

# AIR FORCE MILITARY AUXILIARY RADIO SYSTEM (MARS)



## AFMARS MESSAGING MANUAL 10 AUG 2017 REV – C

SUPERSEDES REV- B DATED 26 APR 2016

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## ACKNOWLEDGEMENTS

The accompanying MARS Messaging Manual and Annex is intended to assist MARS members to master all forms of messaging by radio, by providing all the relevant guidance needed in as compact a form as possible.

The goal of this *AFMARS Messaging Manual* and the associated *Annex* -- which are really one document in two parts -- is to save the work of assembling the reference documents and provide a “boiled down” version of just that information that MARS members need, but also ALL of the information MARS members need, in one document. The *Annex* is broken out separately because it contains all of the FOUO information that needs special care and handling.

The National Training Manager for Air Force MARS serves as the “Office of Primary Responsibility” for this document and the POC for any complaints, questions, suggestions, etc.. Yet we must recognize the many hours of time volunteered by many members who helped to shape it. Two National Training Managers worked on this revision, and we thank Tom Carrigan for his work on the ACP 125 (G) update changes.

Like other AFMARS documents, this is a living document, meant to be updated frequently as needed when important changes are made to our procedures. The manual is best used as an electronic copy, which enables the member to use the FIND capabilities of the PDF file. It also eliminates copying the manual onto paper, an important consideration as we move towards frequent updates.

This revision updates this document to be consistent with the AFMARS MOI released 9 August, 2017. Revision C also incorporates changes to ACP-125(G) issued 28 November 2016, which are of limited significance.

Respectfully,  
Betsy Townsend, AFN0T



## **PREFACE**

Air Force MARS National Training Manager is the Office of Primary Responsibility (OPR) for this document.

## **DISTRIBUTION**

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## 1.0 INTRODUCTION

The Military Auxiliary Radio System (MARS) is authorized by the Department of Defense (DoD) and is tasked with providing contingent, non-secured, radio communications support to military, DoD and other federal agencies, units and contractors, in particular, but not exclusively, using high frequency (HF), long-range technology to communicate voice and text messages. MARS is a volunteer force that runs a portion of a larger DoD network.

This manual details the procedures used in drafting, sending, receiving and refiling voice and text messages. For several reasons, some of the material was broken out into a separate annex to this manual.

This manual is produced by a number of Air Force MARS members with collaboration from Army MARS members. The manual incorporates several stylistic conventions to reinforce the interoperation between the Air Force and Army MARS organizations and the uniformity of procedures between them.

These stylist choices include the removal of service-specific terminology. Throughout this manual, reference is made to MARS stations, operators and members without specificity as to their branch. Also, examples throughout the manual use call signs from both branches.

This manual emphasizes the protection of personally identifiable information (PII).

*Annex I* to this manual contains information that is “For Official Use Only (FOUO)” related to MARS messaging and is provided as a separate document to simplify the protection of FOUO information in the process of distribution of this manual.

Military units are required to use the United States Message Text Format (USMTF) standards. (Reference: *CJCSI 6241.04C Policy and Procedures for Management and Use of USMTF (20 APR 2012)*). Therefore, to facilitate MARS interoperability with these military units, information is provided in *Annex I* of this manual to enable MARS members to use certain USMTF message formats that most directly relate to our potential roles in this regard. Details about USMTF are FOUO and are contained in *Annex I*.

This manual discusses *procedures*. The *Annex* deals with the *content* of the messages. Taken together, this *Manual* and the *Annex* should provide enough guidance for operators to draft, send and receive all the messages they will be called upon to handle.



## REFERENCES

Information in this *Manual* is derived from the following sources:

- a) ACP-121 (I) Allied Communications Publication “*Communications Instructions General*” (October, 2010)
- b) ACP-125 (G) Allied Communications Publication “*Communications Instructions Radiotelephone Procedures*” (November, 2016)
- c) ACP-126 (C) Allied Communications Publication “*Communications Instructions Teletypewriter (Teleprinter) Procedures*” (May, 1989)
- d) ACP-127 (G) Allied Communications Publication “*Communications Instructions Tape Relay Procedures*” (November, 1988)
- e) ACP-127 (G) U. S. Supp-1(K) supplement to ACP-127(G) (November, 2007)
- f) ACP-127 Message Procedures - Expanded Training and Guidance, by Daniel Wolff, Jr. (25 Sep 2014)
- g) ACP-131 (F) Allied Communications Publication “*Communications Instructions - Operating Signals*” (April, 2009)
- h) *Air Force MARS National Training Manual Rev. A* (21 APR 2016)
- i) JM 2-203 *Routing Indicators* (November, 2015)
- j) AM 6, *Annex I Message Forms and Reports* (March, 2016)
- k) CJCSI 6241.04C Policy and Procedures for Management and Use of USMTF (20 APR 2012)
- l) Department of Defense Instruction (DODI) 4650-02 (23 DEC 2009)
- m) MARS Off-Line Encryption software (TRANSEC) Software and documentation
- n) MIL-STD MESSAGE TERMINAL (MS-DMT) Software and documentation
- o) JAFPUB 02-2014 (07 MAR 2014).
- p) *Air Force MARS Operating Instruction* (21 APR 2016)



## 2.0 MESSAGE REQUIREMENTS

The MARS mission is to receive and deliver messages for our customers. We prepare for this mission by creating and sending messages in accordance with mandated procedures. This manual details message procedures used in MARS and throughout the DoD network.

The Allied Communications Publications (ACP) procedures are adopted as the standard across all allied military communications systems. MARS is required to adhere to these standard procedures prescribed in the ACP documents. The actual message forms used in this Manual are consistent with DoD requirements. The 16-line procedure, detailed in Allied Communications Publications (ACP), is used for preparing and transmitting all messages by voice, and “teletype.” (In this manual, the terms “teletype” “text” and “digital” are synonymous and are used interchangeably to refer to all text modes authorized for use on MARS circuits).

### 2.1 GENERAL RULES FOR DRAFTING MESSAGES

The ACP documents describe procedures used in large government communications centers and by individual operators. Therefore, the documents contain terms such as “filing” of messages at “communications centers” and the “releasing” of the messages for transmission and other terms that are not commonly known, or applicable in MARS.

A MARS operator working alone can, sometimes, be the originator, formatter, encryption operator and sender of each message, as well as the relay, re-filing station, delivery agent and addressee. Where multiple operators are working at a message center, they may delegate these tasks among different individuals. The ACP procedures may be adapted to either of these situations.

The individual operator originating a message is responsible for:

- Determining whether the message is necessary.
- Ensuring that the type of message and addressees comply with applicable policy.
- Ensuring proper use of a prescribed message format.
- Encrypting in the proper key (when appropriate).
- Selecting proper routing indicators (where used).
- Determining the precedence for action and information addressees.

Subsequently, MARS members handling the message are expected to relay it and ultimately deliver it, without regard to perceived errors by the originating station.

#### 2.1.1 Limiting the Number of Addressees

It is essential that the originator of a message limit the number of addressees to those who need to take action thereon and in the case of information addresses, to those for whom the information contained in the text is essential. Excessive addressing of messages can lead to serious overloading of communications networks and stations.



### 2.1.2 Brevity

The need for brevity and clarity in message preparation and communication cannot be over-emphasized.

The technologies used by MARS use narrow bandwidth and are relatively slow, compared with other forms of electronic communication. Therefore, the need for minimal wording in messages and efficient transmission techniques is essential to maximizing efficiency.

To avoid misinterpretation and further explanatory messages, the message must state exactly what is meant and must not be vague or ambiguous. Consistent with this, all unnecessary words are to be eliminated. Commonly used conjunctions, prepositions and articles such as AND, BUT FOR, IN, ON and THE, are to be eliminated unless essential to the meaning.

Punctuation should be avoided whenever possible without affecting the clarity of the message.

## 2.2 PERSONALLY IDENTIFIABLE INFORMATION (PII)

Personally identifiable information (PII) is information that distinguishes one individual from others. Examples include name, Social Security Number, address, and email addresses which disclose the name of the addressee, etc.. (Note that a call sign, alone, is not PII, even though they are issued to individuals).

There is broad DoD policy requiring protection of PII. As much as possible, such information must be protected in the process of drafting and sending messages.

Some form of Plain Language Address (PLA) must be placed in the FM and TO lines of messages. Usually, this will be a title or office, address and telephone number and, perhaps an e-mail address for follow-up communications.

Individual names should be avoided, if possible, as this constitutes (PII). The amount of detail will depend on operational requirements and security concerns about PII at the time. Fundamentally, the Addressee must be identified with sufficient detail to enable the message to be delivered and the Originator must be identified with sufficient detail to enable a reply. Otherwise, PII should be excluded to the extent possible.

The PLA for a MARS station is simply the words "MARS Station" followed by the call sign. The words "MARS Station" are added for the benefit of non-MARS operators on the network who may see the message.

When personally identifiable information (PII) or a location associated with a routing indicator are included in a message, the message **must** be sent using CODRESS procedure, when encryption is available. Note that this is a dramatic change from traditional MARSGRAMs, which contained considerable PII and were sent unencrypted.

While protecting PII is an important goal, doing so should not become an obstacle to communications. An originator may choose to disclose his or her name or other PII in a message.



Furthermore, there may be instances where messages cannot be encrypted because of the circumstances present when and where the message is drafted. MARS operators should not refuse to handle a message because it is unencrypted and contains PII. The MARS station should accept the message and encrypt it for further transmission if possible or send it unencrypted if necessary -- deliver the message.

## 2.3 TRAINING MESSAGES

Practice messages for training communications personnel must be identified as such. In messages drafted in the course of a named exercise (e.g., “COMEX 2015”) the text will begin with the words “EXERCISE [name].” In practice messages that are not part of a named exercise, the text of the message will start and end with the word “DRILL” (See ACP-121, Section 342), except practice messages using USMTF formats will contain identification as mandated by the USMTF standard. (See Annex I, Section 2.4).

## 2.4 TRANSMITTING MESSAGES

MARS message transmission is usually over radio. Messages are prepared for transmission and relay utilizing three principal modes:

- Radiotelephone (voice)
- Radio teletype (text), or
- Through an established network of digital relay stations.

## 2.5 ALLIED COMMUNICATIONS PUBLICATIONS (ACP)

The Allied Communications Publications (ACPs) are the foundation of all allied military communications. Interoperability between MARS members, the military, and other DoD entities is based on procedures found in the ACP documents. All of the ACPs listed in the Reference section, are applicable to MARS operations. These will be referred to throughout this manual.

All transmissions -- not only messages -- are governed by the ACPs. It is a critical distinction that the ACPs do not prescribe a message format in the sense that U. S. Message Text Format (USMTF) and ICS-213 are formats or templates for drafting messages. The ACPs prescribe *procedural format* for radio, teletype, or relay circuits that is independent of the actual message content.

Furthermore, the ACPs are written so as to apply to a single type of network at a time; i.e., voice or teletype, not both. However, modern military communications networks often operate with a combination of voice and data. Thus, the ACPs are adapted for use on such hybrid networks.

## 2.6 ACP-125 PROCEDURE

ACP-125 provides procedures used by radiotelephone (voice) operators in communication on a voice circuit. ACP-125 guides the sending and receiving of messages and parts of messages by voice. ACP-125 is the source of all authorized prowords.



## 2.7 ACP-126 PROCEDURE

ACP-126 provides procedures for all teletype transmissions. The term “teletype” is used herein to describe stations in direct terminal to terminal communications using any digital text mode authorized for MARS; not exclusively the frequency shift keying (FSK) waveform traditionally associated with the terms “teletype” or RATT or RTTY. ACP-126 procedures are simple and most appropriate for use within a state or region, where messages are passed with a minimum of relays.

Where a message has been relayed over large distances using ACP-127 tape relay procedure, often it will need to be “refiled” into ACP-126 procedure for the final part of the message journey to the respective addressees.

ACP-126 procedure supports both PLAINDRESS and CODRESS (encrypted) messages. ACP-126 procedure uses call signs (which can include net designators and tactical call signs, as well as individual call signs) to designate the stations sending and receiving the messages. Routing indicators are not used in the heading of messages in ACP-126 procedure.

## 2.8 ACP-127 PROCEDURE

ACP-127 procedure was created for an automated message forwarding system and has been adapted for use in manual forwarding of messages over long distances. The hallmark of ACP-127 procedure is the use of “routing indicators” in the message heading. In ACP-127 procedure, the use of routing indicators permits efficient relay of messages without relay instructions to each operator along the way. Refer to JM 2-203 *Routing Indicators* for details about routing and routing indicators.

ACP-127 procedure supports both PLAINDRESS and CODRESS messages. However, in MARS practice, ACP-127 PLAINDRESS is **not** normally used. ACP-127 CODRESS procedure is the norm as it protects the meaning of the routing indicators as well as the message content. MARS uses ACP-127 CODRESS procedure for its long haul radio networks.

## 2.9 ACP 16-LINE MESSAGE SCHEME

Transmissions sent by voice (also called “radiotelephone”) follow ACP-125. Transmissions sent in teletype follow ACP-126. Text messages for relay using routing indicators use the ACP-127 procedure. Although prosigns and operating signals are used in digital communications instead of the prowords used in voice, the fundamental concepts for teletype and relay messages are the same as for messages sent by radiotelephone. Each of these ACPs uses the same 16-line scheme, with minor variations.

In fact, every transmission can be thought of as an application of the 16-line procedure. Very few transmissions use all of the 16 lines. But, whatever elements are used, follow the sequence prescribed in the procedure.



The message schematics in ACP-125, 126 and 127 define the contents of each format line (FL\_) of each respective procedure. In general, all of the procedures require indicators of the source and destination of the transmission, the originator, the action and info addressees of the message, transmission instructions, precedence of the message, indication of the time and date of the origin of the message, and the message content.

Throughout this manual, format lines are indicated by “FL#” in the examples, but, format line numbers are not part of the message and are not transmitted as part of the message. The format line numbers may be referred to, over the air, for purposes of discussion about a message.

Format line (FL#) numbers should not be confused with the physical number of lines in a message. Each format line has a specific defined content, which may take up more than one physical line. Regardless of the number of physical lines used in a particular FL#, it retains its identification as the particular FL#. For example, FL7, the TO line, may list multiple addressees and fill as many physical lines as needed. But they are all still identified as being Format Line 7.

The important concept with regard to format lines is not the number of lines or the size of the lines; it is the *sequence* in which the information contained on the lines is presented in the transmission.



The following table summarizes the format lines in the three procedures. Note the degree of similarity especially following FL4.

**Table 2-1 COMPARISON OF FORMAT LINES IN THREE ACP PROCEDURES**

	<b>ACP-125</b>	<b>ACP-126</b>	<b>EXAMPLE</b>	<b>ACP-127</b>	<b>127 EXAMPLE</b>
<b>FL1</b>	[NOT USED]	[See Section 1.10.1]	VZCZCMMM000 (if used)	TRANSMISSION ID	VZCZCMMM000
<b>FL2</b>	CALLED STATION	CALLED STATION	AAR1YU	DESTINATION RI	UZYXWYU
<b>FL3</b>	CALLING STATION	CALLING STATION NR	THIS IS/DE AFA1ME NR001	ORIGIN RI, NR and Julian DTG	DE UABCDME #0001 1231439
<b>FL4</b>	TRANSMISSION INSTRUCTIONS	TRANSMISSION INSTRUCTIONS	T AAR4EE (e.g., RELAY TO AAR#HE)	TRANSMISSION INSTRUCTIONS	ZNR UUUUU
<b>FL5</b>	PRECEDENCE, DTG	PRECEDENCE, DTG, INSTRUCTION	R 231200ZJUN2015 ZYI	PRECEDENCE, DTG, ETC.	R 231200ZJUN2015 ZYI
<b>FL6</b>	FM	FM	FM [AUTHOR]	FM	FM [AUTHOR]
<b>FL7</b>	TO	TO	TO [ADDRESSEE]	TO	TO [ADDRESSEE]
<b>FL8</b>	INFO	INFO	[INFO]	INFO	[INFO]
<b>FL9</b>	EXEMPT	EXEMPT	[EXEMPT]	EXEMPT	[EXEMPT]
<b>FL10</b>	GROUPS (OPTIONAL)	GROUPS	GR (or GRNC)	GR (or GRNC)	GR108
<b>FL11</b>	BREAK	BT	BT	BT	BT
<b>FL12</b>	[MESSAGE TEXT]	[MESSAGE TEXT]	[MESSAGE TEXT]	[MESSAGE TEXT]	[MESSAGE TEXT]
<b>FL13</b>	BREAK	BT	BT	BT	BT
<b>FL14</b>	[SEE MANUAL]	[SEE MANUAL]			
<b>FL15</b>	FINAL INSTRUCTIONS	FINAL INSTRUCTIONS	“MORE TO FOLLOW” or “WAIT”	MSG NR FROM FL3	#0001
<b>FL16</b>	“OVER” or “OUT”	END INDICATOR	AR, K, or NNNN	END INDICATOR	NNNN

Line-by-line detail varies from one procedure to another and will be discussed in later sections on ACP-125, ACP-126 and ACP-127 procedure.





### 3.0 MESSAGE TRANSMISSION

The following sample voice message exchange is simplified for review, and is intended to illustrate the steps to be taken in the transmission of a message. Although a voice message is illustrated, the same steps are followed in a Text message exchange.

Format lines are noted to show how each transmission can be analyzed in terms of procedural format lines used. Note that the exchange actually consists of four transmissions and each transmission uses certain format lines and those are always used in order. No single transmission uses all of the format lines.

Format lines are not mentioned by the sending or receiving stations. But, each transmission uses format lines in sequence. Each transmission starts with either FL2 (known as “the called station”) or FL3 (known as “the calling station”) and ends with FL16 (“OVER” or “OUT”).

The sample voice exchange also shows an efficient handling of the message. No extra words are used in any stage of the exchange.

The proword “MESSAGE” is used by the calling station (AFA1ME abbreviated “1ME”) in the preliminary call (FL3), to inform the called station (AAR2YU abbreviated “2YU”) that a message requiring transcription is about to follow (i.e., get ready to copy it). (See Ref. b, Sect. 637). The precedence of the message can be substituted for the proword MESSAGE. (Ref. b, Sect. 637). No further words are necessary to be sure that AAR2YU is ready to copy. However, if the mode of transmission might not be clear, a brief comment may be added (FL12) to avoid confusion.

Example: “**MESSAGE M110A OVER.**”

Once AAR2YU says, “**SEND**” it is clear that both stations are ready to proceed.



**Table 3-1 Sample Voice Message Exchange**

FL used	SENDING STATION - AFA1ME	RECEIVING STATION - AAR2YU
2 3, 12 16	“TWO YANKEE UNIFORM THIS IS ONE MIKE ECHO, MESSAGE, OVER”	
3 12, 16		“THIS IS TWO YANKEE UNIFORM, SEND, OVER”
4	“RELAY TO...”	
5	“ROUTINE TIME ...”	
6	“FROM ...”	
7	“TO ...”	
11	“BREAK” [Unkey and pause, unless interrupted, resume]	
12	[Text...]	
13	“BREAK”	
16	“OVER”	
12, 16		“ROGER, OUT”

### 3.1 PLAINDRESS

ACP-125, ACP-126 and ACP-127 each accommodate the use of several alternative procedures such as PLAINDRESS, CODRESS and ABBREVIATED PLAINDRESS message procedures. These are three distinct types of message procedures within each of the three ACPs. For example, messages can be sent using ACP-125 PLAINDRESS procedure, ACP-125 CODRESS procedure, or ACP-125 ABBREVIATED PLAINDRESS procedure. Each has its own advantages and disadvantages.

A PLAINDRESS message is one whose heading contains all the applicable address components shown in FL 1 through FL11 in Table 1-1. (Ref. b, Sect, 501, See also ACP 126 paragraph 112, or ACP-127 Annex B).

In a PLAINDRESS message, all address information and the text of the message can be received and understood by anyone intercepting it. Therefore, it is not appropriate for messages using routing indicators, containing personally identifiable information (PII), or disclosing operational details. There are also TRANSEC reasons for avoiding plain text messages.

In the following example of an ACP-126 PLAINDRESS teletype message, note the originator and action addressees are visible in plain text. The ACP-126 format lines are illustrated in the left column for instructional purposes only.



FL2&3	AAR3XY DE AFA3AB NR 25
FL4	ZNR UUUUU
FL5	R 150435Z DEC 2011
FL6	FM JFHQ MARYLAND NATIONAL GUARD/AAR3XY
FL7	TO JFHQ DELAWARE NATIONAL GUARD
FL11	BT
FL12	UNCLAS MSGID/GENADMIN/JFHQ MARYLAND NATIONAL GUARD// SUBJ/TEST MESSAGE// GENTEXT/REMARKS/THIS IS AN EXAMPLE MESSAGE.//
FL13	BT
FL16	K

**Figure 3-1 Example: ACP-126 PLAINDRESS Message**

This ACP-126 PLAINDRESS message is for instructional purposes only. In practice, PLAINDRESS messages are rarely sent by text. For several reasons, the majority of our text messages should use encrypted CODRESS form.

### 3.2 CODRESS

A CODRESS message is one in which the originator and all addressees, as well as the text, are contained in the encrypted groups in the body of the message (FL12).

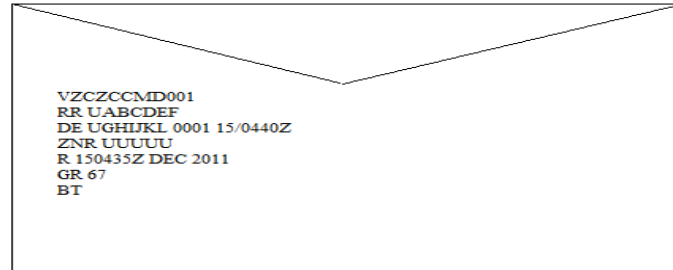
Only FL1, FL2 and FL3, using routing indicators (in ACP-127) or call signs (in ACP-126), and FL4, FL5, FL10, and FL11 are in the unencrypted heading of the message; the minimum necessary information for traffic handling.

This method makes it difficult for persons monitoring the circuit to learn which addressees have become active, where messages are going, or what they say.

CODRESS messages can be sent in voice or text transmissions. However, whenever possible, text modes will be used, as sending code groups by voice is extremely time-consuming. (Using voice to provide “fills” or repetitions of code groups corrupted in text transmission, however, can be very effective and is authorized.)

In CODRESS procedure, the encrypted text (FL12) contains all of the applicable format lines of the encrypted message. At a minimum, format lines 4 through 15 must be included in the encrypted body of the message. There is no prohibition against encrypting an entire message, FL1 through FL16. Many operators find it simpler to encrypt the entire message (i.e., FL1 through FL16) and place all of those groups between the BT’s.

CODRESS is analogous to a coded message contained in an envelope with minimal plain text addressing on the “wrapper” so it can be transmitted on an open circuit. The envelope is a metaphor for the encryption.



**Figure 3-2 ACP-127 CODRESS Envelope or Wrapper**

Note that the security warning in the unencrypted heading, ZNR UUUUU, means the message may be sent over an unsecured circuit. That is because that security warning applies to the CODRESS message and the encrypted groups in the text are not classified or sensitive.

The example below shows an ACP-127 CODRESS message illustrated in two columns. The left column illustrates a CODRESS message, as it would be transmitted. The right column is present to illustrate the content of the coded text for instructional purposes.

**Table 3-2 ACP-127 CODRESS Message Illustration**

VZCZMMM000 RR UABCDEF DE UGHIJKL 0001 3490440 ZNR UUUUU R 150435Z DEC 2015 GR 67 BT	
BCDEF GHIJK LMNOP QRSTU VWXYZ	DE UGHIJKL 0001 3490440
ABCDE FGHIJ KLMNO PQRST UVWXY	ZNY EEEEE
ZABCK EFGHI JKLMN OPQRS TUVWX	R 150430Z DEC 2015
YZABC DEF GH IJKLM NOPQR STUVW	FM JFHQ MARYLAND NATIONAL GUARD
XYZAB CEDFG HIJKL MNOPQ RSTUV	TO UGHIJKL/JFHQ DELAWARE NATIONAL GUARD
WXYZA BCEDF GHIJK LMNOP QRSTU	BT
VWZYX ABCDE FGHIJ KLMNO PQRST	UNCLAS
UVWXY ZABCD EFGHI JKLMN OPQRS	MSGID/GENADMIN/JFHQ MARYLAND NATIONAL
TUVWX YZABC DEF GH IJKLM NOPQR	GUARD//
STUVW XYZAB CEDFG HIJKL MNIOQ	SUBJ/TEST MESSAGE//
RSTUV WXYZA BCDEF GHIJK LMNIO	GENTEXT/REMARKS/THIS IS AN EXAMPLE
PQRST UVWZY ZABCD EFGHI JKLMN	MESSAGE.//
BT	BT
NNNN	

Note that the message originator and addressees are only visible in the coded part of the message. For that reason, the instruction ZNY EEEEE is used on FL4 of the encrypted body of the message meaning the message must be encrypted if sent over an unsecured circuit, such as a radio.



Unless the message is sent directly to the addressee, the message must be decoded at the distant end of the relay so the addressee can be discovered and the message then re-encrypted and delivered by radio, telephone, or otherwise. This process is called “refiling” in the ACPs. If delivered by radio, it would be converted to ACP-126 CODRESS procedure for relay on regional and local nets.

### 3.3 ABBREVIATED PLAINDRESS

Abbreviated PLAINDRESS procedure may be used only when the originator and addressee(s) of the message are in direct contact with each other. This procedure omits the precedence, date-time group and unnecessary address lines from the heading and adds a time of transmission in Format Line 14. The preliminary call (“**2YU THIS IS 1ME**”) serves as the address information. An example of an Abbreviated PLAINDRESS voice message follows:

**“6YU THIS IS 6ME, SEND YOUR PARTICIPATION REPORT ASAP, TIME 1413Z, OVER.”**

MARS stations may use Abbreviated PLAINDRESS procedure when appropriate. It is perhaps most commonly used in MARS for transmissions to all stations on a net, for example when the net control wishes to change the net frequency or make some other order about net operation.

For example:

**“NET1 THIS IS 1NC, DO NOT ANSWER, AT 2359Z CHANGE TO FREQUENCY RC, TIME 2330Z, OUT.”**

Note that in Abbreviated PLAINDRESS procedure, the proword “TIME” and the time of transmission (without a date reference) is transmitted (FL 14) just before the word “OVER” or “OUT” at the end of the transmission.

While these examples illustrate ABBREVIATED PLAINDRESS messages by voice, ACP-126 ABBREVIATED PLAINDRESS procedure can also be used with Text.

### 3.4 SERVICE MESSAGE

A SERVICE MESSAGE is one between communications operators pertaining to any phase of traffic handling, communications facilities, or circuit conditions. (Ref. b, Sect. 506). For example, a SERVICE message may be used to inform another station of delivery difficulties, or other information related to traffic handling, or to provide information about communications facilities becoming active or closing down, changes in frequency, or almost anything related to net operations. Many of the transmissions between MARS stations, other than informal messages, are SERVICE messages.

A SERVICE message may be sent using PLAINDRESS, ABBREVIATED PLAINDRESS, or CODRESS procedure. In a PLAINDRESS SERVICE message, the proword “SERVICE” is the first word on FL12. (Ref. b, Sect. 508 and 517).



If a SERVICE message in PLAINDRESS refers to a CODRESS message, it shall use only those message or transmission identifications contained in the unencrypted external heading as it was received. (Ref. b, Sect. 513).

An example of a SERVICE message related to an ACP-127 CODRESS message could look like this:

```
VZCZCMMM007
RR UABCDEF
DE UBCDEFG #0007 1261230
R 061230Z MAY 2015
GR SVC
BT
SERVICE YOUR MSG DTG 052351Z MAY 2015
MISROUTED AND REROUTED TO UDEFGHI
BT

NNNN
```



## 4.0 HOW TO DRAFT AND SEND MESSAGES BY VOICE

### 4.1 INTRODUCTION

The ability to write down and transmit a message by voice is a fundamental skill required for all MARS operators. In catastrophic conditions, we might be limited to sending messages only by voice. This skill is also very useful working with other services or agencies who might not have digital capabilities.

Drafting a message for voice transmission is similar to messages drafted for digital transmission. The need for economic use of words cannot be over-stated. Sending messages by voice is much more time-consuming than sending them by digital modes. Therefore, create and send messages that are necessary, and limit the number of addressees. Use the absolute minimum number of words to convey the meaning.

In sending a message by voice, the goal is to use prowords, phonetics, and operator skill so that, at the end, the receiving station has written on a piece of paper a message that looks exactly like the message on the paper at the sending station. Therefore, what is abbreviated in the original, is sent as an abbreviation, and is copied as an abbreviation. Of course, all proper names of persons, places and things must be spelled correctly. This is critically important in the address fields.

### 4.2 DEFINITIONS

The following terms have the meanings indicated:

**Addressee:** The person to whom the message shall be delivered at its ultimate destination. The “action addressee” is the person on the “TO” line of the message. The “info addressee” is the person on the “INFO” line of the message. Where an addressee is a MARS station, the call sign following the words “MARS STATION” should be used (name, address and telephone numbers should be omitted for MARS stations). For other addressees, an office or function, address, and phone number should be provided. PII should be avoided.

Example: **TO: MARS STATION AFA6YU**

**Originator:** The author of the message whose thoughts are in the text of the message. This is the person identified on the “From” line. Where an originator is a MARS station, only the call sign following the words “MARS STATION” should be used. For other originators, an office or function, address and phone number should be provided. PII should be avoided if possible.

Example: **FM: MARS STATION AAR8ME**

When personally identifiable information (PII) is included in a message, the message must be sent using CODRESS procedure. Note that this is a significant change from traditional MARSgrams, which contained considerable PII and were sent unencrypted.



**Originating MARS station:** The MARS operator who accepts the message for transmission on the MARS circuit. This may also be the person who first drafts (writes) the message into a form appropriate for transmission.

Where the originator is not a MARS station, the Originating MARS Station should be identified by call sign following a slant (/) following the last line of the originator's contact information (i.e., following the telephone number; e.g., ###-###-#### / AFA1IR).

**Calling station:** The station transmitting a message.

**Called station:** The station receiving the transmission.

### 4.3 COMPOSING A MESSAGE

When the need arises to compose a message, it is useful to have a format in mind before writing the various parts of the message. Some operators want to use a template to help them. There are also software products, such as the Station Manager, which can assist in the drafting of messages. However, computer programs and templates have the disadvantage of becoming a “crutch” without which an operator can struggle to get started. In dire circumstances, a template, such as a message form -- not to mention a computer -- may not be available. Therefore, it is recommended that operators learn to compose a simple message using only plain paper and not rely upon prepared forms, formats or message creating computer programs. Having that thought in mind, a sample of a message format will be helpful in this discussion.

```
FROM: DIRECTOR
      MAINE EMERGENCY MANAGEMENT AGENCY
      123 NOPLACE ROAD
      ANYPLACE, ME 01234
      123-456-7890

TO:   FEMA REGIONAL RESPONSE COORDINATION CENTER
      27 MAIN ST
      MAYNARD, MA 02134
      508-555-1234
      NEED TEN 50 KILOWATT POWER GENERATORS AND TECHNICIANS TO
      INSTALL SAME FOR CRITICAL FACILITIES ADVISE AVAILABILITY
```

**Figure 4-1 Composing Message From Originator**

Same message below prepared for transmission by voice on a MARS circuit (additions in *italics*). Note that the order of the composition follows the order of Format Lines in ACP procedure.





```
FL1
FL3  THIS IS 1ME
FL4
FL5  P 041230Z MAY 2015
FL6  FROM:  DIRECTOR
      MAINE EMERGENCY MANAGEMENT AGENCY
      123 NOPLACE ROAD
      ANYPLACE, ME  01234
      123-456-7890 / AFA1ME
FL7  TO:    FEMA REGIONAL RESPONSE COORDINATION CENTER
      27 MAIN ST
      MAYNARD, MA 02134
      508-555-1234
FL10 (Optional: GROUPS 17)
FL11 BREAK
FL12 UNCLAS
      NEED TEN 50 KILOWATT POWER GENERATORS AND TECHNICIANS TO
      INSTALL SAME FOR CRITICAL FACILITIES ADVISE AVAILABILITY
FL13 BREAK
```

**Figure 4-2 Originators Message in MARS Format**

## **4.4 LINE-BY-LINE DETAIL - VOICE MESSAGES (ACP-125)**

### **4.4.1 Format Line 1 - Transmission Identification - Omitted In Voice Message**

Format Line 1 (Transmission Identification) is not used in voice procedure.

### **4.4.2 Format Line 2 - Called Station**

Format Line 2 (Called Station) is used in establishing contact during the preliminary call, but can be omitted in the transmission of the message.

### **4.4.3 Format Line 3 - Calling Station**

The proword THIS IS followed by the call sign of the station sending the message, and the message NUMBER. The message number is the sender's own serial number and can be omitted on voice messages. Note that each sending station changes the message NUMBER to his own serial number for record-keeping purposes.

Example: “THIS IS ONE MIKE ECHO”

### **4.4.4 Format Line 4 - Transmission Instructions**

Format Line 4 is not used in the sample message above. Format Line 4 is the place where the following transmission instructions can be placed, when needed:

- a) RELAY (TO \_\_\_) meaning, upon receipt, relay this message [to the station or address indicated]. If no station or address is indicated in FL4, the receiving station is to relay the



message to all addressees indicated on the TO Line (FL7) and the INFO Line (FL8) unless preceded by “ZEN” which means they received the message by other means.

- b) READ BACK meaning, upon receipt, read this message back to the sending station.
- c) DO NOT ANSWER, meaning the called station is not to receipt or make any other transmission related to the message. No repetitions (fills) will be requested.
- d) WORDS TWICE. This proword may be a request or information. When used in FL4 of a message being sent, it means “I will send each phrase or code group twice” because of difficult communications conditions.

#### 4.4.5 Format Line 5 - Precedence And DTG

Format Line 5 contains the Precedence of the message and the Date-Time Group (DTG).

The Precedence will be ROUTINE, PRIORITY, or IMMEDIATE. Each of these suggests an anticipated delivery objective for the message.

IMMEDIATE (“O”) precedence messages are expected to be delivered within 1 hour of origination, if possible.

PRIORITY (“P”) precedence messages are expected to be delivered within 6 hours of origination, if possible.

ROUTINE (“R”) precedence messages are expected to be delivered by the start of the next business day, if possible. (Reference ACP-121 sect. 367).

The Date-Time Group (DTG) indicates the date and time the message was placed into the messaging network expressed in the form “DDHHMMZ [month] YYYY”. That is, 2-digits each for the calendar day of the month, hour and minutes, followed by the letter Z indicating the ZULU time zone, followed by the first three letters of the month, followed by the year in 4 digits. The proword TIME precedes the DTG during voice transmission.

Example: “**PRIORITY TIME 041230Z MAY 2015**”

#### 4.4.6 Format Line 6 - FM Line

The From Line (abbreviated “FM”) is the Plain Language Address (PLA) of the originator (author) of the message. For a MARS station, this is the words MARS STATION followed by the call sign of the station. For other originators, a Plain Language Address is used. Care must be exercised to avoid Personally Identifiable Information (PII), if possible. However, note that the originator may choose to disclose his or her own PII. If a PLA other than a MARS station is used, it is followed by a slant (/) and the call sign of the MARS station placing the message into the message system so that accountability for the message can be determined.

#### 4.4.7 Format Line 7 - TO Line

The TO Line is the Plain Language Address (PLA) of the “action addressee(s)” who is (are) expected to act on the information in the message. For a MARS station, this is the call sign



following the words “MARS STATION.” For other addressees, a Plain Language Address is used. Care must be exercised to avoid Personally Identifiable Information (PII), if possible.

Example: “**MARS STATION AFA4CH**”

#### **4.4.8 Format Line 8 - INFO Addressees**

Address designators of INFO addressees are shown on FL8 and follow the same rules as used on FL7.

#### **4.4.9 Format Line 9 - Exempt Addressees**

Not normally used, this line is to exempt addressees from a group address to which they would otherwise belong. Exempt addressees are not intended to receive the message.

#### **4.4.10 Format Line 10 - GROUPS**

When used, this line shows the number of character groups between the BREAKS in the message (FL12). The GROUPS count can be omitted in voice messages. However, when used, it provides a means of checking the accuracy of the message as received.

#### **4.4.11 Format Line 11 - Separation BREAK**

Format Line 11 is the separation between the heading and text. ACP-125(G), Section 531 states it shall be used only when confusion may occur. However, best practice is to state the “BREAK,” then un-key and listen for a few seconds to see whether (1) the called station needs to interrupt, or (2) whether any station with higher precedence traffic needs to interrupt. If no interruption occurs, the sending station continues with the transmission of the message.

#### **4.4.12 Format Line 12 - Text**

The text of the message is FL12. The first word in the text must be “Unclassified” (written as UNCLAS), except that a SERVICE message will have “SERVICE” as the first word.

#### **4.4.13 Format Line 13 - Separation BREAK**

This BREAK separates the text from the ending procedure.

#### **4.4.14 Format Line 14 - Time Group In Abbreviated Procedure**

Only in ABBREVIATED PLAINDRESS, the proword TIME followed by the time (but not date) of transmission appears as FL14. Otherwise, FL14 is not used.

#### **4.4.15 Format Line 15 - Final Instructions**

Final Instructions are normally not used. If multiple messages were to be sent to the same station in sequence, the sending station would state MORE TO FOLLOW at this point.



#### 4.4.16 Format Line 16 - Ending Sign OVER or OUT

Normally, the calling station will use the proword OVER and listen for the called station to receipt for the message or request repetitions. In the event that a message was sent using DO NOT ANSWER in FL4, the calling station would use the proword OUT.

### 4.5 HOW TO TRANSMIT A VOICE MESSAGE

First, the calling station, AFA1ME, must list the traffic with Net Control.

AFA1ME: “THIS IS ONE MIKE ECHO One PRIORITY Voice for ONE BRAVO BRAVO, OVER.” Note that indicating the precedence of the message assists the Net Control in prioritizing listed traffic. Also, the word “voice” is added to indicate the mode of transmission, if necessary to avoid confusion.

After obtaining permission from Net Control, the calling station, AFA1ME, would transmit the message to AFA1BB, the called station, as follows:

AFA1ME: “ONE BRAVO BRAVO, THIS IS ONE MIKE ECHO, MESSAGE, OVER.”

AFA1BB: “THIS IS ONE BRAVO BRAVO, SEND, OVER.”

AFA1ME: “[NUMBER 01]

PRIORITY TIME 0 4 1 2 3 0 ZULU MAY 2 0 1 5

FROM DIRECTOR I SPELL DELTA INDIA ROMEO ECHO CHARLIE  
TANGO OSCAR ROMEO DIRECTOR MAINE I SPELL MIKE ALPHA  
INDIA NOVEMBER ECHO MAINE EMERGENCY MANAGEMENT AGENCY

FIGURES 1 2 3 NOPLACE I SPELL NOVEMBER OSCAR PAPA LIMA  
ALPHA CHARLIE ECHO NOPLACE ROAD

ANYPLACE I SPELL ALPHA NOVEMBER YANKEE PAPA LIMA ALPHA  
CHARLIE ECHO ANYPLACE I SPELL MIKE ECHO FIGURES  
0 1 2 3 4

FIGURES 1 2 3 4 5 6 7 8 9 0 SLANT ALPHA FOXTROT ALPHA  
ONE MIKE ECHO

TO FEMA I SPELL FOXTROT ECHO MIKE ALPHA FEMA REGIONAL  
RESPONSE COORDINATION CENTER

FIGURES 2 7 MAIN I SPELL MIKE ALPHA INDIA NOVEMBER  
MAIN STREET

MAYNARD I SPELL MIKE ALPHA YANKEE NOVEMBER ALPHA ROMEO  
DELTA MAYNARD I SPELL MIKE ALPHA FIGURES 0 2 1 3 4

FIGURES 5 0 8 5 5 5 1 2 3 4

BREAK [Un-key here and pause five seconds. Unless  
interrupted rekey and continue]

UNCLASSIFIED NEED TEN I SPELL TANGO ECHO NOVEMBER TEN  
FIGURES 5 0 KILOWATT POWER GENERATORS AND TECHNICIANS



**TO I SPELL TANGO OSCAR TO INSTALL SAME FOR I SPELL  
FOXTROT OSCAR ROMEO FOR CRITICAL FACILITIES ADVISE  
AVAILABILITY**

**BREAK  
OVER”**

AFA1BB: (Assuming he copied all) **“ROGER, OUT.”**

#### **4.6 NOTES ON SENDING**

- Proper names of persons, places or things are always spelled phonetically.
- When spelling pronounceable words and groups, including abbreviations, first, pronounce the word, then say “I SPELL” then spell the word or group phonetically, then pronounce it again. (Example: “FEMA I SPELL FOXTROT ECHO MIKE ALPHA, FEMA”).
- For Unpronounceable letter groups and mixed groups starting with a letter, just say “I SPELL” and spell the group phonetically. (Example: AFA1ME above, following the telephone number in the FM line).
- Note that the homonyms “to” and “for” were spelled. Words that sound like other words need to be spelled. (Examples: to - two - too; there - their- they're; where - wear - Ware, etc.)
- Abbreviations should be sent as abbreviations, even if their meaning is well known. (Example: Send “SGT” as I SPELL SIERRA GOLF TANGO, not “sergeant abbreviated S G T.”)
- The simplest way to send numerals is to send one figure at a time. In sending numerals and mixed groups beginning with a numeral, precede it with the proword FIGURES. (Example: “FIGURES 4 5 ALPHA CHARLIE PAPA”)
- Note the absence of punctuation. When drafting a message, avoid use of punctuation if possible without confusing the meaning of the message.
- Remember: The goal is to end up with a piece of paper at the receiving station that looks just like the message at the sending station.

#### **4.7 TIPS FOR SENDING A VOICE MESSAGE**

- a) **S L O W D O W N.** It is much faster to send a message slowly once than to send it repeatedly. A good practice is for the sending station to use an imaginary pencil to pretend to write down each word after he pronounces it. The sender will quickly realize how long it takes to write things down.
- b) Unkey and listen after ever few words, or every few seconds, to become aware of any interference that occurs. If, during a pause, you hear interference, pause and wait until the interference subsides and avoid having to repeat.



- c) As much as possible, send the message in short, natural phrases, rather than one word at a time. This can be difficult when many words need to be spelled. However, when it can be done, it makes it much easier for the receiving station to hear and understand the words.
- d) Enunciate deliberately. Speak clearly in a way that makes each letter audible, even if it is not the way one speaks naturally in casual conversation.
- e) Remember to spell phonetically all proper names of persons, places and things. Spell all unpronounceable groups beginning with letter. Spell all sound-alike words (homonyms). When spelling difficult or complicated groups, consider using the proword I SAY AGAIN, and repeating it.
- f) Do not utter a sound that is not to be written down. Do not make any editorial comments in the midst of sending a message (e.g., “I don’t know why they said this, but. . . .” or “I think this is what he meant, even though it’s not what he said. . . .”). Avoid: “umms” “errs” “I can’t read my own writing” etc. **JUST SEND WHAT IS IN THE MESSAGE -- NOTHING ELSE!**
- g) If you make a mistake in transmission, say “CORRECTION” and then speak the corrected version of what you meant to say. (Note that “I SAY AGAIN” is not the proword to correct a mistake.)
- h) Avoid using punctuation. When it is necessary, use the pronunciations as in ACP-125(G) Section 319:
  - A period (.) is pronounced “FULL STOP”
  - A comma (,) is pronounced “COMMA”
  - A slant (/) is pronounced “SLANT” (not “slash”)
  - A hyphen (-) is pronounced “HYPHEN” (not “dash”)
  - A Left-hand bracket ( ( ) is pronounced “BRACKETS ON”
  - A right-hand bracket ( ) ) is pronounced “BRACKETS OFF”
  - A colon ( : ) is pronounced “COLON”
  - A semi-colon ( ; ) is pronounced “SEMI-COLON”
  - A question mark ( ? ) is pronounced “QUESTION MARK”
  - A decimal point ( . ) is pronounced “Day-See-Mal” (Note: decimals are between numerals. Periods end sentences. “DOT” is permissible only in Internet addresses.)



## 5.0 HOW TO RECEIVE A VOICE MESSAGE

Every station checked into a MARS net is expected to be ready to accept message traffic directed to that station at any time. When traffic is being sent on a net, every station on the net should copy along. It is good practice. More importantly, if communications are lost between the sending and receiving stations, another station, which has been copying the message, might be able to provide a crucial relay.

To receive a message, a station must first be ready. Always be prepared to copy traffic.

### 5.1 ESTABLISHING COMMUNICATIONS

If the net control directs a calling station to send a message to your station, the first thing to determine is whether you hear the calling station well enough to accept the traffic. If the calling station questions this, he can call and ask for a RADIO CHECK.

The authorized prowords for RADIO CHECKS are: LOUD, GOOD, WEAK, VERY WEAK, or FADING, combined with CLEAR, READABLE, UNREADABLE, DISTORTED, WITH INTERFERENCE, or INTERMITTENT.

If the calling station does not ask for a radio check, you should not offer one unless you cannot copy the message, in which case you can reply WEAK/BARELY READABLE, or WEAK/UNREADABLE/INTERFERENCE.

If the signal quality is not in doubt, the calling station might simply call you and indicate that he has a message for you.

Example:

**"1YU (phonetics) THIS IS 1ME (phonetics), MESSAGE, OVER."**

To which you would reply (once you are ready):

**"THIS IS 1YU (phonetics), SEND, OVER."**

Thereafter, simply write down exactly what you hear.

### 5.2 ASKING FOR REPETITIONS (FILLS)

When the message has been sent in its entirety, and the sending station says OVER (or MORE TO FOLLOW, OVER), the receiving station must either ask for some of it to be repeated or, if it has been received completely, ROGER for the message (technically called "a receipt" for the message).

It is critically important that a receiving station NOT receipt for a message unless he is certain that he has copied it correctly. There is no reason to be reluctant to ask for any part of the message or the entire message to be repeated. But, receipting a message that contains errors or omissions is a complete failure to perform the mission.



If, during the process of copying the message, the receiving station thinks he may have missed a word or two in a specific part of the message, he can make a mark and come back to that at the end to ask for repetition of that part. Sometimes this happens when interference occurs on the radio or something in the receiving station causes the operator to be distracted.

If there is such a specific place where the accuracy of the message is in doubt, the receiving station can request a fill by asking for ALL AFTER [the last word copied correctly] and BEFORE [the next word known to be correct].

Example: **SAY AGAIN ALL AFTER “Arriving” and BEFORE “Thursday”**

The prowords authorized for use in asking for repetition are:

- SAY AGAIN
- ALL AFTER
- ALL BEFORE
- WORD AFTER
- WORD BEFORE
- FROM \_\_\_ TO \_\_\_

### 5.3 LETTERING THE TEXT

Sometimes, a receiving station might be unaware of any parts of the message that were missed, but the message still doesn't seem correct; it just doesn't make sense. Sometimes, a GROUP count will be included but the message will not contain the correct number of GROUPS.

If, for any reason, the receiving station wants to be certain he has heard and copied all the groups in the text, he can ask the sending station to **LETTER THE TEXT**. Lettering the text is a process by which the sending station states the first character of each group in the text of the message. By carefully comparing this list of characters to the groups he has copied, the receiving station can quickly confirm that he has the message, or if he needs fills, where those fills are needed.

Example: Assume the text of the message was as follows:

BT  
UNCLAS  
NEED TEN 50 KILOWATT POWER GENERATORS AND TECHNICIANS TO  
INSTALL SAME FOR CRITICAL FACILITIES ADVISE AVAILABILITY  
BT

[Receiving station]: “**LETTER THE TEXT, OVER.**”

[Sending station]: “**I LETTER THE TEXT, BREAK, UNIFORM, NOVEMBER, TANGO, FIVE, KILO, PAPA, GOLF, ALPHA, TANGO, TANGO, INDIA, SIERRA, FOXTROT, CHARLIE, FOXTROT, ALPHA, ALPHA, BREAK OVER.**”

By comparing the list of first characters to the message as he has copied it, the receiving station can quickly identify any omissions or errors and ask for repetitions as needed.





While ACP-125 describes this process in the context of verifying the GROUP count, in MARS, we usually omit the GROUP count in voice messages (ACP-125, Section 515(b)(2)). Whether the GROUPS are counted or not, the procedure of lettering the text is a very efficient way of verifying that all groups were received. (See ACP-125, Sect. 616)

## 5.4 SENDING A REPETITION

If the receiving station requires a part of the message to be resent, for example by saying, SAY AGAIN ALL AFTER “kilowatt” and BEFORE “and” the sending station should reply by restating the request as he heard it, and then send the requested fill.

Example:

Original Message Sent: “Need Ten 50 Kilowatt [*Missed Words*] And Technicians To Install Same For Critical Facilities Advise Availability”

Receiving Station: “**SAY AGAIN, ALL AFTER “Kilowatt” AND BEFORE “And”, OVER.**”

Sending Station: “**I SAY AGAIN, ALL AFTER “Kilowatt” and BEFORE “And” - Kilowatt Power (*spell phonetically*) generators (*spell phonetically*) And, OVER.**”

**Note that the sending station:**

- Repeated the request
- Restated the word that began the repetition request (“kilowatt”)
- Spelled each additional word in the repetition phonetically (using the “SAY IT - SPELL IT - SAY IT” procedure and using the proword I SPELL)
- Restated the word that ended the repetition request (“and”).

## 5.5 RECEIPTING FOR A MESSAGE

Only after he is certain that he has received the message accurately will the receiving station receipt for the message by saying ROGER, OUT (or ROGER, OVER only if the sending station has indicated there is MORE TO FOLLOW).



## 6.0 SENDING AN ACP-126 PLAINDRESS MESSAGE

Most often, Text messages sent within a single region or division will be sent using ACP-126 CODRESS procedure.

The following is to illustrate the PLAINDRESS procedure because that is the first step of creating a CODRESS message. This section will make use of the same message as described earlier for voice transmission. The following illustrates the message with Format Lines added.

Same message prepared for transmission by ACP-126 PLAINDRESS procedure (additions in *italics*):

<i>Format Line (FL)</i>	<i>Content</i>
<i>FL2/3</i>	AFA1BB DE AFA1ME NR 001
<i>FL5</i>	P 041230Z MAY 2014
<i>FL4</i>	ZNY EEEEE
<i>FL6</i>	FM DIRECTOR MAINE EMERGENCY MANAGEMENT AGENCY 123 NOPLACE ROAD ANYPLACE, ME 01234 123-456-7890 / AFA1ME
<i>FL7</i>	TO FEMA REGIONAL RESPONSE COORDINATION CENTER 27 MAIN ST MAYNARD, MA 02134 508-555-1234
<i>FL10</i>	GRNC
<i>FL11</i>	BT
<i>FL12</i>	UNCLAS NEED TEN 50 KILOWATT POWER GENERATORS AND TECHNICIANS TO INSTALL SAME FOR CRITICAL FACILITIES ADVISE AVAILABILITY
<i>FL13</i>	BT
<i>FL16</i>	[Here, press Enter 8 times] NNNN

Figure 6-1 ACP-126 PLAINDRESS Message Example

### 6.1 LINE-BY-LINE DETAIL - ACP-126 TELETYPE PROCEDURE

#### 6.1.1 Format Line 1 - Transmission Identification (Optional In ACP-126 Procedure)

Format Line 1 (Transmission Identification) is not part of ACP-126 procedure. However, Station Manager and other software make use of the Transmission Identification and its use in the heading of messages is encouraged. It is not shown in the example because the example illustrates a PLAINDRESS message, which would be encrypted. An unencrypted heading would be added to form a CODRESS message. FL1 in the heading would be recommended. See Section 9.3.1 for detail on the construction of FL1.



### 6.1.2 Format Line 2 - Called Station

Format Line 2 (Called Station) is the call sign of the station called to receive the message.

### 6.1.3 Format Line 3 - Calling Station And Station Serial Number

FL3 is the prosign DE followed by the call sign of the station sending the message, and the message NUMBER. The message number is the sender's own serial number and is changed by the sending station on each relay of the message. ACP-126 procedure permits the placement of all of the elements of FL2 and 3 on a single line. But, multiple lines are permissible.

Example: **AFA1BB DE AFA1ME NR 001**

### 6.1.4 Format Line 4 - Transmission Instructions

Format Line 4 is the place where the following transmission instructions can be placed, when needed:

- a) Prosign "T" meaning RELAY (TO \_\_\_\_). This prosign means upon receipt, relay this message [to the station or address indicated]. If no station or address is indicated following the prosign, the receiving station is to relay the message to all addressees indicated on the TO Line (FL7) and the INFO Line (FL8). If the relay responsibility is divided between stations, those stations will be identified before the prosign "T."

For example: **AFA1AA T AAR1RQ**  
**AFA1BB T AAR1ST AAR1UV**

Which directs AFA1AA, to RELAY this message to AAR1RQ and AFA1BB to RELAY this message to AAR1ST and AAR1UV.

- b) Security Warning. A security warning is not usually required in ACP-126 procedure. However, a security warning is not prohibited and may arise from time to time, particularly in refiled messages that were drafted for ACP-127 procedure. In MARS messages, this will usually be "ZNR UUUUU" which means the message is UNCLASSIFIED and may be forwarded without change by radio or non-approved circuit. (Note that for the heading of a CODRESS message, this warning will be "ZNR UUUUU" as the code groups themselves are not classified.) However, in drafting the message which is to be encrypted, the encrypted body of the CODRESS message will have the warning "ZNY EEEEE" to signal that encryption is required. Note that the security warnings in FL4 are different in the heading and the encrypted text of the same message.

Line 4 example: **ZNR UUUUU**; or alternatively, **ZNY EEEEE**.

Note that the ACP-126 Procedure also provides that Format Line 4 is the place for other Operating Signals related to message movement, such as ZOC, ZOY, ZOK, ZOZ, ZOT, ZEH, ZDG, ZEP, among others. These are not usually encountered in MARS messages. But, they may be there in some messages originated outside of MARS. Do not be confused, however, about the placement of Z signals related to encryption, which must be placed on FL5.

Note that FL4 is not limited to a single line of text. Multiple lines can be used if needed.



### 6.1.5 Format Line 5 - Precedence And DTG

Format Line 5 contains the Precedence of the message and the Date-Time Group (DTG).

The Precedence will be “R” meaning ROUTINE, “P” meaning PRIORITY, or “O” meaning IMMEDIATE. Each of these suggests an anticipated delivery objective for the message.

The Date-Time Group (DTG) indicates the date and time the message was placed into the messaging network expressed in the form “DDHHMMZ [3-letter month] YYYY”. That is, 2-digits each for the calendar day of the month, hour and minutes, followed by the letter Z indicating the ZULU time zone, followed by the first three letters of the month, followed by the year in 4 digits.

In the heading of a CODRESS, a Z-signal indicating the encryption key is placed at the end of FL5.

Example: R 091545Z AUG 2015 Zzz

### 6.1.6 Format Line 6 - FM Line

The From Line (abbreviated “FM”) is the Plain Language Address (PLA), call sign or Routing Indicator (RI) of the originator (author) of the message.

For a MARS station, this is the call sign preceded by the words MARS STATION.

For other originators, a Plain Language Address is used. Care must be exercised to avoid Personally Identifiable Information (PII), if possible. However, note that the originator may choose to disclose his or her own PII. Sufficient information must be supplied to permit a response. If a PLA is used for an originator other than a MARS station, it is followed by a slant (/) and the call sign of the MARS station placing the message into the message system.

### 6.1.7 Format Line 7 - TO Line

The TO Line is the PLA, call sign or RI of the “action addressee(s)” who are expected to act on the information in the message. The same rules apply here as to the FM Line (Section 7.1.6, above).

### 6.1.8 Format Line 8 - INFO Addressees

Address designators of INFO addressees are shown on FL8 and follow the same rules as used on FL7. Addressees preceded by ZEN will receive the message by other means.

### 6.1.9 Format Line 9 - Exempt Addressees

Not normally used, this line is to exempt addressees from a group address to which they would otherwise belong. Exempt addressees are not intended to receive the message.



### 6.1.10 Format Line 10 - GROUPS

When used, this line shows the number of character groups between the BREAKS in the message (FL12). The GROUPS count can be omitted in a PLAINDRESS message. If not used, FL10 should be “GRNC” meaning GROUPS NO COUNT. However, the GROUPS count must be shown in the heading of a CODRESS message.

### 6.1.11 Format Line 11 - Separation BREAK

Format Line 11 is the separation between the heading and text. Example: **BT**.

### 6.1.12 Format Line 12 - Text

The text of the message is FL12. The first word in the text must be “Unclassified” (written as UNCLAS), except that a SERVICE message will have “SERVICE” as the first word.

### 6.1.13 Format Line 13 - Separation BREAK

This BREAK separates the text from the ending procedure.

### 6.1.14 Format Line 14 - Time Group In Abbreviated Procedure

Only in ABBREVIATED PLAINDRESS, the proword TIME followed by the time (but not the date) of transmission appears as FL14. Otherwise, FL14 is not used.

### 6.1.15 Format Line 15 - Final Instructions

Final Instructions are not usually used. If multiple messages are to be sent to the same station in sequence, the sending station would send “B” meaning MORE TO FOLLOW at this point.

### 6.1.16 Format Line 16 - End Of Message Sign NNNN

The end of message sign is 8 line feeds (carriage returns), followed by “NNNN”. This also marks the end of the transmission.

It is not necessary for the sending station to include an end-of-transmission signal such as “K” or “AR” if the end-of-message signal (NNNN) is used. (Reference ACP-126(C), Section 305(a)).

The end-of-transmission signal “K” (meaning the same as OVER) or “AR” (meaning the same as OUT) would be used at the end of a message that does not use NNNN, such as an abbreviated message or an informal message among operators, or net management communications in a net controlled by Teletype rather than voice.

In a typical MARS net, where net activity is controlled using voice procedure, the preliminary call between the sending and receiving stations would be done by voice, e.g., “**1BB** (phonetics) **THIS IS 1ME** (phonetics), **MESSAGE, M110A** (or other mode) **OVER.**”



Once the receiving station is ready to receive, that station then responds, in voice, “**SEND, OVER.**” Thereafter, no further discussion is necessary. The sending station (AFA1ME) presses the “send” button and the text message is sent.

Note that the inclusion of the sending station and receiving station call signs in the text message (FL2/3) is somewhat redundant because the preliminary call between the stations was already done by voice. Nevertheless, having this information contained in the text message creates a record of who sent the message and is important for accountability purposes. Also, FL3 shows the message NUMBER that is useful for the receiving station's receipt transmission (See Section 8.1).

## 6.2 LONG MESSAGE PROCEDURE

***Rule For Pagination of Long Messages:** For longer messages, Format Line 12 may also contain section and page information. Paging lines, in plain language, must be inserted between the lines of code groups (or text, in a PLAINDRESS message). All messages exceeding 20 lines of heading and text, beginning with Format Line 5, will be divided into pages for transmission. A maximum of five pages following the first page with the header (i.e., a total of six pages) per message is permitted. If a message is longer than that, it must be divided into SECTIONS, transmitted as separate messages*

Here is an example of a paging line in an ACP-126 message:

**PAGE 2 AFA1ME #001 UNCLAS**

### 6.2.1 M110A Long Message Transmission

Experience has shown that long Text messages can sometimes be more challenging to copy, especially when using MIL-STD 188-110A (M110A) and MS-DMT software.

When this difficulty is experienced, the sending station can improve chances for successful copy by the receiving station by sending the message in relatively small parts. The page breaks just mentioned make an easily identifiable point at which to break up the message. The sending and receiving operators can agree on how many pages will be sent in each transmission using service messages sent by voice.

The receiving station copies each part then reassembles the complete message in a text editor program such as Notepad.

ACP-126(C), Section 410(b) prescribes a procedure by which teletype operators send long messages in parts. However, in MARS nets run by voice procedure, it is easier to coordinate the sending of message parts by voice, rather than using the more laborious procedure in ACP-126.

This technique of sending a message in smaller parts can be used with either PLAINDRESS or CODRESS messages and in either ACP-126 or ACP-127 procedure.



## 7.0 RECEIVING A TELETYPE MESSAGE

**TIP:** *It is good practice to make your teletype system operational at the same time you turn on your other equipment so that your digital equipment is instantaneously ready to receive text traffic, when it is listed.*

### 7.1 RECEIPTING MESSAGE NUMBER

When the message is transmitted, if it is received completely and accurately, it is receipted by voice by simply saying “**ROGER NUMBER 001, OUT.**” Note that the procedure is the same as receipting for a voice message with the addition of the message number from Format Line 3. Stating the message number during the receipt is useful to the net control station in keeping track of messages sent and received.

### 7.2 ASKING FOR FILLS

When receiving digital messages, fills are requested in voice using the same prowords as for voice procedure, i.e., SAY AGAIN ALL AFTER \_\_\_\_\_, SAY AGAIN ALL BEFORE \_\_\_\_\_, SAY AGAIN GROUP AFTER \_\_\_\_\_ or just SAY AGAIN. No further words are necessary. Specifically, do not consume airtime explaining *why* you didn't receive the message.

In some instances, it might be more efficient for the sending station to send a short fill by voice, rather than doing significant cutting and pasting of a few characters to resend them digitally. So, be ready to copy a voice response to a request for a fill, such as SAY AGAIN GROUP AFTER \_\_\_\_\_.

The procedure of lettering the text is not used for teletype messages. It takes less time to resend the whole message.



## 8.0 ACP-127 CODRESS PROCEDURE

### 8.1 ROUTING INDICATOR PLAN

Most ACP-127 messages for out-of region addresses will be sent using ACP-127 CODRESS procedure, which uses Routing Indicators (RI's) to move the message toward its destination. A Routing Indicator is a destination approximation, conceptually similar to a postal zip code, not a precise address. Just as the first five numbers of a postal zip code are the only datum needed to move a letter as far as the addressee's local post office, an RI is all that is needed to move a message to the addressee's state, installation, or other approximate location. A routing indicator is not assigned to each MARS station or potential customer. In fact, "unique RI's" are rare. Routing Indicators are assigned to the State and Region level. Each (usually) serves a number of potential individual addressees.

The Joint MARS Routing Indicator Plan, JM 2-203, is designed in accordance with ACP-121 and ACP-127. The Plan is intended to support long haul movement of messages to the region or state relay or tributary stations, where they are refiled and delivered to addressees on local networks.

In CODRESS messages, the originator and addressee are included in the coded portion of the message. The following instructions will allow stations to handle the message without knowing the actual addressees. Decoding the message is not necessary for long haul relay. Only when the message arrives to its destination region or state will decoding be required to find the addressee information for final delivery. This, again, is analogous to the delivery of mail. Once a letter gets to the local post office, by reference only to the five digit zip code, the actual street address must be read for final delivery.

### 8.2 ACP-127 DETAILS

The ACP-127 message procedure is used in conjunction with the Routing Indicator (RI) Plan and uses RI's to direct messages to their addressees. Additionally, Format Line one (FL1) is added. This is a signal to automated systems that a message is beginning. The final signal "NNNN" signals the end of the message to automated systems.

To understand ACP-127 CODRESS procedure, one must first understand ACP-127 PLAINDRESS procedure, since, in most cases, the content of the CODRESS message (FL12) will be an ACP-127 PLAINDRESS message that has been encrypted.

The following Figure shows a sample ACP-127 PLAINDRESS message before it is encrypted to become the text of a CODRESS message. The Figure shows Format Lines (FL) to the Left and simulated Routing Indicators.





Format Line  
(FL)

Content (RI's are simulated, refer to JM 2-203)

FL1	VZCZCMMM000
FL2	RR UABCDEF
FL3	DE UHIJKLM #0034 0150505
FL4	ZNR UUUUU
FL5	R 150505Z JAN 2015
FL6	FM MARS STATION AFA1ME
FL7	TO UABCDEF/MARS STATION AAR8YU
FL11	BT
FL12	UNCLAS MSGID/GENADMIN/MARS STATION AFA1ME// SUBJ/TEST MESSAGE// GENTEXT/REMARKS/THIS MESSAGE DEMONSTRATES ROUTING.//
FL13	BT
FL15	#0034  [8 line spaces]
FL16	NNNN

Figure 8-1 Example of ACP-127 PLAINDRESS Message Components

(The reader will note that in the sample message, the lines in the text contain slants (/) and double slants (//) at certain places. These characters indicate a USMTF message format, which is described in the ANNEX I of this Manual.

### 8.3 LINE-BY-LINE DETAIL OF AN ACP-127 PLAINDRESS MESSAGE

#### 8.3.1 Format Line 1 – Transmission Identification

This format line is used by certain software to indicate the start of transmission.

Line 1 consists of three elements:

- (1) The Start of Message Indicator: **VZCZC** – An indicator employed to activate automatic message equipment or software.
- (2) Channel Indicator: For MARS messages, this is “MMM”.
- (3) Sending station's message serial number: This is a three-digit serial number assigned by the sending/relaying station and based upon the number of messages that station has sent since the preceding midnight Zulu (i.e., 0001Z). Alternatively, the station may insert three zeros.

Format Line 1 example: **VZCZCMMM000**



### 8.3.2 Format Line 2 - Precedence And Routing Indicator For The Addressee

This format line indicates the precedence of the message and the routing indicator (RI) of the destination station that may be the addressee, or a point of re-file into another message system which services the addressee, for instance a region net or state net, or a facility or agency where the addressee may be found. Bear in mind that RI's are analogous to five digit zip codes, not to precise addresses.

Since the relationships of all tributary, minor relay and major relay stations are known by reference to the *Joint Routing Indicators Manual* (JM 2-203), a message originating from any RI can be routed to the destination RI without further instruction.

The precedence indicator is written twice but must be the same in both instances. In the situation where a message has multiple precedences for different addressees, the highest precedence will be used and shown twice in this line.

Line 2 consists of two elements:

- (1) Precedence Pro sign (twice):
  - RR - Routine;
  - PP - Priority; or,
  - OO – Immediate; and
- (2) Routing Indicator serving the addressee.

Line 2 example: **RR UABCDEF** (NOTE: Routing Indicator is simulated, refer to JM 2-203).

### 8.3.3 Format Line 3 - Originating Station's RI, Serial Number And Filing Time

Format line 3 indicates the routing indicator (RI) of the station that prepared the message for transmission on the network. This may or may not be the same as the last station to transmit it, shown in FL 1, the originating station that first put the message into the MARS system, or the originator (author) shown in FL 6. In most instances, FL 3 will be the RI serving the originating MARS station that put the message into the network.

Line 3 consists of four elements:

- (1) Prosign DE (meaning "from").
- (2) Routing Indicator serving the station that formatted the message for ACP-127 transmission.
- (3) Station Serial Number: A 4-digit message reference number allocated in sequence by the station formatting the message for ACP-127 transmission preceded by a number sign (#). This 4-digit number stays with the message and does not change as the number in FL 1 changes.



- (4) Filing Date-Time: The Julian Day and time the message is prepared. The Julian date is the day of the year indicated by a three-digit numeral between 001 and 366 (001 = January 1st). The 3-digit Julian date is run together with the 4-digit time the message was prepared. The date and time are always in reference to Zulu time, but the “Z” is omitted.

Line 3 example: **DE UHIJKLM #0034 0150505** (NOTE: Routing Indicator is simulated, refer to JM 2-203).

### 8.3.4 Format Line 4 - Transmission Instructions

This format line indicates specific transmission directions not apparent in other components of the message headings.

Line 4 usually consists of one element:

- (1) Security Warning. In MARS messages, this will usually be “**ZNR UUUUU**” which means the message is UNCLASSIFIED and may be forwarded without change by radio or non-approved circuit. (Note that for the heading of a CODRESS message, this warning will be “**ZNR UUUUU**” as the code groups themselves are not classified. However, in drafting the message within the encrypted body of the CODRESS, this warning would be “**ZNY EEEEE**” to signal that encryption is required, i.e., the security warnings are different in the heading and the encrypted text.

Line 4 example: **ZNR UUUUU**; or alternatively, **ZNY EEEEE**.

Note that the ACP-127 Procedure also provides that Format Line 4 is the place for other Operating Signals related to message movement, such as ZOC, ZOY, ZOK, ZOZ, ZOT, ZEH, ZDG, ZEP, among others. These are not usually encountered in MARS messages. Do not be confused, about the placement of Z signals related to encryption, which must be placed on FL5.

### 8.3.5 Format Line 5 - Precedence And Date Time Group

The information on this format line is from the originator of the message, and indicates the originator's precedence and date time group. This format line may also contain any operating instructions from the originator. If the text of the message is encrypted, a Z signal related to the encryption is shown on this line.

Line 5 consists of several elements:

- (1) Precedence Prosign: R - Routine; P - Priority; O – Immediate
- (2) Date Time Group in standard form (i.e., DDHHMMZ MMM YYYY)
- (3) Originator's Operating Signals, if any.

Line 5 example: **R 150505Z JAN 2014 Zzz** (“Zzz” simulates the Z code used to indicate the encryption key used. This Z signal may be omitted if there is no chance of confusion about the encryption key.)



Note that the ACP-127 Procedure also provides that Format Line 5 is the place for other Operating Signals related to message content, such as ZYI, ZYG, ZYS, ZFF, ZFG, ZFD, ZNW, among others. These may not be encountered in MARS messages. Just be aware that they may be there in some messages originated outside of MARS. For a detailed explanation of all operating signals see ACP-131.

### 8.3.6 Format Line 6 - Plain Language Address Or Routing Indicator Of The Originator

This format line indicates the originator of the message. This is the person who wrote the message, or the person under whose name the message was drafted.

Line 6 consists of two elements:

- (1) Prosign FM
- (2) Address components, Plain Language Address (PLA) of the originator **OR** the Routing Indicator of the originator, **BUT NOT BOTH**. If the originator is an individual MARS member station, the words "MARS STATION" followed by the member's full call sign (not billet call sign). Alternatively, a Routing Indicator may be used, without a PLA associated with it.

Line 6 example: **FM MARS STATION AFA1ME**

### 8.3.7 Format Line 7 - Both The Routing Indicator And Plain Language Address Of The Addressee Separated By (/)

This format line indicates the action addressee(s) of the message. This is the person or persons to whom the message is intended.

Line 7 consists of four elements:

- (1) Prosign TO,
- (2) Routing Indicator (RI) of Addressee. The addressee's RI should normally be the RI for the State or Country in which the addressee is located,
- (3) SLANT (/),
- (4) Plain Language Address of the Addressee: If the addressee is an individual member MARS station, the words "MARS STATION" followed by the member's full call sign (not billet call sign). For non-MARS addressees, this would be a full name, street address and contact information. (Note that such PII is protected because it is within the encrypted body of the message. This Format Line is not shown in the unencrypted heading.)

Line 7 example: **TO UABCDEF/ MARS STATION AAR8XX** (Routing Indicator is simulated, refer to JM 2-203).

### 8.3.8 Format Line 8 - INFO Addressee(s)

Apply the same rules as Line 7. Includes, ZEN addressee(s). ZEN addressees receive the message by other means, so complete address information is not necessary.



Line 8 example: **INFO UNOPQRS/ MARS STATION AAR4HE** (Routing Indicator is simulated, refer to JM 2-203)

ZEN example: **ZEN/ MARS STATION AFA1IR** (Note the absence of the RI, because it is sent by other means. Also, note the SLANT (/) separating the signal ZEN from the Plain Language Address (PLA).

### 8.3.9 Format Line 9 - Exemptions

This line is only used when exempting one or more addressee(s) from a collective address used on Format Line 7. (Not usually encountered in MARS messages)

### 8.3.10 Format Line 10 - Group Count

Always present for CODRESS messages. Count is derived from the TRANSEC Off-line encryption program.

Line 10 example: **GR128**

### 8.3.11 Format Line 11 - Separation BREAK

Break indicating the start of the message text. **BT**

### 8.3.12 Format Line 12 - Message Text

The message text will usually be in a prescribed USMTF message format. The classification UNCLAS must be the first word of the text on a line by itself, unless it is accompanied by “**FOUO**” (meaning For Official Use Only) or “**EFTO**” (meaning Encrypted For Transmission Only).

Line 12 example: **UNCLAS**

***Rule For Pagination of Long Messages:** For longer messages, Format Line 12 may also contain section and page information. Paging lines, in plain language, must be inserted between the lines of code groups (or text, in a PLAINDRESS message). All messages exceeding 20 lines of heading and text, beginning with Format Line 5, will be divided into pages for transmission. A maximum of five pages following the first page with the header (i.e., a total of six pages) per message is permitted. If a message is longer than that, it must be divided into SECTIONS, transmitted as separate messages.*

Here is an example of a paging line:

**PAGE 2 UHIJKLM #0034 UNCLAS** (Routing indicator is simulated. It is the same as used on FL 3.)

### 8.3.13 Format Line 13 - Separation BREAK

Break indicating the end of the message text. **BT**



### **8.3.14 Format Line 14 - Final Instructions**

This entry is either omitted deliberately or is not normally used.

### **8.3.15 Format Line 15 - Serial Number**

The entry on this line consists of the four-digit station serial number, taken from Format Line 3, preceded by the number sign (#).

Line 15 example: **#0034**

### **8.3.16 Format Line 16 - End Of Message Indicator**

**NNNN**: An indicator used to signal end of message to automatic message equipment. NNNN is required when VZCZC is used in Line 1. Eight line spaces (enter keys) should be sent before the NNNN sign placed between Line 15 and Line 16.

## **9.4 LONG MESSAGE PROCEDURE**

Refer to Section 7.2 for information on sending long messages in parts to improve reception.



## 9.0 ACP-127 CODRESS MESSAGE

The address information shown in an ACP-127 CODRESS heading will be only routing indicators with no associated plain language addresses. Routing indicators (RI) can be thought of as analogous to zip codes. The RI in the CODRESS message heading is only intended to get the message to a place where it can be refiled into another message system (such as a region or state net, or to a facility or agency where the addressee will be found) where it can be decrypted and delivered to the actual addressee(s).

The encrypted portion of the message may contain a complete message including FL 1 through 16. At a minimum, however, the encrypted text must contain at least FL 4 through 13. The encrypted lines will contain sufficiently detailed address information to allow the message to be delivered.

### 9.1 ACP-127 CODRESS PROCEDURE

#### 9.1.1 ACP-127 CODRESS Format Lines 1, 2, And 3

Format Lines 1, 2, and 3 for the heading of the CODRESS message are prepared exactly the same way as for a PLAINDRESS ACP-127 message described previously in Section 9.

Here is an example of these formatted lines:

```
VZCZCMMM000  
RR UABCDEF  
DE UHIJKLM #0002 0331845
```

#### 9.1.2 ACP-127 CODRESS Format Line 4

For a CODRESS message, Format Line 4 will always contain the security warning “ZNR UUUUU”. The security warning “ZNR UUUUU” is used for CODRESS messages because the *code groups* that are entered in Format Line 12 are unclassified, non-FOUO, and don't require protection. If additional transmission instructions referring to destinations are needed on Format Line 4 -- such as ZOF (meaning “relay this message to...”) -- only call signs or Routing Indicators may be used. **The use of Plain Language designators is prohibited for CODRESS messages on Format Line 4.**

Example of CODRESS message Format Line 4: **ZNR UUUUU**

#### 9.1.3 ACP-127 CODRESS Format Line 5

Format Line 5 is prepared exactly the same way as is for a PLAINDRESS message. Refer to Section 9.3.5 of this manual for an explanation. An operating signal is also required at the end of this line to inform receiving stations which off-line encryption key set is needed to decrypt the message.

Example of CODRESS message Format Line 5: **R 031840Z FEB 2014 ZYI**



#### 9.1.4 ACP-127 CODRESS Format Lines 6, 7, 8 And 9

Format Lines 6, 7, 8, and 9 (From, To, Info, and Exempt addresses) are not included in a CODRESS message header. Besides protecting FOUO or PII information contained in the body of the message, the purpose of the CODRESS message is to hide the address components, the originator and all addressees.

#### 9.1.5 ACP-127 CODRESS Format Line 10

Format Line 10 in a CODRESS message will consist of the Prosign “GR” followed by the number of encrypted groups contained in Format Line 12. The TRANSEC software provides the number of groups during the encryption process.

Example of CODRESS message Format Line 10: **GR 131**

#### 9.1.6 ACP-127 CODRESS Format Line 11

Format Line 11 will be prepared exactly the same way as is for a PLAINDRESS message: **BT**.

#### 9.1.7 ACP-127 CODRESS Format Line 12

In a CODRESS message, Format Line 12 (the “body” of the message) will contain the code groups (ciphertext) created by the off-line TRANSEC tool from the PLAINDRESS message being sent. Note that these code groups will contain the complete header of the PLAINDRESS message (starting with Format Line 1, 2, 3 or 4), as well as the “text” of the PLAINDRESS message, which is being sent. The first step is to encrypt the PLAINDRESS message using the off-line TRANSEC tool. Next, copy and paste the ciphertext code groups into Format Line 12 of your CODRESS message (**Note**: training on the off-line TRANSEC tool is covered separately). After the encryption is complete, the group count, obtained from the OFF-LINE TRANSEC software, is entered on Format Line 10 of the CODRESS message header.

For longer messages, Format Line 12 may also contain section and paging information. Paging lines must be inserted between the lines of code groups. All messages exceeding 20 lines of heading and text, beginning with Format Line 5, will be divided into pages for transmission. A maximum of five pages following the first page with the header (i.e., a total of six pages) per message is permitted.

If a message is longer than that it must be divided into SECTIONS, transmitted as separate messages. This example message will have only two pages.

Here is an example of a paging line: **PAGE 2 UHIJKLM #0002 UNCLAS**

**Note:** Paging lines are sent unencrypted between lines of ciphertext code groups and need to be deleted before the ciphertext can be decoded.





**TIP:** *A copy of the encrypted message with paging lines intact should be saved, before decrypting the message. The paging lines need to be removed for the decryption process. Having the encrypted message complete with paging lines saved will simplify the job of forwarding or refiling the message toward its destination.*

### 9.1.8 ACP-127 CODRESS Format Line 13, 14, 15, And 16

Format Line 13, 14 (omitted), 15, and 16 (final BT through NNNN) will be prepared exactly the same way as is for a PLAINDRESS message.

The following is an example of a complete ACP-127 CODRESS message.

```
VZCZCMMM000
RR UABCDEF
DE UHIJKLM #0002 0331845
ZNR UUUUU
R 031840Z FEB 2014 ZYI
GR 131
BT
IGL8XKOC 7OR6A9P2 LE944GLC 9VEC23A1 6KGZ22VA PA6RIQ22 9QIWNTP9
FWDRGSH1 SST1WFRF T9MTY5K1 3DS8ZTR4 D1ODAI6H VNG118Q1 K54ESDIF
83BXQMP2 F2LN2UH3 VSD5E5B8 ZZWL14E2 YBXV4VQF R811EY68 MHRMYGC9
B4MJ7CO3 41CCWCP8 WTB4KXIC WCAA9THG V74HJPWA 8EMSRE43 LSLX1K9H
VXLRY43G 2DSGY4FG CXZARDI9 YK9BSWC7 YQL1MDZF P3S1UEQD LX6WSVXB
DL81Q6OB 15GYXMQ2 A87WUOWE WBFNEOY1 8YOWW18C FOV5Q1T2 DIGT9RD8
P18678Q2 I3JP7ZZG 6BUJOTR6 8ZWCZHX7 H7IR4VP5 LR3G6DW2 QDNDDPI3
UD6BLCZD H74I98H8 638A9UE3 HTQJEPF4 H34Q9Z8A BHSYVO8E CR9LS339
VLNUHE48 732QH543 7GI8AZ17 1JATZW3D C45R8L5H BM2N65VD D9GERT3G
SAYU59F5 UPT5MW5B 53HI3Z55 E69F6XNH X66T7YJ8 I9ZWW5R5 LBFMMKLH
VRCB6R5B 8LA2Q314 E7YWSU8D CP1K2TC4 R6LLY5AA CVG3LO92 CDL9C4J6
1W193KF5 RHFQUKA6 8KJ1PPW6 E15XFMEG KSMRIBS8 UOC17BHE 6V4KTR3G
RI6IGLFC 7L31Z1Z6 7GQ5H5G7 X7YRDYFE HYR8WCM8 W4UCPUL7 Q4HNCLD3
QVITUC12 OFNQJUY1 1OX8RCH3 Q3RYWVP6 SLY5REO7 QCIJ2FJH VAMYVQE6
49P4SVVA 5Z1NQGP1 WMDFKRN4 Q76JVLNG FKYIR59C 4V54CCG5 IKKKVI8C
LWDL54W1 CGH9WDX2 GI3P6C4D 9GITFEOB SHJ54RG4 84MVT83 3AQGHNO4
3ER7DNUE P33SRJ84 NI4L7IZH P1EU8131 1FQF6O89 YYJRJRC5 T5MM16D7

PAGE 2 UHIJKLM #0002 UNCLAS

TTFBYAB 5W6RT8DC W5HICPAG BTCFQF2H ACPHWKTA I6DQAY9B RDWPAHN3
12GIRPC4 BSLA4TDA JIHTXKH2 VA2LNZQ5 IGL8XKOC
BT
#0002
[8 line spaces]

NNNN
```

**Figure 9-1 Example of a Complete ACP-127 CODRESS Message (Code Groups Are Simulated And Do Not Actually Decrypt)**



## 10.0 REFILING INTO ACP-126 CODRESS

MARS moves ACP-127 CODRESS messages between regions and/or divisions on the TRANSGLOBAL Net (J0G). The process is summarized as follows:

The originating station prepares the message as an ACP-127 CODRESS message and lists it on a state or regional net. A Minor Relay Station (MRS) takes the message from that net to the TRANSGLOBAL Net where it is sent to the MRS responsible for the Region or Division to which the message is addressed, according to its Routing Indicator (RI). Relays are used if these stations cannot communicate directly.

The MRS that receives the message on J0G brings it to the division or region net where the message can be delivered or relayed. If a state net serves the addressee, the message is passed to a State Tributary Station (STS) that brings it to the state net. In AFMARS, we often do not have state nets and traffic is delivered on Regional or Divisional nets. In that situation, if no station has volunteered to serve as the STS, the Minor Relay Station can serve the STS function, or another station can be assigned as Tributary station by the NCS.

A typical route is - Originator -> MRS -> TRANSGLOBAL -> MRS -> STS -> addressee

Note that an RI is not a precise address:

- a) RI's do not exist for every potential addressee. Routing indicators are assigned to certain MARS officials, STS in each State, and a few other facilities.
- b) RI's for Division MARS Directors (DMD) are also used for their divisional staffs (such as Division Training Manager, etc.)
- c) RI's for Regional MARS Directors (RMD) are used for Regional staffs.
- d) There are also RI's that indicate broadcast messages to MARS stations in various Divisions or Regions.
- e) Messages for other addressees will use the Routing Indicators for the STS in their states.

Once a message has been passed as far as possible using the RI system, the MRS or STS, or perhaps another station would hold it. The message then must be decrypted to learn the actual addressee.

If the MRS or STS decrypts the message and learns that the addressee is a station he can contact directly, the MRS or STS may re-encrypt the message (in the same key) and send it to the addressee directly, in the original ACP-127 CODRESS form, changing only Format Line 1 (See section 10.3.1).



However, if the MRS or STS cannot contact the addressee directly, the message header must be redone into ACP-126 procedure to indicate the call sign to which the message must be delivered (no longer the RI). ACP-126 procedure is used since the message would be passed on a state, division or regional. Reminder: ACP-126 uses call signs in FL 2, 3 and 4, not routing indicators.

The process of changing the header to use ACP-126 procedure for local delivery is called “refiling” in ACP documents. Refiling is the responsibility of the Tributary station (See JM 2-203, sect 1.2.18). If no station has volunteered to serve as the STS, the Minor Relay Station can serve the STS function. However, it is usually desirable to have the MRS return to the JOG net as soon as possible in case more traffic is waiting for his region. In that situation, another station can be assigned as Tributary station by the NCS to accept the message that needs to be refiled. Reminder: The MARS goal is to deliver the message. Other schemes for delivery can also be crafted locally.

The process of “refiling” is really quite simple. Note that nothing is changed between the BREAKS. The ciphertext remains intact, as does any page indicator(s). The only things that must be changed are in FL 2, 3 and 4.

The following example illustrates the change to be made. Assume:

- (1) The STS holding the message is AFA6XX.
- (2) Decryption of the message reveals the message is addressed to AFA6ZZ.
- (3) AFA6XX would call the NCS on a net and list one message for AFA6ZZ.
- (4) AFA6ZZ is not checked into the net.
- (5) The NCS directs the message to be sent to AFA6YY for relay to AFA6ZZ.

AFA6XX makes the following changes to the message header on FL1, FL2 and FL3 and adds FL4 requesting a relay to AFA6ZZ, the final addressee:

- (1) FL1 is either left unchanged or deleted. Stations running certain software may benefit from having FL1 left unchanged, even though it is not required in ACP-126 procedure.
- (2) FL2 changed from “UABCDEF” to “AFA6YY” (the called station). The precedence (RR) is deleted.
- (3) FL3 changed from “UHIJKLM” to “AFA6XX” (the calling station currently holding the message), and adds his own message number (NR023). All other contents of FL 3 in the ACP-127 heading are deleted.
- (4) A RELAY instruction is added in FL4 to notify the called station that the message must be relayed to AFA6ZZ. (Example: “T AFA6ZZ”).



The remainder of the message can be left intact. However, to be completely compliant with ACP-126 CODRESS procedure, the message number in FL15 should also be deleted.

RECAP: Only FL2, FL3 and FL4 must be changed. FL1 may be left or deleted. FL15 may be left or deleted.

The original message as received by the MRS/STS is as follows (RIs are simulated):

```
VZCZCMMM000
RR UABCDEF
DE UHIJKLM #0134 0141503
ZNR UUUUU
R 141415Z MAR 2014 ZXY
GR 37
BT
[Encrypted ciphertext message]
BT
#0134
[8 line spaces]
NNNN
```

The STS, AFA#XX, makes the following changes before sending to AFA#YY:

```
VZCZCMMM000
AFA6YY DE AFA6XX NR 023
ZNR UUUUU
T AFA6ZZ
R 141415Z MAR 2014 ZXY
GR 37
BT
[Encrypted message text]
BT

[8 line spaces]
NNNN
```

FL1 - Left or omitted.  
FL2 and 3 - Called station. DE Calling station., Msg. Nr.  
FL4 - UNCHANGED  
FL4 - Added to indicate RELAY TO [ ]  
FL5 - UNCHANGED  
FL10 - UNCHANGED

Thereafter, if AFA6YY, or any station holding the message, has to leave the net or close station before the message is delivered, the above ACP-126 heading would remain the same and only the call signs in FL2 and 3 and message serial number would be changed to hand off the message to another station for later transmission to the addressee, AFA6ZZ.

**NOTE:** No change was made during the refile process in the encrypted groups between the BREAKS -- Format Line 12 -- which contains the entire original message.

**NOTE:** No routing indicators are shown in the ACP-126 heading. ACP-126 uses call signs. ACP-127 uses routing indicators.



**NOTE:** Each “calling station” sending this message using ACP-126 procedure (or ACP-125, if sending it by voice) will change the message number in FL3 to his own station's message serial number. Each “called station” receiving it will receipt (“ROGER”) for the message number in FL3.

#### Responsibility For Relaying

The signal “T” alone on Format Line 4 means, receiving station is to relay this message to all addressees, except those with signals ZEN or ZEX. The solitary signal “T” means that the receiving station must relay the message to all the INFO addressees as well as to action addressees.

The Signal “T” followed by one or more call signs means the receiving station is to relay the message only to those call signs.

Example: “T **AFA1HE**” means Relay this message only to AFA1HE.

### 10.1 HANDLING MISROUTED AND MISSENT MESSAGES

An operator holding an ACP-127 CODRESS message, who discovers that it had been sent to his station in error, must reroute the message to the correct RI by the most direct and expeditious method.

If the message bears a correct RI but was mistakenly sent to the station, simple resending of the message is all that is required.

If the message arrives at the station because it bears an incorrect RI, ACP-127, Section 426 prescribes the procedure to be followed. Such a message is called “misrouted.” A misrouted ACP-127 CODRESS message must be changed by adding a “misroute pilot” to the beginning of the header. The Pilot consists of:

- a) The appropriate security warning prosign when required.
- b) The appropriate precedence repeated.
- c) The correct routing indicator of the station to affect delivery or refile.
- d) The operating signal ZOV, preceded by the appropriate security warning operating signal when necessary.
- e) The routing indicator of the station preparing the pilot.
- f) In the case of multiple address messages, appropriate transmission instructions if required.



Example of a misrouted message:

```
VZCZCMMM000
RR UAAAAA
DE UBBBBB #0001 1231230
ZNR UUUUU
R 061230Z MAY 2015 ZYX
GR100
BT
[TEXT]
```

Suppose a State Tributary Station (STS) serving the RI UAAAAA receives the above message. He decrypts it to find out the ultimate addressee and learns that it should have been sent to RI UHHHHH because that is where the addressee actually is. ACP-127 Sect. 426 provides that a “pilot” should be added to the header to redirect the message to UHHHHH.

The following example shows the addition in **BOLD BLUE**.

```
VZCZCMMM### (FL1 simulated)
RR UHHHHH
ZNR UUUUU ZOV UAAAAA
VZCZCMMM000
RR UAAAAA
DE UBBBBB #0001 1231230
ZNR UUUUU
R 061230Z MAY 2015 ZYX
GR100
BT
[TEXT]
```

Thus modified, the message would then be sent to UHHHHH by the most expedient means.

The STS at UAAAAA would also send a SERVICE message to the originating station at UBBBBB advising him of the error and the action taken:

Example of a Service message:

```
VZCZCMMM### (FL1 simulated)
RR UBBBBB
DE UAAAAA #0101 1232300
ZNR UUUUU
BT
UNCLAS
SVC ZEQ3 UBBBBB 0001 1231230
UHHHHH 062305Z
BT
```



## APPENDIX A - ACRONYMS

The following contains a list of acronyms used in this manual.

ACRONYM	MEANING
(	Brackets ON
)	Brackets OFF
ACK	Acknowledge
ACP	Allied Communications Publication
ACTAGCY	Action Agency
AF MARS	Air Force Military Auxiliary Radio System
AFB	Air Force Base
AKNLDG	Acknowledge
ALTSTG	Altimeter Setting (Barometer in inches)
AM	Army MARS manual
AR	End of Transmission, no reply expected (i.e., OUT)
ASAP	As Soon As Possible
BKN	Broken
BT	Break
CANTCO	Can not Comply
CJCSI	Chairman Joint Chiefs of Staff Instruction
CLDLYR	Percentage of cloud cover
CODRESS	ACP message procedure for concealing address information
COMEX	Communications Exercise
COMSEC	Communications Security
DATEDES	Date Desired
DDD	Julian Day of the Year 001-365/366
DDHHMM	Two digit Day, Two digit Hour, Two digit Minute
DE	This Is
DoD	Department of Defense
DoDI	Department of Defense Instruction
DoDM	Department of Defense Manual
DTG	Date Time Group
EFTO	Encrypted For Transmission Only
EW	Encryption Wizard
EXER	Exercise
F	Prosign meaning DO NOT ANSWER
FEW	Few (clouds)
FL	Format Line
FOUO	For Official Use Only
FSK	Frequency Shift Keying
GENADMIN	General Administrative Message



ACRONYM	MEANING
GENTEXT	General Text
GR	Groups
GRNC	Groups No Count
HAVCO	Have Complied
HF	High Frequency
JOG	TRANSGLOBAL Net
JM	Joint Manual
K	Prosign meaning "I have finished, ready for your reply." (i.e., OVER)
LAT	Latitude (ddmmssN) where dd=degrees, mm=minutes, ss=seconds
LONG	Longitude (ddmmssW) where dd=degrees, mm=minutes, ss=seconds
LTIOV	Last Time Information is of Value
MARS	Military Auxiliary Radio System
MIL-STD	Military Standard
MMM	Three letter month abbreviation "JAN-DEC"
MRS	Minor Relay Station
MS-DMT	MIL-STD Data Message Terminal
MSG	Message
MSGID	Message Identification
NCS	Net Control Station
NNNN	End of Message sign
NR	Number
O	Immediate Precedence
OPER	Operation
OPR	Office of Primary Responsibility
OVC	Overcast
P	Priority Precedence
PII	Personally Identifiable Information
PKI	Public Key Infrastructure
PLA	Plain Language Address
POC	Point of Contact
R	Routine Precedence
REF	Reference
RI	Routing Indicator or Request for Information
RMD	Region MARS Director
RRI	Request for Information Response
SCT	Scattered clouds
SKC	Sky Clear
STS	State Tributary Station
SUBJ	Subject
T	Prosign meaning RELAY TO. See Section 7.1.4.





ACRONYM	MEANING
TRCPLOT	“TracePlot” identifies a place in a Request for Information message.
TTP	Tactics, Techniques and Procedures
UNCLAS	Unclassified
USMTF	United States Message Text Format
VV	Vertical Visibility
WILCO	Will Comply
WXOBS	Weather Observation Report
YMD	YYYYMMDD (4 digit year, 2 digit month, 2 digit day)
YYYY	Four digit Year
Z	Zulu



## APPENDIX B - COMMON Z SIGNALS

Refer to ACP-131 for a complete list.

Z-SIGNAL	MEANING
ZAP	Acknowledge, please
ZEK	No answer is required (i.e., DO NOT ANSWER)
ZEN	This message has been delivered by a separate transmission or by other means.
ZEP	This message (or message...) was incompletely received. Each word or group missed, which is indicated by position of ZEP in the message, will be forwarded as soon as obtained.
ZFD	This message is a suspected duplicate.
ZFG	This message is an exact duplicate of a message previously transmitted and is to be delivered to all appropriate addressees served by the receiving communications facility.
ZNR UUUUU	Means the message is unclassified and may be sent on an open circuit
ZNW	This message has been decrypted and re- encrypted at a gateway COMMCEN.
ZNY EEEEE	Means the message body must be encrypted prior to transmission.
ZOC	Station(s) called relay this message to addressees for whom you are responsible.
ZOF	Relay (pass) this message (or message...) to...now (or at...).
ZOK	Relay this message via...
ZOT	Transmit or handle this message at the lower precedence to the station or address designator(s) which follow(s).
ZOY	Relay this message only to the station(s) whose designation(s) precede this operating signal.
ZOZ	Relay this message (or message...) in its present form without decryption.



## **ANNEX I - AFMARS MESSAGING MANUAL**

The Annex I document to the AFMARS Messaging Manual is provided via separate cover.