

Message Delivery Procedures For Tributary Stations

By Daniel V. Wolff, Jr. and Tom Carrigan (11 Feb 2015)

GENERAL.

This paper sets-forth unified, common procedures that Tributary stations will use to delivery messages to addressees located within their State or area of responsibility. This guidance applies equally to unclassified PLAINDRESS or CODRESS messages.

The premise for these instructions is that Tributary stations are receiving MARS traffic down through routing branches of higher level networks (via Primary, Major, and Minor Relay stations), which is prepared using ACP-127 procedures. Tributary stations are the lowest level of any routing branch and usually operate at the State level. Whereas, Minor Relay stations operate generally at the Region level and provide branch continuity between the Tributary stations of multiple States and higher level routing branch relay stations (Primary and Major stations) and networks.

The obligation for a Tributary station to deliver messages to addressees may be accomplished by one of two methods: 1) deliver the message directly to the addressee; or, 2) employ refile procedures to relay the message through another MARS station located within their State or area of responsibility. While other solutions are plausible, these instructions focus on two easily understood and implemented methods used in MARS. The guidance in this paper will be subdivided into two parts: guidance on direct delivery procedures and refile procedures to relay to an addressee through another station.

NOTE: When a Tributary station is not available for a given State, the responsibilities for message delivery fall on the State MARS Director (SMD), the SMD's designee, or shall be assumed by the Minor relay station or another station at the discretion of the Region Director. It is recognized that a Tributary station may occasionally provide some service to neighboring States, for States that don't have their own dedicated Tributary station. Some overlap is expected to occasionally occur.

To prevent revealing actual FOUO information, fictitious Routing Indicators are used in the examples. And, because minimum skills are required to understand this guidance, it is assumed every reader has a basic understanding and working knowledge of the procedures stated in ACP-125, ACP-126, and ACP-127.

These instructions only address procedures for delivering messages that arrive down a network branch to a Tributary station or State member. Messages originated at the State or Tributary level and intended to move up a network branch must conform to ACP-127 procedures.

REFERENCES AND DEFINITIONS.

- ACP-125; Allied Communications Publication Communication Instructions Radiotelephone Procedures. It describes Radiotelephone (voice) procedures to be used by radio operators on all primarily voice operated circuits for establishing communications and sending messages by voice. All MARS services utilize ACP-125 procedures as the foundation of their voice procedures.

- ACP-126; Communications Instructions Teletypewriter (Teleprinter) Procedures. It states procedures for establishing communications and sending messages over manual teletypewriter facilities, usually terminal-to-terminal manually relayed methods. Teletype procedures are simple and most appropriate for local or tactical radio networks, such as would be used in-State or through a small region. The term "teletype" includes all MARS authorized digital modes.

- ACP-127; Communications Instructions Tape Relay Procedures. These are procedures to send teletype messages using Routing Indicators to indicate the origination and destination. Routing of this

kind is specifically designed and used in MARS for long-haul networks utilizing established routes. Unlike ACP-125 and ACP-126, the call portion of ACP-127 procedure does not establish communications between radio stations. U.S. Supp-1 (K) to ACP-127 provides specific, additional guidance for the use of ACP-127 in the United States.

- JM 2-203; MARS Routing Indicator Plan. This is a coordinated document designed to be used in conjunction with national and international MARS networks, region networks, and is addressed to the State level. Routing Indicators (RI) are the points of entry and departure for messages that are relayed through an organized system of networks designed to relay messages over long distances.

PART ONE: DIRECT DELIVERY METHOD.

The direct delivery of messages to addressees is only possible when the addressee is operational on the same net, at the same time, as the Tributary station. Networks operated at the State level are typically operated primarily using voice procedures as prescribed in ACP-125.

To deliver an ACP-127 message directly to the addressee utilizing ACP-125 (radio telephone) procedures, the Tributary station establishes radio communications with the addressee (the called station) by making a preliminary call. Once communications is established in radio telephone procedure with the addressee and mode of transmission is agreed upon, the Tributary station then relays the ACP-127 procedural message unchanged to the addressee using voice or data transmissions, although data transmission is the preferred method. It is the ACP-125 procedures that is establishing and maintaining accountability for the message delivery. Think of ACP-125 procedures as the tool to setting up the link between the Tributary station and the addressee and facilitating the message delivery.

CAUTION: In the case of CODRESS messages, no commentary should be made in the clear that draws any correlation to the station called (the addressee) and the addressee inside the CODRESS. An interceptor only sees a CODRESS message being relayed but not the association or relationship to the addressee.

PART TWO: REFILE AND RELAY METHOD.

When the direct delivery method is not possible then the ACP-127 procedural message will have to be refiled using ACP-126 procedures and then relayed through another station in the State to the addressee.

STEP ONE. The first thing that may be helpful is for the Tributary station to query the net to determine who might better be able to deliver or relay the message to the station identified on Format Line 4. You'll need to know who you're going to transmit the message to before you can prepare the message for refile.

We'll use the following CODRESS message for our example. Also for our discussion, we'll assume that one of the addressees inside this CODRESS message will be "ARMY MARS STATION AAR4ZZ". To refile this message using ACP-126 procedures, it will be necessary to make changes to Format Lines 1, 2, 3, 4, and 15.

VZCZC1AB001
 RR UHXPBC UHXPYZ
 DE UHXP AE #0002 0331845
 ZNR UUUUU
 R 031840Z FEB 2015 ZYG
 GR 131
 BT
 [CODE GROUPS]
 BT
 #0002

NNNN

Change One. Delete Format Line 1.

NOTE: Format Line 1 may be carried over to the refiled message when it is known that software systems are being employed which automate saving or local filing of the message.

Change two. Change Format Line 2 to the station you intend to call and relay your message through to the addressee. Example:

AAR4XX

Change three. Change Format Line 3 to your own callsign and include a message number. Example:

DE AAR4YY NR 125

NOTE: Format Lines 2 and 3 may appear as a single line. However, they are left on separate lines for these examples so it's conceptually easier to understand the changes made during the refile process.

Change four. Remove the security warning "ZNR UUUUU" from Format Line 4. A security warning is not part of ACP-126 procedures. Next, insert the transmission instructions Prosign "T", followed by the callsign of the addressee you want the message to ultimately be delivered to. Example:

T AAR4ZZ

Change five. Remove the serial number from Format Line 15. This is not used in ACP-126 procedures.

Here is a side-by-side comparison of what your message looks like before and after refile.

Original ACP-127 Message:

(FL1) VZCZC1AB001
 (FL2) RR UHXPBC UHXPYZ
 (FL3) DE UHXP AE #0002 0331845
 (FL4) ZNR UUUUU
 (FL5) R 031840Z FEB 2015 ZYG
 (FL10) GR 131
 (FL11) BT
 (FL12) [CODE GROUPS]
 (FL13) BT
 (FL15) #0002

Refiled ACP-126 Message:

[Omitted]*
 AAR4XX**
 DE AAR4YY NR 125
 T AAR4ZZ
 R 031840Z FEB 2015 ZYG
 GR 131
 BT
 [CODE GROUPS]
 BT
 [Omitted]

(FL16) NNNN

NNNN

** Format Line 1 may be carried over to the refiled message when it is known that software systems are being employed which automate saving or local filing of the message.*

*** Combining FL2 and FL3 in ACP-126 procedures is a correct variation that is often used (example: "AAR4XX DE AAR4YY NR 12"). However, they are left on separate lines for these examples so it's conceptually easier to understand the changes made during the refile process.*

STEP TWO. The Tributary station establishes communications with the "called station" (FL2) with a preliminary call, following ACP-125 procedures. The Tributary station then queries the distant station to determine what mode of transmission is compatible between them. Once this is agreed upon, the Tributary station then transmits the refiled ACP-126 procedural message to the distant station using voice or data transmissions, although data transmission is the preferred method.

CAUTION: In the case of CODRESS messages, no commentary should be made in the clear that draws any correlation to the station called (the addressee) and the addressee inside the CODRESS. An interceptor only sees a CODRESS message being relayed but not the association or relationship to the addressee.

STEP THREE. The distant station will then deliver the message to the station identified on Format Line 4 or they may relay it further through another station. If the refiled message needs to be further relayed in order to have it delivered to the station on Format Line 4 (the addressee), Format Line 4 will remain unchanged as it passes through successive relay stations. Only Format Lines 2 and 3 are changed as it is handed off to successive relay stations.

STEP FOUR. All stations involved in the delivery or relay of traffic must include log entries that record its movement: originator RI, Originator's message number, Date-Time-Group, time received, station to whom the refiled message was transmitted to, time of transmission, etc.

After you have refiled the message it will look like one of the following three examples, depending on what options you took for Format Lines 1, 2, and 3. All three variations are valid for messages refiled using ACP-126 procedures.

Example #1:

AAR4XX
DE AAR4YY NR 125
T AAR4ZZ
R 031840Z FEB 2015 ZYG
GR 131
BT
[CODE GROUPS]
BT

Example #2:

AAR4XX DE AAR4YY NR 125
T AAR4ZZ
R 031840Z FEB 2015 ZYG
GR 131
BT
[CODE GROUPS]
BT

NNNN

NNNN

Example #3:

VZCZC1AB001
AAR4XX
DE AAR4YY NR 125
T AAR4ZZ
R 031840Z FEB 2015 ZYG
GR 131
BT
[CODE GROUPS]
BT

NNNN