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TCM Message Administration

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Contents

List of Figures

List of Tables

1. General

NOTE — For CSAS documents, any reference to "ZRxxxx" should be changed to "VMxxxx". Also, any reference to "RMxxxx" should be changed to "MMxxxx".

1.1 Document References

This document is one of a series of user manuals that describe the Bellcore CSAS Communication Module (TCM). These documents are listed below:.

Number	Title
252-573-260	TCM Online Message Directory
252-573-301	TCM Overview
252-573-302	TCM Route Administration (RA)
252-573-303	TCM Message Administration (MA)
252-573-304	TCM Network Administration (NA)
252-573-305	TCM Translation Administration (TA)
252-573-383	TCM Cron User Manual
252-551-703	CSAS Interface Data Catalog
252-551-791	Planning Transition Guide for a SOP to CSAS Interface
252-541-230	TQS User Manual

Related documents include BR 252-551-703, CSAS Interface Data Catalog and BR 252-551-791, Planning Transition Guide for a SOP to CSAS Interface.

1.2 Introduction To Message Administration

The Message Administration (MA) component provides tools by which the user can monitor and correct messages being routed through TCM. This includes the display of any input or output message in either the TLOG or SENDQ databases, the correction of a message, the resending of a corrected message, and the deletion of an undesired message. An overview of the MA process follows.

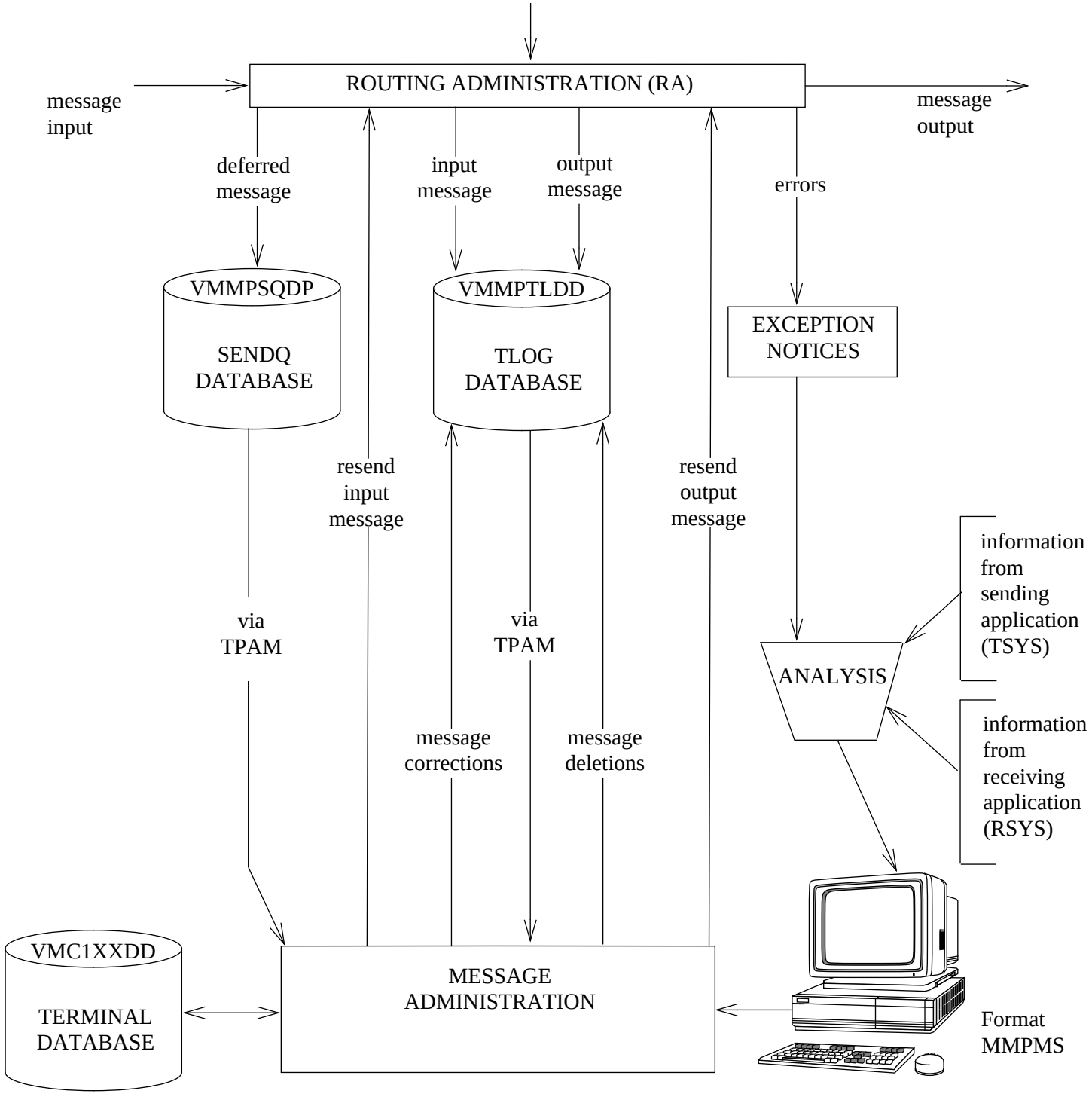

Figure 1-1. Overview of the Message Administration Process

When no errors exist, the MA tools remain idle. Without errors, the normal life cycle of a message is as follows:

Step 1: An input message is received by RA.

Step 2: RA processes the input message and logs it in the TLOG database.

Step 3: RA prepares an output message and logs it in the TLOG database.

Step 4: RA delivers the output message to its intended target (RSYS).

Step 5: The target returns a positive acknowledgement to RA.

Step 6: RA deletes the input and output messages from the TLOG database.

It is only when errors exist in a message that MA is required. This occurs when RA is unable to process the input or output message (steps 2 and 3) or when a negative acknowledgement (step 5) is received from the target. The error is stored in the TLOG database along with the message. The MA tools are then used to either correct and resend the message or delete it from the database.

1.2.1 Exception Notice Analysis

When errors occur in the RA process, notification is provided to the users in the form of exception notices. A description of exception notice routing is provided in the Routing Administration (RA) User Manual, BR 252-573-302. A sample exception notice appears below.

```
          * CSAS  -TCM: EXCEPTION NOTICE (MMPMTE) *
 TLOG KEY:   SOACSEC 199618308255213456
ACTIVITY #:  1001                    PATHID:  ZSU
SOURCE SEC:  SOACSEC   TIME STAMP:1996183082552123456  PPATHID:
TARGET SEC:  CSASSEC   RESND TIME:             EPATHID:
TARGET SEC1:         DEFER TIME: 000000000     STATUS:  A
TARGET SEC2:                     SCTYPE:  Z
TARGET SEC3:                     ELTERM:
TARGET SEC4:                     VMTERM:
TARGET SEC5:                     SUPID1:
TARGET SEC6:                     SUPID2:
TARGET SEC7:                     SUPID3:
TARGET SEC8:                     SUPID4:
TARGET SEC9:                     SUPID5:
TARGET SEC10:                      SKIP:
ACK TYPE:   APPLICATION ERROR
ERROR CODE: GOC039E SCRNAME:   MESSAGE: INVALID MESSAGE RRC IN INPUT MESSAGE
OFFSET:   FIELDNAME:      AGNUM:   USER DATA:
```

Figure 1-2. Sample Exception Notice

The first step in resolving these errors is to determine the type of error involved. Six main classifications exist.

- TPAM parsing errors
  TPAM is unable to identify the field names and/or field values in the input data. The message record is given a status of TCM PARSE ERROR.
- TPAM mapping errors
  Fields specified by the MFD (message format descriptor) are not found in the input data. The message record is given a status of TCM MAPPING ERR.
- Header validation errors
  A description of the validations performed in header processing may be found in the Routing Administration User Manual, BR 252-573-302. The message record is given a status of TCM ERROR.
- TPAM translation errors
  These include missing translation rules, or TTS tables. The message record is given a status of TCM TRANS ERROR.
- TPAM general errors
  These include errors other than parsing, mapping, and translation. The message record is given a status of TCM TPAM ERROR.
- Application errors
  These are defined as the errors received on negative acknowledgements from the target application. They include missing fields, incorrect field names, and incorrect field values. The message record is given a status of APPLICATION ERROR.

1.2.2 Error Resolution

The second step in resolving these errors is to determine the best long-term and short-term solutions. Long-term solutions are changes that stop the errors from occurring in the first place. These include:

- Changes to a non-CSAS reformatter.
- Additional translation rules or TTS table entries.
- Changes to the MFDs (message format descriptors).

Short-term solutions include those immediate actions that will fix the messages logged in TCM and send them on their way. This is the purpose of format MMPMSG. In a TCM-to-TCM scenario the receiving application has the option of returning the message in error to the transmitting application for correction and retransmission.

1.2.3 Message Correction/Resend/Deletion

Format MMPMSG can be used to find and display any message in TCM. The ability to correct or otherwise modify a message depends upon its status, as summarized in the following table.

Table 1-1. Message Correction Summary

STATUS	ACTIONS AVAILABLE	ACTIONS NOT AVAILABLE
MSG IS PREFERRED	• FIND record • display header • MOVE record from SENDQ to TLOG	• correct header • display/correct text • display errors
MSG IS HELD	• FIND record • display/correct header • display/correct text • display errors	
MSG PENDING ACK	• FIND record • display/correct header • display/correct text	• display errors
TCM ERROR	• FIND record • display/correct header • display/correct text • display errors	
TCM TPAM ERROR	• FIND record • display/correct header • display/correct text • display errors	
TCM PARSE ERROR	• FIND record • display/correct header • display/correct text • display errors	
TCM TRANS ERROR	• FIND record • display/correct header • display/correct text • display errors	
TCM MAPPING ERROR	• FIND record • display/correct header • display/correct text • display errors	
APPLICATION ERROR	• FIND record • display/correct header • display/correct text • display errors	
MSG RETURNED	• FIND record • display/correct header • display/correct text • display errors	

Messages that are corrected online with format MMPMSG must be returned to the TCM routing (RA) process via the RESEND key.

The DELETE key is used to remove messages from the TLOG database if they are going to be corrected in some other manner.

Messages that are to be returned to the sender are returned via the use of the RETURN command on format MMPMSG.

1.3 Security

The Message Administration (MA) component utilizes S-1 security system. This provides a single online display that allows an administrator to create and update security for all participating MA components.

Security is provided at the logical level, with LTERMS or USERIDs being grouped by the administrator. A GROUP is the basic unit to which security is assigned. Each individual LTERM/USERID has the privileges assigned to its respective GROUP. Privileges are assigned to a GROUP through GRIDS. GRIDS are two dimensional arrays (e.g., USER ID by function key and command word) whose intersection values define security privileges. Copies of GRIDS are added to GROUPS and updated by the administrator.

All terminals used to query an individual component system should be assigned the privilege to Signon to that component system. The ability to Signon as an administrator should be reserved for the TCM system administrator.

Consult with your Security Administrator for additional information.

2. Format MMPMSG Description

2.1 General

The MMPMSG screen is invoked by typing /FOR MMPMSG on a blank screen and pressing the ENTER key.

The screen layout is shown below.

```
 * CSAS - TCM: MESSAGE ADMINISTRATION (MMPMSG) * /FOR        PAGE   1
COMMAND =>                              96.039 DATE 02/08/96
ACNO                  I/O   MSG STATUS           TIME 15:55:43
ERROR CODE            OUTPUT MSG KEY           SEARCH AGR NAME
SOURCE(TSYS)          TIME STAMP               TMST(END)
TARGET(RSYS)          PATHID         SCTYPE
ERROR
NOTE :
```

Figure 2-1. Format MMPMSG

FIND	FWD	BACK		UPD	NEXT	SAVE	RFSH	RSND	DELT	HELP	PRNT
PF1	PF2	PF3		PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12
PF13	PF14	PF15		PF17	PF18	PF19	PF20	PF21	PF22	PF23	PF24

The upper half of the screen contains record keys and search keys. Field names and associated field values for both the TCM header and the aggregates in the record are listed in two columns in the lower half of the screen.

The function keys and command words used with them appear in the following table.

Table 2-1. Function Keys and Commands for Format MMPMSG

Function Keys	Command Words
FIND (PF1/13)	AGF (find given aggregate)
FORWARD (PF2/14)	AGH (find TCM header)
BACK (PF3/15)	AGE (find aggregate with error)
UPDATE (PF5/17)	AGN (find next aggregate)
NEXT (PF5/18)	BCHA (bulk change all TLOG messages meeting the specified input criteria)
SAVE (PF7/19)	BDEL (bulk delete all messages meeting the specified input criteria)
REFRESH (PF8/20)	BDRH (bulk delete all messages meeting the specified input criteria and for each deleted message, resend the next message, if it is "HELD", with the same activity number)
RESEND (PF9/21)	BMOV (bulk move from SENDQ to TLOG all messages meeting the specified input criteria)
DELETE (PF10/22)	BRES (bulk resend all messages meeting the specified input criteria)
HELP (PF11/23)	CANCEL (cancel changes)
PRINT (PF12/24)	CHANGE (change FCIF) CHGSTAT (change status) COPY (creates a new record with a new SOURCE SEC) DISPLAY (display Message Text) ER1 (find 1st error) ERN (find next error) ERP (find previous error) INPUT (display input side of message) MFD (display MFD data) MOVE (move message) OUTPUT (display output side of message) RELEASE (release lock) RETURN (return messages to transmitting application) RULE (display translation rule set) SCAN (scan messages by activity # or error code)

2.2 Function Keys

2.2.1 FIND Function Key (PF1/13)

This key is used to retrieve and display message records from the TCM databases. Messages will be retrieved from the SENDQ database when the MSG STATUS is DEFERRED. Messages with any other MSG STATUS will be retrieved from the TLOG database.

Any one of three search criteria combinations may be used for the retrieval and display of message records:

- ACNO
  This entry will cause the retrieval and display of the first message record (i.e., the record with the earliest timestamp) that exists for that activity number. The record search is made via the VMMPTLP1 Activity Number Secondary Index. The search is made in both the TLOG and SENDQ databases. If additional records exist for that activity number, they can be displayed in chronological order (i.e., timestamp order) with the NEXT key (PF6/18).
- ERR CODE
  This entry will cause the retrieval and display of the first message record that contains the given error code. The record search is made via the VMMPTLP2 Error Code Secondary Index. The search is made only in the TLOG database. If additional records contain the given error code, they can be displayed with the NEXT key (PF6/18).
- TSYS and TIME STAMP
  These two entries will cause one specific message record to be retrieved and displayed. The record search is made directly in the TLOG database.

> **NOTE —** The timestamp of a TLOG or SENDQ message is a 19 numeric character field with the following format CCYYDDDHHMMSSTHssss where CC is the Century, YY is the Year, DDD is the Julian Day, HH is the Hour, MM is the Minute and SS is the Second TH is the Tenth to the Hundredth of a second and ssss is the Thousandth to Millionth of a second. However, due to limitations of the width of the IMS screen format, the TIME STAMP field is only 17 characters long. The format is YYDDDHHMMSSTHssss (i.e., the century of the message timestamp will not be specified). TCM supports timestamps between the years 1960 to 2059.

If more than one of the three search criteria are provided, FIND will apply them in the following order:

- TSYS and TIME STAMP
- ACNO
- ERR CODE

Two additional entries may be necessary. By default, in a FIND by TSYS and timestamp or activity number, the input portion of the message record is retrieved. To obtain the output portion, the user must enter two additional search criteria:

- The user must enter the letter "O" in the I/O field on the screen.
- The user must enter a code in the TPAM KEY field on the screen. The code consists of the sequence number of the output message concatenated to the IMS TRANCODE. This data is provided in the exception notice.

When performing a FIND by error code, the input portion will be retrieved for a message with a TCM error and the output portion will be retrieved for a message with an application error.

The FIND action retrieves the entire input or output portion of the message record and places it in a work area in the Terminal database (VMC1XXDD). The retrieved data includes:

- **TCM Header (from the 01 segment of the record)**
  Only the TCM message header portion of the record is initially displayed on the screen. In addition, a message is placed in the NOTE field that identifies the display as the "TCM HEADER", and also specifies whether or not "correction" of the header data is possible.
- **All text data (field/value pairs arranged in aggregates)**
  The user must invoke one of several "aggregate" command words (AGF, AGH, AGE, AGN) to display the message text that exists within the record. When this is done, the message in the NOTE field is automatically changed to identify the displayed aggregate by its name. *The user must be aware that these commands will not work if there is any TCM general or parsing error or if the status of the message is deferred or held. However, the DISP command will always work, except for deferred messages.*
- **One error and associated error text, if it exists**
  The error code is displayed in the ERR CODE field. The error text is displayed in the ERROR field. If the FIND action used ERR CODE as the search criteria, it will be that error code and error text that is retrieved and displayed. If any other search criteria is used, the first error in the record will be retrieved and displayed. The "error" command words (ER1, ERN, ERP) must be used to retrieve and display other errors in the record, if they exist.

The FIND action also "locks" the message record so that no one else can inadvertently access it. The "lock" consists of the LTERM of the requesting terminal being entered into the message record in the TLOG database.

If no changes were made to the message text, a CANCEL before another FIND is not required. The original message will automatically be "unlocked" in TLOG, deleted from the TERMINAL database, and the new FIND will be executed.

2.2.2 FORWARD Function Key (PF2/14)

Message text (retrieved by the FIND action and stored in the Terminal database) consists of "field name" and "field value" pairs. In addition, these name/value pairs are organized into groupings called "aggregates", each of which is given a name. The AGF, AGH, AGE, and AGN command words are used to display the first 32 name/value pairs in an aggregate. If more exist, the FORWARD key is used to display the next 32 name/value pairs. The FORWARD key may be used as many times as necessary to display all of the name/value pairs in a given aggregate.

2.2.3 BACK Function Key (PF3/15)

This key performs the same function as the FORWARD key, but in the opposite direction. The BACK key is used to display the previous 32 name/value pairs in a given aggregate.

2.2.4 UPDATE Function Key (PF5/17)

This key performs three functions:

1. It updates the Terminal database with whatever changes have been entered into the record on the MMPMSG screen. Changes may be made in any of the three ways detailed for the SAVE Function Key, shown below.
2. It then replaces the message record in the TLOG database with the version of the record that is stored in the Terminal database.
3. It "unlocks" the message record by removing the requesting terminal LTERM from the record.

To perform an update, type "UPDATE" in the command field and then press the UPDATE key, PF5/17.

> **NOTE —** No updates to the fields on the upper area of the screen (e.g. Source(TSYS)) are allowed.

2.2.5 NEXT Function Key (PF6/18)

This key is used to retrieve and display additional message records that may exist for a given activity number or error code. The NEXT key will display these additional records one at a time in chronological order (i.e., timestamp order).

An unqualified FIND (using either ACNO or ERR CODE as the search criteria with no TSYS or TMST) must precede the use of the NEXT key. *The user should be aware the NEXT is not applicable following a FIND action that is performed from either of the SCAN screens.* This situation occurs because such a FIND is executed using TSYS and TMST as the search criteria. In addition, it will not find the next deferred optional acknowledgement message.

The user should also note that the NEXT key removes the currently displayed record from the Terminal database and unlocks the record before retrieving and displaying the next record.

2.2.6 SAVE Function Key (PF7/19)

This key is used to update the message record stored in the Terminal database with changes that have been made to the record on the MMPMSG screen.

There are three different types of changes that the user may make. *Changes two and three, however, will not work for headers.*

1. Change a field/value pair by overtyping the incorrect data with the correct data.
2. Delete a field/value pair by entering a "D" in the one-character field to the left of the pair.
3. Extend the length of a field/value pair by entering an "X" in the one-character field to the left of the pair.

The user should note that any of the above actions *do not update* the message record in the TLOG database. That action must be performed by the UPDATE key.

The SAVE key allows the user to "thumb" through the message record (with the FORWARD and BACK keys and/or with the AGF, AGH, AGE, AGN, ER1, ERN, and ERP command words) and make various changes before committing those changes to the record in the TLOG database.

> **NOTE —** The display command will always display the form of the message in the TLOG database. Saved changes that were not yet updated will not appear in a display.

NOTE — No updates to the fields on the upper area of the screen are allowed.

2.2.7 REFRESH Function Key (PF8/20)

This key is used to return a blank MMPMSG format to the screen.

WARNING — The REFRESH key will not clear the Terminal database nor "unlock" a record. An UPDATE action or a CANCEL action should precede the REFRESH. If not done, any attempt to execute a FIND from the CRT terminal will result in a message noting that a cancellation is required.

2.2.8 RESEND Function Key (PF9/21)

This key is used to resend a corrected message through the TCM "message routing" process.

The "routing" process accepts messages from MMPMSG and attempts to process and deliver them to a target system or systems. However, certain differences exist when MMPMSG resends a message versus when a new message is received by the "routing" process.

1. Messages resent by MMPMSG are not deleted from the TLOG database.

   If MMPMSG resends an input message, only the error segments of the input portion of the message and the entire output portion of the message are deleted from TLOG. However, if input errors are present, the error segments are deleted and there will be *no* associated output. Also, if the input has no error, then there are no error segments to delete and the output will be deleted.

   If MMPMSG resends an output message, only the error segments in the output portion are deleted from TLOG.

2. Whereas new messages are assigned a "timestamp" that becomes part of the message record key, a message resent by MMPMSG retains its original "timestamp" because it already exists in the TLOG database.

3. RESEND and HOLD processing are also dependent upon the PROCESSING LEVEL, as entered on Format MMPNET. If the specified value is "P", the RESEND occurs depending upon the ACNO remote SEC (from MMPNET), the PATHID and the SC_TYPE. If the value of PROCESSING LEVEL is "S", RESEND processing depends upon the ACNO, SC_TYPE and SEC. The default value is "S".

A FIND key action must precede the RESEND.

The user should understand that before performing the actual resend of the message, the RESEND key performs a SAVE and UPDATE, deletes the record from the TERMINAL database, and unlocks the message in the TLOG database.

To perform a resend, type "RESE" in the COMMAND field and then press the RESEND key, PF9/21.

2.2.9 DELETE Function Key (PF10/22)

This key deletes the entire message record (both input and output portions) from both the Terminal database and the TLOG database.

A FIND action must precede the DELETE.

To perform a deletion, type "DELE" in the COMMAND field and then press the DELETE key, PF10/22.

2.2.10 HELP Function Key (PF11/23)

This key provides "help" by displaying definitions and other explanatory text for any designated field on the screen including the screen title. This key also provides "help" by displaying descriptions and appropriate actions for the TCM-generated error, warning, or informational message that is displayed at the system message line (available on CSAS screens only).

The field for which help is desired is identified by the cursor. If the field is unprotected, the tab key is used to position the cursor in the field for which help is desired. If the field is protected, the cursor positioning keys are used to move the cursor to the first position within the field name.

If the cursor is positioned on a screen field, then pressing the HELP key will switch the user to a special TCM FIELD INFORMATION screen on which the definition and other information is displayed. The user can return to the MMPMSG screen by pressing the PA2 (NEXT MESSAGE) key. The returned screen will contain the same data as was on it when the HELP key was invoked.

Similarly, if the cursor is positioned in the MMPMSG screen title, then pressing the HELP key will return a list of valid function keys for that screen.

If the cursor is positioned in the TCM error, warning, or informational message displayed at the system message line, then pressing the HELP key switches the user to the CSAS Formatted Message Help screen (for MHELPF) on which the descriptions of appropriate actions for the condition are displayed. The user can return to the MMPMSG screen by

pressing the PF7 (LAST SCREEN) key. The returned screen will contain the same data as was on it when the HELP key was invoked.

2.2.11 PRINT Function Key (PF12/24)

This key obtains a printed copy of whatever information is currently being displayed on the CRT screen. The displayed data is directed to the printer associated with the requesting USER ID.

2.3 Aggregate Command Words

Four command words are available to the user for finding and displaying field/value pairs associated with aggregates within a message record. These words are:

- AGF (find given aggregate)
- AGH (find TCM header)
- AGN (find next aggregate)
- AGE (find aggregate with error)

A FIND key action must precede the command word action. The FIND key retrieves an input or output message record (TCM header, all aggregates, and one error, if it exists) from the TLOG or SENDQ database and places it into the Terminal database. The aggregate command words find and display aggregate information from the data stored in the Terminal database.

Whenever an aggregate is displayed, its name is automatically displayed in the NOTE field on the screen.

2.3.1 AGF Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display a given aggregate in the message record. The user must provide the aggregate name in the SEARCH AGR NAME field. The system will find the aggregate with the appropriate name that has the next highest aggregate number. If the system reaches the end of the database, an AGN or AGF message will be generated. If the command is executed again, loop around will occur (the system will start the search from the beginning of the database).

2.3.2 AGH Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display the TCM header in the message record.

The user should note that the TCM header is displayed as the result of the initial FIND action. The AGH command word is useful for returning to the TCM header after having used the AGF, AGN and AGE command words to display various aggregates within the record.

2.3.3 AGN Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display the next aggregate in the message record. If the TCM header is currently being displayed, the AGN action will find and display the first aggregate in the record. If the last aggregate in the record is currently being displayed, the AGN action will result in the display of an informational message stating "AGF or AGN FAILED END OF MESSAGE"; subsequent AGN action will "wrap around" and find and display the first aggregate in the record.

2.3.4 AGE Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display the aggregate in the record that contains the error code displayed in the ERR CODE field.

2.4 Error Command Words

Three command words are available to the user for finding and displaying error codes and error text within a message record. These words are:

- ER1 (find 1st error)
- ERN (find next error)
- ERP (find previous error)

A FIND key action (locating the message in error) must precede the command word action. The FIND key action retrieves an input or output message record (TCM header, all aggregates, and one error) from the TLOG database and places it into the Terminal database. From this data, the TCM header, the error code, and the error text are displayed on the MMPMSG screen.

The error command words retrieve new error data from the TLOG database as necessary. Specifically, each execution of an "error" command word causes the following actions:

1. A new error, if one exists, is retrieved from the message record in TLOG.
2. The error currently stored in the Terminal database is replaced by the new error.
3. The error currently displayed on the MMPMSG screen is replaced by the new error.

2.4.1 ER1 Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display the first (beginning) error in the message record.

The user should note that the first error in the record will be displayed as the result of the initial FIND action (unless the search criteria was an error other than the first error). The ER1 command word is useful for returning to the first error after having used the ERN and ERP command words to display other errors in the record.

2.4.2 ERN Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display the next error in the message record. When no additional errors exist, a message to that effect is displayed.

2.4.3 ERP Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display the previous error in the message record.

2.5 Cancel Command Words

Two command words are available to the user for canceling whatever changes are logged in the Terminal database and unlocking the record in the TLOG database. These words are:

- CANCEL (perform a CANCEL from the originating terminal)
- RELEASE (perform a RELEASE from a non-originating terminal)

2.5.1 CANCEL Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user at the originating terminal to cancel any changes that may have been saved in the Terminal database in anticipation of updating the TLOG database. The CANCEL action causes the message record to be deleted from the Terminal database and removes the `lock" on that record in the TLOG database. The user should note that no update is performed on the record in the TLOG database.

2.5.2 RELEASE Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user at a terminal other than the originating terminal to release a message record that has been placed in the Terminal database by another terminal. The RELEASE action causes the message record to be deleted from the Terminal database and removes the "lock" on that record in the TLOG database. The user should note that no update is performed on the record in the TLOG database.

2.6 BULK COMMAND WORDS

Three command words are available to the user to perform specific actions in a bulk processing mode. These words are:

- BDEL
  Bulk delete all messages meeting the specified input criteria.
- BDRH
  Bulk delete all messages meeting the specified input criteria. For each deleted message, resend the next message with the same activity number, if it is ‘HELD’.
- BRES
  Bulk resend all messages meeting the specified input criteria.
- BCHA
  Change all messages meeting the specified input criteria by replacing one string with another string.
- BMOV
  Moves all messages meeting the specified input criteria from the SENDQ database to the TLOG database.

2.6.1 BDEL Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to delete all message records in the TLOG database that meet user-specified selection criteria. Users may select records to be deleted by specifying either the ACNO (activity number) or the ERROR CODE, one of which is required, plus any combination of optional fields, which include PATHID, SCTYPE, TSYS and RSYS. For each message both the input and output portions are deleted. If the user specifies both the activity number and error code as input criteria, the error code will be ignored. If the activity number is specified, the user may optionally limit the message records to be deleted to that message at a given timestamp (if present) and to those messages later than a given timestamp by specifying the timestamp in the TIME STAMP field. If the error code is specified, and the user wishes to limit the command to those messages whose timestamp is the same or later than a given timestamp within a TSYS, both the TIME STAMP and TSYS fields must be specified.

When performing a BDEL by error code within a TSYS, it is possible to limit the delete function to those messages within the timestamp range between TIME STAMP and TMST(END). Messages with timestamps equal to the TIME STAMP or TMST(END) values will also be deleted.

> **NOTE —** A maximum of 100 messages will be deleted during each execution of this command. The oldest 100 messages in the TLOG database that meet the specified input criteria are chosen for deletion. If more than 100 messages meet the input criteria the timestamp of the last message processed will fill the timestamp field of the MMPMSG screen, allowing the reissue of BDEL. The timestamp that previously occupied the timestamp field is now at the bottom of the screen.

2.6.2 BDRH Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to delete all message records in the TLOG database that meet user-specified selection criteria. Users may select records to be deleted by specifying the ERROR CODE, which is required, plus any combination of optional fields, which include PATHID, SCTYPE, TSYS and RSYS. (The activity number cannot be used in conjunction with this command word). For each message both the input and output portions are deleted. For each deleted message, the next "HELD" message with the same activity number as the deleted message is resent. The user may optionally limit the command to those messages that have a timestamp the same as or later than a given timestamp (within a TSYS) by specifying both the TIME STAMP and TSYS fields.

When performing a BDRH by error code within a TSYS, it is possible to limit the delete function to those messages within the timestamp range between TIME STAMP and TMST(END). Messages with timestamps equal to the TIME STAMP or TMST(END) values will also be deleted.

> **NOTE —** A maximum of 100 messages will be deleted during each execution of this command. The oldest 100 messages in the TLOG database that meet the specified input criteria are chosen for deletion. If more than 100 messages meet the input criteria, the timestamp of the last message processed will appear in the timestamp field of MMPMSG, allowing the reissue of BDRH. The timestamp that previously appeared in the timestamp field now appears at the bottom of the screen.

2.6.3 BRES Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to resend all message records in the TLOG database that meet user-specified selection criteria. Users may select records to be resent by specifying either the ACNO (activity number) or the ERROR CODE, one of which is required, plus any combination of optional fields, which include PATHID, SCTYPE, TSYS and RSYS. Either the input or output messages for the group may be resent as specified by the required I/O INDICATOR field. If the user specifies both the activity number and error code as input criteria, the error code will be ignored. If the activity number is specified, the user may optionally limit the message records to be resent to only that message that has a given timestamp (if any) and to those messages later than a given timestamp by specifying the timestamp in the TIME STAMP field. If the error code is specified and the user wishes to limit the command to those messages with a timestamp the same as and later than a given timestamp (within a TSYS), both the TIME STAMP and TSYS fields must be specified.

When performing a BRES by error code within a TSYS, it is possible to resend only those messages within the timestamp range between TIME STAMP and TMST(END). Messages with timestamps equal to the TIME STAMP or TMST(END) values will also be resent.

> **NOTE —** A maximum of 100 messages will be resent during each execution of this command. The oldest 100 messages in the TLOG database that meet the specified input criteria are chosen to be resent. If more than 100 messages meet the input criteria, the timestamp of the last message processed will appear in the timestamp field of MMPMSG, allowing BRES to be reissued. The

timestamp that had appeared in the timestamp field now appears at the bottom of the screen.

2.6.4 BCHA Command Word

The bulk change command (entered in the COMMAND field in conjunction with the ENTER key) allows the user to change all message records in the TLOG database that meet user-specified selection criteria. Users may select records by specifying the ERROR CODE, which is required, plus any combination of optional fields, which include PATHID, SCTYPE, TSYS and RSYS. ACNO cannot be used with this command. The bulk change command works in the same manner as the CHANGE command, except that BCHA can change up to 100 messages at a time.

The syntax of the BCHA command follows:

BCHA /before string/after string/

For all messages affected, this command will change the first occurrence of the "before string" into the "after string". The user may also replace *all* occurrences of the "before string" (rather than only the first occurrence) by using the BCHA ALL command, as follows.

BCHA ALL /before string/after string/

To limit the changes made by BCHA ALL to only those messages within a given TSYS that fall after a certain time, enter that time in the TIME STAMP field and TSYS in the TSYS field.

To change all messages within a range of times, enter the earliest and latest timestamps to be changed in the TIME STAMP and TMST(END) fields. Again, the identity of the transmitting system must be entered in the TSYS field.

If the user wishes to change more than 100 messages, the command must be re-issued.

2.6.5 BMOV (Bulk Move) Command Word

This command word (entered in the command field) enables a user to simultaneously move all messages meeting user-specified selection criteria from SENDQ to TLOG. The only required selection criterion is RSYS. Users may also specify any combination of ACNO, TSYS, PATHID and SCTYPE, the optional selection criteria. Messages moved in this fashion will be marked with ERROR CODE "TCM231E", and "MESSAGE MOVED FROM SENDQ TO TLOG", will appear in the ERROR field on the screen. This message signifies an error condition (messages moved from SENDQ to TLOG are always considered to be "errored"), but does not imply that the user has made an error. After performing a BMOV, users may wish to do a SCAN using ERROR CODE TCM231E as a

selection criteria. Such a scan is a convenient way of gathering all the messages moved from SENDQ to TLOG so that the user may continue working with them via another bulk command such as BDEL.

> **NOTE —** A maximum of 100 messages will be moved during each execution of this command. The oldest 100 messages in the TLOG database that meet the specified input criteria are chosen to be moved. If more than 100 messages meet the input criteria, the timestamp of the last message processed will appear in the timestamp field of MMPMSG, allowing BMOV to be reissued. The timestamp that had appeared in the timestamp field now appears at the bottom of the screen.

2.7 Other Command Words

Eleven other command words are available to the user:

- MOVE (move message from SENDQ to TLOG)
- CHGSTAT (change message status from PEND ACK to APPL ERROR)
- DISPLAY (display the input or output message text)
- CHANGE (change the unparsed message)
- MFD (display "message format descriptor" data)
- RULE (display translation rule set)
- SCAN (scan messages for a given activity number or error code)
- COPY (creates a new record with a new SOURCE SEC)
- INPUT (displays input side of message)
- OUTPUT (displays output side of message)
- RETURN (returns message to transmitting application)

2.7.1 MOVE Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to move a given class 1 or class 2 message record with DEFERRED status from the SENDQ database to the TLOG database, changing its status to TCM ERROR. Messages moved in this fashion will be marked with ERROR CODE "TCM231E", and "MESSAGE MOVED FROM SENDQ TO TLOG", will appear in the

ERROR field on the screen. This message signifies an error condition (messages moved from SENDQ to TLOG are always considered to be "errored"), but does not imply that the user has made an error.

2.7.2 CHGSTAT Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to change the message record status from PEND ACK (pending acknowledgement) to APPL ERROR (application error).

The user is reminded that changes cannot be made to messages with a status of PEND ACK. This restriction can be bypassed by changing the status with the CHGSTAT command.

2.7.3 DISPLAY Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to display the header and text data of the retrieved message in its original FCIF, MDA or DSECT form. Only messages stored in TLOG can be displayed (i.e., deferred messages cannot be displayed.)

A FIND must precede the use of the DISPLAY command. When the DISPLAY command is executed the user is automatically switched to a special screen where the message is displayed in its original FCIF, MDA or DSECT form. Even the SKIP section for which TPAM processing was bypassed may be displayed via the DISPLAY command. The title at the top of the special screen is "CSAS-TCM: MESSAGE DISPLAY (MMPMF)". The format name is MMPMF. Format MMPMF is shown below.

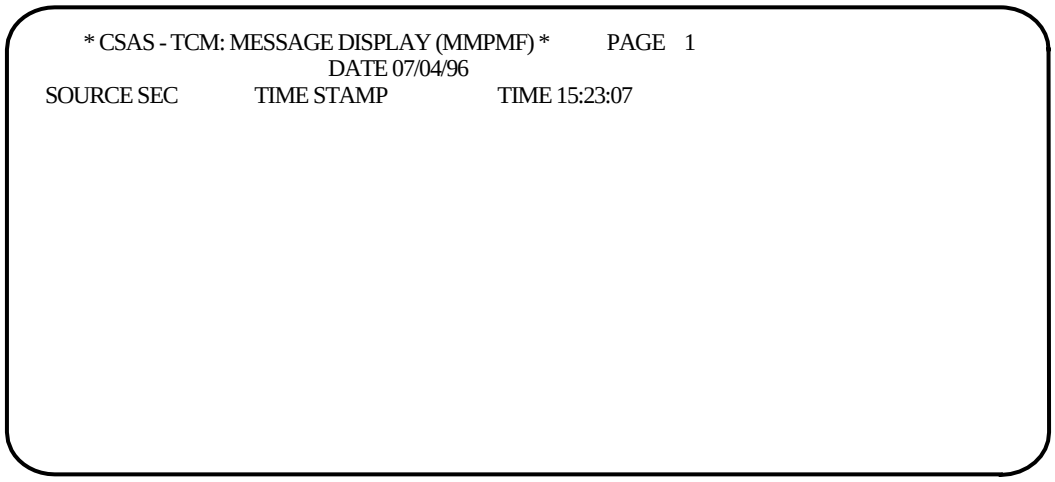

Figure 2-2. Format MMPMF

If the amount of data exceeds the capacity of the screen page, the user may display succeeding pages with the PA1 key.

> **NOTE —** The user may optionally use the IMS operator logical paging commands in the top left hand corner of the screen (i.e., =1, =+1, =-1, last, =n, =+n, =-n).

The user may return to the MMPMSG screen by pressing the PA2 key.

2.7.4 CHANGE Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to change data in a message in its FCIF form.

*Header data (*ROUTCTL) cannot be changed with this command. It is also not possible to change data that was contained within a SKIP section (for which TPAM processing of the section was bypassed) of a multi-section FCIF message.* Should the user attempt to change such a section, TCM may create the illusion that the section was changed. In reality, however, the SKIP section is stored in a separate part of the TLOG database and cannot be modified by the user.

A FIND must precede the use of the CHANGE command. It is expected that the user will want to examine the FCIF form of the message by using the DISPLAY command. If this is done, the user will be automatically switched to the special MMPMF screen titled, "CSAS-TCM: MESSAGE DISPLAY (MMPMF)". The user will then need to return to the MMPMSG screen via the PA2 key before proceeding to the CHANGE step.

The CHANGE command must be entered in the MMPMSG COMMAND field in the following manner:

CHANGE /before string/after string/

Three rules apply to this command:

- A blank must separate the CHANGE command word from the first delimiter (/).
- The "before string" and the "after string" may be of different sizes.
- Any character (not just the slash) may be used as the delimiter as long as it is not part of either string.

Further, if the user wants all occurrences of the before string in the message to be changed, the CHANGE command word and the "ALL" argument must be entered in the MMPMSG Command field in the following manner:

CHANGE ALL /before string/after string/

Three rules also apply to the use of the "ALL" argument with the CHANGE command word.

- A blank must separate the CHANGE command word from the "ALL" argument.
- A blank must separate the "ALL" argument from the first delimiter (/).
- Any character (not just the slash) may be used as the delimiter as long as it is not part of either string.

Following the correction or corrections the message may be resubmitted to the RA process with the RESEND function key (PF9/21).

2.7.5 MFD Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display "message format descriptor" data.

> **NOTE —** An input MFD tells the TPAM Parser how to interpret the message data it receives from a CSAS System application (scenarios A, N and S) or from a remote sending system that resides in the same IMS control region but bypasses its supporting TCM (scenario D). An output MFD tells the TPAM Mapper how to place the message data into the internal format required by the CSAS System application (scenarios R, Z and D).

The MFD command must be entered in the MMPMSG COMMAND field in the following manner:

MFD (MFD name) (aggregate name)

Three rules apply to this command.

- Blanks must separate the MFD command word and the two parameters.
- The MFD name may be for either an input MFD or an output MFD.
- A valid aggregate name must be provided. (If the aggregate name is omitted, the system will display a list of valid aggregate names. The user must remember the appropriate name, and use PA2 to return to the MMPMSG screen. The valid aggregate name may then be entered.

When the MFD command is executed the user is automatically switched to a special screen (Format MMPMM) where each field in the MFD and its attributes (field length, justification, fill, and truncation) are listed. Format MMPMM is reproduced below.

If the amount of data exceeds the capacity of the screen page, the user may display succeeding pages with the PA1 key.

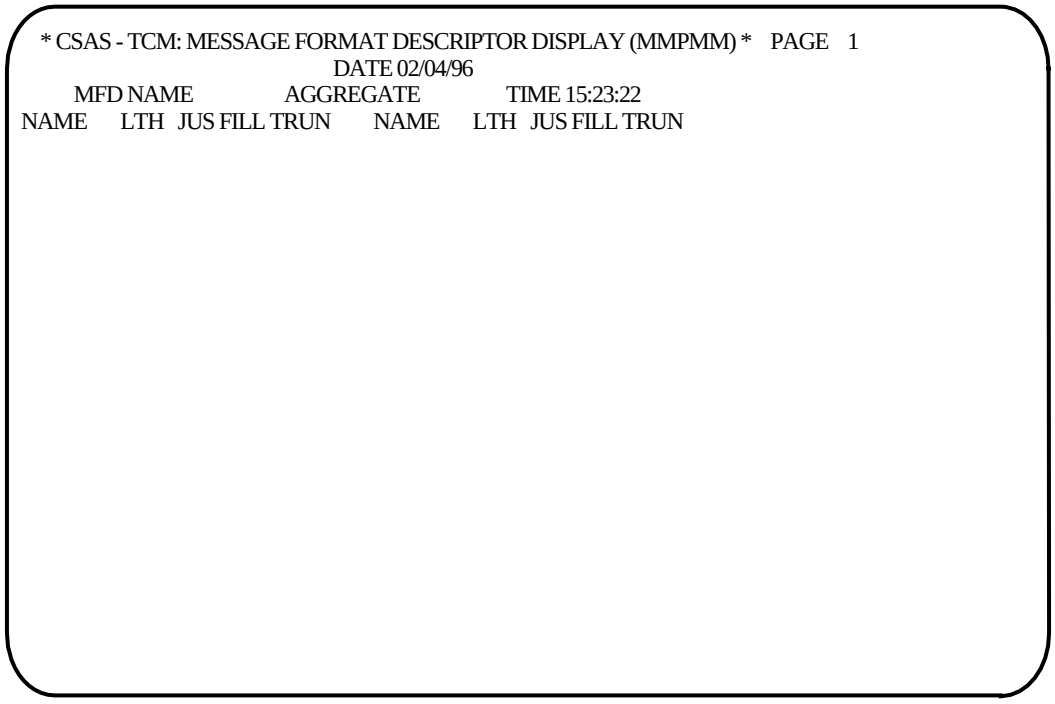

Figure 2-3. Format MMPMM

> **NOTE —** The user may optionally use the IMS operator logical paging commands in the top left hand corner of the screen (i.e., =1, =+1, =-1, last, =n, =+n, =-n).

The user may return to the MMPMSG screen by pressing the PA2 key.

2.7.6 RULE Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display translation rule sets.

> **NOTE —** Translation rule sets are a group of rules that tell the TPAM Translator how to change field names and/or field values in messages that are received or sent over specific communication paths.

The RULE command must be entered in the MMPMSG COMMAND field in the following manner:

RULE (rule ID) (aggregate name)

Three rules apply to this command.

- Blanks must separate the RULE command word and the two parameters.
- A valid rule ID must be provided.
- A valid aggregate name must be provided.

When the RULE command is executed the user is automatically switched to Format MMPML, where each rule in the set is displayed. The title at the top of the special screen is "CSAS-TCM: TRANSLATION RULES DISPLAY: (MMPML)". Format MMPML appears below.

```
 * CSAS-TCM: TRANSLATION RULES DISPLAY (MMPML) *      PAGE   1
                                DATE 02/04/96
  RULE SET ID =          AGGREGATE =            TIME 15:23:38
TARGET   OPR ----------------OPERANDS----------------------------
```

Figure 2-4. Format MMPML

If the amount of data exceeds the capacity of the screen page, the user may display succeeding pages with the PA1 key.

> **NOTE —** The user may optionally use the IMS operator logical paging commands in the top left hand corner of the screen (i.e., =1, =+1, =-1, last, =n, =+n, =-n).

The user may return to the MMPMSG screen by merely pressing the PA2 key.

2.7.7 SCAN Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to find and display a list of all message records (found on either TLOG or SENDQ) that contain a given activity number (ACNO) or ERROR CODE. If the user enters both the activity number and error code, the error code will be ignored. The ACNO field must be blank if the user wants to perform a SCAN by ERROR CODE. ACNO or ERROR CODE must be specified, but users may also specify any combination of TSYS, RSYS, PATHID and SCTYPE as additional search criteria. A specific or generic ACNO or ERROR CODE can be used.

The generic scan gives the user the ability to display the contents of the TLOG and SENDQ databases without knowing exactly what they contain. A generic scan is specified by entering as much of the key field (ACNO or ERROR CODE) as desired, followed by an asterisk (*). The generic key can match to several different specific ACNO or ERROR CODE values based on the leading characters provided.

For example, TCM* in the ERROR CODE key field, would specify a scan to display the first 50 pages of all records in the TLOG database that have an ERROR CODE starting with TCM. With this particular key field argument, the display might include a set of pages for TCM002E and another set of pages for TCM046E error codes. A new page is started whenever the ERROR CODE changes.

As another example, NMA* in the ACNO key field would specify a scan to display the first 50 pages of all records in the TLOG and SENDQ databases having an activity number that started with NMA. With this particular key field argument, the display might include a set of pages for NMACBL, another set of pages for NMACXR, followed by a set of pages for NMAEQP. A new page is started whenever the ACNO changes.

To display the first 50 pages of all records in an error status, enter only the asterisk (*) in the ERROR CODE key field. Entering only the asterisk (*) in the ACNO key field causes the first 50 pages of ACNOs from the TLOG and SENDQ databases to be displayed.

To display a list of all message records that contain a specific activity number, the following steps are involved:

Enter the word SCAN in the COMMAND field and a valid activity number in the ACNO field. When the SCAN command is executed the user is automatically switched to a special screen, Format MMPMS, where the message records are listed.

The title at the top of MMPMS is Format MMPMS appears below.

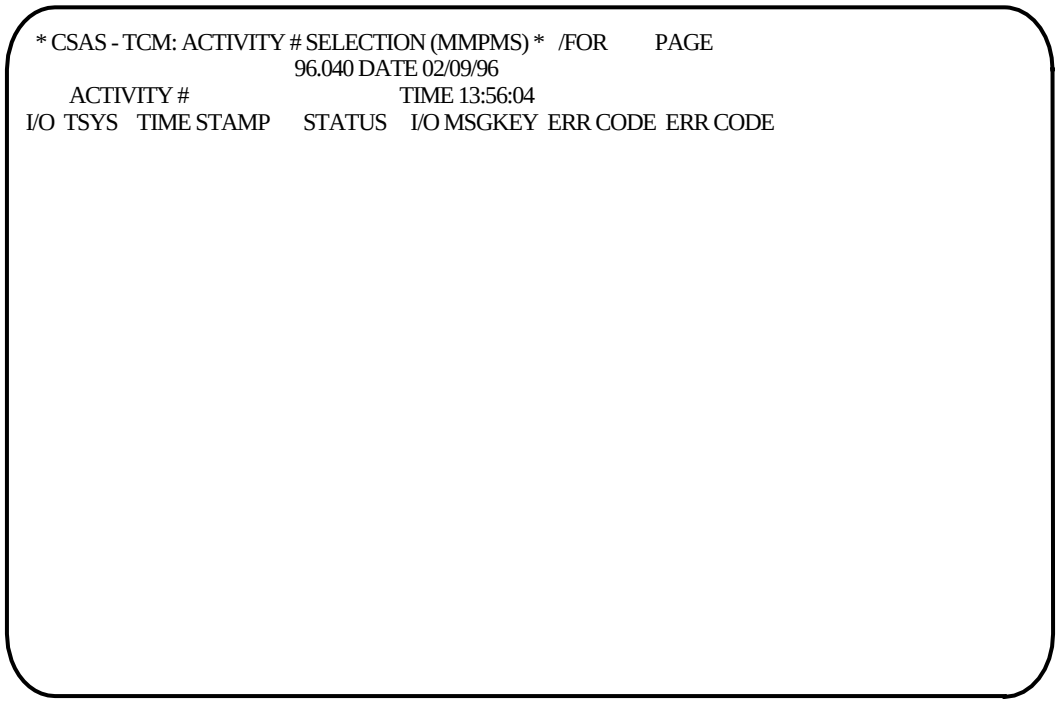

Figure 2-5. Format MMPMS

FIND	FWD	BACK		MOVE				RSND	DELT	HELP	PRNT
PF1	PF2	PF3		PF5				PF9	PF10	PF11	PF12
PF13	PF14	PF15		PF17				PS21	PF22	PF23	PF24

The output of the SCAN command is a static display that will not be updated by the arrival of new messages. Thus, users should be aware that the more time spent working with the output of a single SCAN command, the more likely that the output will become outdated because of the arrival of new messages.

To display a list of all message records that contain an error code, the following steps are involved:

The user must enter the word SCAN in the COMMAND field and a valid error code in the ERROR CODE field. When the SCAN command is executed the user is automatically switched to a Format MMPME, where the message records are listed. The title at the top of Format MMPME, which appears below, is “CSAS-TCM: ERROR CODE SELECTION (MMPME)”.

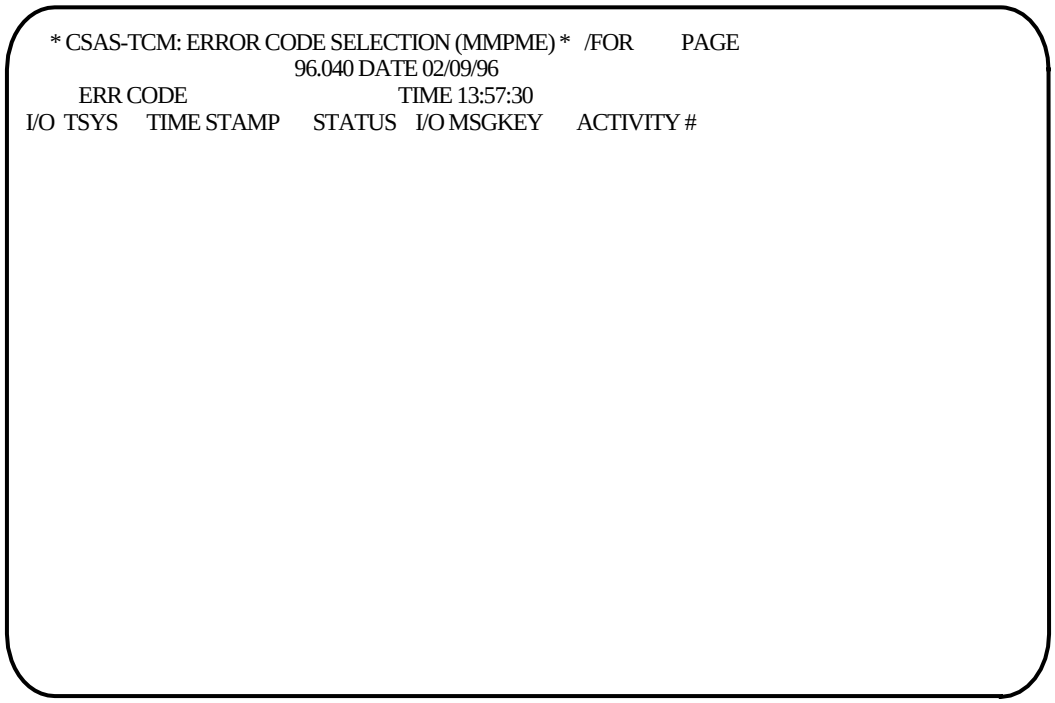

Figure 2-6. Format MMPME

FIND	FWD	BACK						RSND	DELT	HELP	PRNT
PF1	PF2	PF3						PF9	PF10	PF11	PF12
PF13	PF14	PF15						PF21	PF22	PF23	PF24

The list of message records includes the TSYS, timestamp, and status of each record. When displaying a list of all message records that contain an activity number, the user can also specify a particular TIME STAMP. If so, the message with that timestamp (if any) and messages with later timestamps will be displayed for that ACNO. When a SCAN by ERROR CODE is performed, the list may be limited by both TSYS and TIME STAMP. In this case the user must specify ERROR CODE, TSYS and TIME STAMP prior to the execution of the SCAN command. The messages displayed will be those messages with the given errcode, TSYS and a TIME STAMP greater than or equal to the one specified.

The longest scan list is limited to 50 pages maximum. To page forward, press the FORWARD key (PF2/14) and to page back, press the BACK key (PF3/15).

FIND (PF1/13), RESEND (PF9/21) and DELETE (PF10/22) functions may be performed from either of the special scan formats, MMPMS and MMPME, while the MOVE (PF5/17)

can only be performed from the MMPMS screen. In order to perform these functions, the user must place a specified modifier (F, M, R, D or U) in the field to the left of the TSYS column and press a function key. Modifier U can be placed only from the error code format MMPME.

The user may display a record in the list by placing an "F" in the field to the left of the TSYS column and pressing the FIND (PF1/13) key. This action will return the user to the MMPMSG screen and cause the selected record to be retrieved and displayed on it.

The user may MOVE record(s) in the list by placing an "M" in the field to the left of the TSYS column and pressing the MOVE (PF5/17) key. This action will move all the specified records from the SENDQ database to the TLOG database.

The user may RESEND record(s) in the list by placing an "R" in the field to the left of the TSYS column and pressing the RESEND (PF9/21) key. This action will cause the selected records to be resent. (If more than one record has been selected, this action will resend each message selected). Resent records will be marked RESENT on the display after the system finishes processing. In the case of multi-page displays, users may scroll forward and backward, either to make sure all records marked with "R" were actually resent or to continue with other activity. Users should also be aware that the more time spent working with the output of a single SCAN command, the more likely that the output will become outdated because of the arrival of new messages.

The user may DELETE record(s) in the list by placing a "D" in the field to the left of the TSYS column and pressing the DELETE (PF10/22) key. This action will cause all the selected records to be deleted. (If more than one record is selected, this action will delete each message selected). Deleted records will be marked DELETED on the display after the system finishes processing. In the case of multi-page displays, users may scroll forward and backward, either to make sure all records marked with "D" were actually deleted or to continue with other activity. Users should also be aware that the more time spent working with the output of a single SCAN command, the more likely that the output will become outdated because of the arrival of new messages.

The "U" function may only be performed from Format MMPME. The user may DELETE record(s) in the list by placing a "U" in the field to the left of the TSYS column and pressing the DELETE (PF10/22) key. This action will cause all the selected records with a given error code to be deleted. For each deleted message, the next held message with the same activity number as the deleted message is resent.

For all of the above functions available on the special scan screens, the action that is taken on the selected records will be displayed in the STATUS field for each record as each function is executed.

HELP (PF11/23) and PRINT (PF12/24) functions may also be performed from either of the special scan screens, (formats MMPMS and MMPME).

2.7.8 COPY Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to create a new message record in the TLOG database with a new SOURCE SEC.

A message record is defined by its Source Sec and timestamp. These fields cannot be changed except by creating a new record by using the COPY command word. The newly created message record will retain the original timestamp. The user may optionally specify a new activity number prior to the execution of this command word. This command word is useful for correcting messages with invalid Source Sec ID's .

2.7.9 INPUT Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to display the input portion of the message record after an initial FIND has been performed on the output portion of the message record.

2.7.10 OUTPUT Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to display the output portion of the message record after an initial FIND has been performed on the input portion of the message record.

2.7.11 RETURN Command Word

This command word (entered in the COMMAND field) in conjunction with the ENTER key allows the user to return the input portion of the specified message to the TLOG database of the originating SEC (TSYS or transmitting application). The returned message is then deleted from the TLOG data base of the receiving SEC (RSYS or receiving application). Errors are not returned. Only the original input message received by the RSYS is returned. The MSG STATUS field of the returned message will indicate a status of "RETURNED" in the TLOG database of the TSYS. This command word is only useful in the TCM-to-TCM scenario. Messages cannot be returned to a system that does not communicate via TCM.

2.8 Correction Scenarios

Two main scenarios are envisioned in making corrections to messages in the TLOG database.

2.8.1 Correcting Errors in a Single Message Record

The steps involved are:

- Use the FIND key to retrieve and display the record to be corrected. If possible, use the TSYS and TIME STAMP as the search criteria. These fields provide a unique key to the message. If the TSYS and TIME STAMP are not available, it is possible to do a SCAN by ACNO or ERRCODE. In this case, the system will display a list of messages. The user must indicate the desired selection by entering an "f" in the selection field to the left of the message and pressing FIND, PF1/13.
- The returned display will show the TCM header data. It will also show the code (ERR CODE) and text (ERROR) of the first error in the record.
- The user is reminded that the header, all aggregates, and the first error now reside in the Terminal database.
- Use the AGE command word to display the aggregate that contains the error named in the ERR CODE field.
- Look for the field/value pair that contains the error and correct it by overtyping the incorrect data with correct data.
- If a field/value pair is to be deleted, the user must enter a "D" in the one-character field to the left of the pair.
- If more than one page of field/values pairs exist for the aggregate, the user may need to use the FORWARD and BACK keys to find the page with the error. It should be remembered that updating across pages is not possible. Only the currently displayed page will be updated.
- Use the SAVE key (PF7/19) to update the Terminal database with the correction.
- Use the ERN command word to do the following:
- Find and retrieve the next error in the same record from the TLOG database and enter it into the Terminal database, replacing the error currently logged there. The newly retrieved ERRCODE will be displayed on the screen.
  - — Use the AGE command word to display the aggregate that contains the new error named in the ERRCODE field.
- Repeat the ERN, AGE, correction and SAVE steps until all errors in the record have been corrected.
- When no additional errors exist, use the RESEND key (PF9/21) to do the following:
  - — Update the Terminal database with the final changes on the screen.
  - — Update the TLOG database with the changes entered into the Terminal database.

— Resubmit the message record to the TCM routing (RA) process in an attempt to deliver (or re-deliver) the corrected message to the receiving system (RSYS).

3. Format MMPTST Description

3.1 General

The MMPTST format is used to build test messages to simulate transmission of messages from either an external system into CSAS, or from CSAS to an external system. This facility is desirable when the transmitting or receiving system is not yet operational.

The MMPTST screen is invoked by typing /FOR MMPTST on a blank screen and pressing the ENTER key.

The screen layout is shown below.

```
COMMAND:      CSAS-TCM: TEST MESSAGE GENERATOR(MMPTST)  /FOR

TEST MESSAGE ID:          IMS TRANCODE:        PAGE NUMBER:




1/13 FIND   2/14 FORWARD  3/15 BACK    4/16 ADD     5/17 UPDATE
8/20 REFRESH 9/21 SEND    10/22 DELETE  11/23 HELP   12/24 PRINT
```

Figure 3-1. Format MMPTST

FIND	FWD	BACK	ADD	UPD			RFSH	RSND	DELT	HELP	PRNT
PF1	PF2	PF3	PF4	PF5			PF8	PF9	PF10	PF11	PF12
PF13	PF14	PF15	PF16	PF17			PF20	PF21	PF22	PF23	PF24

The function keys and command words used with appear in the following table.

Table 3-1. Function Keys and Commands for Format MMPTST

Function Keys	Command Words
FIND (PF1/13)	BDEL
FORWARD (PF2/14)	COPY
BACK (PF3/15)	DELETE
ADD (PF4/16)	INSERT
UPDATE (PF5/17)	INSPECT
REFRESH (PF8/20)	REMOVE
SEND (PF9/21)	RENUMBER
DELETE (PF10/22)	SCAN
HELP (PF11/23)	TMSTUPDT
PRINT (PF12/24)	

3.2 Function Keys

3.2.1 FIND Function Key (PF1/13)

This key is used to retrieve and display test messages stored in the Administrative Applications (ADMIN) Database (VMMPAADP). A find is performed from the ADMIN database by using the keys - TEST MESSAGE ID and the PAGE NUMBER. The TEST MESSAGE ID is a required field, and the PAGE NUMBER is optional. If no PAGE NUMBER is entered, the first page is returned.

When the test message is retrieved from the ADMIN database, MMPTST displays the TEST MESSAGE ID, the IMS TRANCODE associated with that test message, the PAGE NUMBER and the message text itself.

3.2.2 FORWARD Function Key (PF2/14)

This key is used to page forward on the current test message. When the user forwards past the last page of the test message, more information can be added on those subsequent pages. If there is message text available on the next screen, it is displayed in the same way as a successful FIND.

> **NOTE —** Any data following blank pages will not be sent. A test message must consist of consecutive pages

filled with data. The first blank page encountered is considered the test message's ending page.

3.2.3 BACK Function Key (PF3/15)

This key is used to page backward on the current test message. When the user attempts to back to page zero or a blank page, TCM notifies the user that no previous page exists. If there is message text available on the previous page, it is displayed in the same way as a successful FIND.

3.2.4 ADD Function Key (PF4/16)

This key allows a user to add a test message page to the ADMIN database. The message must be in FCIF (Flexible Computer Interface Format) and not have any binary or hexadecimal data representations.

NOTE — A test message must consist of consecutive pages filled with data. The first blank page encountered is considered the test message's ending page.

A populated TEST MESSAGE ID is required for successful additions. No FCIF syntax checking is performed on the message text, however, the page will be checked that it is not blank. The INSPECT command can be issued after the ADD to check the FCIF syntax.

3.2.5 UPDATE Function Key (PF5/17)

This key enables the updating of test message text and the IMS TRANCODE. Test messages that cannot be updated include those in MDA or DSECT format, as well as FCIF messages with hexadecimal data. The message text is scanned for hexadecimal data before an update is performed. If hexadecimal data is found, or if the page is blank, the update will fail and a TCM error message is displayed.

Editing of Message Text Field

INSERT - To insert data in the middle of a message, move the cursor past the last character on the page and hit the EOF button. Then position the cursor where the data is to be added, hit the INSERT button and begin typing. The data will wrap around from line to line. The inserted data is saved with an UPDATE (PF5/17).

DELETE - Position the cursor on the first character of data to be deleted. Using the DELETE button, delete as many characters as desired from that line. Use the UPDATE (PF5/17) key to save the change. Updated data is compressed following a save.

3.2.6 REFRESH Function Key

This key is used to return a blank MMPTST format.

3.2.7 SEND Function Key (PF9/21)

This key is used to send the specified test message to the destination specified on the FCIF Route Control (ROUTCTL) section. A test message can be sent from any page of the test message.

When the Test Message Generator receives a test message, a timestamp message is created acknowledging the receipt of the sent message. The test message ID of the message is a timestamp in the format of YYDDDHHMMSSTH, where YY is the Year, DDD is the Julian Day, HH is the Hour, MM is the Minute, SS is the Second and TH is the Tenth to Hundredth of a second.

3.2.8 DELETE Function Key (PF10/22)

This key is used to request the deletion of a TEST MESSAGE ID from the ADMIN database. Messages with a TEST MESSAGE ID that is a timestamp (format YYDDDHHMMSSTH) are deleted without using the DELETE command. Test messages that are not timestamps need confirmation using the DELETE command in the COMMAND field.

3.2.9 HELP Function Key (PF11/23)

This key provides "help" by displaying definitions and other explanatory text for any designated field on the screen including the screen title. This key also provides "help" by displaying descriptions and appropriate actions for the TCM-generated error, warning, or informational message that is displayed at the system message line (available on CSAS screens only).

The field for which help is desired is identified by the cursor. If the field is unprotected, the tab key is used to position the cursor in the field for which help is desired. If the field is protected, the cursor positioning keys are used to move the cursor to the first position within the field name.

If the cursor is positioned on a screen field, then pressing the HELP key will switch the user to a special TCM FIELD INFORMATION screen on which the definition and other information is displayed. The user can return to the MMPTST screen by pressing the PA2 (NEXT MESSAGE) key. The returned screen will contain the same data as was on it when the HELP key was invoked.

Similarly, if the cursor is positioned in the MMPTST screen title, then pressing the HELP key will return a list of valid function keys for that screen.

If the cursor is positioned in the TCM error, warning, or informational message, then pressing the HELP key switches the user to the CSAS Formatted Message Help screen (for MHELPF) on which the directions and appropriate actions for the condition are displayed. The user can return to the MMPTST screen by pressing the PF7 (LAST SCREEN) key. The returned screen will contain the same data as was on it when the HELP key was invoked.

3.2.10 PRINT Function Key (PF12/24)

This key obtains a printed copy of whatever information is currently being displayed on the CRT screen. The displayed data is directed to the printer associated with the requesting CRT.

3.3 MMPTST Command Words

3.3.1 COPY Command Word

This word is used to copy a test message to a new TEST MESSAGE ID name. After a successful find is performed on a test message, the COPY word is entered in the COMMAND field and the existing TEST MESSAGE ID value is typed over with the new TEST MESSAGE ID. The ENTER key is used to execute the COPY command.

If the new TEST MESSAGE ID name supplied is not already associated with another test message, the COPY is successful. If the new TEST MESSAGE ID name already exists in the ADMIN Database, the COPY fails and a TCM error message is displayed.

3.3.2 DELETE Command Word

This word is used in conjunction with the DELETE (PF10/22) key when deleting test messages. A TEST MESSAGE ID that is not a timestamp needs delete confirmation using the DELETE word in the COMMAND field when pressing the DELETE (PF10/22) key. A message that is a timestamp (format YYDDDHHMMSSTH) does not require the DELETE command word.

3.3.3 BDEL Command Word

The bulk delete feature will delete test messages with timestamp test message IDs that are older than one week from the ADMIN database using the 'BDEL' command. This command can be used from the MMPTST or the MMPTSS formats. Up to 100 numeric messages can be deleted at a time with bulk delete.

> **NOTE —** BDEL will only delete timestamps, i.e., only numeric TEST MESSAGE IDs.

3.3.4 SCAN Command Word

The SCAN function is used to retrieve TEST MESSAGE IDs from the ADMIN database as specified by the user. 'SCAN' is entered in the command field on the MMPTST format, test message search criteria is entered in the TEST MESSAGE ID field and the ENTER key is pressed. The search criteria can be partially or fully qualified. The partially qualified message will search for a range of IDs. The wildcard suffix '*' must be used at the end of the partially qualified name, producing a list matching the character prefix. A list of the specified TEST MESSAGE IDs will be displayed on the MMPTSS format. If the list is longer than one page, page forward (PF2) or page back (PF3) can be used. To perform a new scan, use the SCAN command with new TEST MESSAGE ID search criteria on the MMPTSS format.

To find a specific test message, enter an 'F' in the selection field next to the TEST MESSAGE ID and press PF1. To send a message, enter a `S' in the selection field next to the TEST MESSAGE ID and press PF9. To delete the message, enter a 'D' next to the TEST MESSAGE ID and press PF10. To renumber a message, enter a `R' in the selection field next to the TEST MESSAGE ID and enter `RENUMBER' in the command field.

To expand the timestamp-related fields present in the ROUTCTL and ACK sections of a message, enter a 'T' in the selection field next to the TEST MESSAGE ID and enter 'TMSTUPDT' in the command field and press ENTER.

For those test messages that are successfully updated, the corresponding selection codes will be changed from T to *. Those test messages that cause an error during processing will be highlighted. In addition, an appropriate informational or error message will be displayed to indicate the result.

Up to 64 messages can be deleted, sent, renumbered or modified (timestamp update) from the database at a time. However, only one TEST MESSAGE ID can be found at a time.

See the following example of the MMPTSS format.

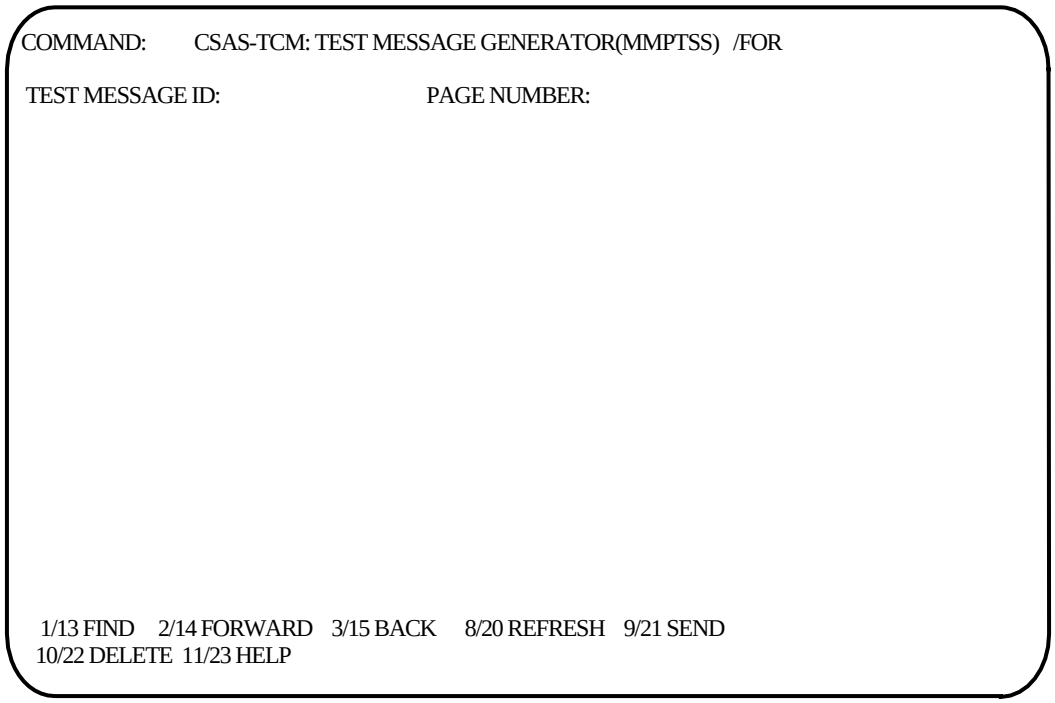

Figure 3-2. Format MMPTSS

3.3.5 INSERT Command Word

The INSERT command enables inserting a new page of text into a test message. The message text appearing in the text area is inserted as a new page ahead of the page number appearing in the PAGE NUMBER field, and all subsequent pages are renumbered to accommodate the inserted page.

3.3.6 REMOVE Command Word

The REMOVE command enables removing a page from a test message. The PAGE NUMBER field is used to specify which page is to be removed from the test message. Any subsequent pages are renumbered to accommodate the removed page. MMPTST then displays the next page, or if there are no subsequent pages, displays the previous page.

3.3.7 RENUMBER Command Word

The RENUMBER command causes all pages of the specified test message to be consecutively renumbered, eliminating any missing page numbers for a test message. This command is provided for older messages that may not have been created with consecutive page numbers.

MMPTST will display the page specified in the PAGE NUMBER field of the test message specified in the TEST MESSAGE ID field. If the page specified in the PAGE NUMBER field if beyond the last page of the message, the last page is presented. As such, a convenient way to get to the last page of a test message is to specify the RENUMBER command with a PAGE NUMBER of 9999.

> **NOTE —** The RENUMBER command DOES NOT cause a page of text appearing on the MMPTST format to be assigned a new number by changing the value in the PAGE NUMBER field. Use the INSERT and REMOVE commands to move pages of the text to a new location within the test message.

3.3.8 INSPECT Command Word

The INSPECT command performs TCM FCIF syntax validations on a test message. It performs such validation as checking for start and end delimiters (section and aggregate), verifying field names and field values do not exceed the FCIF maximum length, and ensuring the correct number and ordering of sections. It also validates the value and presence of certain ROUTCTL fields. INSPECT does not validate MDA or DSECT pages of a message. It can be invoked from any page of the message and does not require that a find be performed first. It will scan the entire message from the beginning and stop at the first error that is encountered. If an error is encountered it must be corrected and the INSPECT performed again to determine if any other errors exist.

3.3.9 TMSTUPDT Command Word

The TMSTUPDT command expands the timestamp-related fields (TMST, RTMST, DFTM AND TLGKY) present in the FCIF ROUTCTL section and the ACK section of selected test messages. The Date portion of these fields will be expanded to include the Century indicator (19 or 20) and the Time portion of the TMST, RTMST and TLGKY fields will be expanded from a thousandth of a second to a millionth of a second precision (with a default value of 0000).

The TMSTUPDT command should be used in conjunction with the ENTER key to initiate the Timestamp-Related Field Update function. On the main Test Message Generator

screen (MMPTST), the input test message identifier can be a fully qualified identifier (e.g., SOACMSG1); a FIND for this single test message preceding the TMSTUPDT function is not required. In addition, the input test message identifier can be a partially qualified identifier (1 to 12 characters with the * (wildcard) suffix, e.g., SOACMSG*) or merely the character *. If the wildcard character (*) is used, then all test messages whose identifier has the same prefix as is specified (except for those with a numeric identifier, e.g., 9610208301234) will be updated if appropriate. In addition, if more than 100 test messages satisfy the input criterion, then only the first 100 test messages will be processed. If the TMSTUPDT function is reissued immediately without changing the criterion, then the process will continue with the next 100 test messages.

> **NOTE —** With the use of the wildcard character (*), more than one test message can be selected. Therefore, any test messages that contain errors will not be individually identified.

Alternately, a SCAN function can be performed on MMPTST first with the use of the wildcard character (*), and test messages can be selected on the resulting MMPTSS screen with the 'T' selection code. The Timestamp-Related Field Update function can then be initiated with the TMSTUPDT command in conjunction with the ENTER key. For those test messages that are successfully updated, the corresponding selection codes will be changed from 'T' to '*'. Those that cause errors will be highlighted.

4. Field Definitions

ACNO
MMPMSG

Full Name: Activity Number

Definition: The number that identifies the transaction contained in the message record.

Data Content: Up to 25 A/N

Sample: SLS000345

COMMAND
MMPMSG

Full Name: Command

Definition: Designates the type of action to be performed on the message record that is displayed on the CRT screen.

Data Content: Up to 8 A/N

Sample: AGF
ER1
CANCEL

COMMAND
MMPTST

Full Name: Command

Definition: Designates the type of action to be performed on the message record that is displayed on the CRT screen.

Data Content: Up to 8 A/N

Sample: COPY
DELETE
SCAN
BDEL
INSERT
REMOVE
RENUMBER

DATE
MMPMSG

Full Name: Calendar Date (Julian, Gregorian)

Definition: The calendar date on which the format is displayed. The Julian date [YY.DDD] precedes the DATE field and the standard Gregorian date [MM/DD/YY] follows the date field.

Data Content: 5 N, 6 N

Sample: 84.054 or 02/24/84

ERROR
MMPMSG

Full Name: Error

Definition: The text that explains the error condition. This text comes from the error segments of the TLOG database.

Data Content: Up to 71 A/N

Sample: INTERFACE SCENARIO TYPE VALUE INVALID.

ERR CODE
MMPMSG

Full Name: Error Code

Definition: The code that identifies the error message that is stored in the error segments of the TLOG database and which is displayed in the ERR field on the CRT screen.

Data Content: 8 A/N

Sample: TCM018E

/FOR
MMPMSG, MMPTST

Full Name: Format

Definition: The name of a blank CSAS System format that the user wishes to display on the CRT screen.

Data Content: Up to 6 A/N

Valid Entries: Any CSAS System format name

IMS TRANCODE
MMPTST

Full Name: IBM Information Management System (IMS) Transaction Code

Definition: The code by which IMS identifies an applications computer program (transaction).

Data Content: Up to 8 A/N

Sample: VMMPCC1E
VMCX1E

I/O
MMPMSG

Full Name: Input or Output Message

Definition: An indicator that identifies whether an input or output message was, or is to be, retrieved and displayed.

Data Content: 1 A

Valid Entries: I = Input Message
O = Output Message

MSG STATUS
MMPMSG

Full Name: Message Status Code

Definition: A code which identifies the current status of the message in TCM.

Data Content: Up to 15 A/N

Valid Entries: MSG PENDING ACK (pending acknowledgement)
MSG IS HELD
TCM ERROR
TCM TPAM ERROR (TPAM General Error)
TCM PARSE ERROR (TPAM Parser Error)
TCM TRANS ERROR (TPAM Translator Error)
TCM MAPPING ERR (TPAM Mapper Error)
MSG IS DEFERRED
APPLICATION ERROR
UNKNOWN (Unknown Error)

PAGE NUMBER
MMPTST

Full Name: TEST MESSAGE ID PAGE NUMBER

Definition: The page number of the TEST MESSAGE ID.

Data Content: Up to 4 N

Sample:
0004
7
06

NOTE
MMPMSG

Full Name: Note

Definition: Information that tells the user whether a TCM header or an aggregate is being displayed on the MMPMSG screen. If a header is being displayed, the NOTE also tells the user whether corrections to it are possible or not possible. If an aggregate is being displayed, the NOTE specifies the aggregate by its name.

Data Content: Up to 71 A/N

Sample: TCM HEADER CORRECTION POSSIBLE
CSAS

OUTPUT MSG KEY
MMPMSG

Full Name: Output Message Key

Definition: TCM is capable of generating multiple output messages from a single input message. Each output message is identified with a key consisting of a number (01 to 99) coupled to the IMS TRANCODE that was assigned to the message.

Data Content: 2 N + 8 A/N

Sample:

SEARCH AGR NAME
MMPMSG

Full Name: Search Aggregate Name

Definition: The name of the aggregate that the user wishes to find and display with the AGF command word.

Data Content: Up to 8 A/N

Sample: order (order aggregate)
cirseg (circuit segment aggregate)

STATUS
MMPMS & MMPME

Full Name: Message Status Code

Definition: A code which identifies the current status of the message in TCM.

Data Content: Up to 11 A/N

Valid Entries:
APPL ERROR (Application Error)
DEFERRED (Message is Deferred)
PENDING ACK (Message Pending Acknowledgement)
RETURNED (Message Returned to Sender)
MAPPING ERR (TPAM Mapper Error)
PARSE ERROR (TPAM Parser Error)
TPAM ERROR (TPAM General Error)
TRANS ERROR (TPAM Translation Error)
DELETED (The Selected Message is Deleted)
MOVED (The Selected Message is Moved)
RESENT (Resent from SENDQ to TLOG database)
*NEW ERRS** (New Errors are Generated)
INVLD DEFRD
OUT MSG (Cannot Delete Output Message)
NOT FOUND (Message Not Found)
NO SEC/PATH (Sec/Path Not Fond)
DUPLICATE (Duplicate Message Exists)
CL2: NO MOVE

TEST MESSAGE ID
MMPTST

Full Name: Test Message Identification

Definition: The name of the test message the user is finding, adding, updating, deleting or sending.

Data Content: Up to 19 A/N

Sample: CSASTST05
OPCDB001

Can also be a timestamp:

Pattern: CCYYDDDHHMMSSTH0000
Timestamp=Year/Day-of-Year/Hour/Minute/Second/Hundredth-of-Second
9022809000000

TIME STAMP
MMPMSG

Full Name: Timestamp

Definition: The date and time that has been added to the message record to aid in uniquely identifying that record.

Data Content: 17 N

Valid Entries: Pattern: CCYYDDDHHMMSSTHssss
Year/Day-of-Year/Hour/Minute/Second/Tenth to Hundredth-of-Second/ Thousandth to Millionth-of-Second

Sample: 95195161741371234

TMST(END)
MMPMSG

Full Name: Timestamp End

Definition: The data and time that has been added to the message record to allow bulk processing by error code over a range of timestamps.

Data Content: 17 N

Sample: 95172114224916789

TSYS
MMPMSG

Full Name:	Transmitting System
Definition:	The system entity code (SEC) of the system that originated the message. Also called the “source SEC”.
Data Content:	Up to 8 A/N
Sample:	LLCL50001