EXPECT 005 RUWTORA TO RUDODRA N

931. Invalid Retransmission Request Messages. The destination terminal transmits an RS message (see paragraph 921.d.(2)(a)) that specifies a segment number previously released by a "GO" message or a segment number higher than any previously delivered. Result: The destination ASC rejects the RS message with an invalid IA special service message.

Example.

OIAUCICF RUDOCSS0001 0082359--RUDODRA.INV RS 008 EXPECT 009. RUWTORA TO RUDODRA N

932. Invalid Logical-Link-Accepted/Denied (GO or NO) or Retransmission Request (RS) Message. The destination terminal transmists a "GO", "NO", or "RS" message that is garbled or has the wrong OSRI. Result: The destination ASC rejects the "GO", "NO", or "RS" message with an IH special service message (see paragraph 923.a.).

933. Cancellation of Logical Link.

a. A problem may develop during a sequential data transfer that requires a logical link to be terminated. Result: A specific logical link can be terminated by the originating terminal or the entry or destination ASC; the destination terminal cannot terminate a receive link.

b. The following actions occur when a logical link is cancelled.

(1) Originating terminal initiated:

(a) Originating terminal sends a cancel message to the entry ASC.

Example.

EEACAN (The third letter indicates the link. May be given values from A-Z).

(b) Upon receipt of the originating terminal's cancel message, the entry ASC generates a link cancel message to the destination ASC, clears the logical link table entry, and issues a supervisory printout for LLD.

933.b.(1) Continued

(c) Upon receipt of the link cancel message the destination ASC sends a link-terminated special service message to the originating and destination terminals, scrubs all segments on queue for the destination terminal, cancels segment in progress (if any), clears the logical link table entry, and issues a supervisory printout for LLD. The logical link is terminated with a reason code "C" in card column 59 (See example under paragraph 924).

(2) Entry ASC initiated. Upon receipt of the operator's link terminate supervisory command, actions required by the entry and destination ASCs are the same as those outlined in subparagraph (1) above. LT service will have reason code of "A" in card column 59 (see example under paragraph 924).

(3) Destination ASC initiated. Upon receipt of the operator's link terminate supervisory command, the destination ASC generates a link disconnect message to the entry ASC, scrubs all segments on queue for the destination terminal, cancels segment in progress (if any), clears the logical link table entry, issues a supervisory printout for LLD, and sends a link-terminated special service message to the originating and destination terminals with a reason code of "B" in card column 59 (see example under paragraph 924).

(a) Upon receipt of the destination ASC's link-terminated message, the entry ASC clears the logical link table entry and issues a supervisory printout for LLD. The logical link is terminated.

(b) If the destination ASC has a link request for the destination terminal, it will be scrubbed. The link-terminated special service message will not be sent to the destination terminal, for the link request.

934. Reestablishment of Canceled Link. To reestablish the link, the originating terminal must initiate a new SDR message (see paragraph 920.a.). The segment number assigned to the SDR should be one less than the restart segment to maintain consecutive segment accountability for the sequential data transfer from the point at which the link was terminated, by the originating and destination terminals.

LANGUAGE AND MEDIA FORMAT (LMF)

1. The LMF codes authorized for use in the AUTODIN are listed below. These codes can only be paired in certain ways, as prescribed in paragraph 2. Formats presently authorized for use by magnetic tape terminal stations are described in detail in paragraph 3.

LMF CODES

LMF	SOURCE MEDIA	FORMAT
A	Paper tape (teletypewriter)	8 Level American Standard Code for Information Interchange (ASCII).
B	Magnetic tape	Identifies the source transmission tape as containing one or more binary stream messages and that the tape is structured or formatted with the header, text, and EOT records for each message on the tape.
C	Magnetic tape or punched cards	80-character, fixed record length, series format.
D	Magnetic tape	Identifies the source tape as containing one or more data messages in the local or native character coding scheme in variable length records and that the tape is structured or formatted with the header, text, and EOT records for each message on the tape. The characters are translated from the native code to the ASCII line code on a one-for-one basis.
F	Paper tape (teletypewriter)	Automatically generated in Position 2 by ASC when format conversion performed (ACP 127 to JANAP 128).

1. Continued

LMF	SOURCE MEDIA	FORMAT
I	Magnetic tape	Identifies the source tape as containing only one binary stream message and that the tape is non-structured (formatted without the header and EOT records). The header and EOT records are generated by the terminal from parameters introduced from another source such as a card or paper tape reader, console typewriter, or stored program.
K	Paper tape (teletypewriter)	Automatically generated in Position 2 by ASC when a message is received from a US channel in ACP 127 ASCII and preferred output is JANAP 128 ASCII.
L	Paper tape (teletypewriter)	Automatically generated in Position 2 by ASC when a message is received from an Allied channel in ACP 127 ASCII and preferred output is JANAP 128 ASCII.
N	Paper tape (teletypewriter)	Automatically generated in Position 2 by ASC when a message is received from an Allied channel in ACP 127, ITA2 and preferred output is JANAP 128 ITA2 (5-level ITA2 code).
R	Paper tape (teletypewriter)	Off-line encrypted text producing scrambled tape.
S	Magnetic tape or punched cards	Single 80-character record which is a complete data message, including header and EOTS.
T	Paper tape (teletypewriter)	Any teletypewriter message, including 5-letter cipher group off-line encrypted messages (5-level ITA2 code).

2. The LMF in the data header consists of two alphabetical characters. With the exception of "BB", "DD", and "II", the first character indicates the source media, and the second character indicates the preferred output media. For "BB" and "II", the first character identifies the source transmission tape as containing messages recorded in a binary stream (not associated with a code) and in the case of "B", the tape is structured, for "I" the tape is non-structured. For LMF "D", the first character identifies the source transmission tape as containing messages recorded in a local or native character coding scheme, in variable length records and that the tape is structured. The following rules list the only pairings of these codes which are authorized.

a. The LMFs "T" and "A" apply only to teletypewriter (not the flexowriter) plain text. The LMF "R" applies only to encrypted text (scrambled tape).

b. The LMFs "C", "A", and "T" can be paired with either "T", "A", or "C", depending on the preferred delivery device ("CT", "CA", "CC", "AA", "AT", "AC", "TT", "TA" and "TC" are authorized combinations). The LMF "R" can only be paired with "T" ("RT").

c. The system generated LMFs of "K" and "L" will be paired by the ASC with "A". The system generated LMFs of "F" and "N" will be paired by the ASC with "T".

d. The LMF "S" can only be paired with "C".

e. The LMFs "B", "D", and "I" can only be paired with themselves; i.e., "BB", DD", and "II".

3. Each of the various EDPE systems used by the different military installations can be programmed and utilized in various ways. However, the available code variations in the automatic portion of the AUTODIN impose some restrictions on the formats used in preparation of magnetic tape data messages for transmission through the system. Each of the following subparagraphs discusses a different LMF pairing available to magnetic tape message originators, oriented to particular types of EDPE equipment, and describes the format limitations of the particular combination.

a. The LMF "CC" is an image of the common 80-column data card. This format may be used with computers without binary adapters. A minimum of three line blocks is necessary; one for the data message header format, a minimum of one text record, and one for the data message AUTODIN EOT record.

3.a. Continued

(1) The header block is a card image on tape of the standard AUTODIN Header card prescribed in Chapter 5. The unused positions are filled with spaces to complete the full 80-characters.

(2) The text blocks are 80-character card tape blocks. A maximum of 500 tape blocks (including the header and EOT records) can be formed into a single message. When intended for transmission from tape station to tape station, the maximum message length is 500,000 characters, or one-half hour transmission time.

(3) The EOT record is a card image on tape of the standard AUTODIN EOT record prescribed in Chapter 5. The unused positions of the 80-character record will be filled with spaces; positions 77 through 80 must contain "NNNN".

(4) The records of these tape messages are separated by the standard tape record gap for the computer with which the MTTS is associated.

b. The LMF "CC" may also be used in operation of computers with binary adapters, and operating in binary mode. These systems require a format containing 80 characters between tape blocks. A minimum of three-line blocks is necessary for a message; one for the message header format, a minimum of one text block, and one for the AUTODIN EOT record block.

(1) The header block is prepared as a standard AUTODIN header containing 80 characters. Spaces are used as fillers in unused positions. In any case, the last four positions of this 80-data character block must be spaces.

(2) Each text record block following the header must contain 80 data characters. The last four positions must be spaces. Any unused positions in the first 80 characters will be filled with spaces.

(3) The EOT record is prepared as a standard AUTODIN EOT record. Positions 77 through 80 will contain the EOTS "NNNN".

3. Continued

c. LMF "B" is used when preparing a source transmission tape containing one or more binary stream messages that is structured or formatted with the header, text, and EOT records for each message on the tape. These messages must contain a minimum of five records, including the header, special beginning of text framing record, one text record, a special end-of-text record, and the standard EOT record block.

(1) The message header block is prepared as a standard AUTODIN message header, and must contain at least 48 characters.

(2) For general message exchange, each tape text record block can consist of a minimum of 18 characters and a maximum of 1200 characters. Subscribers with requirements to transmit messages containing record lengths of less than 18 or more than 1200 characters must insure that the addressee is capable of receiving such records prior to transmission.

(3) Each tape block is framed by tape gaps. The tape gap is the standard tape gap for the computer on which the message is being prepared for transmission, and for which the MTTS is arranged.

(4) The EOT record must contain 80 characters with positions 77 through 80 filled with "NNNN"; unused positions are filled with spaces.

d. LMF "D" is used when preparing a source transmission tape containing one or more data messages in the local or native character coding scheme in variable length records. LMF "D" tapes are structured or formatted with the header, text, and EOT records for each message on the tape. The characters are translated from the native code to the ASCII line code on a one-for-one basis. These messages must contain a minimum of three tape record blocks; one for the header, a minimum of one text record block, and the AUTODIN EOT record block.

(1) The message header block is prepared as a standard AUTODIN data message header, and must contain a minimum of 48 characters.

3.d. Continued

(2) Text blocks, separated by interrecord gaps, follow the header. For general message exchange, each tape text record block can consist of a minimum of 18 characters and a maximum of 1200 characters. Subscribers with requirements to transmit messages containing record lengths of less than 18 or more than 1200 characters must insure that the addressee is capable of receiving such records prior to transmission.

(3) The standard AUTODIN EOT record block is used, and must contain a full 80 characters. Positions 77 through 80 will contain "NNNN"; unused positions will be filled with spaces.

e. LMF "I" is used when preparing a source transmission tape containing only one binary stream message. LMF "I" tapes are non-structured in that they are formatted without a header or EOT record on the tape. The header and EOT records are generated by the terminal from parameters introduced from another source such as a card or paper tape reader, console typewriter, or stored program. Regardless of the source media used to introduce header and EOT blocks, they must be prepared as follows.

(1) The header block prepared as a standard AUTODIN header containing at least 48 characters is introduced from a separate source to immediately precede transmission from the magnetic tape reel.

(2) Text record blocks from the magnetic tape reel immediately follow the header record block. For general message exchange, each tape text record block can contain a minimum of 18 characters and a maximum of 1200 characters. Subscribers with requirements to transmit messages containing record length of less than 18 or more than 1200 characters must insure that the addressee is capable of receiving such records prior to transmission.

(3) The AUTODIN EOT record block containing 80 characters with positions 77 through 80 filled with "NNNN" is introduced from a separate source to immediately follow the last character transmitted from the tape reel.

CONTENT INDICATOR CODE/COMMUNICATION ACTION IDENTIFIER

1. Use of Code. The standard four-position Content Indicator Code (CIC) in this Annex is prescribed for use within and between all elements of the AUTODIN.

2. Policy.

a. The standard AUTODIN CIC is based on and designed to fulfill the needs of the AUTODIN users in accordance with the following policy.

(1) The CIC is designed primarily for use by the receiving communications terminal as an aid in determining distribution of data messages. It may be utilized by the data processor as desired, as long as its primary purpose is not abrogated or subordinated to the desires of the data processor.

(2) CICs for widespread use (inter-Service/Agency/Department) will be generalized in nature. Assignment of a separate code to indicate a single specific report will not be made unless it will enhance delivery capability at receiving telecommunications facilities beyond that provided in the message text header information.

(3) Code letters which are valid throughout all elements of the AUTODIN will be published in this Annex, or in a universally available publication which is specifically referenced herein. No code letter combination may be used on an inter-Service or inter-Agency data message unless it is published herein, or unless specific coordination has been effected and agreed to by all stations handling the traffic and all addressees and/or originators concerned.

b. The Communication Action Identifiers listed in Table III are for use by communications terminals and ASC/Relay stations to identify certain actions related to traffic handling. These Communications Action Identifiers are based upon internationally agreed communications operating signals prescribed by ACP 131 and the US agreed operating signals listed in the ACP 131 US SUPP-1.

3. Requesting Changes.

a. Changes to the existing code can be authorized only by the Joint Chiefs of Staff or the monitoring activity specifically listed herein. Such changes may be recommeded through command channels to Service/Agency/Department headquarters as prescribed in subparagraph c. below.

3. Continued

b. Assignment of other than first-position code letters for new requirements will be forwarded to the appropriate monitoring activity (listed in Table I or Column 4 of Table II) through command channels. The monitoring activity may assign and disseminate the code letters in accordance with applicable directives, after effecting coordination with all Services/Agencies/Departments concerned. No such assignment will be made that would imply or condone abrogation of paragraph 4.b.(3).

c. Requests and/or recommendations will be addressed through command channels to the activity delineated below.

(1) Elements of the US Army will forward all requests/recommendations to the Commander, US Army Communications Command, ATTN: CC-OPS-PP, Fort Huachuca, AZ 85613.

(2) Elements of the US Air Force will forward all requests/recommendations to Headquarters, Air Force Communications Command/XOPO, Scott AFB, IL 62225.

(3) Elements of the US Navy will forward all requests/recommendations to Commander, Naval Telecommunications Command, 4401 Massachusetts Ave., N.W., Washington, DC 20390.

(4) Elements of the US Marine Corps will forward all requests/recommendations to Headquarters, US Marine Corps, ATTN: Code APC, Washington, DC 20380.

(5) Elements of Department of Defense Agencies; e.g., DLA, DIA, DCA, etc., will forward all requests/recommendations to the Headquarters of their respective Agency.

(6) Non-DoD Government activities will forward all requests/recommendations to the Director, Defense Communications Agency, ATTN: Code B653, Washington, DC 20305, through the appropriate activity headquarters.

d. Recipients of requests/recommendations listed in subparagraph c. above will evaluate each such request/recommendation and will take the appropriate action shown below.

(1) If the request/recommendation is not judged valid or justified, the requesting/recommending elements will be so notified.

3.d. Continued

(2) If the headquarters receiving the request/ recommendation is also the controlling or monitoring Service/ Agency listed in Table I or in Column 4 of Table II, then assignment and internal dissemination of the code letters may be made.

(3) If the headquarters receiving the request/ recommendation is not the monitoring activity listed in Table I or in Column 4 of Table II, the request/recommendation will be forwarded directly to the appropriate monitoring agency, except that all such correspondence between the Departments will be directed through the Defense Communications Agency, ATTN: Code B653, Washington, DC 20305.

4. Structure of Code. The standard CIC consists of four characters appearing in Positions 5 through 8 of the AUTODIN header.

a. The first character is alphabetic, and is primarily used to identify the activity within which the three-letter code is authorized for use. Five of these letter assignments have widespread application and all codes for use with them are either listed in this Annex, or specific reference is made herein of the publication which does carry a complete list of the available codes. These five identifiers are the letter "D" for Intra-Department of Defense use; the letter "I" for Inter-government department/agency use; the letter "K" for use on exercise traffic; the letter "T" for use in data system testing; and the letter "Z" which indicates a special communication action identifier. Allocation or assignment, dissemination, and rules for the use of codes under activity identifiers other than "D", "I", "K", "T" or "Z", will be determined by the activity concerned with the provision that the rules outlined in paragraph 6 are strictly complied with in all instances.

b. The second, third, and fourth letters of code constitute the identification of the contents of the message. For intra-activity use (first letters other than "D", "I", "K", "T", or "Z"), the activity concerned will determine whether or not the codes published herein are applicable. For use with first letters "D", "I" and "T", only the letter combinations published in Table II are authorized, unless specific reference is made to another publication in Column 5 (Remarks) of Table II. For use with the first letter "Z", only those code combinations listed in Table III are authorized; they may be used by all stations using these procedures, when applicable.

4.b. Continued

(1) The second position character (Position 6 in header) is alphabetical; it indicates the major category of data traffic involved. Column 4 of Table II indicates in each case the Service or agency which monitors all assignments of code letters for use with the indicated major category letters. For example, the letters "DCA" in Column 4 indicates categories assigned and monitored by DCA for the JCS. New major category letter assignments for use with first position code letters "D", "I", "K", "T" or "Z" will only be made by amendment to this Annex, with joint agreement of all Services/Agencies concerned.

(2) The third position character (Position 7 in header) is alphabetical; it indicates the prime subcategory of data traffic involved. Under all major categories, the letter "Z" is reserved for use in the third position as a miscellaneous filler, and may be used by the originator when subcategorization is not desired or when several subcategories of detail cards are combined into one data message, or when the subcategory cannot be clearly determined. Under major categories which are applicable to all elements of the AUTODIN and/or all elements of the DoD, the only authorized prime subcategories will be listed and published in this Annex or in a publication referred to in Column 5 (Remarks) of Table II.

(3) The fourth position character (Position 8 in header) normally is alphabetical; it may be used for minor subcategorization as indicated in (a) below, or for communications information as described in (b) through (f) below. This position cannot be used for automatic on-base distribution programs operated by the ASCs in the automatic portion of the AUTODIN (For exceptions to this alphabetical nature of this character, see the note on Table III).

(a) The letters A through T in the fourth position are available for assignment under the various major categories listed herein. Normally, these minor subcategory letters will not be associated with a specific third-letter assignment, but will be applicable to all third-letter assignments under the major category in which they both appear.

CAUTION: Data message originators are reminded that any minor subcategory letter (A-T) in the fourth position is subject to usurpation by the communications information letters in (b) through (e) below; this includes any codes assigned under first position letters other than "D" or "I".

4.b.(3)(a) Continued

Network users must not devise computer programs which rely so heavily on recognition of the letter in Position 8 of the header (fourth position of the CIC) that they cannot tolerate this automatic usurpation to warn them of important communications information regarding the message.

(b) The letters "U" and "V" are reserved for possible future requirements as communications information code letters.

(c) The letter "W" in the fourth position indicates an exception code FOR MACHINE RECOGNITION. It indicates that the message requires visual checking to determine its proper disposition. The message is not to be machine processed without verification of validity and/or applicability for such processing. In this respect, the letter "W" will be used on all messages which should not be machine processed, including service messages, off-line encrypted traffic, and all narrative messages. It also should be used on machine-processable traffic that, for any reason, should be visually inspected by the addressee prior to being used as input to a computer or card processing device. Each communication facility serving addressees over-the-counter (A/D) should conspicuously mark the top card of any delivered card message which is received with a "W" in Column 8 as follows:

> THIS DATA MESSAGE WAS RECEIVED WITH A SENTINEL CODE INDICATING THAT IT MUST BE VISUALLY INSPECTED BEFORE MACHINE PROCESSING IS ATTEMPTED.

(d) The letter "X" in the fourth position indicates a corrected copy of a message previously transmitted. It may be sent in response to a specific request, or it may be generated to correct erroneous data originated in a prior transmission.

(e) The letter "Y" in the fourth position indicates a suspected duplicate message. This letter code is required for machine recognition of suspected duplicate traffic.

(f) The letter "Z" in the fourth position is used as a miscellaneous filler. It is used when no other letter is applicable, or if two or more of these detailed categories are contained in the data message text.

5. Examples. The following sample CICs/Communication Action Identifiers are not necessarily valid codes assigned by the activity indicated (except for those showing "D", "I" or "Z" in the first position); they are examples only, and are presented here for clarification of the methods of assignment and utilization.

a. IDCA - This code is available for use on messages sent between any two governmental stations; it may be used by any data originator, regardless of where the message is addressed. While the "I" in the first position (Table I) indicates "inter-Departmental" use, e.g., from a station in the DoD to a station under GSA, there is no restriction on its use, and it may be used between any two stations within, for instance, the Department of the Army, if applicable to the message text. The second position "D" indicates that the message is concerned with personnel (Major Category, Colum 1, Table II). The third position "C" under personnel indicates that the message is concerned with civilian personnel (Prime Subcategory, Column 2, Table II). The fourth position "A" indicates that the message is a civilian personnel report (Minor Subcategory, Column 3, Table II).

b. DAZZ - As indicated by the letter "D" in the first position (Table I), this code is for use on messages sent between any two Department of Defense stations. It cannot be used on any message destined for a station outside the Deparment of Defense unless formal, written agreements have been executed between the non-DoD activity and the DoD monitor of a specific code used (in this case, DCA -- see Column 4, Table II), or in accordance with paragraph 6.b. below. As stipulated in paragraph 4.a. above, all codes appearing in Table II may be used with this first-position "D"; and only those codes appearing in Table II or in publications specifically referenced in Column 5 of Table II may be used with this first position "D". The second position "A" indicates that this particular message is concerned with MILSTRIP requisition and issue procedures. The third and fourth position letter "Z" is used in all CICs using major category letter "A" from Table II in the second position until such time as third and fourth position letters have been assigned meanings under this major category it indicates that no specific letter is applicable.

c. ADCA - As indicated by the letter "A" in the first position (Table I), this code may be used only between data terminal stations of the US Army (except as outlined in paragraph 6.b. below). The exact meanings of the second, third and fourth

5.c. Continued

position letters "DCA" when used with the first position letter "A" will be found only in publications distributed within the US Army. Even though the last three letters of this code are the same as those given in the example in paragraph 5.a. above, they may not have any relation to the meaning of those letters when they are associated with the first position "I" or "D"; it depends entirely upon the method of assignment of codes adopted within the Army, for use with the first position letter "A".

d. DJGZ - This code, used between any two DoD data terminal stations (Table I), indicates a data message containing information used in or concerning communications analysis (code letters "JG" from Columns 1 and 2 of Table II). As such, this code would be applicable to DCA traffic status reports and similar analytical data used in communications. The code "JGZ" may also be used in conjunction with the letter "I" in the first position for communications analysis data exchanged between Departments. Inasmuch as the first-position letter "D" indicates intra-DoD, this code may also be used by, for example, a US Navy station sending communications analysis information to another US Navy station, unless the US Navy desires to assign a specific code under first-position letter "Z" to precisely indicate a specific required recurrent report. However, if the above mentioned US Navy station were sending this data to a station operated by the US Air Force, only the CIC "DJGZ" or "IJGZ" could be used unless formal written agreements existed between the two Services.

e. KXXX - This code is for use on messages to segregate real-world and exercise messages at commands served by automated telecommunications centers when directed for analysis purpose. The exercise director must consider the terminal's capability to accept and act on this CIC. The "XXX" shown are for illustration only; under actual conditions the appropriate second, third and fourth letters from Table II would be used.

f. TXXX - This code is for use on messages sent between any two governmental stations for purposes of testing new or existing systems. The "XXX" shown are for illustration only; under actual test conditions the appropriate second, third and fourth letters from Table II would be used. The station originating the request for a test is responsible for coordination of any required test details.

5. Continued

g. ZFH2 - This Communication Action Identifier is valid between any two stations utilizing these procedures, inter-Departmental, intra-Departmental, or intra-Agency. As specified in Table III, this particular Communication Action Identifier indicates that the message which follows is being forwarded to the addressee for information only, after having been received, read, and/or acted upon by the station indicated as the originator of the AUTODIN header containing "ZFH2" as its Communications Action Identifier. To insure complete identification of the message, the original AUTODIN header, which delivered the message to the readdressing authority, should be included in the message following the readdressal header containing "ZFH2".

h. ZYUW - This Communication Action Identifier identifies the message as a narrative message which can only be read and understood by visual scanning. It is used as the Communication Action Identifier on all messages designed for visual scanning. It should not be used on any message which is formatted for automatic machine processing.

6. Control of Intra-Service/Agency/Department Code Usage. Those letters in Table I which are indicated for intra-Service, intra-Agency, or intra-Department (other than intra-DoD) use must be strictly controlled by the monitoring Service/Agency/Department.

a. Code letter combination normally will not be assigned for use by any data processing complex which crosses Service/Agency/Departmental lines. For example, codes assigned by USAF under the Activity Identifier Letter "F" may be used only by installations operated by the US Air Force, and cannot be addressed or transmitted to any terminal station operated by the FAA or any other individual Service, unless formal, written bilateral agreements are executed.

b. In those cases where a unit of one Service/Agency/Department is served by a communications center operated by another Service/Agency/Department, any intra-Service/Agency/Department CICs of the tenant unit°s Service/Agency/Department will be accepted without question of validity by the serving communications center.

TABLE I

ACTIVITY IDENTIFIER
(FIRST POSITION OF CONTENT INDICATOR)

LETTER	ACTIVITY	REMARKS
A	US Army	
B	National Security Agency	
C	Defense Intelligence Agency	
D	Department of Defense	All codes described in Table II may be used
E	Federal Aviation Administration	
F	US Air Force	
G	General Services Administration	
H	Defense Logistics Agency	
I	Inter-Departmental	All codes described in Table II may be used
J	Joint Chiefs of Staff/ Unified and Specified Commands	
K	Exercise message	All codes described in Table II may be used
L		
M	US Marine Corps	
N	US Navy	

TABLE I (Continued)

ACTIVITY IDENTIFIER
(FIRST POSITION OF CONTENT INDICATOR)

LETTER	ACTIVITY	REMARKS
O	National Aeronautics and Space Administration	
P		
Q		
R		
S	Department of State	
T	Test message	All codes described in Table II may be used
U		
V		
W		
X		
Y		
Z	Communication Action Identifier	Only codes listed in Table II may Be used

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
A	MILSTRIP and MILSTRAP	A-T	Not assigned	A-T	Not assigned	DCA	Pending promulgation of specific prime subcategories and minor subcategories, the letter "Z" will be used in the third and fourth position of all codes using the major category letter "A" in the second position.
B	MILSTRAP inventory control system	A-Y	Not assigned	A-T	Not assigned	DCA	Pending promulgation of specific prime subcategories and minor subcategories, the letter "Z" will be used in the third and fourth position of all codes using the major category letter "B" in the second position.
C	Not Assigned						

ORIGINAL

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
D	Personnel	A	Officer	A	Reports	DCA	
		B	Enlisted	B	Actions		
		C	Civilian	C-T	Not assigned		
		D	Summary				
		E	Organization				
		F-Y	Not assigned				
E	Medical	A	Officer	A	Reports	DCA	
		B	Enlisted	B	Actions		
		C	Civilian	C	Records		
		D	Summary	D-T	Not assigned		
		E-Y	Not assigned				
F	Finance and Budget	A	Comptroller	A	Reports	DCA	
		B	Funds	B	Collections		
		C	Payroll	C	Disbursements		
		D	Budgetary	D	Military		
		E	Accounting	E	Civilian		
		F	Allotments	F	Estimate		
		G	Uniformed services savings deposit allotments	G	Equipment		
				H	Summaries		
		H-I	Not assigned	I	Not assigned		
		J	Jumps	J	Inputs		
		K-T	Not assigned	K-T	Not assigned		

ORIGINAL

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	REMARKS
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		
G	Operations	A	Atomic	A	Reports	DCA	
		B	Aircraft	B	Actions		
		C	Ship	C	Control		
		D	Vehicular	D	Damage		
		E	Organizations	E	Acknowledgement		
		F	Missile	F	Exercise		
		G-H	Command & Control Deployment	G-Q	Not assigned		
				R	EW Reprogramming		
		I	Data Processing	S-T	Not assigned		
		J-Y	Not assigned				
H	Logistics	A	Supply (See Remarks)	A	Estimate	DCA	Letter "A" in third position used for supply actions other than standardized DoD procedures such as MILSTRIP.
		B	Management	B	Procurement		
		C	Evacuation & Hospitalization	C	Interrogation		
				D	Reply to Interrogation		
		D	Maintenance	E	Reports		
		E	Services	F	Actions		
		F	Federal Cataloging (See Remarks)	G-T	Not assigned		Fourth position letters "A-T" as used with content indicator second and third letters "HF" (Federal Cataloging) are promulgated by DLA to specifically authorized users. Subcategorization of General
		G	Research & Development				
		H	General Cataloging (See Remarks)				

ORIGINAL

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
		I	Due-in assets				Cataloging (second and third positions "HH") will be in accordance with the fourth position letters given herein.
		J	Documents				
		K	Catalog Management Data Notification				
		L	Property Disposal				
		M-O	Not assigned				
		P	MILSPETS				
		Q-Y	Not assigned				
I	Intelligence	A-Y	Classified	A-Y	Classified	DIA	All third and fourth position code assignments for this major category are controlled and published by US Intelligence Board, and are distributed on a need-to-know basis. Originators of intelligence traffic not holding USIB published code list will fill third and fourth positions with letter "Z".

ORIGINAL

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
J	Communi-cation	A	Narrative Message	A-T	Not assigned	DCA	Note: Third position Alpha is for use by GSA-ARS only. Third position "H" used to indicate a book message, and that all addressees may not appear on the receiving station's copy. This code letter will be used in cases where machine processing or other terminal/refile station requirements dictate a need for identification of book messages from the data header. Letter "J" in third position must be followed by letter "Y" in fourth position. Note: Third position letter "J" for use only by AUTODIN switching centers.
		B	DCS Reporting (See Remarks)				
		C	Communications Security Transactions				
		D	Facilities				
		E	Frequency utilization				
		F	Comm RI/DoD file update				
		G	Analysis				
		H	Book Message				
		I	Not assigned				
		J	Suspected duplicate & collective routed message				
		K-Y	Not assigned				

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
							Fourth position code letters "A" thru "Z" as used with content indicator second and third letter "JB" (DCS Reporting) are promulgated by DCA to specifically authorized users.
K	Transportation	A	Surface Shipments	A	Exception	DCA	Third position letters "A", "B", and "C" are primarily assigned for MILSTAMP actions.
		B	Air Shipments	B	Transactions		
		C	Central data collection	C	Passenger Manifest		Fourth position letter "A" (exception) when used in conjunction with third position letter "D" (tariff data) signifies the exception under Section 22 (tender data) of ICC tariffs.
		D	Tariff data	D-T	Not assigned		
		E	Port Call				
		P-Y	Not assigned				

ORIGINAL

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
L	Nuclear Reporting	A	Weapons	A	Change	DCA	
		B	Maintenance	B	Report		
		C	Inventory	C	RESTRICTED DATA		
		D	Formatted	D	Formerly Restricted Data		
		E	DNA				
		F	25 Summary Report (OCR Emerg)	E-T	Not assigned		
		G	Stockpile Emergency Verification (SEV)				
M	Military Standard Contract Administration Procedures (MILSCAP)	A	Contract & Contract Modification Abstracts & Corrections	A	Delivery	DCA	
				B-T	Not assigned		
		B	Acceleration/ deceleration requests & replies				
		C	Shipment Performance Notice/revised delivery fore-				

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
			casts/contract completion status/line item status				
		D	Acceptance alerts & reports				
		E	Contract Payment Notices/Disbursement reporting/accrued expenditure reporting				
		F	Other than above				
N-P			Not assigned				

TABLE II - CONTENT INDICATOR CODES FOR UNIVERSAL APPLICATION
(Continued)

COLUMN 1		COLUMN 2		COLUMN 3		COLUMN 4	COLUMN 5
SECOND POSITION		THIRD POSITION		FOURTH POSITION		MONITORING ACTIVITY	
CODE LETTER	MAJOR CATEGORY	CODE LETTER	PRIME SUBCATEGORY	CODE LETTER	MINOR SUBCATEGORY		REMARKS
Q	Query/ Response	A-Y	Not assigned	A-T	Not assigned	DCA	Pending promulgation of specific prime subcategories and minor subcategories, the letter "Z" will be used in the third and fourth position of all codes using the category letter "Q" in the second position.
R-Z			Not assigned				

ORIGINAL

TABLE III
COMMUNICATION ACTION IDENTIFIERS

FIRST POSITION	SECOND & THIRD POSITION	FOURTH POSITION	MEANING
Z	DG	W	Accuracy of following message is doubtful. Correction or confirmation will be forthcoming.
Z	DK	W	Following repetition is made in accordance with your request.
Z	EL	X	This message is a corrected copy. (Note: May only be used with (as follow-up) ZDG).
Z	EX	W	This message is a book message and may be delivered as a single-address message to addressees for whom you are responsible.
Z	FD	Y	This message is a suspected duplicate.
Z	FG	Y	This message is an exact duplicate of a message previously transmitted.
Z	FH	1, 2, or 3	This message is being passed to you for (1. Action; 2. Information; 3. Comment).
Z	IA	W	This message is being passed out of proper sequence of station serial number.

TABLE III (Continued)
COMMUNICATION ACTION IDENTIFIERS

FIRST POSITION	SECOND & THIRD POSITION	FOURTH POSITION	MEANING
Z	OV	W	This message is being rerouted to your station.
Z	YQ	W	This is a book message and must be delivered as a single-address message to addressee(s) for whom you are responsible.
Z	YU	W	This is a narrative message.
Z	YV	W	This is a service message.
Z	ZD	Z	This is a composite message, formed by combining several short messages, all for the same addressee, under this single AUTODIN header.
Z	ZE	Z	No major category of AUTODIN Content Indicator Code has been assigned to cover the contents of this message.

TABLE III (Continued)
COMMUNICATION ACTION IDENTIFIERS

Z	ZG	W	This message is an alternatively routed collective call message; deliver a copy to addressee(s) for whom you are responsible; do not reintroduce into the system as a collective call message.
Z	ZL	W	This message is forwarded under the provision of EFTO policy.

NOTE: Where digits (numerics) appear in the third column of this table (fourth position of the code), each such digit must be used only in accordance with the explanation given in the meaning column. If none of the assigned meanings apply, then use the letter "Z" or "W".

SCHEMATIC DIAGRAM OF MESSAGE FORMAT

PARTS	COMPONENTS	FORMAT LINE	ELEMENTS	CONTENTS	EXPLANATION
H E A D I N G	PROCEDURES	1	Handling instructions	Transmission identification for Modes II, IV, and V stations only, and pilots.	Contains start of message indicators and transmission identification when necessary (para. 403); contains pilots as required (para. 328 & 504).
		2	Header	Precedence, LMF, classification CIC/CAI, OSRI, SSN, Date-Time filed, Record Count (as required), Classification Redundancy, Called station(s), End-of-Routing Signal.	If message is dual precedence, only the higher precedence is shown in this line.
		3	Calling station & filing fime	Prosign DE: Routing indicator of station preparing message for transmission; station serial number; filing time.	Filing time is the date & time the message was filed with the communications center. Not used in AUTODIN originated message. Will be received in messages from other teletypewriter networks.

SCHEMATIC DIAGRAM OF MESSAGE FORMAT (Continued)

PARTS	COMPONENTS	FORMAT LINE	ELEMENTS	CONTENTS	EXPLANATION
		4	Transmission instructions.	Security warning operating signal; classification designators; prosign T; other operating signals; special operating group(s) (SOGs); address designator(s) routing indicator(s).	Operating signals ZNR/ ZNY, as appropriate and classification designators will be used. Indicates specific transmission responsibility not apparent in other components of the message heading. Plain language address designators are not permitted in CODRESS messages.
	PREAMBLE	5	Precedence; DTG; message instructions.	Precedence prosign, date, ZULU time, abbreviated month & year, operating signals.	In the case of dual precedence, both prosigns are shown separated by a space. Operating signals are used only when required to convey message handling instructions.
	ADDRESS	6	Originator	Prosign FM; originator's designation.	Message originator is indicated by plain language, RI, address group, or call sign.

SCHEMATIC DIAGRAM OF MESSAGE FORMAT (Continued)

PARTS	COMPONENTS	FORMAT LINE	ELEMENTS	CONTENTS	EXPLANATION
		7	Action addressee(s)	Prosign TO; RIs; operating signal; address designation(s)	Action addressee(s) is indicated by plain language, RIs, address group(s) or call sign(s). In the case of multiple address messages, when addressees are listed individually, each address designation shall be on a separate line & may be preceded either by the operating signal ZEN (meaning delivered by other means) or by the RI of the station responsible for delivery. Such use is mandatory on all joint & combined messages.
		8	Information addressee(s)	Prosign INFO; RIs; operating signal(s).	Same as for line 7, except that line 8 pertains to information addressee(s).

SCHEMATIC DIAGRAM OF MESSAGE FORMAT (Continued)

PARTS	COMPONENTS	FORMAT LINE	ELEMENTS	CONTENTS	EXPLANATION
		9	Exempt addressee(s)	Prosign XMT; address designator(s).	Used only when a collective address designation is used in line 7 or 8 or an AIG indication of the addressee(s) exempted from the collective address or AIG is required.
	PREFIX	10	Accounting information, Group count, Program designator code	Accounting symbol prosign ACCT, accounting symbol, group count prosign GR, group count, dash(-) PDC.	The group count prosign & group count shall be used only when the text consists of countable encrypted group. PDC must be preceded by a dash(-) following the accounting symbol or group count.
	SEPARATION	11		Prosign BT	
		12A	Security Classification, the abbreviation UNCLAS, or the word CLEAR.		See ACP 121 series. Classification and internal instructions not required in CODRESS or DATA PATTERN messages.

SCHEMATIC DIAGRAM OF MESSAGE FORMAT (Continued)

PARTS	COMPONENTS	FORMAT LINE	ELEMENTS	CONTENTS	EXPLANATION
		12B	Special Handling Designations.	SPECAT SIOP-ESI, US-UK EYES ONLY, etc.	If required, includes LIMDIS, EXDIS, & NODIS.
		12C	Releasability statements,or appropriate regional defense organization security classification statement		If required, see para 355, ACP 121 US SUPP-1.
		12D	Subject Indicator Code (SIC) Standard Subject Indicator Code (SSIC Delivery Distribution Indicator (DDI)		If required, for SIC see para 323.d., ACP 121 US SUPP-1; SSIC (USN/USMC); DDI (NSA/CSS).
		12E	Special delivery instructions, contents FOR, FROM, PASS TO___, PERSONAL FOR, etc.		If required.

SCHEMATIC DIAGRAM OF MESSAGE FORMAT (Continued)

PARTS	COMPONENTS	FORMAT LINE	ELEMENTS	CONTENTS	EXPLANATION
		12F	Exercise Name		If required.
		12G	Subject	SUBJ	See para 323.b. ACP 121 US SUPP-1. The letters "SUBJ" also serve as a delimiter in PLAINDRESS messages to identify the end of information pertaining to security and handling and that portion of textual information which must appear in every section of a sectionalized message.
		12H	Reference(s)		If used.
		12I	Thought or idea		
	SEPARATION	13		Prosign BT	

Format Line 10 (Continued).

ACCOUNTING SYMBOL	ACTIVITY ASSIGNED	PDC*
DS	Automatic Addressing System, Gentile, OH	-GB4S
DS	Automatic Addressing System, Tracy, CA	-GB4V
DS	DCASR, Atlanta, GA	-GA4C
DS	DCASR, Boston, MA	-GA4D
DS	DCASR, Chicago, IL	-GA4E
DS	DCASR, Cleveland, OH	-GA4F
DS	DCASR, Dallas, TX	-GA4G
DS	DCASR, Los Angeles, CA	-GA4J
DS	DCASR, Philadelphia, PA	-GA4B
DS	DCASR, New York, NY	-GA4K
DS	DCASR, St Louis, MO	-GA4M
DS	Defense Construction Supply Center	-GB4B
DS	Defense Depot, Mechanicsburg, PA	-GB4E
DS	Defense Depot, Memphis, TN	-GB4F
DS	Defense Depot, Odgen, UT	-GB4H
DS	Defense Depot, Tracy, CA	-GB4G
DS	Defense Electronics Supply Center	-GB4J
DS	Defense Fuel Supply Center	-GB4R

Format Line 10 (Continued).

ACCOUNTING SYMBOL	ACTIVITY ASSIGNED	PDC*
DS	Defense General Supply Center	-GB4L
DS	Defense Industrial Supply Center	-GB4N
DS	Defense Logistics Agency, Administration Support Center	-GB4R
DS	Defense Logistics Agency, Headquarters	-GB4R
DS	Defense Logistics Service Center	-GB4P
DS	Defense Personnel Support Center	-BG4C
DT	Department of Transportation, Maritime Administration, Washington, DC	-X8AE
ED	Department of Education	-X5CA
EM	Federal Emergency Management Agency	-MJWU
ES	Army and Air Force Exchange	-BCC8AA
FA	Federal Aviation Agency	-FBBW
FB	Foreign Broadcast Information Service	-EWDK
GS	General Services Administration	-XKDC

Format Line 10 (continued).

ACCOUNTING SYMBOL	ACTIVITY ASSIGNED	PDC*
CA	International Communications Agency	-XHWC
CG	Coast Guard, District 1	-W2GBRC
CG	Coast Guard, District 2	-W2GCRC
CG	Coast Guard, District 3	-W2GDRC
CG	Coast Guard, District 5	-W2GXRC
CG	Coast Guard, District 7	-W2GFRC
CG	Coast Guard, District 8	-W2GGRC
CG	Coast Guard, District 9	-W2GHRC
CG	Coast Guard, District 11	-W2GJRC
CG	Coast Guard, District 12	-W2GKRC
CG	Coast Guard, District 13	-W2GLRC
CG	Coast Guard, District 14	-W2GMRC
CG	Coast Guard, District 17	-W2GNRC
CG	Commandant Coast Guard	-W2GARC
CH	Director OCHAMPUS, Aurora, CO	-VJAA
CM	Department of Commerce, National Ocean Survey (NOS)	-VCAA

Format Line 10 (Continued).

ACCOUNTING SYMBOL	ACTIVITY ASSIGNED	PDC*
DA	Department of Army	-BHCSVD
DC	Communications Services Industrial Fund (CSIF) (DECCO) Scott AFB, IL	-YC6T
DC	Defense Communications Agency	-EC8C
DE	Defense Contract Audit Agency	-VDAA
DI	Defense Intelligence Agency	-XDWD
DI	Defense Investigative Service	-WDAF
DJ	Department of Justice	-X3AD
DL	U.S. Defense Liaison Group Jakarta, Indonesia	-VWAC
DM	Defense Mapping Agency, Aerospace Center	-WEHA
DM	Defense Mapping Agency, Headquarters	-WEDA
DM	Defense Mapping Agency, Hydrographic/Topographic Center	-WECA
DO	U.S. Defense Attache Office Singapore, Singapore	-VWAA
DR	Office of Defense Representative, Islamabad, Pakistan	-VWAB

SCHEMATIC DIAGRAM OF MESSAGE FORMAT (Continued)

PARTS	COMPONENTS	FORMAT LINE	ELEMENTS	CONTENTS	EXPLANATION
E N D I N G	PROCEDURE	14	Confir-mation		Not used in AUTODIN and tape relay operations.
		15	Correc-tion	Prosign C; other pro-signs; operating signals & plain language as required.	Not used in DATA PATTERN messages.
			EOM Valida-tion number	Number sign (#) 4-digit number.	Used on all DoD originated teletypewriter messages.
		16	EOM Functions	2CR, 8LF, 4Ns, 12LTRS.	Used on all teletypewriter messages unless otherwise prescribed.
			or EOT	Repeats first 33 or 38 characters of header plus 4Ns.	Used only within AUTODIN.

Format Line 10.

a. Listed below are the accounting symbols and Program Designator Codes (PDCs) assigned to users of US military communications facilities.

b. The Department of State uses group counts, when circumstances dictate, on other messages, as well as, those containing five-letter code groups.

c. The PDC must be preceded by a dash (-). Examples: DA GR123-BHCSVD or DA-BHCSVD.

LIST OF ASSIGNED ACCOUNTING SYMBOLS

PART I-DECODE

ACCOUNTING SYMBOL	ACTIVITY ASSIGNED	PDC*
ACEX	Allied Command Europe (NATO)	-9999
AE	Department of Energy	-XNAE
AF	Department of Air Force	-ACXJRF
AR	American National Red Cross	-XXDA
AS	Defense Nuclear Agency	-XBDB
AT	American Forces Radio and Television Service/Programming Center, Los Angeles, CA	-XAAD
BI	Federal Bureau of Investigation	-X2PA

*Indicates activity from whom military department collection agencies will seek reimbursement. Where "-9999" is listed, it indicates that messages filed under that accounting symbol will be filed "Collect".

Format Line 10 (Continued).

ACCOUNTING SYMBOL	ACTIVITY ASSIGNED	PDC*
HH	Department of Health and Human Services	-X5CB
HH	Public Health Service, Alaska	-X5AC
HH	Social Security, Baltimore, MD	-X5BB
IN	Bureau of Indian Affairs	-X4AC
IN	Bureau of Land Management	-X4AD
MA	JUSMAG Manila	-VEAA
MA	JUSMAG Thailand	-VHAA
MPX	Army and Air Force Motion Picture Service	-9999
MS	Military Sealift Command	-CNRF
NA	Department of Navy	-CNRF
NIX	See paragraph 449.e.	-9999
NS	National Science Foundation Polar	-WCAB
NT	National Weather Service, Silver Springs, MD	-XWDA
NW	National Weather Service	-XTHW

Format Line 10 (Continued).

ACCOUNTING SYMBOL	ACTIVITY ASSIGNED	PDC*
RS	Advanced Research Projects Agency	-XPDB
SA	NASA Marshall Space Flight Center, Huntsville, AL	-XEDA
SA	NASA, Headquarters	-XEWA
SEX	Stars and Stripes, Europe	-9999
SM	Smithsonian Astrophysical Observatory	-XYEE
SN	National Security Agency	-XLAC
SPX	Stars and Stripes, Pacific	-9999
SS	Selective Service System	-VAAA
STATE	Department of State	-XCWD
TR	Department of Treasury	-X9AD
WFX	Army and Air Force Civilian Welfare Fund	-9999

Format Line 10 (Continued).

PART II-ENCODE

ACTIVITY ASSIGNED	ACCOUNTING SYMBOL	PDC
Advanced Research Projects Agency	RS	-XPDB
Allied Command Europe (NATO)	ACEX	-9999
American Forces Radio and Television Service/Programming Center, Los Angeles, CA	AT	-XAAD
American National Red Cross	AR	-XXDA
Army and Air Force Civilian Welfare Fund	WFX	-9999
Army and Air Force Exchange	ES	-BCC8AA
Army and Air Force Motion Picture Service	MPX	-9999
Automatic Addressing System, Gentile, OH	DS	-GB4S
Automatic Addressing System, Tracy, CA	DS	-GB4V
Bureau of Indian Affairs	IN	-X4AC
Bureau of Land Management	IN	-X4AD

Format Line 10 (continued).

ACTIVITY ASSIGNED	ACCOUNTING SYMBOL	PDC
Coast Guard, District 1	CG	-W2GBRC
Coast Guard, District 2	CG	-W2GCRC
Coast Guard, District 3	CG	-W2GDRC
Coast Guard, District 5	CG	-W2GXRC
Coast Guard, District 7	CG	-W2GFRC
Coast Guard, District 8	CG	-W2GGRC
Coast Guard, District 9	CG	-W2GHRC
Coast Gurad, District 11	CG	-W2GJRC
Coast Guard, District 12	CG	-W2GKRC
Coast Guard, District 13	CG	-W2GLRC
Coast Guard, District 14	CG	-W2GMRC
Coast Guard, District 17	CG	-W2GNRC
Commandant Coast Guard	CG	-W2GARC
Communications Services Industrial Fund (CSIF) (DECCO), Scott AFB, IL	DC	-YC6T

Format Line 10 (Continued).

ACTIVITY ASSIGNED	ACCOUNTING SYMBOL	PDC
DCASR, Atlanta, GA	DS	-GA4C
DCASR, Boston, MA	DS	-GA4D
DCASR, Chicago, IL	DS	-GA4E
DCASR, Cleveland, OH	DS	-GA4F
DCASR, Dallas, TX	DS	-GA4G
DCASR, Los Angeles, CA	DS	-GA4J
DCASR, Philadelphia, PA	DS	-GA4B
DCASR, New York, NY	DS	-GA4K
DCASR, St Louis, MO	DS	-GA4M
Defense Communications Agency	DC	-EC8C
Defense Construction Supply Center	DS	-GB4B
Defense Contract Audit Agency	DE	-VDAA
Defense Depot, Mechanicsburg, PA	DS	-GB4E
Defense Depot, Memphis, TN	DS	-GB4F
Defense Depot, Ogden, UT	DS	-GB4H
Defense Depot, Tracy, CA	DS	-GB4G
Defense Electronics Supply Center	DS	-GB4J
Defense Fuel Supply Center	DS	-GB4R
Defense General Supply Center	DS	-GB4L

Format Line 10 (Continued).

ACTIVITY ASSIGNED	ACCOUNTING SYMBOL	PDC
Defense Industrial Supply Center	DS	-GB4N
Defense Intelligence Agency	DI	-XDWD
Defense Investigative Agency	DI	-WDAF
Defense Logistics Agency, Administrative Support Center	DS	-GB4R
Defense Logistics Agency, Headquarters	DS	-GB4R
Defense Logistics Service Center	DS	-GB4P
Defense Mapping Agency, Aerospace Center	DM	-WEHA
Defense Mapping Agency, Headquarters	DM	-WEDA
Defense Mapping Agency, Hydrographic/Topographic Center	DM	-WECA
Defense Nuclear Agency	AS	-XBDB
Defense Personnel Support Center	DS	-GB4C
Department of Air Force	AF	-ACXJRF
Department of Army	DA	-BHCSVD
Department of Commerce, National Ocean Survey (NOS)	CM	-VCAA
Department of Education	ED	-X5CA
Department of Energy	AE	-XNAE
Department of Health and Human Services	HH	-X5CB
Department of Justice	DJ	-X3AD
Department of Navy	NA	-CNRF

Format Line 10 (Continued).

ACTIVITY ASSIGNED	ACCOUNTING SYMBOL	PDC
Department of State	STATE	-XCWD
Department of Treasury	TR	-X9AD
Director OCHAMPUS, Aurora, CO	CH	-VJAA
Federal Aviation Agency	FA	-FBBW
Federal Bureau of Investigation	BI	-X2PA
Federal Emergency Management Agency	EM	-MJWU
Foreign Broadcast Information Service	FB	-EWDK
General Services Administration	GS	-XKDC
International Communications Agency	CA	-XHWC
JUSMAG, Manila	MA	-VEAA
JUSMAG, Thailand	MA	-VHAA
Military Sealift Command	MS	-CNRF

Format Line 10 (Continued).

ACTIVITY ASSIGNED	ACCOUNTING SYMBOL	PDC
NASA, Headquarters	SA	-XEWA
NASA Marshall Space Flight Center, Huntsville, AL	SA	-XEDA
National Science Foundation Polar	NS	-WCAB
National Security Agency	SN	-XLAC
National Weather Service	NW	-XTHW
National Weather Service, Silver Springs, MD	NT	-XWDA
Office of Defense Representative, Islamabad, Pakistan	DR	-VWAB
Public Health Service, Alaska	HH	-X5AC
Selective Service System	SS	-VAAA
Smithsonian Astrophysical Observatory	SM	-XYEE
Social Security, Baltimore, MD	HH	-X5BB
Stars and Stripes, Europe	SEX	-9999
Stars and Stripes, Pacific	SPX	-9999
U.S. Defense Liaison Group, Jakarta, Indonesia	DL	-VWAC
U.S. Defense Attache Office, Singapore, Singapore	DO	-VWAA

LIST OF EFFECTIVE PAGES

SUBJECT MATTER	PAGE NUMBERS	EFFECTIVE PAGES
Title Page	I(Reverse Blank)	Original
National Letter of Promulgation dated 1 March 1983	III, IV	Original
Record of Changes and Corrections	V to VIII	Original
Table of Contents	VII to XIX (Reverse Blank)	Original
Text		
Chapter 1	1-1 thru 1-3 (Reverse Blank)	Original
Chapter 2	2-1 thru 2-2	Original
Chapter 3	3-1 thru 3-47 (Reverse Blank)	Original
Chapter 4	4-1 thru 4-72	Original
Chapter 5	5-1 thru 5-37 (Reverse Blank)	Original
Chapter 6	6-1 thru 6-10	Original
Chapter 7	7-1 thru 7-10	Original
Chapter 8	8-1 thru 8-22	Original
Chapter 9	9-1 thru 9-26	Original

LIST OF EFFECTIVE PAGES (Continued)

SUBJECT MATTER	PAGE NUMBERS	EFFECTIVE PAGES
Annex A	A-1 thru A-6	Original
Annex B	B-1 thru B-22	Original
Annex C	C-1 thru C-7	Original
Appendix I to Annex C	C-8 thru C-20	Original
List of Effective Pages	LEP-1, LEP-2	Original

U.S. GOVERNMENT PRINTING OFFICE: 1986 - 652-032/45466