

MERVA for ESA



User's Guide

Version 4 Release 1

MERVA for ESA



User's Guide

Version 4 Release 1

Note!

Before using this information and the product it supports, be sure to read the general information under “Appendix E. Notices” on page 225.

Second Edition, September 2001

This edition applies to Version 4 Release 1 of IBM MERVA for ESA (5648-B29) and to all subsequent releases and modifications until otherwise indicated in new editions.

Changes to this edition are marked with a vertical bar.

This edition replaces SH12-6376-00.

© Copyright International Business Machines Corporation 1987, 2001. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

About This Book	vii	Correcting a Message during Verification	47
Summary of Changes	ix	Displaying a Message in NOPROMPT Mode	48
<hr/>		Using the NOPROMPT Prefix Commands	49
Part 1. General Introduction to Using MERVA ESA		Erasing Data	49
1		Inserting Data	50
Chapter 1. Introducing MERVA ESA		Chapter 9. Authorizing a Message	53
3		Selecting a Message by Key	53
Chapter 2. Before You Begin		Using the Queue Key List	54
7		Performing the Authorization	56
The User Profile	7	Chapter 10. Handling Messages from Other Financial Institutions	59
General Panel Layout	8	Authentication of an Output Message	59
Commands	9	Distributing SWIFT Output Messages.	60
Using the Help Function	9	Chapter 11. Bilateral Key Exchange (BKE)	63
Error Handling	10	Processing Special Bilateral Key Exchange in MERVA ESA	63
Chapter 3. Getting Started	11	Maintenance of BKE Pre-Agreements	64
Entering the Transaction Code	11	Manual Start of a Bilateral Key Exchange (BKE)	69
Signing On to MERVA ESA	12	Discontinuation of Bilateral Keys	71
Selecting a Function	14	Distribution of Keys	72
Chapter 4. Message Handling and Routing	17	Deletion of BK Records	74
<hr/>		Suspension of BK Records	75
Part 2. Using the SWIFT Message-Processing Functions		Part 3. Using the Telex Message-Processing Functions	79
21		Chapter 12. Processing Outgoing Telex Messages	81
Chapter 5. Entering Data for a SWIFT Message		Character Set for Telex Messages	81
23		Creating a Telex Message.	81
Creating a Message.	23	Filling in the Telex Header Area	82
Entering Data	25	Correcting Errors	85
Expansion of SWIFT Addresses.	26	Entering the Telex Message Text	87
When Incorrect Data Is Entered.	27	Using the Test-Key Function for Telex Messages	89
When Data for Mandatory Fields Is Missing	28	Filling in the Test-Key Input Area	89
The PROMPT Display Mode.	30	Invoking the Test-Key Processing Program	92
Completing and Storing the Message.	33	Chapter 13. Preparing SWIFT Messages for Telex Transmission	95
Leaving the Message Selection Panel	34	Creating a SWIFT Message for Telex Transmission	95
Signing Off from MERVA ESA	34	Using the Test-Key Function for a SWIFT Message	97
Chapter 6. Entering Data in a SWIFT Message Containing Repeatable Sequences	37	Formatting the SWIFT Message for Transmission to the Telex Network	98
Chapter 7. Entering Data for a Nested SWIFT Message		Chapter 14. Handling Incoming Telex Messages	101
41		Displaying a Received Telex Message	101
Chapter 8. Verifying and Correcting Messages		Processing a Received Telex Message	102
45			
Verifying a Message through Retyping	45		
Visually Verifying a Message	47		

Verifying the Test Key of a Received Telex Message	102
Forwarding a Received Telex Message	103

Chapter 15. Using the workstation based telex functions in MERVA ESA . 105

Using the MERVA ESA Telex Message-Processing Functions	105
How a Telex Is Sent Using the workstation based telex functions	106
Displaying the Telex Status Information of a Transmitted Telex	106
Processing Positive Acknowledgments	106
Processing Negative Acknowledgments	107
Receiving Unidentified Acknowledgments	108
How a Telex Is Received Using the workstation based telex functions	108
Displaying the Telex Status Information of a Received Telex	108

Chapter 16. Monitoring the Telex Link Session . 111

Displaying the Telex Status Fields	111
Processing Negative Acknowledgments	115
Receiving Unidentified Acknowledgments from the Headoffice Telex on a Fault-Tolerant System	117
Displaying the Telex Status Fields of a Received Telex Message	117
Displaying Incorrect Received Telex Messages	119

Part 4. Using the File Maintenance Functions . 121

Chapter 17. Maintaining the User File 123

Introduction to the User File	123
The User File Maintenance Functions	123
Identifying Authorized Users	124
Selecting User File Maintenance	125
Listing and Displaying User File Records	130
Listing Records	130
Printing Records	132
Displaying a User File Record	132
Adding a User File Record	134
Replacing a User File Record	136
Authorizing a User File Record	137
Deleting a User File Record and Rejecting a Deletion	138
Ending the Maintenance Process	139

Chapter 18. Maintaining the Authenticator-Key File . 141

The Authenticator-Key File Maintenance Functions	142
Contents of an Authenticator-Key File Record	143
Authorized Key Area	144
Unauthorized Key Area	145
Generic Home and Correspondent LTs and Origin IDs	147
Access to Dependent Synonym LTs	148
Authenticator-Key File Maintenance Commands	148
Listing Authenticator-Key File Records	148

Displaying an Authenticator-Key File Record	149
Adding an Authenticator-Key File Record	151
Exchanging an Authenticator-Key File Record	153
Replacing an Authenticator-Key File Record	155
Deleting an Authenticator-Key File Record	157
Authorizing a Record with a Pending Status	159
Rejecting a Pending Change to a Record	160
Copying Information	161
Determining the Actually Used Authenticator-Key File Record	163
Ending the Maintenance Process	164

Chapter 19. MERVA ESA General File Maintenance . 165

Introduction to the MERVA ESA General Files	165
Maintaining the SWIFT Correspondents File	166
Listing SWIFT Correspondents Records	167
Displaying SWIFT Correspondents Records	168
Adding a Record to the SWIFT Correspondents File	170
Replacing a Record in the SWIFT Correspondents File	172
Deleting a Record from the SWIFT Correspondents File	173
Maintaining the Currency Code File	174
Maintaining the Telex Correspondents File	176
Maintaining the Nicknames Files	178
Ending the Maintenance Process	180

Part 5. Appendixes . 181

Appendix A. Overview of MERVA ESA User Commands . 183

Appendix B. MERVA ESA Command Format . 187

Command Words	187
Parameters	187
Optional Parameters	188

Appendix C. The User Commands . 189

/ (Prefix) Command	189
ADD Command	189
AUTHENT Command	189
BACKWARD Command	190
BKID (Command for Authenticator-Key File Maintenance)	190
CHECK Command	190
COPY Command	190
COPY (Message-Processing Command)	191
COPY (Command for User File Maintenance)	191
COPY (Command for Authenticator-Key File Maintenance)	192
DELETE Command	192
DELETE (Message-Processing Command)	192
DELETE (Command for General File and User File Maintenance)	193
DELETE (Command for Authenticator-Key File Maintenance)	193

DISPLAY Command	194
DISPLAY (Command for General File and User File Maintenance)	194
DISPLAY (Command for Authenticator-Key File Maintenance)	194
DOCC Command	195
END Command	195
EOM Command	195
ERASE and E (Prefix) Command	195
ESCAPE Command	196
ESCAPE (Message-Processing Command)	196
ESCAPE (General File Maintenance Command)	196
ESCKEY Command	196
ESCNEXT Command	197
EXCHANGE Command	197
FIND Command	198
FORM Command	198
FREE Command	199
FORWARD Command	199
GET Command	199
HARDCOPY Command	200
HELP Command	201
INSERT and I (Prefix) Command	201
LENGTH Command	201
LINE Command	202
LIST Command	203
LIST (Message Selection Command)	203
LIST (Command for General File and User File Maintenance)	204
LIST (Command for Authenticator-Key File Maintenance)	204
MT Command	206
NO Command	207
NOKEY Command	207
NONEXT Command	207
NOPROMPT Command	208
OCC Command	208
OK Command	209
OK (Message-Processing Command)	209
OK (User File Maintenance Command)	209
OK (Authenticator-Key File Maintenance Command)	210
OKKEY Command	210
OKNEXT Command	210
PAGE Command	210
PFKEYS Command	211
PROMPT Command	211
REJECT Command	211
REJECT (Command for User File Maintenance)	211
REJECT (Command for Authenticator-Key File Maintenance)	212

REPEAT Command	212
REPLACE Command	212
REPLACE Command (for Maintenance Functions)	212
REPLACE Command (for Message Processing)	213
REQUEUE Command	213
RETRIEVE Command	213
RETURN Command	213
ROUTE Command	214
SHOW Command	214
SIGNOFF Command	214
SOCC Command	214
SPLIT Command	215
SREP Command	215
TELEX Command	216
TESTKEY CALCULATE Command	217
TESTKEY CLEAR Command	217
TESTKEY EXTRACT Command	218
TESTKEY LARGE Command	218
TESTKEY OK Command	218
TESTKEY SMALL Command	218
TESTKEY TEST Command	219
TESTKEY VERIFY Command	219
TXDELETE Command	219
TXINFO Command	220
TXINSERT Command	220
TXJOIN Command	220
TXNUMBER Command	221
TXSPLIT Command	221
UL Command	221
X (Prefix) Command	222
YES Command	222

Appendix D. Help Information 223

Appendix E. Notices 225

Trademarks 226

Glossary of Terms and Abbreviations 229

Bibliography. 241

MERVA ESA Publications	241
MERVA ESA Components Publications	241
S.W.I.F.T. Publications	241

Index 243

MERVA Requirement Request 249

About This Book

This book is written for users and administrators of the IBM licensed program Message Entry and Routing with Interfaces to Various Applications for ESA Version 4 (abbreviated in this book to MERVA ESA). MERVA ESA is used to process messages that are used for internal purposes of an installation or sent or received via a communications network. MERVA ESA supports links to networks such as the SWIFT network and the telex network, and can also interconnect to other MERVA systems.

For more information about MERVA ESA, refer to *MERVA for ESA Concepts and Components*, which describes the functions, services, and utilities supplied, as well as the message concept, queues, routing, message handling, and network links.

If you are using the SWIFT Link, this book assumes that you are familiar with SWIFT messages and SWIFT terminology as defined in the *S.W.I.F.T. User Handbook*, published by the Society for Worldwide Interbank Financial Telecommunication, s.c. in La Hulpe, Belgium.

If you are using the Telex Link, this book assumes that you are familiar with telex terminology as defined in the documentation provided by your local PTT¹.

This book describes how to use the system as it is delivered to you. However, MERVA ESA can be customized to suit your special needs, so it is possible that the panels shown in this book are different from the panels you see when you work. It is also possible that the way you work with MERVA ESA is different from the description in this book and that some of the examples do not apply.

1. National Post and Telecommunication Authority (post, telegraph, telephone).

Summary of Changes

This edition reflects the following change:

MERVA-MQI Attachment supports USE functions

The workstation-based USE functions are now available via MERVA-MQI Attachment as well as via MERVA Link.

Part 1. General Introduction to Using MERVA ESA

This part of the book provides a general introduction to the functions and features of MERVA ESA and tells you how you start a MERVA ESA session.

Chapter 1. Introducing MERVA ESA

MERVA ESA is designed to help financial institutions in the preparation and processing of financial messages, and provides the following components to communicate via networks or other systems:

The SWIFT Link

The SWIFT Link provides the SWIFT formats used by MERVA ESA to display and print SWIFT messages. It also provides a link between MERVA ESA and the SWIFT network, controlling the transmission of messages between MERVA ESA and the SWIFT network.

The SWIFT Link allows you to:

- Send and receive messages using SWIFT protocols
- Control the link to the SWIFT network
- Check the authenticity of SWIFT messages.

The Telex Link

The Telex Link provides a connection to the public telex network using a Telex Substation. It provides the facility to prepare messages in free format, in a standardized format agreed with your correspondents, or in SWIFT format for telex transmission (provided that the SWIFT Link is also installed).

To ensure the authenticity and integrity of both incoming and outgoing telex messages, irrespective of format, there is the test-key calculation facility.

MERVA Link

MERVA Link allows the exchange of messages with other MERVA systems (known as *MERVA Link partners*) that have MERVA Link installed, regardless of whether the other system belongs to your own financial institution or to a correspondent.

MERVA-MQI Attachment

MERVA-MQI Attachment allows the exchange of messages between MERVA ESA and other applications on platforms where the MQSeries[®] is installed. Communication partners can be applications on IBM or non-IBM platforms.

The MERVA ESA services allowing for message definition, message formatting, routing and journaling, are available in all components. For details refer to *MERVA for ESA Concepts and Components*.

To begin work, MERVA ESA users sign on at a display terminal and enter commands to tell the system what to do. The system response depends upon the command entered; for example, if you enter the command to create a message, MERVA ESA displays an empty message form ready for you to enter the data for the message you want to send. Message forms are predefined and MERVA ESA knows which message fields must be filled in. If you forget to enter mandatory information, or if the information you enter is in a wrong format, MERVA ESA displays a message telling you so.

Message processing consists of several stages. For example:

- Creating the message and entering data into it

- Verifying and correcting the contents of the message
- Authorizing the message to be sent.

A user can be authorized to carry out some or all of the functions provided by MERVA ESA.

Between each stage of the preparation, the message is stored in a MERVA ESA queue. Your financial institution can define these stages according to its requirements. MERVA ESA then follows this definition. For example, if a SWIFT message must be verified and authorized, you cannot use the authorization function until the verification has been performed and the message has been stored in the queue reserved for messages awaiting authorization.

You use similar message-processing steps to handle messages received from other financial institutions:

- Checking the authenticity of messages from other financial institutions
- Distributing messages received from other financial institutions.

Figure 1 shows the message-processing steps that you can use when sending and receiving messages.

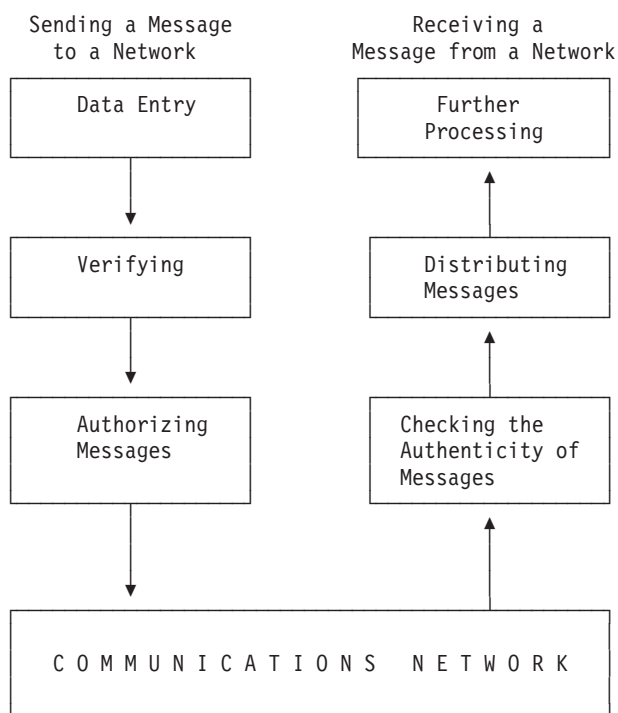


Figure 1. Processing Steps for Messages

Each of the processing steps shown above is associated with a MERVA ESA function. Your financial institution determines the names of the *message-processing functions*, and how they are used.

Message-processing functions can be processed by users at screen terminals, or by application programs supplied by MERVA ESA or the installation.

Figure 2 shows an example of a message-processing function processed by a user.

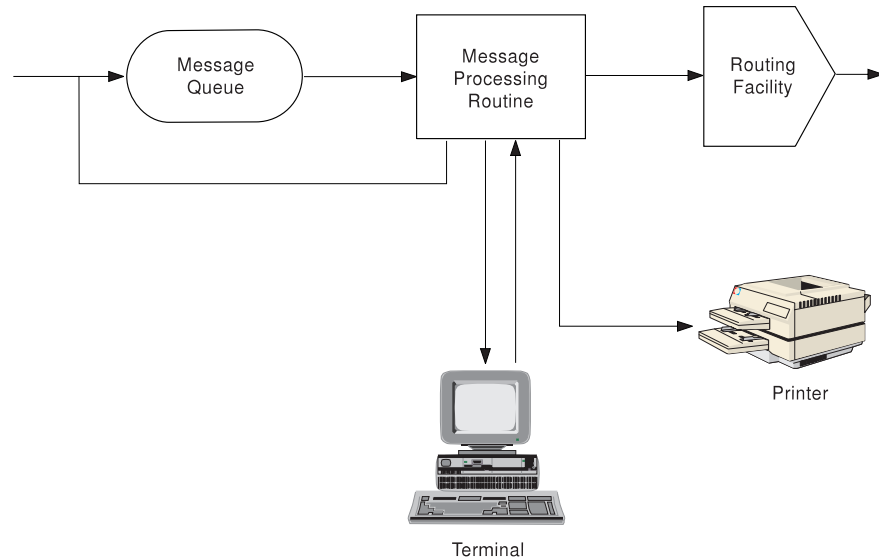


Figure 2. Message-Processing Function

MERVA ESA provides the programs needed to process messages at screen terminals. The processing in a message-processing function includes creating a message or getting a message from a MERVA ESA queue, correcting, or verifying data, and routing the message to the queue of the next step. When you select a message-processing function, MERVA ESA assigns adequate programs needed for the function.

MERVA ESA stores all messages that are currently under MERVA ESA control in message queues. Each of the message-processing functions has its own queue, which has the same name as the function.

The *routing facility* sends messages from one message-processing function to the queue of the next message-processing function. Routing can be done automatically by MERVA ESA, or manually.

Once the message is in the appropriate *ready-to-send* queue, the sending of the message is done by an application program, provided that the appropriate network connection has been initiated by a MERVA ESA operator.

You will become familiar with the use of functions as you read the next few chapters of this book.

Note: The path of messages through the different message-processing functions is defined at the installation of MERVA ESA in your financial institution. The message path defined for your installation is therefore likely to be different from that shown in this book.

Chapter 2. Before You Begin

This chapter describes some of the features of MERVA ESA with which you should be familiar before you start using it. However, you should remember that the panels shown in this book are the panels delivered with MERVA ESA. It is possible that the panels you see as you work are different from those illustrated. It is also possible that some of the commands described in this book have been assigned different names in your financial institution.

The User Profile

Before you can start to use MERVA ESA, you must have been assigned a user identification, and a record in the User File must have been created. Your User File record contains your user profile; that is, it contains all the information MERVA ESA requires to decide which functions and commands you are allowed to use, which types of message you are allowed to process, and to which external networks you are allowed to send messages.

The User File record also contains the Origin Identification (Origin ID) associated with your user ID. The Origin ID is the address from which all your messages are sent.

On SWIFT message panels, this is the emitting logical terminal of the basic header. On telex message panels, the Origin ID is expanded to show the name and address of your financial institution.

For more information on User File records, refer to “Chapter 17. Maintaining the User File” on page 123.

General Panel Layout

Figure 3 shows the general layout of a MERVA ESA panel. The panel has two main areas:

- An area for entering or displaying information or both.
- An area for communication with MERVA ESA.

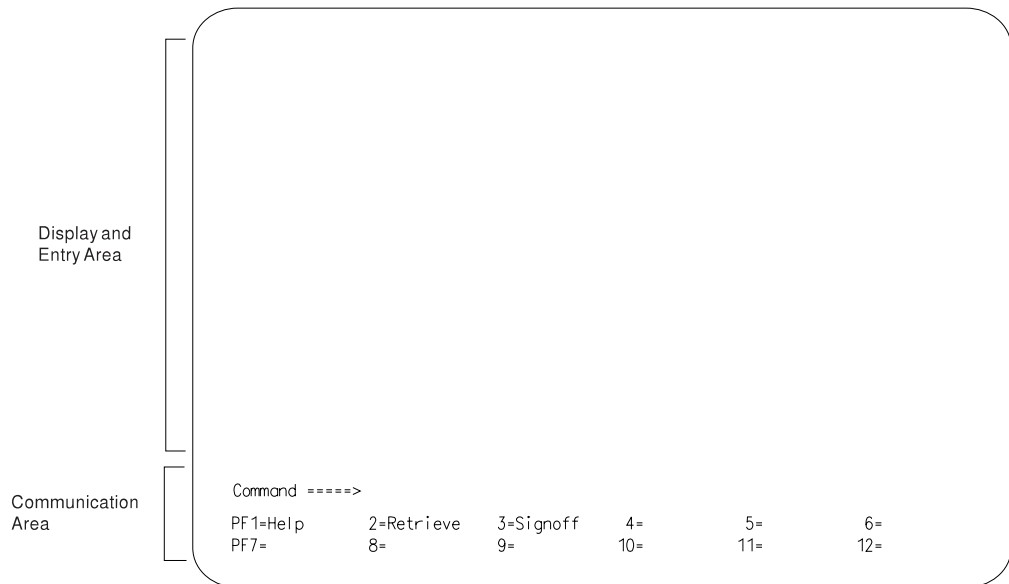


Figure 3. Layout of a Panel

Display and Entry Area

The display and entry area can contain a *page* of a message, a list of available functions, or a record from a file. The display area also shows you which function you are using.

A message can consist of several panels, with each of the panels showing a separate page of the message.

Communication Area

The area for communication with MERVA ESA consists of the four lines at the bottom of the panel. These lines are:

- The information line
 MERVA ESA sends information messages to this line, to tell you that an action has been completed successfully, or that an error occurred. The line used for this purpose is the line above the command line, and is otherwise blank.
 The first 3 characters of an information message indicate from which program the message originates, for example:
DSL From Base Functions
DWS From the SWIFT Link
ENL From the Telex Link
EKA From the MERVA Link.

If you need information about such a message, refer to the online message help or to *MERVA for ESA Messages and Codes*.

- The command line
 This line is identified by the word command. You type the commands on this line. A full list of commands is provided in "Appendix C. The User Commands" on page 189.
- The PF-key display

The last two lines contain a list of the program-function keys (PF keys) available, and the commands assigned to them.

If the PF-key display is not shown on the panels for your installation, you can find the commands assigned to the PF keys using the **help** command, described in "Using the Help Function".

Individual users can have their own set of PF keys. If you wish to have specific commands defined for the PF keys, you should contact the system programmer responsible for MERVA ESA in your financial institution.

Commands

MERVA ESA commands can be divided into the following main categories:

- User commands
- Operator commands.

The user commands are described in this book; the operator commands are described in the *MERVA for ESA Operations Guide*.

You can enter commands either by entering them on the command line or by using the PF key defined for the command.

The command format is described in "Appendix B. MERVA ESA Command Format" on page 187, and the user commands are summarized for easy reference in "Appendix C. The User Commands" on page 189. Some of the commands are described, with examples, in the following chapters.

Using the Help Function

You can ask for help information from any panel by entering **help** in the command line, or pressing the PF key defined for the **help** command.

- If an error message is displayed when the **help** command is entered, a help panel for that message is displayed.
- For some SWIFT subfields that are code words, pressing the help PF key when the cursor is positioned on the subfield (this is done automatically when the subfield is in error) displays a help panel with a list of valid code words. You can then select a code word from the list, and it is entered into the message.
- Otherwise, entering **help** in the command line displays a help menu similar to that shown in Figure 4 on page 10. From the help menu, you can select the display of help information on various MERVA ESA topics. To do this, move the cursor to the > preceding the topic about which you want help, and press ENTER.
- If you want to display help information about a particular MERVA ESA command, enter
help *commandname*
where *commandname* is the name of the MERVA ESA command, for example, **help login**.
- If you want to display a particular help panel, enter
help *pname*
where *pname* is the name of the help panel that you want to display. For example, if you are entering data for a message and you want information about the available screen commands, enter **help 0hsc**. See "Appendix D. Help Information" on page 223 for a complete list of help panel names.

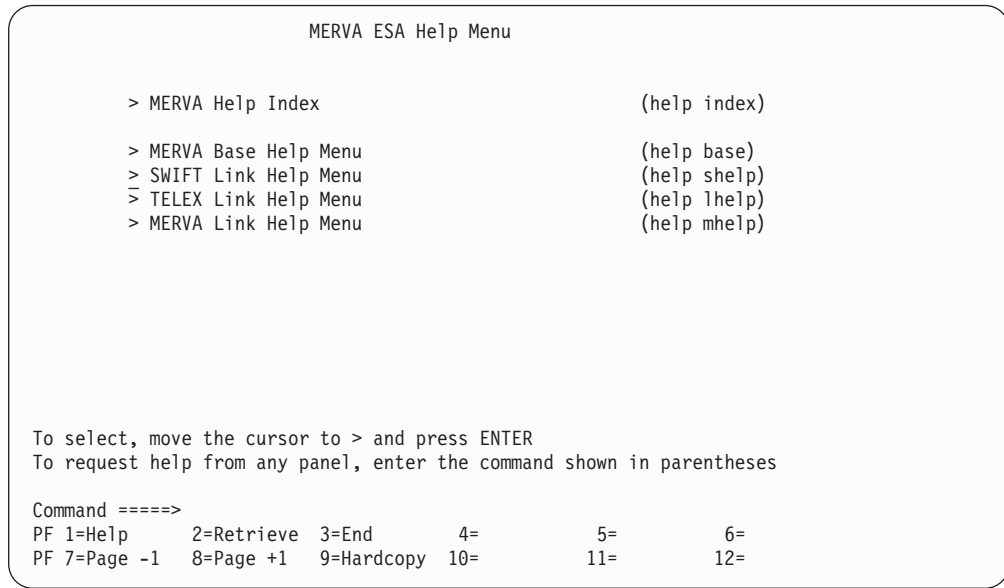


Figure 4. A Sample MERVA ESA Help Menu

Some of the information provided by the Help function requires more than one panel to display the information. If there is more than one panel, page forward and backward through the help panels by entering the commands **page +1** and **page -1** in the command line, or by pressing the corresponding PF keys.

When you have finished with the help information, press the key defined for the **end** command, or enter the command **end** in the command line. This returns you to the panel from which you first requested help.

Error Handling

If an error occurs while you are working, MERVA ESA notifies you with an error message. The message tells you which error has occurred and, usually, what you have to do to correct it. In some cases, you may need to refer to the more detailed description of the message. To get this information, use the Help function by pressing the PF key defined for **help**, or by entering **help** in the command line. A help panel is displayed showing the error message and information on how to correct the error. The same information can also be found in *MERVA for ESA Messages and Codes*.

At any time, you can get the explanation of the diagnostic or the error message by entering the command **help** together with the error message identifier. For example, entering the command **help dsl1063** gives you the explanation of the error message DSL1063.

Examples of typical error situations that can occur when entering data for messages are shown later in this book.

If you are unable to correct an error immediately, you can store the message in the queue associated with the message-processing function you are using and return to it later.

Chapter 3. Getting Started

This chapter tells you how to start a MERVA ESA session. The figure below shows the steps involved in starting a session with MERVA ESA and selecting a function.

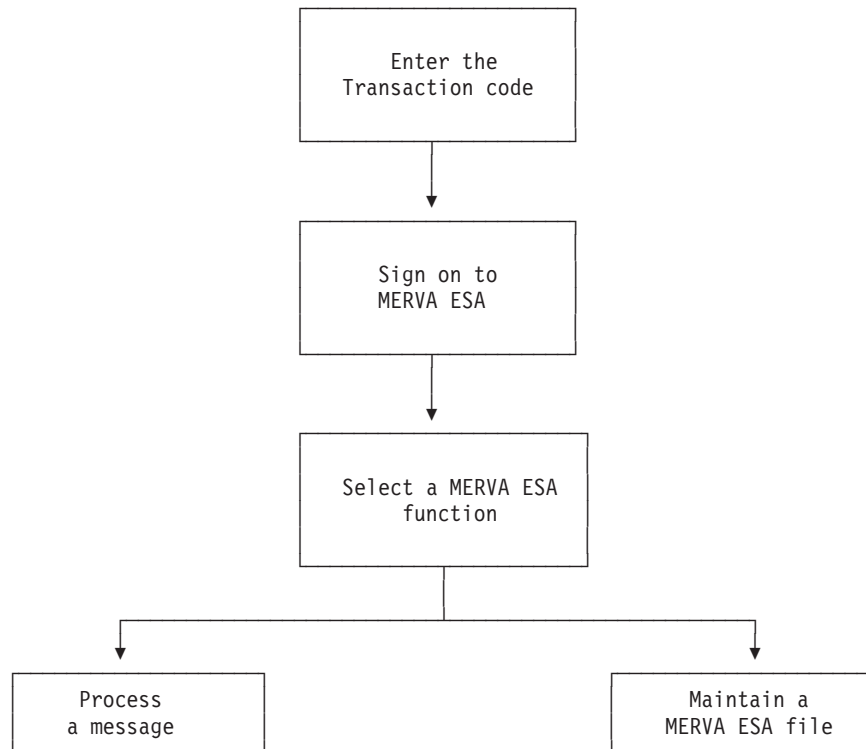


Figure 5. Starting a MERVA ESA Session

This chapter shows you how to:

- Enter the transaction code
- Sign on to MERVA ESA
- Select one of the MERVA ESA functions

Entering the Transaction Code

Before you start to work with MERVA ESA, use the CLEAR key to clear any display from the screen. This avoids any unexpected input when you enter the transaction code.

The transaction code you use depends on your installation. Ask the system administrator for your transaction code. To enter the transaction code, simply type in your code and press the ENTER key.

You can sign on at any terminal defined for this transaction and connected to:

- CICS/ESA (R)
- IMS/ESA (R)

MERVA ESA recognizes you by your user ID and not by the terminal you use.

When you type in your transaction code and press ENTER, MERVA ESA displays the Sign-on panel. This panel is shown in Figure 6 on page 13.

MERVA ESA can be generated so that you can shorten the process of signing on and selecting a function (which are described in the next sections).

If your system has been customized to use external security, MERVA ESA does not check the password and restricts the signon from a terminal.

If your system has been customized to use **external security without terminal signon checking**, you can then:

- Enter the transaction code together with your user ID (separated by a blank). MERVA ESA then displays the Function Selection panel.
- Enter the transaction code, your user ID, and the name of the function you want to perform (each separated by a blank). MERVA ESA then displays the first panel of this function (for example, the Message Selection panel).

Note: You should be aware that this way of signing on leads to a tremendous security gap. **Any** user ID known to MERVA ESA can be misused for an unauthorized signon from a terminal.

The system administrator is strongly recommended to customize your system to use **external security with terminal signon checking**. You can then enter the transaction code only. MERVA ESA determines your user ID, and if it can accept your user ID, MERVA ESA then displays the Function Selection panel.

Signing On to MERVA ESA

The steps to be taken to start a MERVA ESA session depend upon the way MERVA ESA has been customized in your installation. For example, it is possible to start a MERVA ESA session by an application program written by programmers in your financial institution. Your system administrator can tell you how to do this, if such a program exists in your installation.

The Sign-on panel shown in Figure 6 on page 13 is displayed after you have entered your transaction code. To sign on to MERVA ESA, enter your user identification and current password. As a security measure, your password is not displayed as you type it.


```

                                IBM
Message Entry and Routing with Interfaces to Various Applications for ESA
                                MERVA for ESA Version 4

      MM      MMM      EEEEEEEEE      RRRRRRRRRR      VVV      VV      AAAAAA
      MMM      MMM      EEE      RRR      RRR      VVV      VV      AA      AAA
      MMMM      MMMM      EEE      RRR      RR      VVV      VV      AA      AAA
      MMMMM      MMMMM      EEEEE      RRRRRRRRRR      VVV      VV      AA      AAA
      MMMMMM      MMMMM      EEE      RRR      RR      VVV      VV      AA      AAA
      MM MMMMMMMMMMM      EEE      RRR      RRR      VVV VV      AAAAAAAAAA
      MM MMMMM      MMM      EEE      RRR      RRR      VVVVV      AA      AAA
      MM      MM      MMM      EEEEEEEEE      RRR      RRR      VVVV      AA      AAA

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

User-ID : _                               Release 1.0
Password : _ / /                          1999DEC17 11:16:06
           current new new
Function :

```

Figure 6. MERVA ESA Sign-on Panel

To sign on to MERVA ESA:

1. In the area following the User-ID tag, type your user ID.

Note: If you are signing on for the first time with an empty User File, type the user ID specified in MERVUSR customizing parameter and the same character string as the password. The default value is DSLUSER. Then, you must create a User File record for an authorized user that is allowed to process the function USR as described in “Chapter 17. Maintaining the User File” on page 123.

2. In the first space following the Password tag, type your current password
3. If you want to change your password:
 - a. Tab to the space between the first and second slash and type your new password.
 - b. Tab to the space following the second slash and type your new password again.

For example, if your current password is **passcur** and you want to change it to **passnew**, enter **passcur / passnew / passnew**.

Notes:

- a. When you sign on to MERVA ESA for the first time after your user profile has been created or changed, you should change your password. You should also change your password at regular intervals even though your user profile has not been changed.
 - b. If you enter an incorrect password more often than is allowed for your location, you are immediately signed off and are prohibited from signing on until someone authorized to use the User File Maintenance functions resets the number of your rejected sign-ons.
4. In the line identified by the Function tag, you can type the name of the function you want to work with. If you do this:
 - MERVA ESA assigns the function immediately.

- The Function Selection panel is skipped.
 - The next panel to be displayed depends on the function you select.
5. Press ENTER.

Note: Depending on the type of terminal you have, the fields in which data is to be entered (with the exception of the password fields) can be shown underlined. The underlines on all other panels can be switched on or off with the **ul** command. All the panels in this book are shown without underlines, and with the cursor position indicated by a single underline.

Selecting a Function

If your sign-on is successful and you do not select a function on the Sign-on panel, MERVA ESA displays the Function Selection menu. An example is shown in Figure 7. Remember that your menu may not look exactly like the example shown here, as each financial institution uses different functions and can change the function names. Your Function Selection menu shows only the functions you are allowed to use.

There are two forms of the Function Selection menu:

- Form 1 displays the function names and the function descriptions.
- Form 2 displays only the function names (this lets the menu display more function names on each page).

You can switch between the two forms by entering **form 1** and **form 2** on the command line.

Note: If you are allowed to use only one function, the Function Selection menu is not displayed during sign-on. Instead, the first panel of that function is displayed. However, when you leave that function, the Function Selection menu is always displayed.

```
Function Selection                                     Page 1
To select a function, move the cursor to ">" and press ENTER

> L2DE0      Data Entry
> L2VE0      Visual Verification and Correction
> L2RE0      Retype Verification
> L2AI0      First Authorization of Input Messages
> L2A00      Authentication Output Queue
> L2D00      Distribution of Output Messages
> TXDE0      Telex Data Entry
> TXVE0      Telex Verification SWIFT Messages
> TXAI0      Telex Authorization SWIFT Messages
> TXTKC      Telex Test-Key Calculation
> TXDISTR    Telex Distribute Received
> USR        User File Maintenance
> FLM        General File Maintenance
> AUT        Authenticator Key File Maintenance
> CMD        Operator Command Processing
> MSC        MERVA System Control

Command =====>
PF 1=Help    2=Retrieve  3=Signoff   4=          5=          6=
PF 7=Page -1 8=Page +1  9=          10=         11=         12=
```

Figure 7. A Sample MERVA ESA Function Selection Menu

To select one of the functions from the Function Selection menu:

1. Position the cursor under the > preceding the function you want to use.
2. Press ENTER.

Depending on the function you select, MERVA ESA displays a new panel:

- If you select one of the message-processing functions, the Message Selection panel shown in Figure 9 on page 24 is displayed.
- If you select one of the administration functions (USR, FLM, or AUT), the panel used for that function is displayed. The panel used for maintaining the User File is shown in Figure 73 on page 126; the panel used for maintaining the Authenticator-Key File is shown in Figure 82 on page 143; and the panel displayed when you select General File Maintenance is shown in Figure 99 on page 165.

Note: There are four separate functions available for maintaining the User File, and four separate functions for maintaining the Authenticator-Key File.

- If you are authorized to use the Operator Command Processing function (CMD) or the MERVA System Control function (MSC), refer to the *MERVA for ESA Operations Guide* for further information.

To create a SWIFT message, for example, move the cursor to the > preceding L2DE0 and press ENTER. This selects the Data Entry function for a SWIFT message.

The next panel displayed is the Message Selection panel. This panel is described in “Chapter 5. Entering Data for a SWIFT Message” on page 23, together with the steps required to create a SWIFT message and to enter data into the message. For the steps involved in creating a telex message, refer to “Chapter 12. Processing Outgoing Telex Messages” on page 81.

Chapter 4. Message Handling and Routing

The features available in MERVA ESA for the processing of messages are described in this manual using examples of SWIFT messages (see “Part 2. Using the SWIFT Message-Processing Functions” on page 21) or telex messages (see “Part 3. Using the Telex Message-Processing Functions” on page 79). The same features can be used for other kinds of messages that are used in your installation.

As outlined in “Chapter 1. Introducing MERVA ESA” on page 3, MERVA ESA uses a series of queues to ensure that a message is not sent to the network unless it has passed successfully through all the necessary processing steps. The sequence in which these steps must be completed depends upon the way in which your system was customized.

In the financial institution described as an example in this chapter, the customization specification is as follows:

1. All messages transferring funds or securities must be verified by retyping. That means, someone must retype certain fields (normally those specifying the currency, amount and value date), so that MERVA ESA can check the retyped version against the originally typed version and thus eliminate the possibility of a typing error.
2. All other messages must be verified visually. That means, someone must read the message carefully to check that everything is correct.
3. All messages must be authorized. That means, the message is displayed again for visual checking.
4. All messages effecting a transfer of funds or securities with a value higher than US \$10,000 must be authorized a second time.

The example financial institution has the following additional rules for security reasons:

1. Verification, whether visually or by retyping, must be performed by someone other than the person who created the message.
2. Where two verification steps are required (that is, for messages effecting funds or securities transfer), the steps must be performed by different people.
3. Nobody below the level of Supervisor may authorize a message.
4. Only the Department Manager may authorize a message where the value of the funds or securities to be transferred exceeds US \$10,000.

See Figure 8 on page 18 for the basic flowchart for routing a message transferring US \$15,000 via the SWIFT network in the example financial institution.

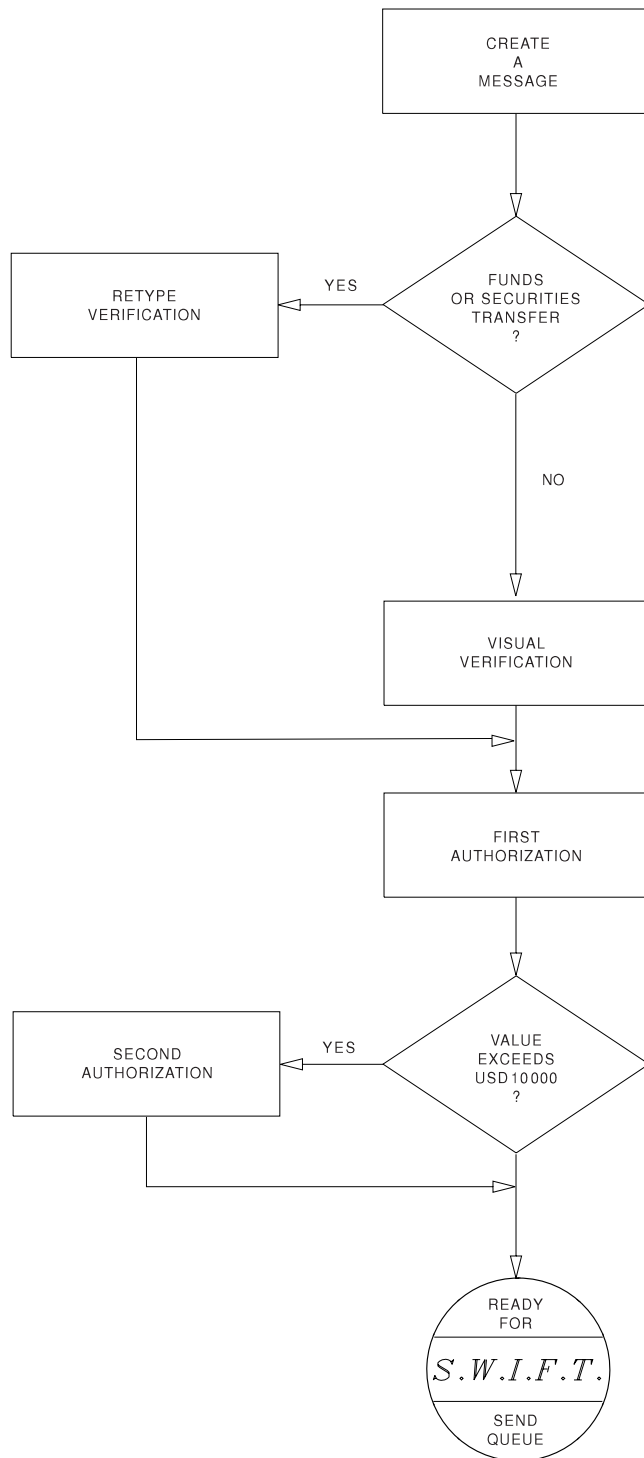


Figure 8. Outline of Message Handling and Routing

A message is handled and routed as follows:

1. The first user creates a message to transfer a sum of US \$15,000 to be sent with normal priority, using the command **mt** or the command **copy**. (“Chapter 5. Entering Data for a SWIFT Message” on page 23 describes this in detail.)
2. When the data entry for a message is complete, the first user enters the **com** command. As checking is specified for the message-processing function in the example institution, the **com** command checks the message for formal errors. If

no errors are found, the message is routed to the queue of the next message-processing function: retype verification.

3. The user of the Retype function selects the Retype Verification function and displays the message created by the first user. Some of the fields contain the data entered by the first user; others contain a highlighted question mark (?). This user must retype the data for the fields containing a question mark, using the same source document. He must also check visually to make sure that everything else in the message is correct. MERVA ESA checks that the retyped data is exactly the same as the original data and then routes the message to the queue for the next message-processing function. In this case, both the second user and MERVA ESA consider the message to be correct.
4. The user of the Retype function enters the **ok yes** command which routes the message to the queue of the First Authorization function. If the message is not correct and the user enters the **ok no** command, or if the retyping fails, the message is routed to the queue of the Visual Verification and Correction function. (“Verifying a Message through Retyping” on page 45 describes the retype verification process for a SWIFT message in detail.)
5. The user of the Visual Verification function displays the message for visual verification and reads it carefully. When sure that it is correct, the user enters the **gom** command, which routes the message to the first authorization queue. (“Visually Verifying a Message” on page 47 describes the visual verification process for a SWIFT message in detail.)
6. The Supervisor selects the Authorization function and displays the message. He checks that everything is correct and then enters the **ok yes** command to route the message to the queue of the Second Authorization function (because the amount is greater than US \$10,000).
7. The Department Manager selects the Second Authorization function and displays the message. Once again, the message is carefully checked to ensure that all is correct before the **ok yes** command is entered. The message is now stored in the queue for messages with normal priority which are ready to be sent to the appropriate network. (“Chapter 9. Authorizing a Message” on page 53 describes the authorization process for a SWIFT message in detail.)

In “Part 2. Using the SWIFT Message-Processing Functions” on page 21, you can learn how to perform all the stages of message processing with the example of SWIFT messages, from creating a message to authorizing it to be sent to SWIFT.

In “Part 3. Using the Telex Message-Processing Functions” on page 79, you will learn how to perform the steps of processing a telex message that are different from the processing of a SWIFT message.

Before reading these chapters, however, you should ask your MERVA ESA administrator about the routing and security rules in force in your financial institution, as they may be different from those described in this book.

Part 2. Using the SWIFT Message-Processing Functions

This part of the book uses a series of examples to explain how to use the Message Processing functions. You should read this part of the book if you are authorized to carry out one or more of the SWIFT message-processing functions, or if you are authorized to process telex messages or other messages defined by your financial institution. This is because some or all of the commands shown for the SWIFT messages also apply to other messages.

The following message-processing functions are explained:

- Entering data
- Verifying messages
- Authorizing messages to be sent
- Authenticating output messages manually
- Distributing output messages.

Chapter 5. Entering Data for a SWIFT Message

This chapter shows you how to:

- Create a message
- Enter data for the message
- Use some of the display modes
- Sign off to end the MERVA ESA session.

The examples in this chapter are based on the SWIFT MT 100 Customer Transfer.

Note: In SWIFT terminology, messages which you create in your financial institution to send to correspondents are called *input messages*. Messages you receive from correspondents are called *output messages*.

Creating a Message

When you select the Data Entry function, MERVA ESA displays the Message Selection panel, shown in Figure 9. The command **mt** is used to create a new message; the **get** command is used to retrieve existing messages from the data entry queue.

If your system has been customized to use *forms* and if your user profile enables you to do so, you can also copy a message from a forms queue (copy queue) using the **copy** command. Forms are partly-filled messages containing data that may be duplicated in several messages of the same message type, for example, in SWIFT category 7 messages. Ask your system administrator if you can use the **copy** command.

To create a new form, select the forms queue (for example, L2FORMS), and create the new form in the same way as you create a new message by using the **mt** command. You can change existing forms using the **get** command, changing the form, and using **eom** or **requeue** to store the changed form in the forms queue.

Message Selection		Func L2DE0
Message Selection Commands		
Create New Message (Message Type)	MT nxxxxxxx	
Select Message from Copy Queue by Key	COPY KEYx xxxxxxxx	
Select Next Message	GET NEXT or GET N	
Select First Message	GET FIRST or GET F	
Select Message by Key 1 SW20	GET <K1> x...x	
Message Processing Commands (for use on message panels)		
Escape From Current Message	ESCAPE	
Requeue Current Message	REQUEUE	
Complete and Store Message	EOM	
Print a Hardcopy	HARDCOPY or HCO	
Command =====> mt s100		
PF 1=Help	2=Retrieve	3=Return 4= 5=Get Next 6=Get First
PF 7=	8=	9=Hardcopy 10= 11=List 12=

Figure 9. Message Selection Panel

The panel shows you the MERVA ESA message-selection commands and message-processing commands. The message-selection commands are entered on the Message Selection panel and identify the message with which you want to work. These commands are entered in the command line.

The message type command (**mt**) creates a message of the specified type. The following line shows the format you use to specify the type of message you want to create:

Create New Message (Message Type) MT nxxxxxxx

The *nxxxxxxx* identifies the network used to send the message and the message type.

- *n* specifies the network: for example, S for the SWIFT network. If you do not enter a network identifier, MERVA ESA takes the default identifier from your User File record.
- *xxxxxxx* specifies the message type: for example, 100 for the SWIFT customer transfer.

When you want to create a new SWIFT MT 100, enter **mt s100** in the command line. If the default network defined in your User File record is S (for SWIFT), you can shorten the command to **100**. The **mt** and the network identifier **S** are assumed by MERVA ESA. Your system administrator will tell you which is your default network.

When you want to create a new GPA message, the message type always starts with a G. For example, MT SG020 for a message retrieval request. When you want to create a FIN system message, the message type always starts with an F. For example, MT SF020 for a retrieval request.

Note: It is not possible to shorten these commands, and use, for example, G020 to create an MT SG020. Only message types consisting of 3 digits can be shortened, for example, 100 for an MT S100.

Each message can only be processed by one user at a time, even if several users process the same function.

Entering Data

The following example for entering data assumes that you are familiar with the structure of SWIFT MT 100 as defined in the *S.W.I.F.T. User Handbook*.

When you have entered the command **mt s100** in the Message Selection panel, MERVA ESA displays the panel shown in Figure 10. This is the first page of a SWIFT MT 100, Customer Transfer.

MT S100	Customer Transfer	Page 00001
		Func L2DE0
Basic Header	F 01 VNDOBET2AXXX 0000 000000	
Application Header	I 100 N	
User Header	Service Code 103:	
	Bank. Priority 113:	
	Msg User Ref. 108:	
TRN	*20 :	
Date/Cur/Amount	*32 A : Date Currency Amount	
Ordering Customer	*50 :	
Ordering Inst.	52 : / /	
Command =====>		
PF 1=Help	2=Retrieve	3=EOM
PF 7=Page -1	8=Page +1	9=Hardcopy
	4=Repeat	5=Get Next
	10=Pro Line	6=Requeue
	11=Prompt	12=Escape

Figure 10. SWIFT MT 100 Customer Transfer Page 1

The first line, or title line, of the panel identifies the message type by its number and descriptive title, and shows the page number. Under the page number, on the second line, is the name of the function you are currently using.

The text area contains the fields of the message. These fields are identified by a field name and number. Notice that some of the fields are preceded by an asterisk (*). These fields are mandatory, and you *must* enter data in these fields.

Note: The header fields of a message are also mandatory. These fields are Emitting Logical Terminal, Destination SWIFT address, and Priority. The data displayed in the Destination SWIFT address and ISN fields is default information and cannot be changed by the user.

When the panel is displayed, the cursor is positioned in the first field in which data can be entered. You can use the tabulator key to move the cursor from one input field to the first position of the next input field. The PF keys and the commands assigned to them are shown on the last two lines of the panel. To enter data for SWIFT MT 100, fill in the panel with the information shown in Figure 11 on page 26 and press ENTER.

Note: The slashes (/) in field 52 indicate the account-number line. If you use the account-number line, you do not need to enter the slashes; but you can enter the account code between the slashes (C or D) and the account number after the second slash.

```

MT S100                                Customer Transfer                                Page 00001
                                                                    Func L2DE0

Basic Header      F 01 VNDOBET2AXXX 0000 000000
Application Header I 100 bankdeff      N
User Header      Service Code    103:
                 Bank. Priority  113:
                 Msg User Ref.  108:
TRN              *20   : trx1234
Date/Cur/Amount *32 A : Date 990521 Currency DEM Amount 5000
Ordering Customer *50   : a.customer
                  any street
                  any city
                  any country
Ordering Inst.   52 d : /   /
                  any bank_

Command =====>
PF 1=Help      2=Retrieve  3=EOM          4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 11. Entering Data for SWIFT MT 100 Customer Transfer Page 1

When you press ENTER, MERVA ESA carries out the following:

- Performs SWIFT address expansion, if this is used in your installation
- Checks for incorrect data on this page of the message
- Checks that data has been entered in the mandatory fields on this page.

These are described in the following sections.

Expansion of SWIFT Addresses

During the customization of a MERVA ESA system, it is possible to choose that, where there is a field containing a SWIFT address, the descriptive address can be displayed. The expanded address is for your information only, and is not transmitted to the SWIFT network as part of the SWIFT message. In the example, expansion has been defined for all fields in a message that contain a SWIFT address. The SWIFT address is also called the Bank Identifier Code (BIC). The correspondent is identified in the destination SWIFT address in the application header line.

When you enter the destination SWIFT address, MERVA ESA displays the panel again with the expanded correspondent's name, as shown in Figure 12 on page 27. You can enter any of the following into the destination SWIFT address:

- A SWIFT address.
- A nickname for the SWIFT address. This nickname is replaced by the SWIFT address of the correspondent, and then expanded to show the correspondent's name.

For information on creating nicknames for SWIFT addresses refer to "Chapter 19. MERVA ESA General File Maintenance" on page 165.

Notice that your input has been changed to uppercase and that the expanded address is identified by an asterisk (*) at the beginning of each line of the correspondent's name.

```

MT S100                                Customer Transfer                                Page 00001
                                                                    Func L2DE0

Basic Header      F 01 VNOBET2AXXX 0000 000000
Application Header I 100 BANKDEFFXXX N
                  *TESTBANK AG
                  *FRANKFURT

User Header      Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:

TRN              *20 : TRX1234
Date/Cur/Amount *32 A : Date 990521 Currency DEM Amount 5000
Ordering Customer *50 : A.CUSTOMER
                  ANY STREET
                  ANY CITY
                  ANY COUNTRY

Ordering Inst.   52 D : / /
                  ANY BANK

DWS3534 Field SW32AMNT AMOUNT must have a comma
Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 12. Address Expansion in SWIFT MT 100 Customer Transfer Page 1

When Incorrect Data Is Entered

In addition to expanding addresses when you press ENTER, MERVA ESA can also check the data while storing it.

As you are familiar with SWIFT message structures, you have probably noticed that, in Figure 12, the data for the amount part of field 32 is incorrect (the final comma is missing). MERVA ESA displays a message in the information line at the bottom of the panel, telling you of the error. The incorrect data in the field is highlighted, and the cursor is positioned on the first position of the field.

To continue, you can do one of the following:

- Correct the data and page forward. The next page of the message is displayed.
- If you do not know what to enter in the field, press PF1 to display the help panel for the error. If you cannot correct the error and want to continue entering data for the message, page forward to display the next page of the message. The error can be corrected later.
- If you want to stop so that you or someone else can provide the information to correct the field, enter the **requeue** command. The message, together with all the changes you have made, is stored in the queue of the Data Entry function, and the Message Selection panel shown in Figure 9 on page 24 is displayed.
- If you want to stop and cancel the changes you have made to the message, enter the **escape** command. The message is not stored, and the data you have entered is lost. The Message Selection panel shown in Figure 9 on page 24 is displayed.

Figure 13 shows the second page of the message. As none of the fields on this page is marked as mandatory, you can leave this page blank and page forward to the next page of the message.

MT S100	Customer Transfer	Page 00002
		Func L2DE0
Sender's Corr.	53 _ : / /	
Receiver's Corr.	54 : / /	
Intermediary	56 A : / /	
Command =====>		
PF 1=Help	2=Retrieve	3=EOM
PF 7=Page -1	8=Page +1	9=Hardcopy
	10=Pro Line	11=Prompt
		12=Escape

Figure 13. SWIFT MT 100 Customer Transfer Page 2

When Data for Mandatory Fields Is Missing

The third page of MT 100 is shown in Figure 14 on page 29. On this page, field 59 (Benefic Customer) is marked as mandatory.

When you omit data for mandatory fields, MERVSA ESA displays an error message to that effect, showing the first field for which data is missing. An example of the message is shown in Figure 14 on page 29. A highlighted question mark (?) is displayed in the first position of each empty data area for the field where data was required, but not entered. The cursor is placed under the first question mark in the panel.


```

MT S100                                Customer Transfer                                Page 00003
Account with Inst.  57  : / /                                Func L2DE0

Benefic Customer   *59  : /
                                                           ?
                                                           _

Details of Payment  70  :

Details of Charges  71 A :

DWS3521 Field SW59ADD1 must be 1 to 35 characters
Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 14. Mandatory Fields Omitted in SWIFT MT 100 Customer Transfer Page 3

You can now do one of the following:

- Enter the missing data and page forward to the next page of the message.
- If you do not know what to enter for the field, display the help panel for the error. If you cannot correct the error immediately and want to continue entering data in the message, page forward. The next page of the message is displayed, and the missing data can be entered later.
- If you want to stop so that you or someone else can provide the information to correct the field, issue the **requeue** command. The message, together with the changes you have made, is stored in the queue of the Data Entry function, and the Message Selection panel shown in Figure 9 on page 24 is displayed.
- If you want to stop and cancel the changes to the message, enter the **escape** command. The message is not stored, and the data you have entered is lost. The Message Selection panel (see Figure 9 on page 24) is displayed.

If more than one mandatory field is left empty, and you enter the data for only one field, an error message informs you of the next empty mandatory field. The highlighted question mark (?) is displayed at the beginning of that empty field. This sequence is continued until all mandatory fields on the panel have been filled, or you page forward to the next page of the message without filling all the mandatory fields. If there are still empty mandatory fields when you enter **eom**, an error message is displayed in the information line.

The final page of a SWIFT MT 100 is shown in Figure 15, and contains field 72, and the trailer for the SWIFT MT 100. The authentication trailer is added automatically before the message is sent to the SWIFT network. In the case of a resend, PDE trailers are also added automatically.

```
MT S100                Customer Transfer                Page 00004
                                                           Func L2DE0

Send. to Rec. Info. 72 : _

Trailer                Order is <MAC:> <PAC:> <ENC:> <CHK:> <TNG:> <PDE:>

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape
```

Figure 15. SWIFT MT 100 Customer Transfer Page 4

The PROMPT Display Mode

When processing a message, you can display it in one of the following modes:

PROMPT mode

This mode is for the user who is not familiar with the structure of a specific message, or with message structures in general. This is the display mode used when you created the SWIFT MT 100 in the preceding sections of this chapter. The area for entering data is preceded by the field name and field number, which show the meaning of the field (for example, Receiver's Corr. 54), and an asterisk (*) to indicate that a field is mandatory. This display mode is the default mode for data entry. Figure 16 on page 31 shows the second page of a SWIFT MT 100 in PROMPT mode.

```

MT S100                                Customer Transfer                                Page 00002
Sender's Corr.      53 _ : / /          Func L2DE0

Receiver's Corr.    54  : / /

Intermediary        56 A : / /

Command =====>
PF 1=Help          2=Retrieve  3=EOM          4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1       8=Page +1  9=Hardcopy   10=Pro Line 11=Prompt   12=Escape

```

Figure 16. SWIFT MT 100 Customer Transfer in PROMPT Mode

PROMPT UNIT mode

This mode displays only those units that contain information. A unit is a group of fields defined for this message. Enter the command **prompt unit** in the command line to display the SWIFT MT 100 in PROMPT UNIT mode.

All the lines of field 52 (Ordering Inst.) are displayed although four of the lines are empty. However, if you page forward, field 53 (Sender's Corr.), field 54 (Receiver's Corr.), and field 56 (Intermediary) are not displayed, as nothing was entered in any of the lines for these units. Field 59 therefore appears on page 2 of the message.

Figure 17 on page 32 shows the second page of the SWIFT MT 100 in PROMPT UNIT mode.

```

MT S100                                Customer Transfer                                Page 00002
                                           Func L2DE0
Benefic Customer *59 : /
                                           B.CUSTOMER
                                           ANOTHER STREET
                                           ANOTHER CITY
                                           ANOTHER COUNTRY

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 17. Display of SWIFT MT 100 in PROMPT UNIT Mode

PROMPT LINE mode

This mode displays only those lines that contain information or that have a field name. Entering the **prompt line** command in the command line displays the SWIFT MT 100 in PROMPT LINE mode shown in Figure 18.

```

MT S100                                Customer Transfer                                Page 00001
                                           Func L2DE0
Basic Header      F 01 VNOBET2AXXX 0000 000000
Application Header I 100 BANKDEFFXXX N
                                           *TESTBANK AG
                                           *FRANKFURT
User Header       Service Code  103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20 : TRX1234
Date/Cur/Amount  *32 A : Date 990521 Currency DEM Amount 5.000,
Ordering Customer *50 : A.CUSTOMER
                                           ANY STREET
                                           ANY CITY
                                           ANY COUNTRY
Ordering Inst.    52 D : / /
                  ANY BANK
Sender's Corr.    53 : / /

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 18. Display of SWIFT MT 100 in PROMPT LINE Mode

The first and second lines of field 52 are displayed because they contain information (the system-generated slashes (/) are seen by MERVA ESA as information). However, the next three lines of field 52 are not displayed as they are empty. The first line of field 53 is also displayed as it contains the field name Sender's Corr.

PROMPT UNIT LINE mode

This mode is a combination of both PROMPT UNIT and PROMPT LINE display modes. The **prompt unit line** command displays the SWIFT MT 100 in PROMPT UNIT LINE mode (see Figure 19).

```
MT S100                      Customer Transfer                      Page 00001
                                                                    Func L2DE0
Basic Header      F 01 VNOBET2AXXX 0000 000000
Application Header I 100 BANKDEFFXXX N
                  *TESTBANK AG
                  *FRANKFURT
User Header       Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20 : TRX1234
Date/Cur/Amount  *32 A : Date 990521 Currency DEM Amount 5.000,
Ordering Customer *50 : A.CUSTOMER
                  ANY STREET
                  ANY CITY
                  ANY COUNTRY
Ordering Inst.    52 D : / /
                  ANY BANK
Benefic Customer  *59 : /
                  B.CUSTOMER
                  ANOTHER STREET
                  ANOTHER CITY
                  ANOTHER COUNTRY
Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape
```

Figure 19. Display of SWIFT MT 100 in PROMPT UNIT LINE Mode

The first line and the second line of field 52 are displayed because they contain information or slashes (/). However, as field 53 contains no information but only a field name, it is not displayed.

NOPROMPT mode

This display mode is intended for an experienced user. Headers and trailers are displayed as strings of characters. Only fields containing data are displayed (empty fields are not displayed), and they are preceded only by the field tag (for example, :59:). This display mode is described in “Displaying a Message in NOPROMPT Mode” on page 48.

Completing and Storing the Message

When you have entered all the data for the message, you can use the **length** command to check whether the message is too long to be sent to the network. For example, all SWIFT message types have a maximum length that must include any trailers (for example, MAC and PDE) that may be added automatically by the SWIFT Link. When you have finished entering the data for the message, enter the command **eom** (end of message). If your system has been customized to do so, the **eom** command checks all the fields in the message.

If any errors are found, a panel showing all the error messages for the message is displayed. The **end** command ends this display and returns to the message so that it can be corrected; you might have to scroll to the page on which the correction is to be made. If you cannot or do not wish to correct the message, you can use the **requeue** command to store the message in the data entry queue. The message can then be corrected later.

If no errors are found, the message is routed to the queue for retype verification (because the amount field is defined as a retype field and contained in MT 100), and the Message Selection panel is displayed.

You can also display all error messages at any time during message processing by entering the command **show error**. When you enter this command, a panel is displayed showing all the error messages for the current page of the message.

Leaving the Message Selection Panel

When you have finished using a particular function, use the **return** command to redisplay the Function Selection menu. You can either select another function or sign off.

Note: The **return** command incorporates the **eom** command. However, if the checking process finds an error in the message, the **return** command is not carried out.

Signing Off from MERVA ESA

When you have finished processing and have no further work to do with MERVA ESA, sign off from MERVA ESA by issuing the command **signoff**. When you have signed off from MERVA ESA, the panel shown in Figure 20 is displayed.

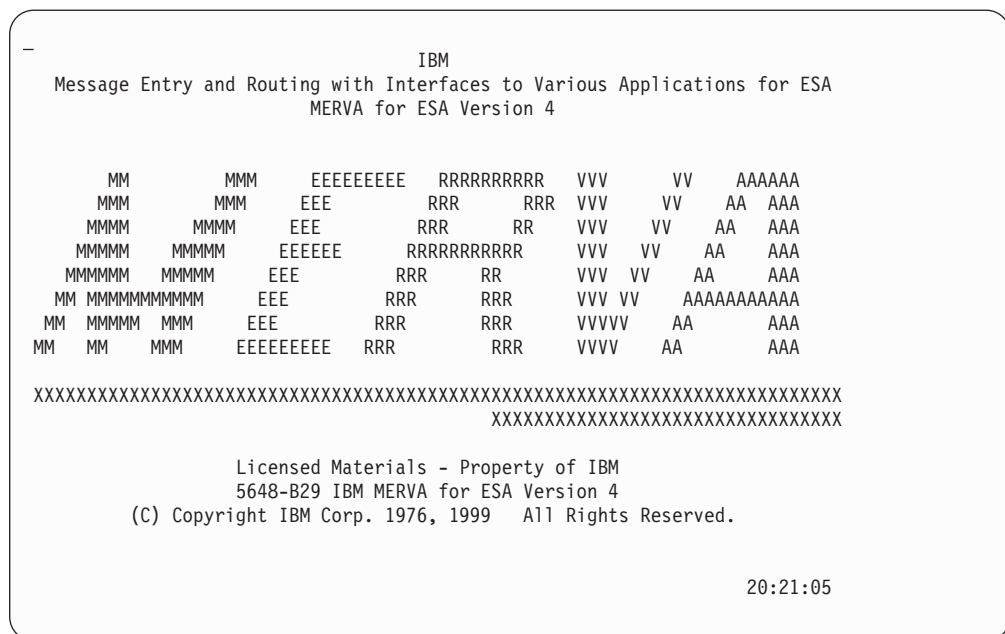


Figure 20. The MERVA ESA Sign-off Panel

You can sign off from MERVA ESA from any panel by entering the **signoff** command in the command line. Keep in mind, however, that the **signoff** command also carries out the function of the **eom** command, so that, if you were entering data for a message when you signed off, the message is stored in the queue defined for the next message-processing step. If the checking process finds errors in the message, the **signoff** command is not carried out.

If you want to sign off without carrying out the **gom** command, use the **escape** or **requeue** command before the **signoff** command.

Chapter 6. Entering Data in a SWIFT Message Containing Repeatable Sequences

The example in this chapter is based upon the SWIFT MT 950 Statement Message and assumes that:

- You are familiar with the structure of the SWIFT MT 950 as defined in the *S.W.I.F.T. User Handbook*.
- You have read “Part 1. General Introduction to Using MERVA ESA” on page 1 and also “Chapter 5. Entering Data for a SWIFT Message” on page 23.

When the Message Selection panel of the Data Entry function is displayed, enter **mt s950** in the command line (see Figure 9 on page 24). MERVA ESA displays the first panel for a SWIFT MT 950. You can ensure that you are in PROMPT display mode by entering the command **prompt**.

```

MT S950                               Statement Message                               Page 00001
                                          Func L2DE0

Basic Header      F 01 VNDOBET2AXXX 0000 000000
Application Header I 950 bankdeff      N
User Header       Service Code      103:
                  Bank. Priority    113:
                  Msg User Ref.    108:
TRN               *20   : 1234/22
Account Ident.    *25   : 239981
Statement Number *28   : 12 /
Opening Balance   D/C Date   Currency Amount
                  *60 f : c 990521 dem      6.723.495,00
* * Repeatable Sequence 001 * * * * * 0 Occurrence 00001
Statement Line    Date   Entry D/C Funds Amount      Code
                  61   :
                  Ref. Owner      Ref. Server
                  //
                  Further Reference / Information

Command =====>
PF 1=Help      2=Retrieve 3=EOM      4=Repeat   5=Get Next 6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt 12=Escape
  
```

Figure 21. SWIFT MT 950 Statement Message Page 1

The first page of the MT 950 contains the following (subtitle) line:

```
* * Repeatable Sequence 001 * * * * * 0 Occurrence 00001
```

Under this line, field 61 is displayed, which is the first occurrence of a repeatable sequence. This means that the field can be repeated in the message. On the subtitle line, the occurrence number (00001) is highlighted to show that the occurrence is the current occurrence. Figure 22 on page 38 shows the data for the first occurrence of the repeatable sequence.

```

MT S950                               Statement Message                               Page 00001
                                          Func L2DE0

Basic Header      F 01 VNOBET2AXXX 0000 000000
Application Header I 950 BANKDEFFXXXX N
                  *TESTBANK AG
                  *FRANKFURT
User Header      Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN              *20 : 1234/22
Account Ident.   *25 : 239981
Statement Number *28 : 12 /
Opening Balance  D/C Date  Currency Amount
                  *60 F : C 990521 DEM 6.723.495,00
* * Repeatable Sequence 001 * * * * * Occurrence 00001
Statement Line   Date  Entry D/C Funds Amount Code
                  61 : 990521 D 1.000, NCHK
                  Ref. Owner Ref. Server
                  456 // 123456
                  Further Reference / Information
                  No Further Reference

Command =====>
PF 1=Help 2=Retrieve 3=EOM 4=Repeat 5=Get Next 6=Requeue
PF 7=Page -1 8=Page +1 9=Hardcopy 10=Pro Line 11=Prompt 12=Escape

```

Figure 22. Repeatable Sequence in SWIFT MT 950 Statement Message Page 1

Figure 23 shows the next two occurrences of the repeatable sequence with data, and the command **occ off** typed in the command line. The **occ off** command is used to end the display of any additional empty occurrences of the repeatable sequence. The first page of the message is displayed after the **occ off** command.

You can page forward to finish entering the information for the message. If you page forward on a page that shows only empty occurrences of the repeatable sequence, the next page after the repeatable sequence is displayed.

If you complete the message using the **eom** command while there are still empty occurrences of the repeatable sequence, all the empty occurrences are discarded.

```

MT S950                               Statement Message                               Page 00002
                                          Func L2DE0

* * Repeatable Sequence 001 * * * * * Occurrence 00002
Statement Line      Date  Entry D/C Funds Amount      Code
                   61  : 990521    D      10.000,      S200
                        Ref. Owner      Ref. Server
                        23/200516/DEV // 47829
                        Further Reference / Information

* * Repeatable Sequence 001 * * * * * Occurrence 00003
Statement Line      Date  Entry D/C Funds Amount      Code
                   61  : 990521    D       3.500,      NCHK
                        Ref. Owner      Ref. Server
                        567              // 123457
                        Further Reference / Information

Command =====> occ off_
PF 1=Help      2=Retrieve  3=EOM          4=Repeat      5=Get Next   6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy    10=Pro Line  11=Prompt    12=Escape

```

Figure 23. Repeatable Sequence in SWIFT MT 950 Statement Message Page 2

Figure 24 shows the information entered in field 62 and the **eom** command. This routes the message to the queue for visual verification, as there are no retype fields defined for this message.

```

MT S950                               Statement Message                               Page 00003
                                          Func L2DE0

Closing Balance      D/C Date  Currency Amount
                   *62 f : c 990521 dem 6.708.995,
Clos.Avail. Balance D/C Date  Currency Amount
                   64  :
Trailer              :

Command =====> eom_
PF 1=Help      2=Retrieve  3=EOM          4=Repeat      5=Get Next   6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy    10=Pro Line  11=Prompt    12=Escape

```

Figure 24. Completing a SWIFT MT 950 Statement Message

Chapter 7. Entering Data for a Nested SWIFT Message

A nested message is a message which contains one or more messages of other message types. For example, SWIFT MT 192 Request for Cancellation can be used to request the cancellation of MT 100 Customer Transfer. The nested message is the complete message of both MT 192 and MT 100. MT 100 is “nested” in MT 192.

Note: In the version of MERVA ESA delivered to your institution, the only nested messages you can enter are SWIFT Common Group messages n92, n95, and n96. You can also receive these messages from the SWIFT network, and in addition the nested SWIFT system message 021.

It is possible, however, that your system has been customized to allow nested messages in other message types.

This chapter describes briefly how to create a SWIFT MT 192 using the **mt** command, which is described on page 24. Figure 25 shows the first panel with data.

MT S192	Request for Cancellation	Page 00001
		Func L2DE0
Basic Header	F 01 VNDOBET2AXXX 0000 000000	
Application Header	I 192 bankdeff N	
User Header	Service Code 103:	
	Bank. Priority 113:	
	Msg User Ref. 108:	
TRN	*20 : 45678	
Related Reference	*21 : 123_	
MT/Date Origin. Msg	*11 S : MT	
	Date	
	Session	Sequence
Narrative	79 :	
Trailer	Order is <MAC:> <PAC:> <ENC:> <CHK:> <TNG:> <PDE:>	
Command =====>		
PF 1=Help	2=Retrieve	3=EOM
PF 7=Page -1	8=Page +1	9=Hardcopy
	10=Pro Line	11=Prompt
		12=Escape

Figure 25. SWIFT MT 192 Request for Cancellation

When you press ENTER, the panel shown in Figure 26 on page 42 is displayed.

You can use field 10 or field 11 to identify the message type that is to be nested within the current message type (S192).

```

MT S192                                Request for Cancellation                Page 00001
                                          Func L2DE0

Basic Header      F 01 VNOBET2AXXX 0000 000000
Application Header I 192 BANKDEFFXXXX N
                  *TESTBANK AG
                  *FRANKFURT
User Header       Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20 : 45678
Related Reference *21 : 123
MT/Date Origin. Msg *11 S : MT
                  Date
                  Session      Sequence

Narrative        79 :

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 26. Display of the Copy of Header Field

You now enter the information shown in field 10 in Figure 27 for the nested message (SWIFT MT 100).

Notice that, if you press ENTER before you have filled all the fields, an error message is displayed in the information line.

```

MT S192                                Request for Cancellation                Page 00001
                                          Func L2DE0

Basic Header      F 01 VNOBET2AXXX 0000 000000
Application Header I 192 BANKDEFFXXXX N
                  *TESTBANK AG
                  *FRANKFURT
User Header       Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20 : 45678
Related Reference *21 : 123
MT/Date Origin. Msg *11 S : MT 100
                  Date      990530
                  Session      Sequence

Narrative        79 :

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 27. Copy of Header Field with Entries

When the nested MT 100 has been initialized, an information message is displayed as confirmation. Page 2 of the message shows the fields of the MT 100. The mandatory fields for the MT 100 should be filled, as shown in Figures 28 and 29.

```

MT S192/S100                Request for Cancellation                Page 00002
                                                                    Func L2DE0
-----
Imbedded Message           : S100 Initialized
TRN                        *20 : trx1234
Date/Cur/Amount           *32 A : Date 990530 Currency DEM Amount 5000,
Ordering Customer         *50 : a.customer
                           : any street
                           : any city
                           : any country_
Ordering Inst.            52 : / /

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 28. Page 1 of the SWIFT MT 100 Nested in MT 192 Request for Cancellation

```

MT S192/S100                Request for Cancellation                Page 00004
                                                                    Func L2DE0

Benefic Customer          *59 : /
                           : b.customer
                           : another street
                           : another city
                           : another country_
Details of Payment        70 :

Details of Charges        71 A :
Send. to Rec. Info.      72 :

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 29. Page 3 of the SWIFT MT 100 Nested in MT 192 Request for Cancellation

To complete and store the MT 192, enter the **eom** command. If you wish to sign off MERVA ESA, do so as described in “Signing Off from MERVA ESA” on page 34.

Chapter 8. Verifying and Correcting Messages

“Chapter 4. Message Handling and Routing” on page 17 gives a simple example of the various processing steps required to prepare a SWIFT MT 100 in an example financial institution. This chapter shows how to verify and correct these messages.

In the example financial institution in this chapter, the routing rules are as follows:

1. After a message has been created using the Data Entry function, it is routed to one of two queues for verification. The queues have the same names as the Verification functions:
 - L2VE0** Verification by scanning through the message
 - L2RE0** Verification by retyping some of the fields in the message.
2. After visual verification, a correct message is routed to the authorization queue.
3. If a message is not correct, it can be corrected while the user is still in the Visual Verification and Correction function and then routed to the authorization queue.
4. After verification by retyping, and if retyping was successful, a correct message is routed to the authorization queue.
5. If the retyping was unsuccessful, or the message contains an error, it is routed to the queue for visual verification for correction. You cannot make corrections during verification by retyping.
6. A message routed from the retyping function to the visual verification queue for correction must be corrected, and then routed back to the queue for verification by retyping.

Usually, only one of the two possible verification processes is defined for use by a single user. Read the section in this chapter that is appropriate for you: either “Verifying a Message through Retyping”, or “Visually Verifying a Message” on page 47.

The examples described in the following sections assume that the data for SWIFT MT 100, MT 192, and MT 950 was entered as described in the preceding chapters. Routing is defined so that MT 100 and MT 192 are placed in the queue for retype verification, and MT 950 is placed in the queue for visual verification and correction.

Verifying a Message through Retyping

The first step is to select the Retype Verification function (L2RE0) from the Function Selection menu. The Message Selection panel is displayed (see Figure 9 on page 24). You can retrieve the messages one by one, beginning with the first message in the queue, by entering the command **get next**. The **get next** command can be entered on the command line as **get n**.

In this example, the first message in the queue is the SWIFT MT 100 created in “Chapter 5. Entering Data for a SWIFT Message” on page 23. Figure 30 on page 46 shows the panel displaying page 1 of that message.

```

MT S100                                Customer Transfer                                Page 00001
                                                                    Func L2RE0
Basic Header      F 01 VNOBET2AXXX 0000 000000
Application Header I 100 BANKDEFFXXXX N
                  *TESTBANK AG
                  *FRANKFURT
User Header       Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN              *20 : TRX1234
Date/Cur/Amount *32 A : Date ? Currency ? Amount ?
Ordering Customer *50 : A.CUSTOMER
                  ANY STREET
                  ANY CITY
                  ANY COUNTRY
Ordering Inst.   52 D : / /
                  ANY BANK

DSL3463 Retype data to field SW32DATE
Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 30. Retyping Data in SWIFT MT 100 Customer Transfer

Notice that none of the information entered in field 32 during the data entry step is shown. The subfields have been marked with question marks (?) to show that they have to be retyped; and a message to remind you to do so is displayed in the information line. When you retype data, it is compared with the data entered in these fields during the data entry process. The other fields shown on the panel are not defined for retyping, and are protected. This means that you cannot change the data in these fields.

If you enter incorrect data for a field, or if you do not retype the field that has been marked for retyping, an error message is displayed in the error line. You are allowed three attempts to retype the field correctly. If the field is retyped incorrectly three times, the message is routed to the queue for visual verification and correction, and the Message Selection panel is displayed.

To continue the example, the following information is entered in the subfields of field 32:

Date subfield	990521
Currency subfield	DEM
Amount subfield	5000

In this message, no other fields are marked for retyping. You should verify the rest of the message visually. When the message is correct, the command **ok yes** is entered in the command line. The message is routed to the queue of the Authorization function. If you find errors in the message, enter the **ok no** command. The message is then routed to the queue for visual verification and correction. See “Appendix C. The User Commands” on page 189 for more information on the **ok** command.

Note: Remember that you cannot correct an error in a message during retype verification.

When you have entered the **ok** command, the functions of the **eom** command are carried out; that is, the message is routed to the queue for the next message-processing function, and the Message Selection panel is displayed. You can then select another message.

Visually Verifying a Message

The steps to be taken to verify a message visually are:

1. Select the function to verify a message visually (L2VE0). The Message Selection panel is displayed (see Figure 9 on page 24).
2. Retrieve the next message in the queue using the **get next** command. In this example, the first message in the queue is the SWIFT MT 950 created in “Chapter 6. Entering Data in a SWIFT Message Containing Repeatable Sequences” on page 37 (see Figure 22 on page 38).
3. Page forward through the message.

If you find errors in the message, you must correct them. The next section shows an example of how to do that.

When the message is correct, enter the **eom** command if you have finished using the Visual Verification function, or the **get next** command if there are more messages to be verified. (The **get next** command acts as an **eom** command on the message you have just verified, in addition to displaying the next message in the queue.) This completes the verification process and routes the message to the queue of the next message-processing function.

Note: Messages can be routed to the queue of the Visual Verification and Correction function in the following circumstances:

- From the Retype Verification function because the message was incorrect. In this case, the message is routed back to the Retype Verification function.
- From the Data Entry function. In this case, the message is routed to the Authorization function.
- From the Authorization function because the message contained errors. In this case, if the message contains retype fields, it is routed to the Retype Verification function. If it does not contain retype fields, the message is routed back to the Authorization function.

Correcting a Message during Verification

In this example, the MT 950 contains an extra occurrence of the repeatable sequence. To delete the extra occurrence:

1. Page forward to the next page of the message. Page 2 of the message shows occurrence numbers 2 and 3 of the repeatable sequence. The first occurrence on the page is the active or current occurrence. The occurrence number of the current occurrence is always highlighted.
2. Scroll through the occurrences of the repeatable sequence and make the third occurrence the current occurrence by entering the **socc** command in the command line.
3. Enter **docc** in the command line, as shown in Figure 31 on page 48. The panel is then redisplayed without the third occurrence of the repeatable sequence.

```

MT S950                               Statement Message                               Page 00002
                                          Func L2VE0

* * Repeatable Sequence 001 * * * * * Occurrence 00002
Statement Line      Date  Entry D/C Funds Amount      Code
                   61 : 990521   D      10.000,      S200
                        Ref. Owner      Ref. Server
                        23/200516/DEV // 47829
                        Further Reference / Information

* * Repeatable Sequence 001 * * * * * Occurrence 00003
Statement Line      Date  Entry D/C Funds Amount      Code
                   61 : 990521   D       3.500,      NCHK
                        Ref. Owner      Ref. Server
                        567           // 123457
                        Further Reference / Information

Command =====> docc_
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 31. Deleting the Third Occurrence of a Repeatable Sequence in SWIFT MT 950 Statement Message

Displaying a Message in NOPROMPT Mode

In this section, the MT 950 Statement Message is used to illustrate the NOPROMPT display mode.

To switch to NOPROMPT display mode, enter the **noprompt** command in the command line. Because less space is needed for field identification purposes, fewer panels are used to display messages in NOPROMPT mode than in PROMPT mode. This is useful to experienced users who can verify messages faster because less paging is required. However, before using NOPROMPT mode, ensure that your user profile allows you to do so and that you are familiar with the message structure and field contents.

Notes:

1. The NOPROMPT display and prefix commands must be defined for the function you are using.
2. You can use either PROMPT mode or NOPROMPT mode when visually verifying a message and to correct the message. However, you cannot use NOPROMPT mode when verifying a message by retyping.

Figure 32 on page 49 shows the first page of a SWIFT MT 950 in NOPROMPT mode.

```

MT S950                               Statement Message                Page 00001
                                       Func L2VE0
==== *****
==== VNDEBET2AXXX 00000
==== 950 02
==== BANKDEFFXXX
==== :Sxcd:BANKDEFFXXX
==== BANKDEFFXXX
==== *TESTBANK AG
==== *FRANKFURT
==== :20:1234/22
==== :25:239981
==== :28:12
==== :60F:C990521DEM6723495,00
==== :61:990521D1000,NCHK456//123456
==== NO FURTHER REFERENCE
==== :61:990521D10000,S20023/200516/DEV//47829
==== :62F:C990521DEM6708995,
==== -
*****

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Line -18  8=Line +18  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 32. Page 1 of SWIFT MT 950 Statement Message Displayed in NOPROMPT Mode

When the panel is displayed in NOPROMPT mode, three equal signs (===) are shown to the left of the data. This is called the *prefix area*. NOPROMPT prefix commands are entered in this area as described in the following sections. The full set of NOPROMPT commands is described in “Appendix C. The User Commands” on page 189.

The display contains only the field tags and data for those fields in the message that contain data. You can check this by displaying a message in NOPROMPT mode and then changing to PROMPT mode. To return to NOPROMPT mode, enter the **noprompt** command.

In NOPROMPT mode, address expansion fields are indicated by SX and the field tag (for example, SXCD for the correspondent destination). The financial institution’s name is preceded by an asterisk (*).

Note: The display in NOPROMPT mode is influenced by the setting of the NOPROMPT line ID in your User File record by the use of the **form** command.

Using the NOPROMPT Prefix Commands

Here you find examples of how to use the NOPROMPT prefix commands.

Erasing Data

In PROMPT and NOPROMPT mode, you use the ERASE EOF key to erase data in a field. This deletes the data from the cursor position to the end of the field. The whole line is erased if you use the ERASE EOF key when the cursor is on the first data position. In NOPROMPT mode, you can also use the prefix command **e** in the prefix area of the NOPROMPT panel to erase one or more lines.

To see how the **e** command is used, follow the example below:

1. Move the cursor to the line identified by NO FURTHER REFERENCE. Overwrite any one of the equal signs in the prefix area with the prefix command **e**. Figure 33 shows the panel with the prefix command entered.
2. When the field to be erased has been marked, press ENTER.

```

MT S950                               Statement Message                               Page 00001
                                          Func L2VE0
=== *****
=== VNDEBET2AXXX 00000
=== 950 02
=== BANKDEFFXXX
=== :SXCD:BANKDEFFXXX
=== BANKDEFFXXX
=== *TESTBANK AG
=== *FRANKFURT
=== :20:1234/22
=== :25:239981
=== :28:12
=== :60F:C990521DEM6723495,00
=== :61:990521D1000,NCHK456//123456
e== NO FURTHER REFERENCE
=== :61:990521D1000,S20023/200516/DEV//47829
=== :62F:C990521DEM6708995,
=== -
*****

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Line -18  8=Line +18  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 33. Erasing Data in SWIFT MT 950 Statement Message in NOPROMPT Mode

Notice that the line containing NO FURTHER REFERENCE is no longer shown in NOPROMPT mode, and that the lines following it have been moved up, so that no gap exists.

In the example, only one line was erased. If you want to erase two consecutive lines, enter **e2** in the prefix area of the first line to delete both lines. The text moves up accordingly.

Inserting Data

In PROMPT mode, space is always available for you to enter data into any field of the message type. You simply enter the data after the field identifier on the panel. In NOPROMPT mode, however, there is no empty line to enter additional lines for an existing field or to add a field. Instead, you use the prefix insert command **i** by:

1. Moving the cursor to the second line identified by :61:
2. Typing **i** in the prefix area
3. Pressing ENTER.

If you enter more data than is allowed for the field, an error message is displayed in the information line.

When the command is entered, one empty line is displayed following the line on which you entered the **i** command. Figure 34 on page 51 shows the MT 950 with

additional reference information for field 61 entered in the new line. This adds some additional reference information for field 61 to the message.

```
MT S950                               Statement Message                Page 00001
                                         Func L2VE0
=== *****
=== VNDEBET2AXXX 00000
=== 950 02
=== BANKDEFFXXX
=== :SXCD:BANKDEFFXXX
=== BANKDEFFXXX
=== *TESTBANK AG
=== *FRANKFURT
=== :20:1234/22
=== :25:239981
=== :28:12
=== :60F:C990521DEM6723495,00
=== :61:990521D1000,NCHK456//123456
=== :61:990521D1000,S20023/200516/DEV//47829
=== no additional reference_
=== :62F:C990521DEM6712495,
=== -
*****

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Line -18  8=Line +18  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape
```

Figure 34. A Line Inserted in SWIFT MT 950 Statement Message Displayed in NOPROMPT Mode

If the message is now correct and you are finished with it, you can complete the verification process using the **eom** command. This routes the message to the queue of the Authorization function. The Message Selection panel is displayed, and another message can be selected.

Chapter 9. Authorizing a Message

In the financial institution described in “Chapter 8. Verifying and Correcting Messages” on page 45, a verified message is authorized before it is transmitted to its destination. If you are allowed to authorize messages, select the message-processing function for authorizing input messages. The Message Selection panel is then displayed.

Selecting a Message by Key

As in the verification process, you can retrieve the messages in the queue one by one, using the **get next** command; or you can retrieve the last message in the queue by entering the **get last** command.

You can also select a specific message from your message-processing queue using the command **get key1** or **get key2**. These keys must have been defined during the installation of MERVA ESA; ask your MERVA ESA administrator whether they have been defined in your installation.

The Message Selection panel in Figure 35 on page 54 shows the field that has been defined as Key 1 on the following line:

```
Select Message By Key 1 SW20
```

This means that MERVA ESA uses the field SW20 Transaction Reference Number (TRN) to retrieve messages from the queue.

If you use a **get key** command to retrieve a message from the queue and then use the **get next** command, the next message in the queue is retrieved. The **get next** command continues selecting the messages from that point. To retrieve the first message in the queue, enter the **get first** command.

For example, to retrieve the SWIFT MT 950 that was entered and verified in the last chapters, you would enter **get key1 1234/22** in the command line. The value used as the key (1234/22) was entered in the TRN field SW20 when the message was created. Figure 35 on page 54 shows the Message Selection panel with the command entered.

Message Selection		Func L2AI0
Message Selection Commands		
Select Next Message		GET NEXT or GET N
Select First Message		GET FIRST or GET F
Select Message by Key 1 SW20		GET <K1> x...x
Message Processing Commands (for use on message panels)		
Escape From Current Message		ESCAPE
Requeue Current Message		REQUEUE
Complete and Store Message		EOM
Print a Hardcopy		HARDCOPY or HCO
Authorize Transmission of Message		OK <signature>
Command =====> get key1 1234/22		
PF 1=Help	2=Retrieve	3=Return 4=
PF 7=	8=	9=Hardcopy 10=
		5=Get Next 6=Get First
		11=List 12=

Figure 35. Message Selection Panel

When you use the **get key** command, you can enter the whole key, exactly as it was typed into the field when the message was created, or you can use the substitution characters asterisk (*) and percent (%).

The substitution character * represents any number of characters. As many asterisks as are required can be used, and they may be used anywhere in the key value.

The substitution character % is a place-holding character and represents any *single* character. As many percent symbols as necessary may appear anywhere in the key value.

For example, if you enter **get key1 ab***, you will retrieve the first message whose key begins with **ab**. If you enter **get key1 %%cd***, you will retrieve the first message whose key contains the characters **cd** in the third and fourth positions.

Using the Queue Key List

If you want to select a message from your message-processing queue, but you do not know the key, you can use the **list** command to display the Queue Key List.

Figure 36 on page 55 is an example of a Queue Key List.

```

                                Queue Key List                                Func L2AI0
                                                                Wait 00000001

Key 1: SW20                                Key 2:                                QSN      RBN
> 1234/22                                BUSY 0000000001 00000

To select a message, move cursor to ">" and press PF4 (Get QSN)

Select only Key 1: _____

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Get QSN   5=Get Next  6=Get First
PF 7=List Back 8=List Fwd  9=Hardcopy 10=List Last 11=List First 12=List Off

```

Figure 36. Sample Queue Key List Panel

If there are more messages in the queue than can fit on one panel, enter the **list** command again, either on its own or with the parameter **forward**. To return to the beginning of the queue, enter **list first**. To list the previous page, enter **list back**. To list the last ten messages in the queue, enter **list last**.

You can enter a key value in the Select only Key 1 field, in order to list messages in the queue that match this key. There are two methods for entering the key value:

- You can enter 1 to 24 characters without using the substitution characters asterisk (*) or percent (%). This method lists the first 10 messages whose keys match these characters.
- You can enter 1 to 24 characters including the substitution characters asterisk (*) and percent (%). These characters are used as follows:
 - The substitution character * represents any number of characters. As many asterisks as are required can be used, and they may be used anywhere in the key value.
 - The substitution character % is a place-holding character and represents any *single* character. As many percent symbols as necessary may appear anywhere in the key value.

To return to a list of all messages, you erase the key field. If you change a selection criterion for the list, the list continues in the queue at the actual position. To return to the beginning of the queue, with the new selection criterion, enter **list first**.

For each message, the list gives the following information:

Func The name of the queue whose list is shown
Wait The number of messages currently waiting in the queue

Key 1 and Key 2

The names of the key fields defined for the queue during customization.

BUSY Indicates that the message is currently being processed by another user and therefore cannot be accessed with a **get** command.

QSN The *queue sequence number*, which is a sequential numbering of messages within the queue. You can use the queue sequence number in a **delete** command for deleting one message or a range of messages if you are authorized to do so.

RBN The *relative block number*, which indicates the precise place in the queue data set where the message is stored.

Note: If DB2 (R) is used for queue management, the RBN is not shown.

To select a message from the Queue Key List panel, move the cursor to the line showing the message that you want and press the PF key assigned to the command **get qsn**. Alternatively, enter the **get qsn** command together with the number shown under the subtitle QSN for the message you have chosen. For example, to select the message whose QSN is 0000000002, enter **get qsn 2**. There is no need to type the leading zeros.

After you have finished processing the message, you return automatically to a refreshed Queue Key List panel; that is, messages that have been processed or deleted in the meantime are not shown. The refreshed list starts with the same QSN as before (if possible).

To refresh a displayed queue key list without getting a message, enter the **list** command with no parameters, or clear the command line and press ENTER.

All the commands that are available from the Message Selection panel are also available from the Queue Key List panel.

To return to the Message Selection panel, enter **list off** or **escape**.

Performing the Authorization

It is not possible to correct a message during authorization. The cursor is therefore positioned in the command line. You can page forward through the message to check that it is correct and can be authorized. You can page through the message in the NOPROMPT mode or in any of the PROMPT modes.

When the message is correct, you can authorize SWIFT MT 950 for transmission by entering **ok yes** in the command line. Figure 37 on page 57 shows the first page of the message in PROMPT mode with **ok yes** entered. The **ok** command can be entered on any page of the message. Further details of the **ok** command are given in "Appendix C. The User Commands" on page 189.

```

MT S950                               Statement Message                               Page 00001
                                          Func L2AI0

Basic Header   F 01 VNOBET2AXXX 0000 000000
Application Header I 950 BANKDEFFXXX N
               *TESTBANK AG
               *FRANKFURT
User Header    Service Code 103:
               Bank. Priority 113:
               Msg User Ref. 108:
TRN            *20 : 1234/22
Account Identific. *25 : 239981
Statement Number *28 : 12 /
Opening Balance          D/C Date  Currency Amount
*60 F : C 990521 DEM 6.723.495,00
* * Repeatable Sequence 001 * * * * * Occurrence 00001
Statement Line          Date  Entry D/C Funds Amount      Code
               61 : 990521  D      1.000,      NCHK
               Ref.Owner          Ref. Server
               456                // 123456
               Further Reference / Information

Command =====> ok yes
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt 12=Escape

```

Figure 37. Authorizing Data in SWIFT MT 950 Statement Message Page 1

If the message is not correct, enter **ok no**. The message is returned to the queue for visual verification and correction, and is not authorized for transmission.

After you have entered **ok yes**, the message is routed to the queue for messages with normal priority that are ready for transmission to the SWIFT network. The Message Selection panel is displayed.

Note: If you enter **ok**, the default value **ok yes** is assumed. If you enter **no**, the **ok no** command is assumed.

Chapter 10. Handling Messages from Other Financial Institutions

Messages that arrive for your financial institution from other financial institutions usually go straight to their final destination, as defined by your installation. However, if there is a problem with a message that you have received (for example, the branch office is incorrect), it can be displayed and routed manually to another department for processing. If the automatic authentication of a message shows an error, the message can be authenticated manually. This chapter explains how to handle these incoming messages (known as *output messages* in SWIFT terminology).

Authentication of an Output Message

Authentication of a SWIFT financial message ensures that:

- The message has come from an authorized sender
- The text of the message has not been changed during transmission between the sender and receiver.

Financial messages, both sent and received, are authenticated automatically. However, if a message fails automatic authentication, the **authent** command can be used.

Usually, the cause of the failure of authentication is an incorrect or missing key in the Authenticator-Key File. A match cannot be achieved if the keys have not been updated or exchanged properly. For example, your financial institution may have exchanged the keys in the Authenticator-Key File before the specified change date. In such a case, the message received from the correspondent is authenticated, using the old key, before being sent. When the message arrives at your financial institution, the system tries to authenticate it using the new key, and the check fails.

If you are allowed to authenticate messages received from the SWIFT network, you sign on to MERVA ESA and select the message-processing function for authenticating output messages (L2AO0) from the Function Selection menu. The Message Selection panel is then displayed.

As in the verification process, you can retrieve the messages in your function queue sequentially beginning with the first message by entering the command **get next**. You can also retrieve a specific message from the queue by using the **get key** or **get last** command as described in "Selecting a Message by Key" on page 53, or by using the queue key list as described in Figure 36 on page 55.

Figure 38 on page 60 shows an output message of SWIFT MT 100 with an authentication error. Error messages showing the authentication failure are displayed. The message displayed immediately below the title line is from the automatic authentication function. The message displayed in the information line is only displayed after the **authent** command has been entered.

```

MT S100                                Customer Transfer                                Page 00001
DWS762I 1234 Authentication error with primary key                                Func L2A00
Basic Header      F 01 VNDEBET2AXXX 0094 023456
Application Header 0 100 1405 990521 BANKDEFFAAAA 0047 012345 990521 0625 N
                                     *TESTBANK AG
                                     *FRANKFURT
User Header      Service Code    103:
                 Bank. Priority 113:
                 Msg User Ref. 108:
TRN              *20   : MSG00001
Date/Cur/Amount *32 A : Date 990521 Currency NLG Amount 958,47
Ordering Customer *50   : FRANZ HOLZAPFEL GMBH
                                     WIEN

Ordering Inst.   52   : /   /

Command =====> authent_
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt 12=Escape

```

Figure 38. Authentication Error in Output Message of SWIFT MT 100 Customer Transfer

To authenticate the output message manually, you can:

- Enter the **authent** command together with the old receiving key
- Correct the old receiving key in your Authenticator-Key file (as described in “Chapter 18. Maintaining the Authenticator-Key File” on page 141), display the message again, and enter the **authent** command.

If the authentication is successful, the message is redisplayed with an information message to that effect, both in the error line and below the title line.

If you want to process the next message in the authentication output queue, enter the **get next** command in the command line to have the next message in the queue displayed. The message you have authenticated is completed and routed as if you had entered the **eom** command.

You can also complete the authentication process by using the **eom** command. The Message Selection panel is then displayed, and another message can be selected.

Distributing SWIFT Output Messages

If you are allowed to distribute output messages, display the Function Selection menu and select the Distribution function, L2DO0 (see Figure 7 on page 15). The Message Selection panel is then displayed.

As in the verification process, you can retrieve the messages in your queue sequentially beginning with the first message. To do this, enter the command **get next**. You can also retrieve a specific message from the queue by using the **get key** or **get last** command as described in “Selecting a Message by Key” on page 53, or by using the queue key list as described in Figure 36 on page 55.

An output SWIFT MT 100 would be similar to that shown in Figure 39 on page 61. This figure shows the first page of an output message in PROMPT mode; the message can also be displayed in NOPROMPT mode. You can page through the output message, but you cannot change it.


```

MT S100                                Customer Transfer                                Page 00001
DWS765I Authentication successful with primary key                                Func L2D00
Basic Header      F 01 VNDEBET2AXXX 0094 023456
Application Header 0 100 1405 990521 BANKDEFFAAAA 0047 012345 990521 0625 N
                                     *TESTBANK AG
                                     *FRANKFURT
User Header      Service Code    103:
                Bank. Priority  113:
                Msg User Ref.   108:
TRN              *20   : MSG00001
Date/Cur/Amount *32 A : Date 990521 Currency NLG Amount 958,47
Ordering Customer *50   : FRANZ HOLZAPFEL GMBH
                WIEN
Ordering Inst.   52   : / /

Command =====> route l2sdo
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 39. Output Format for SWIFT MT 100 Customer Transfer

While using the Distribution of Output Messages function (L2D00), you can page through the message and route it to the correct queue for handling, using the **route** command; or you can use the **requeue** command to return it to the distribution of output messages queue, so that someone else can examine it later. Details of the **route** and **requeue** commands are given in “Appendix C. The User Commands” on page 189.

In Figure 39, **route l2sdo** has been entered. This command moves the displayed message to the queue L2SDO, from which the messages are later written to a sequential file.

Chapter 11. Bilateral Key Exchange (BKE)

When using the BKE functions, you normally use the functionality that is provided on the User Security Enhancements (USE) PC described in the *MERVA USE Administration Guide*.

Note that the BKE process can be monitored only on the USE PC.

Processing Special Bilateral Key Exchange in MERVA ESA

After you set up USE for use via MERVA ESA (see the *MERVA USE Administration Guide*), you can perform the following tasks:

- Maintain pre-agreements (BKE PREAGREEMENT)
- Manually start a BKE (BKE MANUAL START)
- Discontinue keys (BKE DISCONTINUAT)
- Distribute keys (BKE DISTRIBUTE K)
- Delete BK records (BKE DELETE RECOR)
- Turn suspension of BK records on and off (BKE SUSPENSION R)

When performing these tasks, you communicate with the USE workstation via MT 999 messages. You create and update these messages by using a special message processing function. MERVA ESA provides samples of such a function:

BKEPREAG For use with a MERVA Link connection

BKEPRE For use with a MERVA-MQI Attachment connection

To perform a task:

1. Ensure that a MERVA Link or MERVA-MQI Attachment connection exists between MERVA ESA and the USE PC.
2. Do one of the following:
 - If the input queue of BKEPREAG or BKEPRE already contains a message template for this task, and if you prefer to use this template, modify the template as required and send it to the USE PC.
 - If you prefer to modify data retrieved from the message database of the USE PC:
 - a. Create a new MT 999 message:
 - In field 20, specify the code for the task to be performed.
 - In field 21, specify the correspondent pair.
 - In field 79, specify any text, for example **X** (this text will be ignored; you need to specify it only because this field is mandatory for this message type).
 - b. Send this MT 999 message to the USE PC.
 - c. The USE PC returns an MT 999 message containing the data you sent, plus additional data for the specified correspondent pair.
 - d. Modify the returned MT 999 message and send it back to the USE PC.
3. The USE PC processes the message and sends it back to you with a message that indicates success or failure.

Notes:

1. The following tasks always get the status **approved**:
 - Maintain pre-agreements (BKE PREAGREEMENT)
 - Delete BK records (BKE DELETE RECOR)
 - Turn suspension of BK records on and off (BKE SUSPENSION R)
2. Because the task names contain blanks, when referring to them in **get** and **copy** commands, you must use single quotes ('). For example, to get all pre-agreement messages, enter **get 'bke preagreement'**

Maintenance of BKE Pre-Agreements

The pre-agreement defines the rules of Bilateral Key Exchange of one correspondent pair. To request the form or the data of a pre-agreement, select the BKEPREAG or BKEPRE function and enter the command **mt s999** in the command line, or, if there is a form for a pre-agreement in the input queue, use the queue list and the **copy 'bke preagreement'** command to select the form for the pre-agreement.

You can create such a form from a pre-agreement that you have received from the USE PC earlier using a key2 value in field 21 of your choice. Then you store the form in the BKEPREAG or BKEPRE function using the **requeue** command.

When the MT 999 is displayed, enter the data in the message fields as shown in Figure 40.

```
MT S999                               Free Format                               Page 00001
                                                                       Func BKEPREAG

Basic Header      F 01 IBMBDEFFAXXX 0000 000000
Application Header I 999 IBMADEFFAXXX N
User Header       Service Code   103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20   : BKE PREAGREEMENT
Related Reference 21   : IBMBDEFFIBMADEFF
Narrative         *79   : X

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape
```

Figure 40. Entering Data into the MT 999 for a BKE Pre-Agreement

The following data must be entered:

- In the LT name field of the basic header, MERVA ESA enters the origin ID of your user file record. This must be the LT name of the Key Management Authority (KMA).
- In the LT name field of the application header, enter the LT name of the KMA of your correspondent.

- Do not enter data in the user header fields.
- In field 20 (TRN), enter the 16 characters BKE PREAGREEMENT. This field is used by routing and by the USE PC.
- In field 21 (Related Reference), enter 16 characters for the correspondent pair for which you want to maintain the pre-agreement: 8 characters for your own destination followed by 8 characters for the correspondent destination. You can use periods in this field when sharing bilateral keys, for example **BANK....** and **BANKCC..**
- In field 79 (Narrative), enter any text, for example **X** (this text will be ignored; you need to specify it only because this field is mandatory for this message type).

Send the message to the USE PC with the **eom** command.

If the MERVA Link or MERVA-MQI Attachment connection and the USE PC are running, you get the complete form of the BKE pre-agreement after a short time. If the pre-agreement already exists on the USE PC, you get the complete pre-agreement with the status of all its bilateral keys.

In the queue list you can identify the pre-agreement by the value in field 20 (TRN) used for key 1 (BKE PREAGREEMENT). You can identify the pre-agreement for a particular correspondent pair by the value in field 21 (Related Reference) used for key 2. You can display the BKE pre-agreement received from the USE PC by positioning the cursor on the queue list and using the PF-key defined for the **get qsn** command. Then you can enter or change the data for a complete BKE pre-agreement as shown in Figure 41, Figure 42, and Figure 43.

MT S999	Free Format	Page 00001
		Func BKEPREAG
Basic Header	F 01 IBMBDEFFAXXX 0000 000000	
Application Header	I 999 IBMADEFFAXXX N	
User Header	Service Code 103:	
	Bank. Priority 113:	
	Msg User Ref. 108:	
TRN	*20 : BKE PREAGREEMENT	
Related Reference	21 : IBMBDEFFIBMADEFF	
Narrative	*79 : OWN DESTINATION :IBMBDEFF	
	OWN KMA :IBMBDEFF	
	COR DESTINATION :IBMADEFF	
	CORRESPONDENT KMA :IBMADEFF	
	KEY IS :UNI-DIRECTIONAL	
	BKE :YES	
	AUTOMATIC :YES	
	STARTED BY :OWN DESTINATION	
	PRE-AG MT 960 :YES	
	DISTRIBUTE :YES	
	VALID FROM DATE :010530	
	VALID FROM TIME :0001	
Command =====>		
PF 1=Help	2=Retrieve	3=EOM
PF 7=Page -1	8=Page +1	9=Hardcopy
	10=Pro Line	11=Prompt
	12=Escape	

Figure 41. Entering Data into the MT 999 for a BKE Pre-Agreement - Page 1

```

MT S999                                Free Format                                Page 00002
                                           Func BKEPREAG

VALID FOR MONTHS :6
VALID FOR (COR)  :6
START DATE (REC) :20010830
END DATE (RECORD) :.....
SUSPEND          :OFF
START DATE (SUSP) :.....
EXCLUSION        :OFF
RETURN CODE      :00
STATUS OR ACTION :NONE
KEY INFORMATION  :NONE
STATUS OR ACTION :NONE
KEY INFORMATION  :NONE
STATUS OR ACTION :NONE
KEY INFORMATION  :NONE
STATUS OR ACTION :NONE
KEY INFORMATION  :NONE
STATUS OR ACTION :NONE

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 42. Entering Data into the MT 999 for a BKE Pre-Agreement - Page 2

```

MT S999                                Free Format                                Page 00003
                                           Func BKEPREAG

KEY INFORMATION  :NONE
STATUS OR ACTION :NONE
KEY INFORMATION  :NONE
PROCESSING TIME  :010503114243
MSG:ENN9189I Missing fields in BKE Pre-agreement -
Pre-agreement is returned

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 43. Entering Data into the MT 999 for a BKE Pre-Agreement - Page 3

The following data must be entered into field 79 (Narrative). You must not change the format received from the USE PC.

OWN DESTINATION

| Specify the same 8 characters of your own destination as in the first half of
| field 21, for example IBMBDEFF. When sharing bilateral keys, you can use
| periods as in field 21.

OWN KMA

Specify 8 or 11 characters for the destination of your Key Management Authority, for example IBMBDEFF. This destination is used in the basic header of the BKE messages.

COR DESTINATION

Specify the same 8 characters of your correspondent's destination as in the second half of field 21, for example IBMADEFF. When sharing bilateral keys, you can use periods as in field 21.

CORRESPONDENT KMA

Specify 8 or 11 characters for the destination of your correspondent's Key Management Authority, for example IBMADEFF. This destination is used in the application header of the BKE messages.

KEY IS

Specify the type of key: UNI-DIRECTIONAL or BI-DIRECTIONAL.

BKE Specify if BKE is used with this correspondent (YES) or not (NO).

AUTOMATIC

Specify for BKE if the BKE is started automatically (YES) or not (NO).

STARTED BY

Specify for BKE if the BKE is started by your institution (OWN DESTINATION) or by your correspondent's institution (CORRESPONDENT).

PRE-AG MT 960

Specify for BKE if the message type 960 should contain the data of the pre-agreement (YES) or not (NO).

DISTRIBUTE

Specify for BKE if the new bilateral key is distributed (YES) or not (NO) after completion of a BKE. Distribution is done using a special message type 999 that can be routed to MERVA ESA via MERVA Link or MERVA-MQI Attachment for updating the authenticator-key file there.

VALID FROM DATE

Specify for BKE from which date the new bilateral key is valid. The date has the format YYMMDD (year, month, date), for example 010530.

VALID FROM TIME

Specify for BKE from which time the new bilateral key is valid. The time has the format HHMM (hours, minutes), for example 0001.

VALID FOR MONTHS

Specify for BKE for how many months the new bilateral key is valid, for example 6.

VALID FOR (COR)

Specify for BKE for how many months the new bilateral key is valid, for example 6. This is only for the unidirectional receive key. This renewal period is determined by the correspondent. If no unidirectional receive key is generated, specify the renewal period of the own keys here.

START DATE (REC)

The format is YYYYMMDD. This date specifies when the record will be used for the authentication of the financial messages. If this date is not specified, the record is used immediately.

END DATE (RECORD)

The format is YYYYMMDD. The record is ignored for the authentication of

the financial messages after this date. If this date is not specified, the record will always be used to find the correct key.

SUSPEND

The format is 'ON' or 'OFF'. This field shows the status of the record. The suspension can be set on or off by changing this field. There is an additional function available for suspension or reactivation which uses a simplified form.

START DATE (SUSP)

The format is 'YYYYMMDD'. If suspension is requested (above field is 'ON'), this field may show the start date of the suspension. If no date is specified and the suspension flag is on, the record is in a suspended state.

EXCLUSION

The format is 'ON' or 'OFF'. If exclusion is set on, no keys are exchanged for this relationship, and no messages from or to the correspondent can be authenticated. Set exclusion off if you want to exchange messages with the correspondent.

RETURN CODE

The return code is set by the USE PC. Do not enter data in this field.

STATUS OR ACTION

For each of the 3 sending and 3 receiving bilateral keys there is a status or action field. Do not enter data in this field. If a pre-agreement is returned from the USE PC, this field can contain status information about a bilateral key exchange.

KEY INFORMATION

With these lines the USE PC informs you that there are no bilateral keys available for this correspondent pair. Do not enter data in this field.

1. SEND KEY

1. RECEIVE KEY

2. SEND KEY

2. RECEIVE KEY

3. SEND KEY

3. RECEIVE KEY

These lines are used instead of the KEY INFORMATION lines when unidirectional bilateral keys are available for this correspondent pair. For manually entered keys the text MANUALLY ENTERED KEY follows the colon. For bilateral keys the key identification follows the colon.

Usually, the first key (send and receive) is the past key, the second key is the current key, and the third key is the future key. For more information, refer to "Chapter 18. Maintaining the Authenticator-Key File" on page 141.

Do not enter data in this field.

1. SND/RCV KEY

2. SND/RCV KEY

3. SND/RCV KEY

These lines are used instead of the KEY INFORMATION lines when bidirectional bilateral keys are available for this correspondent pair. For manually entered keys the text MANUALLY ENTERED KEY follows the colon. For bilateral keys the key identification follows the colon.

Usually, the first key (send and receive) is the past key, the second key is the current key, and the third key is the future key. For more information, refer to “Chapter 18. Maintaining the Authenticator-Key File” on page 141.

Do not enter data in this field.

PROCESSING TIME

Indicates the date and the time when the USE PC has processed your pre-agreement request. The date is in the form YYMMDD (year, month, day), the time is in the form HHMMSS (hours, minutes, seconds).

MSG This field displays a message that indicates the success or failure of your request. Such messages have names of the form ENNnnnnn, and are explained in the online documentation that describes the messages and codes of MERVA ESA Components Version 4.

When you have entered all data, use the **com** command to send the pre-agreement to the USE PC. The USE PC will send the pre-agreement back with an ENNnnnnn message that informs you if the pre-agreement was correct and accepted or if the pre-agreement was incorrect and not accepted.

Manual Start of a Bilateral Key Exchange (BKE)

A bilateral key exchange is usually started automatically when defined in the pre-agreement of one correspondent pair. Under some circumstances it may be necessary to start a BKE immediately and by manual intervention. If so, do one of the following:

- Select the BKEPREAG or BKEPRE function and enter the command **mt s999** in the command line.
- Display the queue list and use the **copy 'bke manual start'** command to select the form for the manual start.
- If you have a copy of the pre-agreement in the input queue of the BKEPREAG or BKEPRE function, select it with the **get qsn** or **get key2 key2value** command.

To create the form for a BKE manual, enter the **mt s999** command, fill in the data using a key2 value in field 21 of your choice, and store the form in the BKEPREAG or BKEPRE function with the **requeue** command.

When the MT 999 is displayed, enter the data in the message fields as shown in Figure 44 on page 70.

```

MT S999                               Free Format                               Page 00001
                                          Func BKEPREAG

Basic Header      F 01 IBMBDEFFAXX 0000 000000
Application Header I 999 IBMADEFFAXX N
User Header       Service Code   103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20   : BKE MANUAL START
Related Reference 21   : IBMBDEFFIBMADEFF
Narrative         *79   : X

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt   12=Escape

```

Figure 44. Entering Data into the MT 999 for a BKE Manual Start

The following data must be entered:

- In the LT name field of the basic header, MERVA ESA enters the origin ID of your user file record. This must be the LT name of the Key Management Authority (KMA).
- In the LT name field of the application header, enter the LT name of the KMA of your correspondent.
- Do not enter data in the user header fields.
- In field 20 (TRN), enter the 16 characters BKE MANUAL START. Field 20 is used by routing and by the USE PC.
- In field 21 (Related Reference), enter 16 characters for the correspondent pair for which you want to maintain the pre-agreement: 8 characters for your own destination followed by 8 characters for the correspondent's destination. You can use periods in this field when sharing bilateral keys, for example **BANK....** and **BANKCC..**
- In field 79 (Narrative) enter any text, for example **X** (this text will be ignored; you need to specify it only because this field is mandatory for this message type).

With this information the MT 999 for manual start of a BKE is complete. If you have used the MT 999 containing the complete pre-agreement, you need not change any of the data areas in the field 79.

Send the message to the USE PC with the **com** command.

The USE PC will send the MT 999 back with the complete pre-agreement and with an ENNnnnnn message that informs you if the BKE has been started or if there was an error and the BKE has not been started. The start of the BKE is also indicated in the STATUS OR ACTION field of the pertinent key by the information AWAIT MT 961.

Discontinuation of Bilateral Keys

To discontinue bilateral keys you need a copy of the pre-agreement of the correspondent pair with the key information. Refer to "Maintenance of BKE Pre-Agreements" on page 64 for how to get the pre-agreement from the USE PC. When you have the pre-agreement in the input queue of the BKEPREAG or BKEPRE function, select it from the queue list with the **get qsn** or **get key2 key2value** command.

Note: You cannot discontinue manually entered keys with this function. You can only discontinue keys that have a key ID as shown for the second send and receive key in Figure 45.

When the pre-agreement is displayed, change field 20 (TRN) to the 16 characters BKE DISCONTINUAT as shown in Figure 45. Field 20 is used by routing and by the USE PC.

```
MT S999                               Free Format                               Page 00001
                                         Func BKEPREAG

Basic Header      F 01 IBMBDEFFAXX 0000 000000
Application Header I 999 IBMADEFFAXX N
User Header       Service Code   103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20  : BKE DISCONTINUAT
Related Reference  21  : IBMBDEFFIBMADEFF
Narrative         *79  : OWN DESTINATION   :IBMBDEFF
                   OWN KMA                :IBMBDEFF
                   COR DESTINATION        :IBMADEFF
                   CORRESPONDENT KMA     :IBMADEFF
                   KEY IS                  :UNI-DIRECTIONAL
                   BKE                     :YES
                   AUTOMATIC              :YES
                   STARTED BY             :OWN DESTINATION
                   PRE-AG MT 960         :YES
                   DISTRIBUTE            :YES
                   VALID FROM DATE       :010530
                   VALID FROM TIME       :0001

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape
```

Figure 45. Entering Data into the MT 999 for a BKE Discontinuation - Page 1

Proceed to the page with the key information and enter the word DISCONTINUE in the line STATUS OR ACTION of the key that you want to discontinue as shown in Figure 46 for the second send key.

```

MT S999                               Free Format                               Page 00002
                                         Func BKEPREAG

VALID FOR MONTHS :6
VALID FOR (COR)  :6
START DATE (REC) :.....
END DATE (RECORD):.....
SUSPEND         :OFF
START DATE (SUSP):.....
EXCLUSION       :OFF
RETURN CODE     :00
.
STATUS OR ACTION :NONE
1. SEND KEY      :MANUALLY ENTERED KEY
.
STATUS OR ACTION :NONE
1. RECEIVE KEY   :MANUALLY ENTERED KEY
.
STATUS OR ACTION :DISCONTINUE
2. SEND KEY      :B0990309B6D18728
.
STATUS OR ACTION :NONE
2. RECEIVE KEY   :B0990209A5C07617
.
STATUS OR ACTION :NONE
3. SEND KEY      :NONE

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat   5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 46. Entering Data into the MT 999 for a BKE Discontinuation - Page 2

After having indicated the discontinuation request in the MT 999 for all keys that you want to discontinue send the message to the USE PC with the **eom** command.

The USE PC will send the MT 999 back with the complete pre-agreement and with an ENNnnnnn message that informs you if the discontinuation request was accepted or if there was an error and the discontinuation request was not accepted.

The discontinuation is also indicated for each bilateral key in its STATUS OR ACTION field by the information AWAIT MT 967.

Distribution of Keys

The key distribution is usually done automatically when defined in the pre-agreement of one correspondent pair. Under some circumstances it may be necessary to distribute the keys again via manual intervention. To do so, do one of the following:

- Select the BKEPREAG or BKEPRE function and enter the command **mt s999** in the command line.
- Display the queue list and use the **copy 'bke distribute k'** command to select the form for the distribution.
- If you have a copy of the pre-agreement in the input queue of the BKEPREAG or BKEPRE function, select it with the **get qsn** or **get key2 key2value** command.

To create the form for a BK distribution, enter the **mt s999** command, fill in the data using a key2 value in field 21 of your choice, and store the form in the BKEPREAG or BKEPRE function with the **requeue** command.

When the MT 999 is displayed, enter the data in the message fields as shown in Figure 47.

MT S999	Free Format	Page 00001
		Func BKEPREAG
Basic Header	F 01 IBMBDEFFAXXX 0000 000000	
Application Header	I 999 IBMADEFFAXXX N	
User Header	Service Code 103:	
	Bank. Priority 113:	
	Msg User Ref. 108:	
TRN	*20 : BKE DISTRIBUTE K	
Related Reference	21 : IBMBDEFFIBMADEFF	
Narrative	*79 : X	
Command =====>		
PF 1=Help	2=Retrieve	3=EOM
PF 7=Page -1	8=Page +1	9=Hardcopy
	10=Pro Line	11=Prompt
		12=Escape

Figure 47. Entering Data into the MT 999 for a BK Distribution

The following data must be entered:

- In the LT name field of the basic header, MERVA ESA enters the origin ID of your user file record. This must be the LT name of the Key Management Authority (KMA).
- In the LT name field of the application header, enter the LT name of the KMA of your correspondent.
- Do not enter data in the user header fields.
- In field 20 (TRN), enter the 16 characters BKE DISTRIBUTE K. Field 20 is used by routing and by the USE PC.
- In field 21 (Related Reference), enter 16 characters for the correspondent pair for which you want to maintain the pre-agreement: 8 characters for your own destination followed by 8 characters for the correspondent's destination. You can use periods in this field when sharing bilateral keys, for example **BANK....** and **BANKCC..**
- In field 79 (Narrative) enter any text, for example **X** (this text will be ignored; you need to specify it only because this field is mandatory for this message type).

With this information the MT 999 for the distribution request is complete. If you have used the MT 999 containing the complete pre-agreement, you need not change any of the data areas in the field 79.

Send the message to the USE PC with the **eom** command.

The USE PC will send the MT 999 back with the complete pre-agreement and with an ENNnnnnnn message that informs you if a distribution record was generated or if there was an error and the distribution request failed.

Deletion of BK Records

The delete request can be done via an MT 999 message. If the option 'distribute' is set in the pre-agreement, an MT 999 with the delete request is generated in addition. If this MT 999 message is sent to MERVA ESA, the record is deleted in the authenticator-key file, too. To do so, do one of the following:

- Select the BKEPREAG or BKEPRE function and enter the command **mt s999** in the command line.
- Display the queue list and use the **copy 'bke delete recor'** command to select the form for the delete request.
- If you have a copy of the pre-agreement in the input queue of the BKEPREAG or BKEPRE function, select it with the **get qsn** or **get key2 key2value** command.

To create the form for a BK delete request, enter the **mt s999** command, fill in the data using a key2 value in field 21 of your choice, and store the form in the BKEPREAG or BKEPRE function with the **requeue** command.

When the MT 999 is displayed, enter the data in the message fields as shown in Figure 48.

MT S999	Free Format	Page 00001
		Func BKEPREAG
Basic Header	F 01 IBMBDEFFAXXX 0000 000000	
Application Header	I 999 IBMADEFFAXXX N	
User Header	Service Code 103:	
	Bank. Priority 113:	
	Msg User Ref. 108:	
TRN	*20 : BKE DELETE RECOR	
Related Reference	21 : IBMBDEFFIBMADEFF	
Narrative	*79 : X	
Command =====>		
PF 1=Help	2=Retrieve	3=EOM
PF 7=Page -1	8=Page +1	9=Hardcopy
	4=Repeat	5=Get Next
	10=Pro Line	11=Prompt
	6=Requeue	12=Escape

Figure 48. Entering Data into the MT 999 for a BK Delete Request

The following data must be entered:

- In the LT name field of the basic header, MERVA ESA enters the origin ID of your user file record. This must be the LT name of the Key Management Authority (KMA).
- In the LT name field of the application header, enter the LT name of the KMA of your correspondent.
- Do not enter data in the user header fields.
- In field 20 (TRN), enter the 16 characters BKE DELETE RECOR. Field 20 is used by routing and by the USE PC.
- In field 21 (Related Reference), enter 16 characters for the correspondent pair for which you want to maintain the pre-agreement: 8 characters for your own

destination followed by 8 characters for the correspondent's destination. You can use periods in this field when sharing bilateral keys, for example **BANK....** and **BANKCC..**

- In field 79 (Narrative) enter any text, for example **X** (this text will be ignored; you need to specify it only because this field is mandatory for this message type).

With this information the MT 999 for the delete request is complete. If you have used the MT 999 containing the complete pre-agreement, you need not change any of the data areas in the field 79.

Send the message to the USE PC with the **eom** command.

The USE PC will send the MT 999 back with the complete pre-agreement and with an ENNnnnnn message that informs you if the record was deleted or if there was an error and the delete request failed.

Suspension of BK Records

The suspension request can be done via an MT 999 message. If the option **distribute** is set in the pre-agreement, an MT 999 with the suspension information is generated in addition. If this MT 999 message is sent to MERVA ESA, the correspondent status is set to **Suspension** in the authenticator-key file. To do this, do one of the following:

- Select the BKEPREAG or BKEPRE function and enter the command **mt s999** in the command line.
- Display the queue list and use the **copy 'bke suspension r'** command to select the form for the suspension request.
- If you have a copy of the pre-agreement in the input queue of the BKEPREAG or BKEPRE function, select it with the **get qsn** or **get key2 key2value** command.

To create the form for a BK suspension request, enter the **mt s999** command, fill in the data using a key2 value in field 21 of your choice, and store the form in the BKEPREAG or BKEPRE function with the **requeue** command.

When the MT 999 is displayed, enter the data in the message fields as shown in Figure 49 on page 76.

```

MT S999                               Free Format                               Page 00001
                                         Func BKEPREAG

Basic Header      F 01 IBMBDEFFAXX 0000 000000
Application Header I 999 IBMADEFFAXX N
User Header       Service Code  103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN               *20  : BKE SUSPENSION R
Related Reference 21  : IBMBDEFFIBMADEFF
Narrative         *79  : SUSPENSION      :ON
                  START SUSPENSION  :YYYYMMDD

Command =====>
PF 1=Help      2=Retrieve  3=EOM          4=Repeat    5=Get Next   6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt   12=Escape

```

Figure 49. Entering Data into the MT 999 for a BK Suspension Request

The following data must be entered:

- In the LT name field of the basic header, MERVA ESA enters the origin ID of your user file record. This must be the LT name of the Key Management Authority (KMA).
- In the LT name field of the application header, enter the LT name of the KMA of your correspondent.
- Do not enter data in the user header fields.
- In field 20 (TRN), enter the 16 characters BKE SUSPENSION R. Field 20 is used by routing and by the USE PC.
- In field 21 (Related Reference), enter 16 characters for the correspondent pair for which you want to maintain the pre-agreement: 8 characters for your own destination followed by 8 characters for the correspondent's destination. You can use periods in this field when sharing bilateral keys, for example **BANK....** and **BANKCC..**
- In field 79 (Narrative), enter one of the following:
 - For a suspension request:
'SUSPENSION :ON'
 - For a reactivation request:
'SUSPENSION :OFF'
 - For a scheduled suspension (optional):
'START SUSPENSION :YYYYMMDD'

Note: You must enter the colon (:) in position 19.

With this information the MT 999 for the suspension or reactivation request is complete.

Send the message to the USE PC with the **eom** command.

The USE PC will send the MT 999 back with the complete pre-agreement and with an ENNnnnnn message that informs you if the suspension or reactivation request was processed or if there was an error and the request failed.

Part 3. Using the Telex Message-Processing Functions

This part describes the functions available for creating, editing, and receiving telex messages. In MERVA ESA there are two ways to communicate with the public telex network:

- The Telex Link via a fault-tolerant system using the Telex Interface Program
- The Telex Link via workstation.

The functions and queues of the Telex Link via a fault-tolerant system are prefixed by TX, whereas the functions and queues of the Telex Link via workstation are prefixed by TX2.

Chapter 12. Processing Outgoing Telex Messages

This chapter describes how to create, process, and send a telex message. In addition, it tells you how to use the test-key function for a free-format telex message. It also explains the telex status fields and what to do in the event of a negative acknowledgment.

Character Set for Telex Messages

The header and text of a telex message must contain only characters belonging to the character set supported by the public telex network. Some other characters may be permitted in your installation. If so, the Headoffice Telex on a fault-tolerant system substitutes allowed character combinations for these characters; for example, \$ could be replaced by the word DOLLAR (see *Headoffice Telex on a fault-tolerant system: Program Description and Operations Manual* for a description of the implemented substitutions).

Note: Character substitution is performed by the Headoffice Telex on a fault-tolerant system only. The workstation based telex functions do not substitute characters in this way.

Lowercase letters are always translated to uppercase letters. The character set permitted in your telex message is specified during Telex Link generation. Lines in which you enter one or more characters that do not belong to the allowed character set are flagged as containing incorrect data.

Character set delivered with MERVA ESA

A through Z	Alphabetic characters
0 through 9	Numeric characters
	Blank, space
.	Period, decimal point
,	Comma
()	Left and right parenthesis
/	Slash, fraction bar
:	Colon
+	Plus sign
-	Minus sign, hyphen
=	Equal sign
?	Question mark
'	Single quotation mark, apostrophe

Creating a Telex Message

To create a telex message, select the TXDE0 function (see “Selecting a Function” on page 14) and enter the **mt telex** command (see “Creating a Message” on page 23).

Figure 50 shows the layout of the panel for entering a telex message.

Note: The panel layout may be different in your installation depending on the definitions of your working environment. All panels shown in this book are taken from the samples supplied with MERVA ESA.

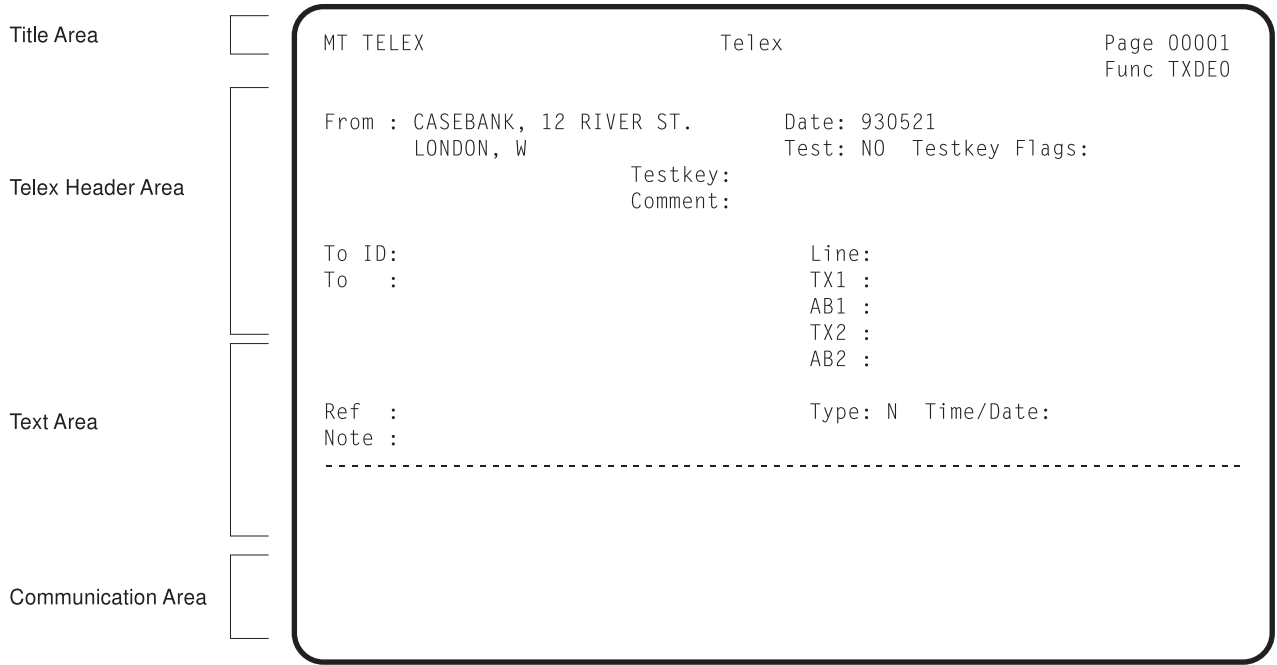


Figure 50. Sample Telex Message Layout

The panel is divided into four areas:

Title area

The title area identifies the telex message by the message type (MT) and the descriptive title Telex (received telexes show the heading Received Telex). It also shows the current page number (Page) and processing function (Func). This area appears on each page of a telex message.

Telex header area

The telex header area appears only on the first page of the telex message, and contains telex transmission information. This area is described in more detail in “Filling in the Telex Header Area”.

Text area

In this area you enter or display the text of the telex message. The text area follows the header area on the first page of a telex message, and follows the title area on each subsequent page of a telex message.

Communication area

The communication area deals with the communication between MERVA ESA and Telex Link. It consists of the four lines at the bottom of the panel, and is described in “General Panel Layout” on page 7. The PF keys shown in this manual are the examples supplied with Telex Link in the PF-key table ENLMPPF00; they may differ in your installation.

Filling in the Telex Header Area

Some of the fields in the telex header area are filled by MERVA ESA before the first panel of a new telex message is displayed, and some fields are filled automatically when you enter data into another field. This is described in detail in the following list:

From: In this field, there are two data areas, of 35 characters each, for the sender’s address. Before the panel is displayed for the first time, the Telex Link finds the sender’s address in the Telex

Correspondents File, using the origin ID from the user's User File record, and displays it in that field. The correspondent's identifier in the Telex Correspondents record uses the destination (characters 1 to 8) and Branch code (characters 10 to 12) of the Origin ID in the User File record. For example, an Origin ID of BBBBCLLXXX produces a correspondent's identifier of BBBBCLLXXX.

You can modify the sender's address provided by the Telex Link.

To ID:

In this field you enter the 1- to 11-character identification of the receiver of the telex message (correspondent's identification). This identification is used as a key to retrieve a record from:

- The Telex Correspondents File
- The MERVA ESA Private Nicknames File, if the record is not found in the Telex Correspondents File
- The MERVA ESA Common Nicknames File, if the record is not found in the MERVA ESA Private Nicknames File

If the record is found in one of the MERVA ESA Nicknames Files, the identifier indicated there is used to retrieve a record from the Telex Correspondents File.

If a record is found in the Telex Correspondents File, the following information is retrieved:

- The correspondent's address for the field tagged To
- The correspondent's telex number for the field TX1
- The answerback code for the field AB1, if available
- The correspondent's alternative telex number, if available in the Telex Correspondents File, for the field TX2
- The answerback code for the field AB2
- The test-key requirements agreed upon with this correspondent for the field Test

If you change the correspondent's identification, all information is retrieved again from the Telex Correspondents File and written to the fields listed above.

To:

In this field, there are two data areas, of 35 characters each, for the correspondent's address. If you enter the correspondent's identification, these data areas are filled automatically from the Telex Correspondents File; you can change the data retrieved from the Telex Correspondents File. Alternatively, you can enter the data manually.

Ref:

In this field you can enter a *telex reference identification* of up to 16 characters. There is no default provided for this field.

Note:

In this field you can add a comment for the receiver of the telex message.

Date:

This field contains the date of the message in the ISO format *YYMMDD*. The default is today's date; you can override this with any valid date.

Test:

In this field you specify whether the telex message requires a test-key. YES and NO are the only two values allowed for this

field, and one of these values must be used. This field is set by the Telex Link according to the following factors:

1. The message type
2. The sender's identification
3. The correspondent's identification.

For a more detailed description of the criteria used by the Telex Link when setting a value for this field, refer to the *MERVA for ESA Customization Guide*.

You can override the value determined by the Telex Link.

Testkey Flag: This field displays the test-key flag, and is protected.

Testkey: This field displays the test-key, and is protected. Possible values are:

OK-C A test-key processing program calculated the test-key.

OK-V A test-key processing program verified the test-key.

OK-G A test-key processing program verified the test-key, but, when checking the sequence number of the telex message, either a gap was found, or the sequence number fits into a gap found earlier.

OK-M The test-key was manually calculated or verified.

Line: In this field you can select the telex line on which to send the telex message. This field is optional and can contain a number from 1 to 32 identifying the telex line.

TX1: This field must contain the dial-up number of the telex correspondent. The dial-up number must have 1 to 16 decimal digits (including any international prefix).

AB1: The answerback code is optional and consists of 1 to 20 alphabetic characters. If there is an answerback code in this field, the Telex Link Station compares it with the answerback code received from the dialed number, and if the two codes do not match, the telex message is not sent.

If you enter the correspondent's identification, the telex number and answerback code from the Telex Correspondents File is inserted automatically. Alternatively, you can enter the telex number manually. You can also change the telex number retrieved from the Telex Correspondents File.

Note: On printouts of telex messages, whether sent or received, the telex number can have a country-dependent format. For example, a blank might separate the dial-up number and the answerback code, which is usually followed by a country code. If one telex number has two or more connections, an extra character may be added to the telex number in the response.

TX2: In this field, you can provide an alternative telex number, to be used when the number given in the TX1 field cannot be reached. The format and meaning of TX2 are the same as described for TX1.

- AB2:** This field is the answerback for TX2 if the alternate telex number is used. The format and meaning of AB2 are the same as described for AB1.
- Type:** In this field, you can specify the type of the telex message as follows:
- N** Indicates a telex message with normal priority. This type is shown by default.
 - U** Indicates a telex message with urgent priority.
 - T** Indicates a telex message with delayed transmission. If you enter **T** in the Type field, you must also enter the time and day (see Time/Date) for the earliest transmission time. With type **T** you can choose the less expensive overnight transmission of telex messages, or a more favorable transmission time to some countries.
 - P** Indicates a telex message which you do not want to send via the telex network, but which you want to print on the Telex Substation's printer. This message type is useful when testing the format of messages for telex transmission.
- Time/Date:** For the telex type **T**, you specify in these fields the time and date when the transmission should start. The time for transmission must be specified as *HHMM*, where *HH* stands for the hours 00 to 23, and *MM* stands for the minutes 00 to 59. You must specify the time for the telex type **T** in the first data area after the tag.
- The date for transmission must be in the ISO format *YYMMDD*, where *YY* stands for the year 00 to 99, *MM* stands for the month 01 to 12, and *DD* stands for the day 01 to 31. If you fill in the telex type **T** and the time, today's date is taken as a default for the date. The date is shown in the second data area after the tag, and you can change it if required.

Correcting Errors

Figure 51 on page 86 shows a sample telex header, with some deliberate errors entered.

MT TELEX	Telex	Page 00001 Func TXDE0
From : CASEBANK, 12 RIVER ST. LONDON, W1	Date: 990521 Test: YES Testkey Flag:	
	Testkey: Comment:	
To ID:	Line:	
To : hallbank, mr. brown manchester, m20	TX1 : 185275 abcd AB1 : TX2 : 987654321x AB2 :	
Ref : 1234-87 Note :	Type: N Time/Date:	901511

Figure 51. Sample Telex Header Containing Incorrect Field Input

When you press ENTER, MERVA ESA checks the contents of the fields.

The panel is displayed again, with the incorrect fields highlighted, and empty mandatory fields shown with a highlighted question mark. You also see an error message for the first error at the bottom of the panel.

The telex message shown in Figure 51 contains the following errors:

1. The answerback code must be in the answerback field.
2. The entered transmission date does not conform to the ISO format *YYMMDD*. With the default type N, for normal priority, the date does not need to be entered.
3. No text was entered for the telex message, so the first text line of the text area is marked with a highlighted question mark.

Each error message refers to a specific field, so you can correct the errors step by step. Error messages issued by the Telex Link start with the three letters ENL. For details, refer to *MERVA for ESA Messages and Codes*.

If you want to see all the error messages for this telex message at the same time, enter the **help error** command in the command line. MERVA ESA then displays the Error Message Display panel shown in Figure 52 on page 87.

```

Error Message Display

ENL3504 Invalid telex number/answerback code
ENL3507 Date must have the format YYMMDD
ENL3511 Telex message text is missing

ENL3504 Invalid telex number/answerback code
Command =====>
PF 1=Help      2=Retrieve  3=End      4=          5=          6=
PF 7=Page -1   8=Page +1  9=Hardcopy 10=         11=         12=

```

Figure 52. Display of all Error Messages

You can now correct the two errors in the telex header:

1. Correct the telex number by putting the answerback codes into the answerback fields.
2. Correct the sending date by removing it, as it is not necessary for the telex type N.

In the next section, you learn how to enter the text of the telex message.

Entering the Telex Message Text

The text area provides text lines, each with a maximum length of 69 characters, on several pages. The maximum number of lines and the total size of the telex message, including a carriage-return and a line-feed character for each transmitted line, are defined during the customization of the Telex Link. Your system administrator will tell you the maximum size permitted in your financial institution for telex message text.

Figure 53 on page 88 shows the text of the telex message before you press ENTER. When you press ENTER, the lowercase characters you entered are translated to uppercase.

```

MT TELEX                                Telex                                Page 00001
                                                    Func TXDE0

From : CASEBANK, 12 RIVER ST.            Date: 990521
      LONDON, W1                          Test: YES Testkey Flag:
                                           Testkey:
                                           Comment:

To ID:                                    Line:
To   : HALLBANK, MR. BROWN                TX1 : 185275
      MANCHESTER, M20                     AB1 : ABCD
                                           TX2 : 987654321
                                           AB2 : X

Ref  : 1234-87                            Type: N Time/Date:
Note :
-----
      by order of franz holzapfel through casebank,
      pay usd 5,000.00, value date 23.11.1999,
      account 123321-555 of h. j. janssen, manchester, m20_

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Txinsert  5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Txsplit 11=Txjoin 12=Escape

```

Figure 53. A Completed Telex Message

For entering the text of a telex message, the Telex Link provides the following editing commands:

- txnumber** To number the text lines of a telex message for easy reference
- txdelete** To delete text lines of a telex message
- txinsert** To insert text lines into a telex message
- txjoin** To join consecutive text lines of a telex message
- txsplit** To split a text line of a telex message.

If you want to save an incomplete telex message, enter the **requeue** command. You can retrieve the telex message from the queue with the **get** command, and continue.

When you have completed the telex message, enter the **eom** command to route the telex message to the next processing function. The routing sample supplied with the Telex Link shows how to route according to the test-key requirement:

- Test: YES** Causes routing to the Test-Key Calculation function TXTKC. In this function, you add a test-key to the telex message either by using a test-key-processing program, or by calculating and entering the test-key manually.

This procedure is described in "Using the Test-Key Function for Telex Messages" on page 89.
- Test: NO** Causes routing to an appropriate sending queue according to whether the telex message is urgent.

Using the Test-Key Function for Telex Messages

The use of test-keys has become a common practice between correspondents who exchange funds-transfer messages via the telex network. The addition of a test-key to a telex message ensures message integrity and authorization of delivery.

The test-key is calculated using the significant information in the text of the message, such as amounts, currency codes, and message date. The Telex Link provides an interface for a test-key-processing program such as STELEX. The Telex Link supports automatic test-key calculation as follows:

- You must enter the data elements for the test-key calculation in the test-key input area.
- For a formatted message, you can extract amounts and currencies from the message's amounts and currencies fields using a command for copying them to the test-key input area.
- Finally, you enter the command to invoke the test-key processing program to add the test-key to the telex message.

The Telex Link provides the command **testkey** (abbreviated to **tk**) to support the processing steps for test-key calculation and verification. You specify one or two parameters to indicate which particular processing step to perform. See "Appendix C. The User Commands" on page 189 for a detailed description of the command parameters.

The use of the **testkey** commands is explained in more detail:

- For a telex message that you want to send, in "Filling in the Test-Key Input Area"
- For a SWIFT message, in "Using the Test-Key Function for a SWIFT Message" on page 97
- For a telex message that you have received, in "Verifying the Test Key of a Received Telex Message" on page 102.

Filling in the Test-Key Input Area

When you process a message in the Test-Key Calculation function TXTKC, the test-key input area is displayed between the telex header area and the communication area, as shown in Figure 54 on page 90.

```

MT TELEX                                Telex                                Page 00001
                                                Func TGTKC

From : CASEBANK, 12 RIVER ST.            Date: 990521
      LONDON, W1                          Test: YES Testkey Flag:
                                           Testkey:
                                           Comment:

To ID:                                    Line:
To   : HALLBANK, MR. BROWN              TX1 : 185275
                                           AB1 : ABCD
      MANCHESTER, M20                    TX2 : 987654321
                                           AB2 : X

Ref  : 1234-87                            Type: N Time/Date:
Note :
-----Test-Key Calculation/Verification Input-----

Cur Amount          Amount          Amount
-
Date:                Letters:        Corr:                Test-Key:          Test-Key Flag:
Comment:

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 54. Telex Message with Test-Key Input Area

The fields provided for entering data in the test-key input area are described below. Which fields you must enter depends on your installation. An example of how to extract the data from a formatted message is shown in “Using the Test-Key Function for a SWIFT Message” on page 97.

Cur, Amount Under the headings Cur and Amount, there are two lines where you can enter, in each line, one currency code and up to three amounts in that currency. You must use the 3-character ISO codes to specify currencies, or installation-defined codes, for example, SHR for shares. You must specify amounts as decimal numbers: an integer part of 1 to 15 digits must be followed by a comma, which can be followed by a fractional part of 1 to 3 digits. This is similar to the format of amounts defined by S.W.I.F.T. However, editing of amounts is not provided in the Telex Link.

If your telex message contains more currency codes and amounts than fit into the two lines, you can enter the command **testkey large** (abbreviated to **tk l**) to provide six lines for currency codes and amounts.

Date: This field contains the date when the test-key was calculated. After test-key calculation, this field always shows today’s date. For test-key verification, you must enter the date when the sender calculated the test-key. The date must be entered in the ISO format **YYMMDD**.

Letters: Some test-key algorithms require the use of letters derived, for example, from the beneficiary’s name. You can enter up to four letters in this field.

Corr: In this field you enter the correspondent’s identification as it is known to the test-key processing program. It cannot be more than

11 characters in length. For outgoing telex messages, the correspondent's identification from the telex header area is taken as default. Therefore, the Telex Correspondents File and the database of the test-key processing program should use the same correspondent's identification.

You can, however, use the test-key algorithm of a correspondent other than the receiver of the telex message, provided that:

- You are allowed to make the test-key calculation for this correspondent.
- There is an agreement between the sender and the receiver of the telex message to use this test-key algorithm. You can use the Comment field (see below) to inform the receiver of the telex message about which test-key algorithm was used.

Test-Key: This field contains the test-key calculated for this message as follows:

- For outgoing telex messages:
 - If a test-key processing program is successfully invoked, the Telex Link displays the returned test-key value in this field.
 - If you have calculated a test-key manually, you can enter it in this field.

The test-key in this field will be added to the telex message.

- For incoming telex messages:
 - If a test-key processing program is used, you must find the test-key provided in the message text by the sender, and enter it into the test-key field before invoking the test-key processing program for verification.
 - If you verify the test-key manually, you can enter it in this field, but the Telex Link will do nothing with it.

The test-key is 1 to 16 characters long.

Test-Key Flag: This field contains one of the following indicators:

OK-C The test-key was calculated by a test-key processing program.

OK-V The test-key was verified by a test-key processing program.

OK-G The test-key was verified by a test-key processing program, but, when checking the sequence number of the telex message, either a gap was found, or the sequence number fits into a gap found earlier.

OK-M The test-key was manually calculated or verified, and the command **testkey ok** was entered by you or another user.

You cannot enter data in this field, as it is protected. This field is used during routing of the telex message after you have completed the test-key processing with the **eom** command.

Comment: In this field, you can enter comments on the test-key calculation. Two lines of up to 35 characters are provided. The second line is only displayed with the large test-key input area.

Invoking the Test-Key Processing Program

Figure 55 shows a telex message with manually-entered test-key input values, and the command **testkey calculate** in the command line to invoke the test-key processing program for test-key calculation. You can also use the abbreviation **tk c**.

```
MT TELEX                                Telex                                Page 00001
                                          Func TXTKC

From : CASEBANK, 12 RIVER ST.           Date: 990521
      LONDON, W1                         Test: YES Testkey Flag:
                                          Testkey:
                                          Comment:

To ID:                                   Line:
To   : HALLBANK, MR. BROWN              TX1 : 185275
      MANCHESTER, M20                   AB1 : ABCD
                                          TX2 : 987654321
                                          AB2 : X

Ref  : 1234-87                           Type: N Time/Date:
Note :

-----Test-Key Calculation/Verification Input-----

Cur Amount          Amount          Amount
usd 5000,

Date:      Letters:    Corr:          Test-Key:      Test-Key Flag:
Comment:

Command =====> testkey calculate_
PF 1=Help   2=Retrieve  3=EOM       4=Repeat      5=Get Next   6=Requeue
PF 7=Page -1 8=Page +1  9=Hardcopy 10=Pro Line  11=Prompt    12=Escape
```

Figure 55. Test-Key Input Area with Data Entered

In addition to the data from the test-key input area, the test-key processing program uses values such as message sequence numbers or secret numbers as input for the test-key calculation. These fields are not used in the interface between the Telex Link and the test-key processing program, and they are never shown on a panel.

The result of a successful invocation of the test-key processing program is shown in Figure 56 on page 93. All relevant fields are filled automatically, and a message in the information line indicates that the test-key calculation was performed successfully. If any errors are encountered, an error message is displayed.


```

MT TELEX                                Telex                                Page 00001
                                                Func TXTKC

From : CASEBANK, 12 RIVER ST.           Date: 990521
      LONDON, W1                        Test: YES Testkey Flag: OK-C
                                         Testkey: 50301
                                         Comment:

To ID:                                  Line:
To   : HALLBANK, MR. BROWN              TX1 : 185275
      MANCHESTER, M20                   AB1 : ABCD
                                         TX2 : 987654321
                                         AB2 : X

Ref  : 1234-87                          Type: N Time/Date:
Note :
-----
-----Test-Key Calculation/Verification Input-----
-----
Cur Amount          Amount          Amount
USD 5000,
Date: 990521 Letters:      Corr: HALLBANK      Test-Key: 50301      Test-Key Flag:
Comment:
ENL3525 Test-Key calculation successful
Command =====>
PF 1=Help      2=Retrieve  3=EOM          4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 56. Test-Key Input Area after Invoking the Test-Key Processing Program

If no test-key processing program is installed, or if the test-key processing program does not find a test-key algorithm for the receiver of the telex message in its database, you can calculate the test-key manually and enter it in the Test-Key field. You must then indicate the presence of the test-key by entering the command **testkey ok** to set the test-key flag OK-M.

After the test-key calculation has been performed successfully, enter the **eom** command to route the message to one of the sending queues.

Chapter 13. Preparing SWIFT Messages for Telex Transmission

When both the SWIFT Link and the Telex Link are installed, you can create SWIFT messages and send them to the receiver either via the SWIFT network or via the telex network. You also can forward messages received from the SWIFT network (SWIFT output messages) to another receiver via the telex network. Ask your system administrator whether you can use this feature.

Creating a SWIFT Message for Telex Transmission

To create a SWIFT MT 100 for telex transmission:

1. Select the function for creating a telex message (TXDE0) from the Function Selection panel.
2. Enter the command `mt s100` in the Message Selection panel.
3. Enter the message data for a SWIFT MT 100.

After you enter the data, the first page of the SWIFT message will look something like what is shown in Figure 57.

```
MT S100                      Customer Transfer                      Page 00001
                                                                    Func TXDE0
Basic Header      F 01 CASEBANKAXXX 0000 000000
Application Header I 100 HALLBANKXXX N
User Header      Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:
TRN              *20 : 1234-87
Date/Cur/Amount *32 A : Date 990521 Currency USD Amount 5.000,
Ordering Customer *50 : FRANZ HOLZAPFEL

Ordering Inst.    52 :

Command =====> telex on_
PF 1=Help      2=Retrieve  3=EOM      4=Txinsert  5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Txsplit 11=Txjoin 12=Escape
```

Figure 57. SWIFT MT 100 Customer Transfer

At any time during processing of this SWIFT message, you can decide to send the SWIFT message via the telex network. You enter the command `telex on` to provide the telex header information.

When processing SWIFT messages in other message-processing functions (for example, in those of the SWIFT Link), these message-processing functions can be customized to allow also the `telex on` command. How to do this is described in the *MERVA for ESA Customization Guide*.

As you can see from Figure 58, the telex header area provided is the same as for free-format telex messages (see “Filling in the Telex Header Area” on page 82), and the Telex Link provides the same default values. In addition, the Telex Link fills the following fields of the telex header area from the information contained in the SWIFT message fields:

- The telex type displayed in the Type field is derived from the SWIFT message Priority field. If the message priority of the SWIFT message is urgent, the telex type is set to U (urgent); otherwise it is set to N (normal).
- The telex reference identification Ref is copied from the transaction reference number (SWIFT field 20).
- In a SWIFT input message (that is, a message sent *to* the SWIFT network), the correspondent’s identification, displayed in the To ID field, is copied from the destination SWIFT address field of the SWIFT application header. If a record exists for this correspondent’s identification in the Telex Correspondents File, it is used for address expansion. The test-key requirement field is also determined (see the *MERVA for ESA Customization Guide*).
- In a SWIFT output message (that is, a message received *from* the SWIFT network), the correspondent’s identification To ID is *not* copied from the SWIFT application header, because the Telex Link assumes that the new receiver of the SWIFT output message is not indicated in the SWIFT application header. Therefore, address expansion does not take place. The test-key requirement is determined as described in “Filling in the Telex Header Area” on page 82.

Figure 58 shows the first page of the SWIFT MT 100 after you have issued the **telex on** command and entered the data in the other fields.

```

MT TCOV                                Telex Cover                                Page 00001
                                           Func TXDE0

From : CASEBANK, 12 RIVER ST.           Date: 990521
      LONDON, W1                         Test: YES Testkey Flag:

                                           Testkey:
                                           Comment:

To ID: HALLBANKXXX                      Line:
To   : HALLBANK, MR. BROWN              TX1 : 185275
                                           AB1 : ABCD
                                           TX2 : 987654321
                                           AB2 : X

Ref  : 1234-87                           Type: N Time/Date:
Note :

-----
Message                               : S100 Initialized
-----
Basic Header      F 01 CASEBANKXXX 0000 000000
Application Header I 100 HALLBANKXXX N
User Header       Service Code 103:
                  Bank. Priority 113:
                  Msg User Ref. 108:

TRN               *20 : 1234-87
Date/Cur/Amount  *32 A : Date 990521 Currency USD Amount 5.000,
Ordering Customer *50 : FRANZ HOLZAPFEL
Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Txinsert  5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Txsplit 11=Txjoin 12=Escape

```

Figure 58. SWIFT MT 100 Customer Transfer with Telex Cover

If you want to remove the telex information from a SWIFT message, you can enter the **telex off** command to remove the telex header information and, if present, the test-key information.

It is not necessary to remove the telex information if you later decide to send the SWIFT message via the SWIFT network, because MERVA ESA allows for the proper formatting of the message for the SWIFT network, even if the telex information is present in the message.

When you have completed the SWIFT message with the telex header information, you enter the **eom** command to route the SWIFT message to the next processing function. As the test-key requirement in the example is YES, the SWIFT message is routed to the test-key calculation function.

Using the Test-Key Function for a SWIFT Message

To display the SWIFT message in the test-key calculation function:

1. Select the test-key calculation function from the Function Selection panel.
2. Enter the **get next** command in the Message Selection panel.

The message is displayed, together with the test-key input area.

The test-key functions are described in “Using the Test-Key Function for Telex Messages” on page 89.

Figure 59 shows the SWIFT MT 100 displayed in the telex header area and the test-key input area.

MT TCOV	Telex Cover	Page 00001 Func TXTKC
From : CASEBANK, 12 RIVER ST. LONDON, W1	Date: 990521 Test: YES Testkey Flag:	
	Testkey: Comment:	
To ID: HALLBANKXXX To : HALLBANK, MR. BROWN MANCHESTER, M20	Line: TX1 : 185275 AB1 : ABCD TX2 : 987654321 AB2 : X	
Ref : 1234-87 Note :	Type: N Time/Date:	
-----Test-Key Calculation/Verification Input-----		
Cur Amount	Amount	Amount
-		
Date:	Letters:	Corr:
Comment:		Test-Key:
Test-Key Flag:		
Command =====>		
PF 1=Help	2=Retrieve	3=EOM
PF 7=Page -1	8=Page +1	9=Hardcopy
	10=Pro Line	11=Prompt
		12=Escape

Figure 59. SWIFT Telex Cover and Test-Key Input Area of a SWIFT MT 100

If the MCB of the message type to be processed has been prepared during customization for using the command **testkey extract**, as described in the *MERVA*

for *ESA Customization Guide*, you can enter this command to copy currencies and amounts for test-key calculation from SWIFT message fields.

Figure 60 shows the currency code USD and the amount 5000, copied from field 32 of the SWIFT MT 100 to the Cur and Amount fields of the test-key input area.

```

MT TCOV                               Telex Cover                               Page 00001
                                                                    Func TXTKC

From : CASEBANK, 12 RIVER ST.          Date: 990521
      LONDON, W1                        Test: YES Testkey Flag:
                                Testkey:
                                Comment:
To ID: HALLBANKXXX                     Line:
To   : HALLBANK, MR. BROWN             TX1 : 185275
                                      AB1 : ABCD
                                      TX2 : 987654321
                                      AB2 : X
      MANCHESTER, M20

Ref  : 1234-87                          Type: N Time/Date:
Note :
-----
-----Test-Key Calculation/Verification Input-----
-----
Cur Amount          Amount          Amount
USD 5000,
Date: Letters:      Corr:          Test-Key:          Test-Key Flag:
Comment:
ENL3538 Test-key input values successfully extracted
Command =====>
PF 1=Help      2=Retrieve 3=EOM      4=Repeat   5=Get Next 6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt 12=Escape

```

Figure 60. Telex Cover and Test-Key Area after Testkey Extract Command

A message is displayed to confirm the successful processing of the **testkey extract** command. If an error occurs, an error message is displayed instead. For example, there may be more currencies or amounts in the SWIFT message than the test-key input area can hold. See “Filling in the Test-Key Input Area” on page 89 for a detailed description of the test-key input area. If there are more values than are shown by the small test-key input area, enter the command **testkey large** to show all available fields.

You can now enter additional data as required by the test-key algorithm. If a test-key processing program is installed, you enter the command **testkey calculate** for the test-key calculation.

After the test-key calculation has been successfully performed, enter the **eom** command to route the message to the appropriate queue for sending the SWIFT message to the telex network.

Formatting the SWIFT Message for Transmission to the Telex Network

When you prepare a SWIFT message for sending to the telex network, it is formatted as follows:

1. The telex information is formatted from the data of the telex header area and the test-key input area.
2. The SWIFT message is formatted either as if it were being sent to the SWIFT network, or with the field tags extended for better readability. The format used

in your installation depends upon decisions made during customization; see the *MERVA for ESA Customization Guide* for further information.

Figure 61 shows an example of a SWIFT MT 100 formatted for the telex network with extended field tags.

```
TX,185275ABCD
FROM:CASEBANK, 12 RIVER ST.
LONDON, W1
TO :HALLBANK, MR. BROWN
MANCHESTER, M20
DATE:990521
REF :1234-87
TEST:02992828

::100 CUSTOMER TRANSFER

PLEASE PAY

:20 SENDERS REF:1234-87
:32A VALUE DATE, AMOUNT:990521USD5000,
:50 ORDERING CUSTOMER:FRANZ HOLZAPFEL
:59 BENEFICIARY:H J JANSSEN
```

Figure 61. SWIFT MT 100 Customer Transfer Formatted for Telex Transmission

The first line (starting with TX) contains transmission instructions for the Headoffice Telex on a fault-tolerant system.

The telex message that is transmitted via the telex network starts on the second line. You can use the Headoffice Telex on a fault-tolerant system's printer to check the format of this telex message.

Chapter 14. Handling Incoming Telex Messages

This chapter tells you how to deal with messages received from the telex network. These *incoming* messages are formatted with the message type TRCV. They are routed to the Telex Received function (TXRCV) for received telex messages.

You can display a received telex message, and route it according to its contents.

Displaying a Received Telex Message

To display a received telex message:

1. Select the Received Telex function from the Function Selection menu.
2. Enter the **get next** command in the Message Selection panel.

Figure 62 shows the first page of a received telex message. The **txnumber on** command was entered to display a prefix area with the line numbers to the left of the telex message lines.

```
MT TRCV                      Received Telex                      Page 00001
                                                                    Func TXRCV
                                                                    Date/Time: 990521 15:29:36
-----
00001 !
00002 726537 CASE G
00003 185275 ABCD G!
00004 726537 CASE G
00005 COMPUTER TELEX - DO NOT INTERRUPT -
00006
00007
00008 FROM:CASEBANK, 12 RIVER ST.
00009 LONDON, W1
00010 TO :HALLBANK, MR. BROWN
00011 MANCHESTER, M20
00012 DATE:990521
00013 MR. BROWN:
00014 PLEASE CONFIRM RECEIPT OF 3 DOCUMENTS DISPATCHED ON
00015 NOVEMBER 8, 1998 CONCERNING MR. JONES

Command =====> _
PF 1=Help      2=Retrieve 3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape
```

Figure 62. Displaying a Received Telex Message

The date and the time when the Telex Link received the telex message are shown after the Date/Time tag.

In the first and last lines of a received telex message, you find the exchange of answerback signals consisting of dial-up numbers and answerback codes of the two correspondents. The exclamation marks (!) are the graphical representation of the "WHO R U" telex character sent to solicit the receiver's answerback.

Processing a Received Telex Message

When you have displayed a received telex message and viewed its contents, you must decide how to continue to process the message in accordance with the procedures within your financial institution. You can then use the **route** command to store the telex message in the queue of the processing function chosen:

- At any time, in addition to routing the message to another processing function, you can print the telex message on a terminal printer using the **hardcopy** command.
- If the telex message contains a test key, you route it to the Test-key Verification function (TXTKV). Test-key verification is described in “Verifying the Test Key of a Received Telex Message”.
- If you want to forward the telex message to another correspondent, you route it to the Telex Data Entry function (TXDE0). See “Forwarding a Received Telex Message” on page 103.
- If you want to save the telex message in a sequential file, you route it to the queue TXSDO for the MERVA ESA program DSLSDO.
- If you want to print the telex message on a system printer, you route it to the queue TXSDY for the MERVA ESA program DSLSDY.
- If you want to delete the telex message from the TXRCV queue, you use the **delete** command.

Verifying the Test Key of a Received Telex Message

The process of verifying the test key of a received telex message is similar to that of calculating the test key for an outgoing message:

1. Select the Test-Key Verification function from the Function Selection menu.
2. Enter the **get next** command in the Message Selection panel. The received telex message is displayed, together with the test-key input area.
3. Enter the required data, such as correspondent identification, currency codes, amounts, and the received test key, into the fields of the test-key input area.
4. If a test-key processing program is available, enter the **testkey verify** command.

An information message indicates whether the verification is successful or not. The Test-Key Flag is set to:

OK-V If the test key is correct

OK-G If the test key is correct, but, when checking the sequence number of the telex message, either a gap was found, or the sequence number fits into a gap found earlier.

The Test-Key Flag is not set if the test key is not correct.

5. If a test-key processing program is not available, verify the test key manually, and if the test key is correct, enter the command **testkey ok**. Then the Test-Key Flag is set to OK-M to indicate successful manual test-key verification.

After the test-key verification, enter the **eom** command to route the message to the next processing function depending on the Test-Key Flag.

Forwarding a Received Telex Message

The process of forwarding a received telex message is similar to that of preparing a SWIFT message for telex transmission. You can, for example, route the received telex message from the received telex queue to the telex data entry queue. To forward the received telex message:

1. Select the Telex Data Entry function from the Function Selection menu.
2. Enter the **get next** command in the Message Selection panel.
3. When the received telex message is displayed, enter the **telex on** command to display the telex header area.
4. Enter the data into the telex header area, as described in “Filling in the Telex Header Area” on page 82, and complete the telex message.

If the telex message to be forwarded already contains a verified test key, and you want to add a new test key, you can process this telex message in the Test-Key Calculate function as a normal outgoing telex message using the **testkey calculate new** command to replace the received test key by a new one.

The forwarded telex message is sent to the receiver as a normal outgoing telex message.

Chapter 15. Using the workstation based telex functions in MERVA ESA

This chapter describes how you:

- Use the workstation based telex functions
- Send a telex using the workstation based telex functions
- Display status information for a transmitted telex
- Receive a telex using the workstation based telex functions
- Display status information for a received telex

Using the MERVA ESA Telex Message-Processing Functions

The preparation of outgoing telex messages, SWIFT messages for telex transmission, and the handling of incoming telex messages is as described in “Chapter 12. Processing Outgoing Telex Messages” on page 81, “Chapter 13. Preparing SWIFT Messages for Telex Transmission” on page 95, and “Chapter 14. Handling Incoming Telex Messages” on page 101. The workstation based telex functions are distinguished from MERVA ESA message-processing functions by their function names. For example, for telex entry the function name is TX2DE0 instead of TXDE0 (see Figure 63).

MT TELEX	Telex	Page 00001 Func TX2DE0
From : CASEBANK, 12 RIVER ST. LONDON	Date: 990521 Test: NO Testkey Flag:	
	Testkey: Comment:	
To ID: To :	Line: TX1 : AB1 : TX2 : AB2 :	
Ref : Note :	Type: N Time/Date:	

Command =====> PF 1=Help 2=Retrieve 3=EOM 4=Txinsert 5=Get Next 6=Requeue PF 7=Page -1 8=Page +1 9=Hardcopy 10=Txsplit 11=Txjoin 12=Escape		

Figure 63. Sample Telex Message Layout

How a Telex Is Sent Using the workstation based telex functions

The transmission of a telex involves the following:

1. A message routed to the TX2NRM or TX2URG queue is transferred by MERVA Link to the Telex Link of MERVA USE & Branch, and also routed to the MERVA ESA TX2WAIT queue to await an acknowledgment. MERVA Link ESA assigns a unique message identification to the message.
2. The Telex Link of MERVA USE & Branch sends the message to the telex network. A receipt report containing the status of the transmission is returned to MERVA ESA.
3. In MERVA ESA, MERVA Link correlates the receipt report with the corresponding telex in the TX2WAIT queue and, depending on the acknowledgment code, routes the telex from the TX2WAIT queue to the TX2ACK or TX2NAK queue.

Displaying the Telex Status Information of a Transmitted Telex

The status fields can be viewed by selecting a telex and entering the **txinfo** on command.

Processing Positive Acknowledgments

```
MT TELEX                      Telex                      Page 00001
ACK                            TX2ACK
----- Status Display -----
Temp./Final report           : S - successfully transmitted
Msg.ID                       : TF00000011
Message Type                  : 6 - Transmission acknowledgment
ACK code                      : 0 - Transmission ACK
Report Seq.No.                : 9
Dial-up number                : 7265371
Answer-back                   : 7265371 IBM D
Transmission date/time        : 1999/06/19 16:36:06
Transmission duration         : 00:00:47
Error code                    : none
TelexBox used                 : 1
Telex Line no.                : 1
TelexBox termination          : 1 - successful
Exceptions                    : 0 -
Possible duplicate            : 0
-----

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt 12=Escape
```

Figure 64. Information for a Telex with a Positive Transmission Acknowledgment

The following fields are shown in the Status Display window (see Figure 64):

- | | |
|---------------------------|---|
| Temp./Final report | Indicates the transmission status of the telex. |
| Msg.ID | The unique identifier of the telex. In telexes initiated in MERVA ESA the first two characters are TF if the default characters are used. The remaining eight characters consist of a system generated unique reference number. |

Message Type	The message type for the Telex Link of MERVA USE & Branch.
ACK code	An acknowledgment code, either 0, 4, or 8, and its explanation.
Report Seq.No.	The transmission acknowledgment is the last (final) in a series of reports for each transmitted telex. Reports are generated by the TelexBox for every action associated with the telex, for example, a dial-up attempt.
Dial-up number	The Telex number of the telex correspondent.
Answer-back	The response from the telex network.
Transmission date/time	The date and time the transmission started.
Transmission duration	The amount of time (in HH:MM:SS form) required for the transmission of the telex.
Error code	The error message code for the Telex Link of MERVA USE & Branch. See the <i>MERVA ESA Components Messages and Codes Online Documentation</i> for an explanation of any error code that occurs.
TelexBox used	The number of the TelexBox used for transmission.
Telex Line no.	The number of the telex line used for transmission.
TelexBox termination	In the case of a transmission problem, this code provides a detailed explanation.
Exceptions	Can indicate an error in the telex.
Possible duplicate	A nonzero code indicates that a telex may have been sent more than once.

Processing Negative Acknowledgments

Telexes that the Telex Link of MERVA USE & Branch cannot transmit obtain a negative transmission acknowledgment and are routed to the TX2NAK queue. In this queue the messages can be:

- Checked
- Deleted
- Routed to the TX2NRM or TX2URG queue for retransmission
- Routed to the TX2DE0 queue for correction and retransmission.

```

MT TELEX                               Telex                               Page 00001
NAK                                     TX2NAK
----- Status Display -----
Temp./Final report   : F - failed to transmit
Msg.ID               : TF00000012
Message Type        : 6 - Transmission acknowledgment
ACK code            : 8 - Transmission NAK
Report Seq.No.      : 9
Dial-up number      : 7265371
Answer-back         : OCC
Transmission date/time : 1999/06/19 17:04:54
Transmission duration : 00:00:07
Error code           : NONE
TelexBox used        : 1
Telex Line no.       : 1
TelexBox termination : U - U40 -dialup tries exhausted
Exceptions           : 0 -
Possible duplicate   : 0
-----

Command =====>_
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 65. Information for a Telex with a Negative Transmission Acknowledgment

The reason for the negative acknowledgment can be determined from either the:

- TelexBox termination code
- Answerback code in the telex status information
- Error code in the status information displayed.

Receiving Unidentified Acknowledgments

MERVA Link ESA may receive a transmission acknowledgment from the workstation that cannot be correlated with any telex in the TX2WAIT queue. In this case the acknowledgment is routed to the TX2INVR queue.

How a Telex Is Received Using the workstation based telex functions

Received telexes are routed by default to the TX2RCV queue.

Displaying the Telex Status Information of a Received Telex

The Telex Link of MERVA USE & Branch adds status information to an incoming telex. This information can be displayed by entering the **txinfo on** command in the TX2RCV function.

Chapter 16. Monitoring the Telex Link Session

The Telex Link communicates with the public telex network via an IBM Series/1 with the Telex Interface Program (Headoffice Telex on a fault-tolerant system).

Note: This chapter applies to Telex Link via a fault-tolerant system only.

During the transmission of a telex message, the following events happen:

1. From the queue for normal and urgent telexes (TXNRM and TXURG), the Telex Link sends the telex message to the Headoffice Telex on a fault-tolerant system. The telex status fields session number and sequence number are set. The telex message is stored in the TXHCFSND and TXSTPPDE queues. You must not try to display the telex message in one of these queues.
2. The Headoffice Telex on a fault-tolerant system provides the unique document number (for reference of this message in the Headoffice Telex on a fault-tolerant system journal) and sends the logical acknowledgment to the Telex Link. The telex status fields Document Number, Date and Time when the Headoffice Telex on a fault-tolerant system received the telex message from the Telex Link, and the ACK/NAK information are set:
 - If the logical acknowledgment is positive (ACK), the telex message is routed to the TXWAIT function with the new information.
 - If the logical acknowledgment is negative (NAK), the message is routed to the TXNAK function with the new information.
3. The Headoffice Telex on a fault-tolerant system transmits the telex message to the receiver and sends the transmission acknowledgment to the Telex Link. The remaining telex status fields are set:
 - If the transmission acknowledgment is positive (ACK), the telex message is routed to the TXACK function with the new information. The Telex Link does not provide further processing steps from the TXACK function. You can choose to print this message or to process it with the batch program DSLSDO.
 - If the transmission acknowledgment is negative (NAK), the message is routed to the TXNAK function with the new information.

With the **route** command, you can route the telex messages from the TXNAK function to the TXDE0, TXURG, or TXNRM queue for correction or retransmission depending on the NAK information. You can also correct the telex message with the Headoffice Telex on a fault-tolerant system and let the Headoffice Telex on a fault-tolerant system retransmit it without using the Telex Link.

Displaying the Telex Status Fields

The telex status fields are added to the telex message by the Telex Link to provide information on the status of transmission.

To display the telex status fields:

1. Select the TXWAIT function from the Function Selection menu.
2. Enter the **get next** command in the Message Selection panel.
3. When the telex message is displayed, enter the command **txinfo on** to display the telex status fields.

Figure 67 shows the panel with the telex status fields after a positive logical acknowledgment has been received from the Headoffice Telex on a fault-tolerant system. The meaning of the telex status fields is explained after Figure 68 on page 113.

```

MT TELEX                      Telex                      Page 00001
ACK                            Func TXWAIT
----- Status Display -----
Last Status      : Positively acknowledged by TXIP, but not sent yet

Document Number  : 00141

Received by TXIP : 990521 121310 ACK,NS00,0
Last Attempt to Send :
Sending Ended      :
Duration           :

Network Response  :
Sending Line Number :                Sending Sequence Number :

Actual Session Number : 0324          Original Session Number : 0324
Actual Sequence Number : 0000          Original Sequence Number : 0000
-----

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 67. Telex Status Fields after Logical Acknowledgment

To display the telex status fields after the telex message has been sent successfully to the receiver:

1. Select the TXACK function from the Function Selection menu.
2. Enter the **get next** command in the Message Selection panel.
3. When the telex message is displayed, enter the **txinfo on** command to display the telex status fields.

Figure 68 on page 113 shows the Status Display panel with the telex status fields containing the transmission information.

```

MT TELEX                               Telex                               Page 00001
ACK                                     Func TXACK
----- Status Display -----
Last Status      : Successfully transmitted to the receiver

Document Number  : 00141

Received by TXIP   Date   Time   ACK/NAK Information
Last Attempt to Send : 990521 121310 ACK,NS00,0
Sending Ended      : 990521 121318 ACK
Duration           :           000002

Network Response   : 185275ABCD
Sending Line Number : 1           Sending Sequence Number : 00325

Actual Session Number : 0324           Original Session Number : 0324
Actual Sequence Number : 0000           Original Sequence Number : 0000
-----

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 68. Telex Status Fields after Transmission to the Receiver

Description of the Telex Status Fields

ACK The letters ACK in the upper left corner of the panel indicate that the message has been positively acknowledged. In the case of a negative acknowledgment, the letters NAK would appear here.

Last Status

This field shows the last reported status of the telex message. The following status types are possible:

- Sent to TXIP, but no acknowledgment received
- Positively acknowledged by TXIP, but not sent yet
- Negatively acknowledged by Headoffice Telex on a fault-tolerant system
- Transmission to the receiver failed
- Successfully transmitted to the receiver.

If the Received by TXIP field contains the NAK,FMT under the ACK/NAK, the Last Status field contains a Telex Link error message, starting with ENL. In this case, the telex message was not sent to the Headoffice Telex on a fault-tolerant system as it could not be formatted for transmission.

Document Number

This field shows the document number given to the telex message when it was received by the Headoffice Telex on a fault-tolerant system.

Received by TXIP

This field shows the following information:

1. Under the heading Date, the date (in the format *YYMMDD*) when the Headoffice Telex on a fault-tolerant system received the telex message from the Telex Link.
2. Under the heading Time, the time (in the format *HHMMSS*) when the Headoffice Telex on a fault-tolerant system received the telex message from the Telex Link.

3. Under the heading ACK/NAK Information, the text of the logical acknowledgment sent from the Headoffice Telex on a fault-tolerant system to the Telex Link. ACK indicates a positive logical acknowledgment. NAK indicates a negative logical acknowledgment. The meaning of the other information contained in the ACK/NAK text is described in detail in the *MERVA for ESA Installation Guide*.

Last Attempt to Send

This field shows the following information:

1. Under the heading Date, the date (in the format *YYMMDD*) when the Headoffice Telex on a fault-tolerant system last started the transmission of the telex message to the receiver.
2. Under the heading Time, the time (in the format *HHMMSS*) when the Headoffice Telex on a fault-tolerant system last started the transmission of the telex message to the receiver.
3. Under the heading ACK/NAK Information (only if the transmission of the telex message failed), the text of the negative transmission acknowledgment sent from the Headoffice Telex on a fault-tolerant system to the Telex Link, starting with NAK. The meaning of the other information contained in the NAK text is described in detail in the *MERVA for ESA Installation Guide*.

Sending Ended

This field shows the following information:

1. Under the heading Date, the date (in the format *YYMMDD*) when the transmission of the telex message to the receiver successfully ended.
2. Under the heading Time, the time (in the format *HHMMSS*) when the transmission of the telex message to the receiver successfully ended.
3. Under the heading ACK/NAK Information, the text of the positive transmission acknowledgment sent from the Headoffice Telex on a fault-tolerant system to the Telex Link, starting with ACK. The meaning of the other information contained in the ACK text is described in detail in the *MERVA for ESA Installation Guide*.

Duration

This field shows, under the heading Time, the time (in the format *HHMMSS*) required for the transmission of the telex message to the receiver. The duration is the difference between the times of Last Attempt to Send and Sending Ended.

Network Response

This field shows the response from the telex network, as received by the Headoffice Telex on a fault-tolerant system. The format of this information can vary, depending on the receiver of the telex message, or, if the telex message cannot be sent, on the type of failure.

Sending Line Number

This field shows the line number of the Headoffice Telex on a fault-tolerant system used for sending the telex message to the receiver.

Sending Sequence Number

This field shows the sequence number of the Headoffice Telex on a fault-tolerant system used for sending the telex message to the receiver.

Actual Session Number

This field shows the session number of the session between the Telex Link

and the Headoffice Telex on a fault-tolerant system when the telex message was last sent from the Telex Link to the Headoffice Telex on a fault-tolerant system.

Original Session Number

This field shows the session number of the session between the Telex Link and the Headoffice Telex on a fault-tolerant system when the telex message was sent from the Telex Link to the Headoffice Telex on a fault-tolerant system for the first time. If the original and current session numbers differ, the communication between Telex Link and Headoffice Telex on a fault-tolerant system was interrupted between sending the telex message to the Headoffice Telex on a fault-tolerant system and receiving the logical acknowledgment. The telex message was sent again after a new session had been opened.

Actual Sequence Number

This field shows the sequence number within the session indicated by Actual Session Number when the telex message was last sent from the Telex Link to the Headoffice Telex on a fault-tolerant system. Within one session, sequence numbers are issued sequentially in ascending order.

Original Sequence Number

This field shows the sequence number within the session indicated by Original Session Number when the telex message was sent from the Telex Link to the Headoffice Telex on a fault-tolerant system for the first time.

Processing Negative Acknowledgments

If you receive a negative logical or transmission acknowledgment for a telex message, you can inspect that message in the TXNAK function.

Some of the reasons for a negative transmission acknowledgment are:

- The connection was not possible for the specified dial-up number (the NAK text is then NAK,NP).
- The connection was not possible for the specified dial-up number because there are no circuits available (the NAK text is then NAK,NC); you can try again later.
- The connection was possible, but the answerback code received from the other side is not equal to the answerback code specified in the telex header area. The NAK text then shows the received answerback code.
- The connection was not possible because the specified telex number is continuously occupied (the NAK text is then NAK,OCC).

Refer to your local telex directory to find more information on the codes and abbreviations used. Figure 69 on page 116 shows the telex status fields for a negative transmission acknowledgment due to there being no circuits available, indicated by NAK,NC in the field Last Attempt to Send under the heading ACK/NAK Information.

```

MT TELEX                               Telex                               Page 00001
NAK,NC                                TXNAK
----- Status Display -----
Last Status      : Transmission to the receiver failed

Document Number  : 00141

Received by TXIP   Date   Time   ACK/NAK Information
Last Attempt to Send : 990521 121310 ACK,NS00,0
Sending Ended      :
Duration           :

Network Response   :
Sending Line Number :                               Sending Sequence Number :

Actual Session Number : 0324                       Original Session Number : 0324
Actual Sequence Number : 0000                       Original Sequence Number : 0000
-----

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 69. Telex Status Fields with a Negative Transmission Acknowledgment

To continue processing the telex message:

- If the telex header fields must be corrected, route the telex message to the TXDE0 function using the **route txde0** command.
- If the test-key calculation must be repeated, route the telex message to the TXTKC function using command **route txtkc** command.
- If transmission of the telex message must be tried again, route the telex message to the TXURG or TXNRM function using the **route txurg** or **route txnrm** command.

When retransmitting a telex message to the Headoffice Telex on a fault-tolerant system, the transmission data is renewed; in particular, the telex message gets new session, sequence, and document numbers, as it is treated as a new message by the Headoffice Telex on a fault-tolerant system.

Instead of processing the telex message in the Telex Link, you can correct the message with the Headoffice Telex on a fault-tolerant system by providing, for example, the correct dial-up number and the correct answerback code. You can then schedule it for retransmission with the Headoffice Telex on a fault-tolerant system.

Depending on the result of the r-transmission, Headoffice Telex on a fault-tolerant system will send a positive or negative transmission acknowledgment to the Telex Link. The Telex Link will look for the original message in the TXWAIT or TXNAK queue and route the original message according to the ACK or NAK indicators.

Receiving Unidentified Acknowledgments from the Headoffice Telex on a Fault-Tolerant System

If the Headoffice Telex on a fault-tolerant system sends a logical or transmission acknowledgment to the Telex Link for which no matching message is found in one of the TXSTPPDE, TXWAIT, or TXNAK queues, the Telex Link formats this acknowledgment with the message type TINV and stores it in the TXINVR queue. You can display these messages and use the commands **route** and **delete** to continue processing or to delete them. This is possible when a Telex Link user has removed the message from the TXSTPPDE, TXWAIT, or TXNAK queue where it was waiting for the acknowledgment.

Figure 70 shows an invalid transmission acknowledgment. The error message ENL974I indicates the type of error.

```
MT TINV                      Invalid Telex                      Page 00001
                                                                    Func TXINVR
                                                                    Date/Time: 990521 16:25:21
Error Message : ENL974I Unidentified transmission ACK/NAK received
-----
00001 NAK,4170573 ISSC D      00174      0162325 31488 0 0 0 0 0 0 2 1 0 0 0
00002 0 00 45635      4 456350 174 0162235 314880
-----End of Telex-----

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape
```

Figure 70. Display of an Invalid Transmission Acknowledgment

Displaying the Telex Status Fields of a Received Telex Message

The telex status fields of a received telex message are provided by the Headoffice Telex on a fault-tolerant system when it sends the telex message to the Telex Link.

To display the telex status fields of a received telex message, enter the command **txinfo on**. Figure 71 on page 118 shows the values for a received telex message.

```

MT TRCV                      Received Telex                      Page 00001
                                                                    TXRCV
----- Status Display -----
Last Status                   : Successfully received

Document Number               : 00151

Received at                   :      Date      Time
                              : 990521    121314

Received Line Number         : 1                      Received Sequence Number : 12345

Actual Session Number        : 0098                   Original Session Number  : 0098
Actual Sequence Number       : 1234                   Original Sequence Number  : 1234
-----

Command =====>
PF 1=Help      2=Retrieve  3=EOM      4=Repeat    5=Get Next  6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt  12=Escape

```

Figure 71. Status Fields of a Received Telex Message

Description of the Telex Status Fields

Last Status The last status of the telex message. If an error was found while receiving a telex message from the Headoffice Telex on a fault-tolerant system, an error message is shown here.

Document Number The document number given to the telex message when it was received by the Headoffice Telex on a fault-tolerant system from the telex network.

Received at The following information:

1. Under the heading Date, the date (in the format YYMMDD) when the Headoffice Telex on a fault-tolerant system received the telex message from the telex network.
2. Under the heading Time, the time (in the format HHMMSS) when the Headoffice Telex on a fault-tolerant system received the telex message from the telex network.

Received Line Number The line number of the Headoffice Telex on a fault-tolerant system used when receiving the telex message from the telex network.

Received Sequence Number The sequence number of the Headoffice Telex on a fault-tolerant system used when receiving the telex message from the telex network.

Actual Session Number The session number of the session between the Telex Link and the Headoffice Telex on a fault-tolerant system when the telex message was last sent from the Headoffice Telex on a fault-tolerant system to the Telex Link.

Original Session Number The session number of the session between the Telex Link and the

Headoffice Telex on a fault-tolerant system when the telex message was sent from the Headoffice Telex on a fault-tolerant system to the Telex Link for the first time.

Actual Sequence Number

The sequence number within the session indicated by Actual Session Number when the telex message was last sent from the Headoffice Telex on a fault-tolerant system to the Telex Link. Within a session, sequence numbers are in ascending order.

Original Sequence Number

The sequence number within the session indicated by Original Session Number when the telex message was sent the first time from the Headoffice Telex on a fault-tolerant system to the Telex Link.

Displaying Incorrect Received Telex Messages

A telex message received by the Headoffice Telex on a fault-tolerant system can exceed the size limits established when customizing the Telex Link:

- The received telex message can be larger than the buffer provided in your installation.
- The received telex message can have more than 9999 lines.

If the Headoffice Telex on a fault-tolerant system receives a telex message from the telex network, and either the buffer size or the number of lines is exceeded, the telex message is truncated and sent to the Telex Link with an error indicator. You can print the complete telex message on the printer of the Headoffice Telex on a fault-tolerant system.

When the Telex Link receives the telex message from the Headoffice Telex on a fault-tolerant system and transfers the text lines into the MERVA ESA internal message buffer, two other error conditions can arise:

- A text line can be longer than 69 characters. This line is split into several text lines of no more than 69 characters each. During this process, the maximum number of 9999 lines can be exceeded again.
- The MERVA ESA internal message buffer can be too small. The Telex Link operators are then informed.

Truncation or line splitting is indicated by a diagnostic message, which is displayed together with the received telex message. When your MERVA ESA has not been customized for a dynamic TOF and the MERVA ESA internal message buffer is too small, your system administrator must terminate MERVA ESA, increase the TOFSIZE parameter of the DSLPARM macro instruction (see the *MERVA for ESA Macro Reference*) and start MERVA ESA and the Telex Link again before you can receive the telex message.

Figure 72 shows the first page of a truncated received telex message.

```
MT TRCV                      Received Telex                      Page 00001
                                                                    Func TXRCV
                                                                    Date/Time: 990521 15:29:36
ENL975I Received telex message truncated, larger than buffer
-----
00001 !
00002 726537 CASE G
00003 185275 ABCD G!
00004 726537 CASE G
00005 COMPUTER TELEX - DO NOT INTERRUPT -
00006
00007
00008 FROM:CASEBANK, 12 RIVER ST.
00009 LONDON, W1
00010 TO :HALLBANK, MR. BROWN
00011 MANCHESTER, M20
00012 DATE:990521
00013 MR. BROWN:
00014 PLEASE CONFIRM RECEIPT OF 3 DOCUMENTS DISPATCHED ON

Command =====>
PF 1=Help      2=Retrieve 3=EOM      4=Repeat    5=Get Next 6=Requeue
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Pro Line 11=Prompt 12=Escape
```

Figure 72. Displaying a Truncated Received Telex Message

Part 4. Using the File Maintenance Functions

This part of the book explains how to use the online File Maintenance functions that are available with MERVA ESA. You need to read this part of this manual only if you are authorized to carry out one or more of the file maintenance functions.

Chapter 17. Maintaining the User File

This chapter describes the user file maintenance. You must be authorized to use the user file maintenance functions.

Introduction to the User File

The user file contains a record for each user on your system. Each record contains, among other data, the user identifier, password, the user's name, and the functions that the user is allowed to use.

The user file record determines the way each user is allowed to use the functions and commands provided by MERVA ESA. For this reason, careful thought should be given to the way in which each user file record is defined, and users should only be given access to the functions that they need to carry out their normal daily tasks.

The User File Maintenance Functions

MERVA ESA supplies four functions for maintaining the user file, each giving a different level of authority. The access to a user file record is restricted to only one user at a time to avoid loss of data by concurrent access. If a user file record is not accessible after abnormal end of the MERVA ESA end user task, the MERVA ESA operator command **force** can be used to remove the restriction (refer to the *MERVA for ESA Operations Guide* for details).

The user file maintenance functions are:

USR0 This function lets you display and list the records in the user file with the commands:

- Display
- List
- Split.

USR1 This function lets you carry out the following actions on the records in the file:

- Add
- Copy
- Delete
- Display
- List
- Replace
- Split.

However, any changes to the records in the file must be authorized by a user with the function USR2 or USR.

USR2 This function allows you to authorize the changes to the records in the user file. You can perform the following actions on the file:

- Display
- List

- Authorize records marked for deletion, addition, or replacement
- Reject
- Split.

Existing user file records (whether authorized or not) cannot be changed; you can only authorize the changes made by users of the USR1 function. It is recommended that a user be allowed to use only one of the functions USR1 or USR2.

USR This function lets you carry out the following actions on the records in the file:

- Add
- Copy
- Delete
- Display
- List
- Reject
- Replace
- Split
- Authorize records marked for deletion, addition, or replacement.

When you use this function, any changes you make to the records are authorized immediately.

The function can also be used to authorize records that have been updated by the USR1 function.

Identifying Authorized Users

Your user file record determines which of the four user file maintenance functions you are allowed to use. However, there is a second level of authorization which determines which user file records you can maintain.

This second level is established during customization of your system, and depends on:

- Whether you are a master user. Depending on the value of the OPID parameter in the DSLPRM, this might depend on:
 - The first 3 characters of your user ID
 - Your user type (see “User Type” on page 126 for a list of possible user types)
- Whether extended group ID checking or extended origin ID checking is to be used. This is determined by the value of the EXUSR parameter in the DSLPRM module.

If extended group ID checking is used, the rules are as follows:

- If you are a general user you can maintain user records only of general users that have the same group ID as you.
- If you are an authorized but not a master user you can maintain the user records of:
 - General users that have the same group ID as you
 - Authorized users that have the same user type as you and the same group ID as you.
- If you are a master user you can maintain the user records of all users.

If extended origin ID checking is used, the rules are as follows:

- If you are a general user you can maintain user records only of general users that have the same first 8 characters as your own origin ID.
- If you are an authorized but not a master user you can maintain the user records of:
 - General users that have the same first 8 characters as your own origin ID
 - Authorized users that have the same user type as you and the same first 8 characters as your own origin ID
- If you are a master user you can maintain the user records of all users.

If neither extended group ID nor extended origin ID checking is carried out, any user can maintain all user file records: authorization status, group identifier, origin identifier, and user type are irrelevant.

Ask your system administrator to tell you the level of your authorization.

Selecting User File Maintenance

To maintain the user file, display the Function Selection menu and select the user file maintenance function appropriate to your level of authorization. Remember that a restricted range of commands is available in USR0, USR1, and USR2.

A panel similar to that illustrated in Figure 73 on page 126 is then displayed on your screen. This is the user file maintenance panel, and it shows an empty user file record.

When the user file maintenance panel is displayed, a message in the information line requests that you enter your sign-on password before you can use the function. Type in your password in the field Your Sign-on Password and press ENTER. This field is displayed at the top of the panel. For security reasons, the password is not displayed as you enter it.

Note: If you enter your sign-on password incorrectly three times, you are returned to the Function Selection menu.

```

User MINE                               User File Maintenance      Page 00001
Your Sign-on Password : _             User File Record (Authorized)  Func USR
User Identific. :
User Name :                               User Type :
Sign-on Password : /                     FLM Administrator :
Language ID :                               NOPROMPT Line ID :
Default Network :                           Rejected Sign-ons :
Origin ID :                                   Group :
PF-Key-Set Name :
User Functions :

Message Types :

Unauth. Commands :
User Data :

DSL1120 Enter your sign-on password in the field "Your Sign-on Password"
Command =====>
PF 1=Help    2=Retrieve  3=Return   4=Display   5=List     6=List First
PF 7=Page -1 8=Page +1  9=Hardcopy 10=Delete  11=Replace 12=Add

```

Figure 73. First Panel Presented for User File Maintenance

A user file record contains the following information:

(Authorized) The first page of the user file record panel shows the authorized data of a user. All fields of this panel are protected except the user identification (User Identific.) and the command line. The second page shows the unauthorized data (Unauthorized), where all fields are unprotected for entering or changing data.

User Identific. The identification of the user whose record is to be added, changed, deleted, or displayed.

Pending Status

An area in the panel is used to indicate if a record is in Add, Delete, or Replace Pending status. The status is displayed on the same line as the user identification. For an example, see Figure 80 on page 138. If a record has no pending status, this area is blank.

User Name The user's name.

User Type The user type can be used to determine which user IDs are allowed to enter restricted commands.

Whether users are allowed to enter restricted commands, depends on the DSLPARM OPID setting.

- DSLPARM OPID=***
All user IDs are allowed to enter the restricted commands.
- DSLPARM OPID=///

Only user IDs authorized in their user file record are allowed to enter the restricted commands. The following user types can be specified:

- B** Base user. The user is allowed to enter all restricted MERV Base commands.
- K** MQI attachment user. The user is allowed to enter all

restricted MERVA Base commands (same as Base user) plus *cf*, *hf*, and *sf* commands for MQI attachment functions.

- L** MERVA Link user. The user is allowed to enter all restricted MERVA Link commands.
 - M** Master user. The user is allowed to enter **all** restricted commands.
 - S** SWIFT Link user. The user is allowed to enter all restricted SWIFT Link commands.
 - T** Telex user. The user is allowed to enter all restricted TELEX commands.
 - W** SWIFT Link user. The user is allowed to enter the restricted SWIFT Link commands **login**, **logout**, **select**, and **quit** without the ALL parameter.
 - b** (blank) General user. The user is allowed to enter unrestricted commands only.
- Other DSLPARM OPID value (for example, MAS)
Additionally to the users authorized in their user file record all users with a user ID which has the same first three characters as set in this parameter are allowed to enter the restricted commands.

Sign-on Password

The area for entering the user's password. The password is not displayed when you enter it.

Notes:

1. When you are adding a new user file record or changing the user's password, enter the password twice, once before the slash (/) and once after it. This ensures that you have entered it correctly.
2. After you have changed a user file record, you should remind the user that the password should be changed at the next sign-on.

FLM Administrator

This shows whether the user is allowed to maintain the MERVA ESA General Files.

- If **yes** is entered for this line and the general file maintenance function (FLM) is allowed, the user can maintain all MERVA ESA general files.
- If **no** is entered, the user can maintain only private files (see also "Chapter 19. MERVA ESA General File Maintenance" on page 165). The default is NO.

Language ID

The language identifier for the user, for example, E for English. All MERVA ESA panels are displayed in the language specified in this entry. Ask your system administrator which language is normally used in your installation. The default language identifier is E for English.

NOPROMPT Line ID

The NOPROMPT line identifier for the user. It is used to format the message when displayed in NOPROMPT mode. The default is X, which displays expanded fields.

Default Network

The default network for the user: for example, S for the SWIFT network. The default network identifier is used when the abbreviated form of the **mt** command is entered. When this field is not entered, S is used as the default.

Rejected Sign-ons

The number of invalid sign-on attempts the user already made. If this number reaches the limit specified by the parameter SONNUM in the MERVA ESA customizing parameter module DSLPRM, the user is prevented from signing on. To reset the user ID, enter a value of 0 (zero) in this field.

To disable a user ID temporarily, enter a number that is greater than the limit specified by the parameter SONNUM in the MERVA ESA customizing parameter module DSLPRM.

Origin ID

The origin ID can be used to distinguish between the users of several financial institutions sharing MERVA ESA.

Where extended origin ID checking applies (this is determined by the value of the EXUSR parameter in the DSLPRM module), the origin ID is used during the maintenance of the user file.

In the SWIFT Link, the origin ID should be the SWIFT address (BIC) for the user. This address is automatically put in the header of all messages the user creates. It is also checked during the operator command processing for the connection to the SWIFT network (for example, the **login** and **logout** commands), and authenticator-key file maintenance.

In the Telex Link, the origin ID should be the ID of the sender of the telex message. This ID is expanded to the sender in the header of the telex message.

Group

The ID of the group to which the user belongs. Use groups to categorize users, and to restrict the functions that they can be authorized to use:

- The user ID must start with the characters specified in the group definition for that group.
- The origin ID must start with the characters specified in the group definition for that group.
- A user cannot be authorized to use functions other than those specified in the group definition for that group.

Notes:

1. If group IDs should be used, and whether input is optional or mandatory, is controlled by the parameter USGRP in the MERVA ESA customizing parameter module DSLPRM. If you do not see this field on the panel, group IDs are not used in your installation.
2. Where extended group ID checking applies (this is determined by the value of the EXUSR parameter in the DSLPRM module), the group ID is used during the maintenance of the user file.

3. The groups are defined in the MERVA ESA group table DSLGRPT.

PF-Key-Set Name

The name of the table containing the PF keys defined for the user. If this field is not filled, the default PF key set is used.

User Functions

The functions that the user is authorized to use: for example, USR for user file maintenance. There is a separate data area for each function. After entering a function, you can use the tabulator key to move to the next area.

You can use wildcard characters in the function names:

% matches any single character

* matches any number of characters, including no characters.

Message Types

The message types that the user is authorized to create. They are specified as *nxxxxxxx*, where *n* is the network identification, and *xxxxxxx* is the message type (up to a maximum of 7 alphanumeric characters).

For example:

- Enter s100 to show that the user can only create SWIFT MT 100.
- Enter s100 s4** to show that the user can create SWIFT MT 100 and all SWIFT message types in Category 4.
- Enter s**** to show that the user can create all SWIFT messages.
- Enter y** to show that the user can create non-SWIFT messages with 2-digit numbers that are sent via network y: for example, message types y11 and y65.
- Enter t***** to show that the user can create non-SWIFT messages with up to 5-digit numbers that are sent via network t: for example, message types t45, t99999, and t467 or telex.
- Enter ***** to show that this user can create all message types via any of the networks.

There is a separate data area for each message type. After entering a message type, you can use the tabulator key to move to the next area.

Unauth. Commands

The commands that the user is *not* authorized to use. The commands can be entered in any order, but must be separated by blanks.

For user commands, the descriptive command name must be used to prevent the use of the command and all its possible abbreviations and synonyms. For example, a user is not allowed to use the **hco** command, if the hardcopy command is included in unauthorized commands in the user's user file record.

For operator commands, the full command word must be used to prevent the use of the command and abbreviations that are 4 or more characters long. Abbreviations that are shorter than 4 characters must be specified separately. For example, if **cancel** is entered, the commands **cancel**, **cance**, and **canc** could not be used.

However, the abbreviation of the command as **c** would still be allowed and should therefore be specified separately.

- User Data** Any additional user-related data. This data is stored, but not used by MERVA ESA.
- Last Update** These are the details of when the record was last updated and show the date, time, and identification of the user who last updated the record. MERVA ESA automatically updates this information.
- Last Sign-on** Shows the date when the user last signed on to MERVA. MERVA ESA automatically updates this information if the parameter SONNUM in the MERVA ESA customizing parameter module DSLPRM has a value greater than zero.

The commands available in user file maintenance are described in more detail in the following sections. The table below shows which commands can be used by which of the user file maintenance functions.

Command	USR0	USR1	USR2	USR
add	No	Yes	No	Yes
copy	No	Yes	No	Yes
delete	No	Yes	No	Yes
display	Yes	Yes	Yes	Yes
list	Yes	Yes	Yes	Yes
ok	No	No	Yes	Yes
reject	No	No	Yes	Yes
replace	No	Yes	No	Yes
split	Yes	Yes	Yes	Yes

See “Appendix C. The User Commands” on page 189 for more information on these commands.

Listing and Displaying User File Records

All the user file maintenance functions let you list the user file records and display a single user’s record. It is recommended that you always display any record that you want to replace or delete.

Listing Records

The easiest way to get an overview of the users in the system is to use the **list** command in the command line. This command lists the first 10 records in the user file in alphabetical order of the user ID. Figure 74 on page 131 shows an example of the panel displayed when using the **list** command.

```

User MINE                                User File Maintenance
                                         List of User File Records
                                         Func USR

      User ID  Name                      Origin Identification          Group
> MAST        SCHAEFFER                  VNDEDEPPAXXX                   GR01
> MASX        SCHAEFFER                  VNDEDEAAAXXX
> MASZ        KARST                      VNDPBEAAAXXX
A > MASZ2     KARST                      VNDPBEBBAXXX
> MAS1        MASTER1                    VNDEBEAAAXXX
> MAS2        MASTER2                    VNDEDEPPAXXX
> MAS3        MASTER3                    VNDEDEPPAXXX
> MINE        MY NAME                    VNDOBET2AXXX
R > OBE        J. OBERST                  VNDOBET2AXXX
D > PHL        PACHL                      VNDEBEAAAXXX

To select a record, move the cursor to ">" and press the related PF key

Command =====>
PF 1=Help      2=Retrieve  3=Return    4=Display   5=List      6=List First
PF 7=          8=          9=Hardcopy 10=Delete   11=         12=

```

Figure 74. Listing the Contents of the User File

For each user, the panel shows the following information:

- The user ID
- The user's name
- The origin identification
- The group ID (if customized in your installation).

Some of the user IDs may be preceded by a letter indicating unauthorized data:

A This means that this user file record is ADD PENDING; that is, it is added but not authorized, and cannot be used to sign-on to MERVA ESA. When the addition has been authorized, the record can be used to sign-on to MERVA ESA.

If a record has been added by mistake, you can use the **reject** or **delete** command to remove the record from the user file.

D This means that this user file record is DELETE PENDING; that is, the deletion is not authorized yet. The record can still be used to sign-on to MERVA ESA. When the deletion has been authorized, the record is deleted from the user file.

If a record has been set to DELETE PENDING by mistake, you can use the **reject** command to remove the DELETE PENDING status.

R This means that this user file record is REPLACE PENDING; that is, the replacement is not authorized yet. The authorized data of the record can still be used to sign-on to MERVA ESA. After authorization in the USR2 or USR function, the new data in the user file record is available for the user ID after signing on to MERVA ESA.

To continue listing the records, use the **list** command. This displays the next 10 records in the file. If you want to list the first 10 records in the file again, enter the command **list first**.

The **list** command can also be entered together with a complete user ID or with part of a user ID. A list of records is then displayed starting with the first user ID that matches the entry. To continue listing the records from that point in the file, issue the **list** command.

You can also position the cursor on a user ID in the list and press the PF key defined for the list command to display a new list starting with this user ID. The previous list panel is then redisplayed.

Printing Records

You can use the batch utilities DSLBA15R, DSLBA16R, and DSLBA17R to print the user file or specific details from it for all or specific users. See the *MERVA for ESA Application Programming Interface Guide* for details.

Displaying a User File Record

A user file record can be displayed:

1. By selecting a record from a list panel by moving the cursor to the > on the line preceding the user ID whose record you want to display and pressing the function key for the **display** command (PF4 in the example). That user file record is then displayed.

To return to the list of user file records, enter the **list** command in the command line.

2. By typing the user identification of the record in the line identified by User Identific. in the record panel, and pressing the **display** function key.
3. By typing the user identification of the record in the line identified by User Identific. in the record panel, and entering the command **display** in the command line.
4. By entering the command **display userid**, where *userid* is the user identification of the record to be displayed.

If the **display** command is used without a *userid* in the User Identific. line, or if it is used in the command line, an empty user file record is displayed.

Figure 75 on page 133 shows the panel with the user identification **mine** typed in the line identified by User Identific. To display this record press the key defined for the **display** command.


```

User File Maintenance                               Page 00001
User File Record (Authorized)                       Func USR
User MINE
User Identific. : mine_
User Name       :
Sign-on Password : /
Language ID     :
Default Network :
Origin ID       :
PF-Key-Set Name :
User Functions  :

User Type      :
FLM Administrator :
NOPROMPT Line ID :
Rejected Signons :
Group         :

Message Types  :

Unauth. Commands :
User Data      :

Last Update    :
Last Sign-on   :

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Delete   11=Replace  12=Add

```

Figure 75. Requesting the Display of a Record in the User File

The panel is redisplayed with the authorized data stored in the user record for the specified user identification. Figure 76 shows the panel that is displayed for the user with the user ID of "mine". Notice that the sign-on password is not displayed for security reasons.

```

User File Maintenance                               Page 00001
User File Record (Authorized)                       Func USR
User MINE
User Identific. : MINE
User Name       : MY NAME
Sign-on Password : /
Language ID     : E
Default Network : S
Origin ID       : VNDOBET2AXXX
PF-Key-Set Name :
User Functions  : L2*   USR   FLM   CMD

User Type      :
FLM Administrator : YES
NOPROMPT Line ID : X
Rejected Signons : 0
Group         :

Message Types  : S****

Unauth. Commands :
User Data      :

Last Update    : 19990521 15:41:25 MINE
Last Sign-on   : 19990521

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Delete   11=Replace  12=Add

```

Figure 76. Displaying a Record in the User File

You can use the **page +1** command to page to the second page to show the unauthorized data in this user file record. On the second page, you can enter data if you want to add, or change and then replace a user file record.

You can also use the **split** command to display the user file record with the first half of the page showing authorized data, and the second half of the page showing unauthorized data. Figure 77 shows the panel that is displayed for the user with the user ID of “mine” after having entered the **split** command.

```

User MINE                                User File Maintenance      Page 00001
User Identific. : MINE              User File Record          Func USR
-----Authorized-----
User Name      : MY NAME           User Type       :
Sign-on Password : /              FLM Administrator : YES
Language ID    : E                NOPROMPT Line ID : X
Default Network : S              Rejected Signons : 0
Origin ID     : VNDOBET2AXXX      Group          :
PF-Key-Set Name :
-----Unauthorized-----
User Name      :                  User Type       :
Sign-on Password : /              FLM Administrator :
Language ID    :                  NOPROMPT Line ID :
Default Network :                  Rejected Signons : 0
Origin ID     :                  Group          :
PF-Key-Set Name :

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete   11=Replace  12=Add

```

Figure 77. Displaying a Record in the User File after the Split Command

If you enter the **split** command again, the authorized data part of the whole user file record is displayed again.

When you try to display a user file record that does not exist, a message to this effect is displayed in the information line.

You can then enter the information for the user file record in the unauthorized part and use the command **add** to add the record to the user file. This is described in the following section.

Adding a User File Record

Adding a user file record requires the following steps:

1. The new user ID and the information for the user’s record must be entered.
Type in the information for the new user file record in the unauthorized data part, and enter the **add** command to add the record to the user file with the status ADD PENDING.

Note: The **add** command can only be used with the functions USR and USR1.

2. The new record must be authorized, so that the user ID can be used to sign on to MERVA ESA.

To authorize the record you use the **ok** command. You can only use the **ok** command with the USR or USR2 maintenance function.

Note: With the USR function, the **add** command is used to enter the new data and authorize it in one step.

The following is an example of how to add a record to the user file. Select the function USR from the Function Selection menu. When the system prompts you, enter your password again. Using the information in the previous section, display a record with a user ID of "yours1". An empty user file record panel is displayed together with a message informing you that a record with the user ID "yours1" does not exist.

To add the record, enter the information shown in Figure 78 in the unauthorized data part on page 2 of the panel.

```

User File Maintenance                               Page 00002
User File Record (Unauthorized)                     Func USR
User MINE
User Identific. : yours1
User Name       : Gerald Schmitt      User Type      : s
Sign-on Password : /                  FLM Administrator : yes
Language ID     : e                   NOPROMPT Line ID : x
Default Network : s                   Rejected Signons :
Origin ID       : vndobet2axxx        Group          :
PF-Key-Set Name :
User Functions  : 12*   usr1   flm

Message Types   : s****

Unauth. Commands :
User Data       :

Last Update     :                      Last Sign-on :

Command =====> add_
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete   11=Replace  12=Add

```

Figure 78. Adding User Record YOURS1 to the User File

Figure 78 shows that the user "yours1":

- Has a language identifier of "e" for English
- Has a default network identifier of "s" for SWIFT
- Has an Origin Identifier (SWIFT address or BIC) of "vndobet2axxx"
- Has a user type of "s" for SWIFT. The user is allowed to enter all restricted SWIFT Link commands.
- Is an administrator of the General Files; this is shown by "yes" in the line identified by FLM Administrator
- Has a NOPROMPT line identifier of "x"
- Is authorized to use the following MERVA ESA and the SWIFT Link functions:
 - 12de0** The data entry function to create messages
 - 12ve0** The visual verification function to verify and correct messages
 - 12re0** The retype verification function to verify messages by retyping
 - 12ai0** The authorization function to authorize input messages
 - 12do0** To distribute output messages
 - 12ao0** To authenticate output messages

- usr1** User file maintenance function to add and update records, but not to authorize the records
- flm** General file maintenance.

Note: The *MERVA for ESA Customization Guide* describes all the functions supplied with MERVA ESA. A list of the functions available in your institution should be obtained from the MERVA ESA administrator. Functions should, of course, be assigned to individual users in accordance with your institution's organization plan.

When the user "yours1" displays the Function Selection menu, these functions will be available for selection.

- Can create all SWIFT message types (s****).

Remember that you must enter the new user's password although it is not displayed. Enter the same password twice, once before the slash (/) and once after it.

When you have finished entering the data shown in Figure 78 on page 135, type the **add** command in the command line and press ENTER. The display shows page 1 with the now authorized data, and, because you used the USR function, a message tells you that the record is added and authorized at the same time.

If you use the USR1 function to add the record to the user file, a message tells you that the record is added and set to ADD PENDING status. Before the new user ID can be used to sign on to MERVA ESA, it has to be authorized with the USR2 or USR function.

If extended origin ID checking is used in your system (this is determined by the value of the EXUSR parameter in the DSLPRM module).

Replacing a User File Record

Replacing a user file record is necessary if you want to change the record for an existing user ID. There are the following steps in replacing a user file record:

1. Entering the new or updated information.

To enter the data, type in the new or changed information for the user ID in the unauthorized data part, and enter the **replace** command to replace the record in the user file with the status set to REPLACE PENDING.

Note: The **replace** command can only be used with the functions USR and USR1.

2. Authorizing the changed data, so that it can be used after the next sign-on to MERVA ESA.

To authorize the record you use the **ok** command. You can only use the **ok** command if you are using either the USR or USR2 function.

With the USR function, the **replace** command is used to replace the record and authorize the replacement in one step.

To change the displayed user file record, enter the **copy** command to copy the authorized data to the unauthorized data area, as it is only there that you can change it. In the nonsplit display mode, the **copy** command also pages to page 2 of the record showing the unauthorized data.

The information in the User Functions field can now be changed, as shown in Figure 79, and you can enter the **replace** command.

Note: If you want to change the sign-on password and replace it by a password with less characters than the old one, you must override the rest of the old password with blanks, or you can use the EOF key to erase the rest of the old password.

```

User File Maintenance
User File Record (Unauthorized)
Page 00002
Func USR1
User YOURS1
User Identific. : YOURS1
User Name       : GERALD SCHMITT
Sign-on Password : /
Language ID     : E
Default Network : S
Origin ID       : VNDOBET2AXXX
PF-Key-Set Name :
User Functions  : L2*   USR1   FLM   cmd

Message Types   : S****

Unauth. Commands :
User Data       :

Last Update     : 19990521 15:41:25 MINE Last Sign-on :

Command =====> replace_
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete   11=Replace  12=Add
```

Figure 79. Replace a Record in the User File

After you have entered the command, you are asked to confirm the replacement. Enter **yes** to confirm that the new record is to replace the existing record. The replacement of the record is confirmed by a message informing you that the record has been replaced, and the status REPLACE PENDING is shown to the right of the user ID. If you do not wish to replace the record, enter **no**.

If the record cannot be replaced because of an error, MERVA ESA notifies you of the error by displaying a message in the information line.

The record is now replaced, but you cannot use the new functions as the record's status is REPLACE PENDING. Once the user file record is authorized, you can use the new functions after the next sign-on.

How to authorize a user file record is described in the following section.

Authorizing a User File Record

If you update the user file record in the USR function, the update and authorization are performed in one step. If you use the USR1 function to update the user file record, the record is placed in one of the states ADD PENDING, DELETE PENDING, or REPLACE PENDING and the addition, deletion, or replacement of a user file record must be authorized as a separate step.

A record can be authorized only by a user who is allowed to use the USR or USR2 function. If you can use one of these functions, select either the USR or USR2 function from the Function Selection menu.

When you are prompted, enter your sign-on password again. To display a list of user IDs in the user file, use the **list** command. All the user IDs marked with A, D, or R in the first position of the list lines are records that require authorization. After replacing the record for user ID “yours1” in the previous section, this user ID is marked R for REPLACE PENDING in the list.

Move the cursor to the > preceding the user ID “yours1”, and press the PF key assigned to **display**. When the record is displayed, enter the **split** command to display both authorized and unauthorized data on the same panel. Enter the **page +1** command to see the old and new functions as shown in Figure 80, and verify that the CMD function was added.

```

User File Maintenance                               Page 00002
User File Record                                     Func USR
User Identific. : YOURS1      Replace Pending
-----Authorized-----
User Functions  : L2*      USR1      FLM

Message Types   : S****

-----Unauthorized-----
User Functions  : L2*      USR1      FLM      CMD

Message Types   : S****

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete   11=Replace  12=Add

```

Figure 80. Displaying a Record in the User File for Authorization

If you want to authorize the replacement, enter the **ok** command in the command line.

Enter **yes** to authorize the replacement of the record in the user file. When you confirm the authorization of the replacement, the panel is displayed again with the message that the record is now replaced and authorized. The new functions can be used the next time the user “yours1” signs on.

Deleting a User File Record and Rejecting a Deletion

To delete a user file record means to remove the record from the user file. There are the following steps to delete a record:

1. Set the record to DELETE PENDING status.
2. Authorize the deletion to remove the record from the file.

You use the **delete** command to set the record to DELETE PENDING status. With the USR function, the **delete** command is used to set the record to DELETE PENDING status and to authorize the deletion. The record is immediately removed from the file.

For example, to delete the record for user “yours1”, select the USR1 function from the Function Selection panel, and enter your password again. Use the **list yours1** command to display a list of user file records defined in your system starting with the user ID “yours1”. When the list is displayed, move the cursor to the > preceding the user ID “yours1” and press the PF key defined for **delete**. The panel showing the authorized data of the record for user ID “yours1” is then displayed, together with the confirmation message. Figure 81 shows this panel.

```

User File Maintenance                               Page 00001
User File Record (Authorized)                       Func USR
User MINE1
User Identific. : YOURS1
User Name       : GERALD SCHMITT           User Type      : S
Sign-on Password : /                     FLM Administrator : YES
Language ID     : E                       NOPROMPT Line ID : X
Default Network : S                       Rejected Signons : 0
Origin ID       : VNDOBET2AXXX           Group          :
PF-Key-Set Name :
User Functions  : L2*   USR1   FLM   CMD

Message Types   : S****

Unauth. Commands :
User Data       :

Last Update     : 19990521 15:41:25 MINE Last Sign-on :
DSL1128 Delete user record for YOURS1 ? Enter YES or NO
Command =====> yes
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete   11=Replace  12=Add

```

Figure 81. Deleting a Record from the User File

Confirm that the record is to be deleted by entering **yes**. The record is now set to DELETE PENDING status, but the user ID can still be used to start a session. The record is not removed from the file until the deletion has been authorized.

Use the **reject** command in the USR or USR2 function to cancel the DELETE PENDING status of a record. When you use the **reject** command it removes the DELETE PENDING status from the record.

Ending the Maintenance Process

When you have finished with the function for maintaining the user file, enter the **return** command. The Function Selection menu is displayed (refer to Figure 7 on page 15), and you can sign off from MERVA ESA by entering the **sof** command.

Chapter 18. Maintaining the Authenticator-Key File

This chapter describes the Authenticator-Key File Maintenance. The Authenticator-Key File contains the authenticator keys that are used to authenticate both incoming and outgoing messages of the SWIFT financial application. Authenticator keys are exchanged between your financial institution and its correspondents usually by letter. This type of (manual) exchange will be replaced by the bilateral key exchange (BKE) functions of the SWIFT User Security Enhancements (USE).

Each correspondent or group of correspondents (if they have the same bank name) has an Authenticator-Key File record. The Authenticator-Key File and the authentication function are only available if you have the SWIFT Link installed, and if you have specified that the function is used in the SWIFT Link.

The SWIFT Link can handle the authentication as required by S.W.I.F.T. as follows:

- With the authenticator keys of 32 characters, each of them containing the characters 0 to 9 and A to F in any combination.
- With the authenticator keys of 16 characters, each of them containing the characters 0 to 9 and A to F only once. Although MERVA ESA still supports 16 character keys, S.W.I.F.T. has recommended that all keys exchanged after 29 March 1993 should be 32 character keys.
- Supporting three sending and three receiving keys in each record, usually past, current, and future. It is not allowed to have a first and a third key, but no second key.
- The creation and verification of a MAC trailer in SWIFT messages.
- The creation of a PAC trailer in SWIFT messages if the SWIFT PREMIUM functions are used.

There are three ways to maintain the Authenticator-Key File:

- Offline using the Authenticator-Key File Utility DWSAUTLD (refer to the *MERVA for ESA Operations Guide* for details).
- Online using the maintenance functions described in this chapter.
- Using BKE functions. These functions are implemented on a MERVA workstation. Refer to the *MERVA USE Administration Guide* for details. There is a copy of the Authenticator-Key File in both MERVA ESA and on the USE workstation. If BKE is used, most of the update functions of DWSAUTLD and the online maintenance are not needed anymore.

After having started to use the USE workstation, it is recommended to make all updates to the authenticator keys on the USE workstation and send them to MERVA ESA rather than using the update functions described in this chapter, to avoid mismatches between the files in MERVA ESA and the USE workstation.

If BKE is used for a correspondent relation, the updates are automatically added to the MERVA ESA Authenticator-Key File.

You must be authorized to use the Authenticator-Key File Maintenance functions. Before you can use the functions described in this chapter, either the program SWIFTII (DWS DGPA) or the program SWIFTAUT (DWSAUTIN) must have been started.

The Authenticator-Key File Maintenance Functions

Online maintenance of the Authenticator-Key File is displaying, adding, replacing (changing) or deleting records.

The following functions are available for Authenticator-Key File Maintenance:

AUT0 This function lets you display and list Authenticator-Key File records with the commands:

- Display
- List
- Display BKID used for Authentication.

AUT1 This function lets you carry out the following actions on the records in the file:

- Display
- List
- Add
- Delete
- Replace
- Copy
- Display BKID used for Authentication.

However, any changes to a record are only made pending authorization. In the case of adding and replacing a record, the data is entered into an unauthorized key area, the authorized data is left unaltered, and the record is flagged ADD PENDING or REPLACE PENDING. In the case of deletion, the record is flagged DELETE PENDING. The actual change must be authorized by a user with the function AUT2 or AUT.

AUT2 This is the authorization function. It lets you carry out the following actions:

- Display
- List
- Reject any change to a record
- Authorize any record marked as add, delete or replace pending
- Exchange
- Display BKID used for Authentication.

The authorization function authorizes the changes (additions, deletions, replacements) that have been entered by a user with the function AUT1. In the case of add and replace, the data entered is moved from the unauthorized key area to the authorized key area.

In the case of deletions, the record is removed from the Authenticator-Key File.

The exchange function only processes the authorized part of the record. Therefore, records must be authorized before they are exchanged.

It is recommended that no user be allowed to use more than one of the functions AUT1 or AUT2.

AUT This function lets you carry out the following actions on the records in the file:

- Display

- List
- Add
- Delete
- Replace
- Copy
- Reject any change to a record
- Authorize any record marked as add, delete or replace pending
- Exchange
- Display BKID used for Authentication.

When you use this function, any additions, deletions, and replacements are authorized in the same step. The function can also be used to authorize and reject changes that have been made to records of the file by a user with the AUT1 function.

If BKE is used, it is recommended to use the AUT0 function, because add, delete, and replace should be done at the USE workstation. Only in emergency cases, it may be necessary to delete a record to stop the communication with a particular correspondent immediately (preferably in the AUT function). The deletion must then be followed by a BKE discontinuation of keys at the USE workstation.

Note: The panels for the four Authenticator-Key File Maintenance functions are the same, except that the maintenance commands allowed are different.

Contents of an Authenticator-Key File Record

If you are authorized to maintain the Authenticator-Key File, select the Authenticator-Key File Maintenance function you require. Figure 82 shows the first page of a record panel in the Authenticator-Key File.

```

                                  Authenticator Key File Maintenance (RECORD DETAIL)           Page 00001
Home LT             : V_NDOBET2                                           Func  AUT
Corr's LT          :

```

Authorized Key Area	Start Date =	End Date =
Correspondent Status =	Suspension Date =	
1st Sending Id =	From =	To =
Key =		
2nd Sending Id =	From =	To =
Key =		
3rd Sending Id =	From =	To =
Key =		
1st Receiving Id =	From =	To =
Key =		
2nd Receiving Id =	From =	To =
Key =		
3rd Receiving Id =	From =	To =
Key =		

```

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List     6=List First
PF 7=Page -1   8=Page +1  9=Exchange 10=Delete   11=Replace 12=Add

```

Figure 82. Record Panel Page 1 for Authenticator-Key File Maintenance

An Authenticator-Key File record contains the following information on page 1:

Home LT

The home LT of your financial institution.

Pending Status	An area in the panel is used to indicate the pending status of a record. The status is displayed on the same line as the home LT. If a record has no pending status, this area is blank.
Corr's LT	The correspondent's LT, that is the LT of the financial institution with which you are doing business.
Start date	The record will be used beginning at this date (optional). The date is in the format YYYYMMDD (year, month, day).
End date	The record will not be used after this date (optional). The date is in the format YYYYMMDD (year, month, day).
Correspondent Status	This status can contain the following values: 0 Valid. This is the default. 1 Invalid. (BKE is managed by another KMA.) 2 The correspondent has been excluded from any authenticated traffic. 3 The exchange of authenticated traffic has been temporarily suspended , but keys may be present and can still be exchanged. 4 The record has been deleted and will not be used any more.
Suspension date	The suspension will start at this date (optional). The date is in the format YYYYMMDD (year, month, day).

Authorized Key Area

This area consists of six key areas:

- 1st Sending Key
- 2nd Sending Key
- 3rd Sending Key
- 1st Receiving Key
- 2nd Receiving Key
- 3rd Receiving Key.

Each key area consists of:

Key Id	The bilateral key ID of a key exchanged with the correspondent using BKE. For keys exchanged manually, the key ID is not used. The key ID is made up of the following: <ul style="list-style-type: none"> • 1 character (B) that indicates that this is a BKE key. • 1 character (0, 1, 2, or 3) to indicates the bilateral key type as defined by S.W.I.F.T. • 8 characters that indicate the date when the key was created, in the format YYYYMMDD (year, month, day). • 8 characters that indicate the key check value. This value can be used to identify the correct key in discussions with the correspondent.
---------------	--

From Date/Time

The first date and time that the key will be used. This date/time is equal to the To date/time of the previous key, unless the previous key has been discontinued.

To Date/Time The last date and time that the key will be used.

Discontinued An area in the panel is used to indicate that the key has been discontinued.

Key The Bilateral Key. Only paper-based keys are displayed, keys exchanged using BKE are not displayed.

Press the PF key for the **page +1** command to see the second page for the Authenticator-Key File record. Figure 83 shows the second page of the record panel.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00002
Home LT          : VNDOBET2                          Func AUT
Corr's LT        : -

Unauthorized Key Area      Start Date =      End Date =
Correspondent Status =    Suspension Date =
1st Sending Id =          From =              To =
Key =
2nd Sending Id =          From =              To =
Key =
3rd Sending Id =          From =              To =
Key =
1st Receiving Id =        From =              To =
Key =
2nd Receiving Id =        From =              To =
Key =
3rd Receiving Id =        From =              To =
Key =

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List     6=List First
PF 7=Page -1   8=Page +1  9=Exchange 10=Delete   11=Replace 12=Add

```

Figure 83. Record Panel Page 2 for Authenticator-Key File Maintenance

An Authenticator-Key File record contains the following information on page 2:

Home LT The home LT of your financial institution. This is the same field that was displayed on page 1.

Corr's LT The correspondent's LT, that is the LT of the financial institution with which you are doing business. This is the same field that was displayed on page 1.

Unauthorized Key Area

This area consists of six key areas:

- 1st Sending Key
- 2nd Sending Key
- 3rd Sending Key
- 1st Receiving Key
- 2nd Receiving Key

- 3rd Receiving Key.

Start date	The record will be used beginning at this date (optional). The date is in the format YYYYMMDD (year, month, day).
End date	The record will not be used after this date (optional). The date is in the format YYYYMMDD (year, month, day).
Correspondent Status	The values are the same as in the authorized area.
Suspension date	The suspension will start at this date (optional). The date is in the format YYYYMMDD (year, month, day).

These fields have the same layout as the key fields in the authorized key area. Their contents replace the data in the authorized key area after a REPLACE is authorized. They are not used for authentication.

Press the PF key for the **page +1** command to see the third page for the Authenticator-Key File record. Figure 84 shows the third page of the record panel.

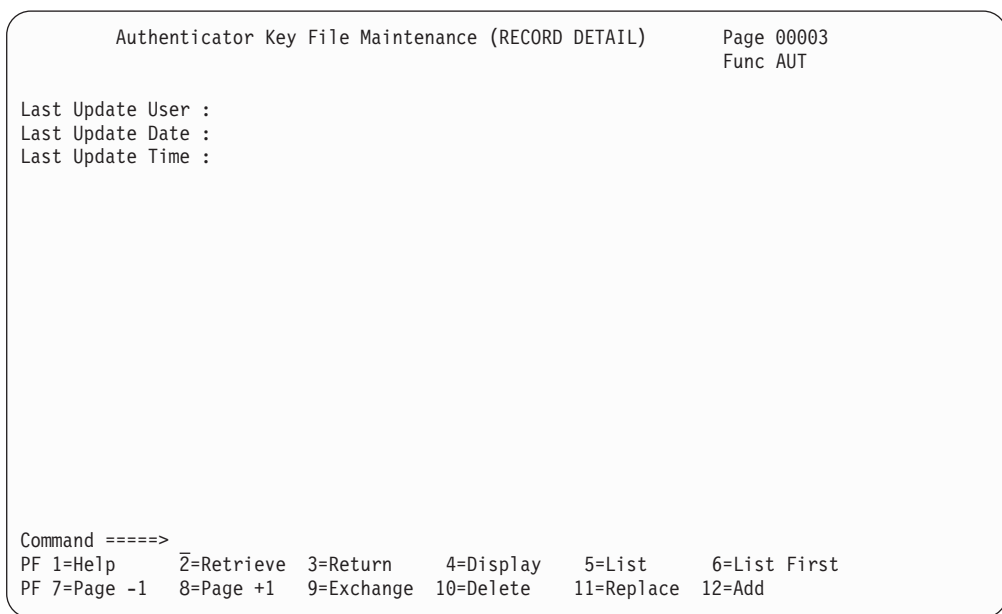


Figure 84. Record Panel Page 3 for Authenticator-Key File Maintenance

An Authenticator-Key File record contains the following information on page 3:

Last Update User	The user that last updated this record. For an update received from the USE workstation, this name is always MERVAUSE.
Last Update Date	The date that the last update to this record was made.
Last Update Time	The time that the last update to this record was made.

Generic Home and Correspondent LTs and Origin IDs

Besides the full 8-character LT, there are two forms of generic LTs that can be used during the authentication process. They apply for the home LT and the correspondent's LT. As the origin ID of the MERVA ESA User File record determines which Authenticator-Key File records a user can access, there is also a generic origin ID.

The following generic LTs are supported:

- A single record for all financial institutions with the same bank code and country code can be created by using an LT with the bank code and country code followed by 2 asterisks (**). For example, a record with an address of BANKDE** is shared by all financial institutions with a bank code of BANK in the country DE, no matter what location.
- A single record for all financial institutions with the same bank code can be created by using an LT with the bank code followed by 4 asterisks (****). For example, a record with an address of BANK**** is shared by all financial institutions with a bank code of BANK, no matter what country or location.

For example, a record with a home LT of VNDO**** and a correspondent LT of BANKDE** would be used to authenticate all messages sent by any VNDO institution worldwide to any BANKDE institution in Germany.

During authentication of a message, the SWIFT Link tries first to find a record with a full home LT and full correspondent's LT, then it tries generic correspondents' LTs and finally generic home LTs.

For example, if the SWIFT message contains a home LT of VNDOBET2 and correspondent LT of BANKDEFF, the SWIFT Link would search for one of the following nine records:

1. Home LT VNDOBET2 correspondent LT BANKDEFF
2. Home LT VNDOBET2 correspondent LT BANKDE**
3. Home LT VNDOBET2 correspondent LT BANK****
4. Home LT VNDOBE** correspondent LT BANKDEFF
5. Home LT VNDOBE** correspondent LT BANKDE**
6. Home LT VNDOBE** correspondent LT BANK****
7. Home LT VNDO**** correspondent LT BANKDEFF
8. Home LT VNDO**** correspondent LT BANKDE**
9. Home LT VNDO**** correspondent LT BANK****

Note: Due to the bilateral agreement between the two financial institutions, an algorithm that searched generic home LTs before generic correspondents' LTs would find the same record. This is effectively what your correspondent does since it has the mirror image of your records (that is, home and correspondents' LTs are interchanged).

For the origin IDs in the User File records, the same generic formats as for LTs are supported to determine the access rights of the users. Consider an Authenticator-Key File with the following three records:

1. Home LT VNDOBET2 correspondent LT BANKDEFF
2. Home LT VNDOBESS correspondent LT BANKDEFF
3. Home LT VNDOFRPP correspondent LT BANKDEFF

Then with the following origin IDs the records are processed as follows:

- VNDO**** Is able to process all three records.
- VNDOBE** Is able to process records 1 and 2.
- VNDOBET2 Is able to process only record 1.

Access to Dependent Synonym LTs

With an origin ID that matches a master logical terminal in the MERVA ESA Logical Terminal Table **DWSLT** you have access to the Authenticator-Key File records, whose home LT is equal to the master's dependent synonym LTs.

For example, the DWSLT contains entries for the master LT **VNDOBET2** and its dependent synonym LTs **VNSYNA01**, **VNSYNB02**, and **VNSYNC03**.

With the origin IDs **VNDO******, **VNDOBE****, and **VNDOBET2**, which are shown above, you can process the Authenticator-Key File records of the dependent synonym LTs.

Authenticator-Key File Maintenance Commands

The commands available in Authenticator-Key File Maintenance depend on which AUT function you are using. The following table shows which commands can be used by each of the Authenticator-Key File Maintenance functions. A full list of commands can be found in "Appendix C. The User Commands" on page 189.

Command	AUT0	AUT1	AUT2	AUT
add	No	Yes	No	Yes
backward	Yes	Yes	Yes	Yes
bkid	Yes	Yes	Yes	Yes
copy	No	Yes	No	Yes
delete	No	Yes	No	Yes
display	Yes	Yes	Yes	Yes
exchange	No	No	Yes	Yes
forward	Yes	Yes	Yes	Yes
list	Yes	Yes	Yes	Yes
ok	No	No	Yes	Yes
reject	No	No	Yes	Yes
replace	No	Yes	No	Yes

Note: If BKE is used, adding and replacing of records should not be done in MERVA ESA, and deleting records only in emergency cases. Instead, the Authenticator-Key File should be maintained on the USE workstation.

Listing Authenticator-Key File Records

To list records in the authenticator-key file, you use the LIST command, which is described in "Appendix C. The User Commands" on page 189. Figure 85 shows an example of the panel that is displayed.


```

Authenticator Key File Maintenance (LIST RECORDS)          FUNC AUT
-----Sending----- -----Receiving--- Corr-/Change
Home   Corr      Start/End From   To     From   To     Status
> VNDO**** BANK**** Start/End 19990101
   1st Key 19990101 19990630 19990101 19990630
   2nd Key 19990630 19991231 19990630 19991231
   3rd Key
> VNDO**** BANKDE** Start/End 19990101 Valid
   1st Key 19990101 19990630 19990101 19990630
   2nd Key 19990630 19991231 19990630 19991231
   3rd Key 19991231 20000630 19991231 20010101
> VNDO**** BANKDEFF Start/End 20000104 Valid REPLACE
   1st Key 20000104 20000630 20000104 20000630
   2nd Key 20000630 20001231 20000630 20001231
   3rd Key 20001231 20010630 20001231 20010630
> VNDOBET2 BANKDEFF Start/End 20000101 20031231 20010530 Susp
   1st Key 20000101 20001231 20000101 20001231
   2nd Key 20001231 20011231 20001231 20011231
   3rd Key 20011231 20020530 20011231 20020530

TO SELECT A RECORD, MOVE THE CURSOR TO ">" AND PRESS THE RELATED PF KEY

Command =====>
PF 1=Help      2=Retrieve  3=Return    4=Display   5=List First6=List
PF 7=Backward  8=Forward   9=          10=Delete   11=         12=

```

Figure 85. Listing the Contents of the Authenticator-Key File

The first line of each record contains:

- The start and end dates (both optional)
- The suspension date (optional)
- The corresponding status (Valid, Inval=Invalid, Excl=Excluded, Susp=Suspended)
- If the record is pending, its change status (ADD, REPLACE, DELETE).

The first three letters of the selection parameter used to limit the list (for example ADD, DEL, AUT, or ALL) are displayed in the upper right-hand corner of this panel.

While listing the records of the Authenticator-Key File, you can use the following commands:

- Display
- Delete
- Exchange
- Ok
- Reject.

You cannot use the following commands:

- Add
- Replace
- Copy.

Use the **forward** and **backward** commands or the corresponding PF keys to page through the list.

Displaying an Authenticator-Key File Record

You can display a record of the Authenticator-Key File:

- By selecting a record from a list panel in one of the following ways:

- Move the cursor to the > on the line preceding the home LT of the record to be displayed, and press the function key for the **display** command.
- Enter the command **display home corr** in the command line.

The Authenticator-Key File record is then displayed.

To return to the list of Authenticator-Key File records, enter the **list** command in the command line of the Authenticator-Key File record panel, or press the key defined for **list**. The previous list panel is then redisplayed.

To display the previous record panel from the list panel, enter the **display** command on the command line, or press the PF key defined for display without positioning the cursor on a record in the list.

- By selecting a record from a display panel in one of the following ways:
 - By entering the **display** command with no parameters. The contents of field home LT is used as the *home* parameter. The contents of field correspondent's LT is used as the *corr* parameter. If the fields home LT and correspondent's LT are both empty, an empty Authenticator-Key File record is displayed.
 - Enter the command **display home corr** in the command line.

Figure 86 shows the panel with the home LT VNDOBET2 and the correspondent LT BANKDEFF typed into the home LT and correspondent's LT fields. To display this record press the PF key defined for the **display** command.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00001
Home LT          : VNDOBET2                             Func AUT
Corr's LT        : BANKDEFF

Authorized Key Area          Start Date =      End Date =
Correspondent Status =      Suspension Date =
1st Sending   Id =          From =            To =
                Key =
2nd Sending   Id =          From =            To =
                Key =
3rd Sending   Id =          From =            To =
                Key =
1st Receiving Id =          From =            To =
                Key =
2nd Receiving Id =          From =            To =
                Key =
3rd Receiving Id =          From =            To =
                Key =

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display  5=List    6=List First
PF 7=Page -1   8=Page +1  9=Exchange 10=Delete  11=Replace 12=Add
  
```

Figure 86. Requesting the Display of a Record in the Authenticator-Key File

The panel is redisplayed with the data stored in the Authenticator-Key File record for the specified record. Figure 87 shows the panel that is displayed for the record. The correspondent's LT is expanded, as explained in "Expansion of SWIFT Addresses" on page 26. The first sending and receiving keys are exchanged manually, therefore the key is shown but not the Key Id. The second sending and receiving keys are BKE keys, therefore the key is not shown but the Key Id.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00001
Home LT      : VNDOBET2                               Func AUT
Corr's LT    : BANKDEFF   Allgemeine Bank AG
                                     Foreign Exchange Division
                                     Frankfurt

Authorized Key Area      Start Date = 19990101 End Date =
Correspondent Status = 0 Valid      Suspension Date =
1st Sending  Id =                From = 19990101 0001 To = 19990701 0001
                                     Key = 0123456789ABCDEFDCBA9876543210
2nd Sending  Id = B0970701B6D15A28 From = 19990701 0001 To = 20000101 0001
                                     Key =
3rd Sending  Id =                From =                To =
                                     Key =
1st Receiving Id =                From = 19990101 0001 To = 19990701 0001
                                     Key = 0123456789ABCDEFDCBA9876543210
2nd Receiving Id = B0970701F39E2AE0 From = 19990701 0001 To = 20000101 0001
                                     Key =
3rd Receiving Id =                From =                To =
                                     Key =

Command =====>
PF 1=Help    2=Retrieve  3=Return   4=Display  5=List    6=List First
PF 7=Page -1  8=Page +1   9=Exchange 10=Delete  11=Replace 12=Add

```

Figure 87. Displaying a Record in the Authenticator-Key File

If the record does not exist, a message to this effect is displayed in the error line. If you are using function AUT1 or AUT, you can then enter the information for the Authenticator-Key File record and use the **add** command to add the record to the Authenticator-Key File. This is described in the next section.

Adding an Authenticator-Key File Record

To add an Authenticator-Key File record:

1. The home LT, correspondent's LT, and authenticator-key information data is entered in the unauthorized key area (page 2 of the record). Use the **add** command to mark the record to be added to the Authenticator-Key File. Remember, the **add** command can only be used with the functions AUT and AUT1.
2. The entered data must be authorized so that the authenticator keys can be used. Use the **ok** command to authorize the addition of the record. Remember, the **ok** command can only be used with the functions AUT and AUT2. With the AUT function, the **add** command is used to enter the data and authorize the record in one step. If you used this function to enter the data, you do not have to enter the **ok** command.

For example, to add an Authenticator-Key File record for the Home LT VNDOBET2 and correspondent LT BANKDEFF, select the AUT function from the Function Selection menu (see Figure 7 on page 15). An empty record is displayed. Enter the following data:

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00002
Home LT          : VNDOBET2                          Func AUT
Corr's LT       : BANKDEFF

Unauthorized Key Area      Start Date = 19990101 End Date =
Correspondent Status = 0 Valid      Suspension Date =
1st Sending   Id =                From = 19990101 0001 To = 19990701 0001
                Key = 0123456789abcdefabc0123456789
2nd Sending   Id =                From = 19990701 0001 To = 20000101 0001
                Key = abcdef01234567890123456789abcdef
3rd Sending   Id =                From = 20000101 0001 To = 20000701 0001
                Key = 1234567890abcdef0123456789abcdef
1st Receiving Id =                From = 19990101 0001 To = 19990701 0001
                Key = 0123456789abcdefabc0123456789
2nd Receiving Id =                From = 19990701 0001 To = 20000301 0001
                Key = 0246813579abcdeffedcba9753186420
3rd Receiving Id =                From = 20000301 0001 To = 20000701 0001
                Key = 1234509876abcdefabc01234509876

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List     6=List First
PF 7=Page -1   8=Page +1  9=Exchange 10=Delete   11=Replace 12=Add

```

Figure 88. Adding a Record to the Authenticator-Key File

Figure 88 shows that the record with home LT VNDOBET2 and correspondent LT BANKDEFF has:

- A first sending key of 0123456789abcdefabc0123456789, which becomes active on the 1st of January 1999 at 0001 and expires on the 1st of July 1999 at 0001.
- A second sending key of abcdef01234567890123456789abcdef, which becomes active on the 1st of July 1999 at 0001 and expires on the 1st of January 2000 at 0001.
- A third sending key of 1234567890abcdef0123456789abcdef, which becomes active on the 1st of January 2000 at 0001 and expires on the 1st of July 2000 at 0001.
- A first receiving key of 0123456789abcdefabc0123456789, which becomes active on the 1st of January 1999 at 0001 and expires on the 1st of July 1999 at 0001.
- A second receiving key of 0246813579abcdeffedcba9753186420, which becomes active on the 1st of July 1999 at 0001 and expires on the 1st of March 2000 at 0001.
- A third receiving key of 1234509876abcdefabc01234509876, which becomes active on the 1st of March 2000 at 0001 and expires on the 1st of July 2000 at 0001.

When the data has been entered, enter the command **add** in the command line. A message tells you that the record is added. The record is re-displayed, with the data just entered in the unauthorized key area moved to the authorized key area. This record can now be used for the authentication of messages.

If you used the function AUT1 to add the record to the Authenticator-Key File, you would get the same message telling you that the record has been added to the Authenticator-Key File. The record would be re-displayed, but the data you entered would remain in the unauthorized key area. Also the state of the record,

ADD PENDING, is displayed after the home LT in the same line. This record cannot be used for authentication until it has been authorized using the **ok** command.

Exchanging an Authenticator-Key File Record

The process of replacing the 1st keys with 2nd keys, and the 2nd keys with the 3rd keys, and erasing the 3rd keys in the authorized area, is called *exchanging* the Authenticator-Key File record. This process should *not* be confused with the exchange of the keys, by letter or telex, between your financial institution and its correspondents.

To exchange an Authenticator-Key File record, use the command **exchange**. The **exchange** command can only be used with the functions AUT and AUT2.

You use the command **exchange** *home corr yyyymmdd type* to exchange either the sending keys, or the receiving keys, or both.

Where:

home

Is the home LT of the record(s) in which you want the keys exchanged.

corr

Is the correspondent's LT of the record(s) in which you want the keys exchanged.

yyymmdd

Is the date to be checked against the third key FROM dates in the record.

type

Indicates which keys are to be exchanged. *type* can be BOTH (default), SEND, or RECEIVE.

The date you enter is compared with the third key FROM date in the record. If this date in the record is earlier than or equal to the date you enter, the exchange is made.

The processing of the **exchange** command depends on the specification of the command:

- When only the first 4 characters of the home LT are specified (that is, the bank code is specified but the country code and location code are left blank), only the records in the Authenticator-Key File beginning with the specified bank code can be exchanged.
- When all 8 characters of the home LT are specified (that is, the bank code, country code, and location code), only the records in the Authenticator-Key File beginning with the specified bank code, country code, and location code can be exchanged.
- When the correspondent's LT is not specified, all the records can be exchanged.
- When only the first 4 characters of the correspondent's LT are specified (that is, the bank code is specified but the country code and location code are left blank), only the records in the Authenticator-Key File beginning with the specified bank code can be exchanged.
- When all 8 characters of the correspondent LT's are specified (that is, the bank code, country code, and location code), only the records in the Authenticator-Key File beginning with the specified bank code, country code, and location code can be exchanged.

The following is an example of how to exchange the keys for a record with the home LT VNDOBET2 and correspondent LT BANKDEFF. It is assumed that the addition of the record carried out in the last section was made in the AUT function. This means that the record does not contain keys in the unauthorized data part of the record but only contains keys in the authorized data part of the record, because a record should not contain unauthorized data when keys are to be exchanged, as the subsequent authorization could nullify the effect of the exchange.

To exchange the keys, select the function AUT from the Function Selection panel, and specify **exchange vndobet2 bankdeff 20000131** in the command line. The record with the home LT VNDOBET2 and correspondent LT BANKDEFF is displayed, together with a message asking you to confirm the exchange (see Figure 89).

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00001
Home LT          : VNDOBET2                             Func AUT
Corr's LT        : BANKDEFF   Allgemeine Bank AG
                                      Foreign Exchange Division
                                      Frankfurt

Authorized Key Area          Start Date =          End Date =
Correspondent Status = 0 Valid          Suspension Date =
1st Sending   Id =                      From = 19990101 0001 To = 19990701 0001
              Key = 0123456789ABCDEFABCDEF0123456789
2nd Sending   Id =                      From = 19990701 0001 To = 20000101 0001
              Key = ABCDEF01234567890123456789ABCDEF
3rd Sending   Id =                      From = 20000101 0001 To = 20000701 0001
              Key = 1234567890ABCDEF0123456789ABCDEF
1st Receiving Id =                      From = 19990101 0001 To = 19990701 0001
              Key = 0123456789ABCDEFABCDEF0123456789
2nd Receiving Id =                      From = 19990701 0001 To = 20000301 0001
              Key = 0246813579ABCDEFEDCBA9753186420
3rd Receiving Id =                      From = 20000301 0001 To = 20000701 0001
              Key = 1234509876ABCDEFABCDEF1234509876
DWS1385 Exchange record VNDOBET2 BANKDEFF? Enter YES or NO
Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1   9=Exchange 10=Delete   11=Replace  12=Add

```

Figure 89. Confirmation of an Exchange in an Authenticator-Key File Record

If you enter **yes**, the sending keys are exchanged (because the 3rd key FROM date 20000101 is before the date parameter 20000131) but the receive keys are not exchanged (because the 3rd key FROM date 20000301 is after the parameter date 20000131). The record is redisplayed with a message in the error line confirming the exchange, and displaying the exchanged keys. If you enter **no**, the record remains unaltered, and a message is shown in the error line indicating that the exchange was not carried out.

Figure 90 shows the record after it is exchanged.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00001
Home LT      : VNDOBET2                               Func AUT
Corr's LT    : BANKDEFF   Allgemeine Bank AG
                                     Foreign Exchange Division
                                     Frankfurt

Authorized Key Area      Start Date = 19990101 End Date =
Correspondent Status = 0 Valid      Suspension Date =
1st Sending  Id =                               From = 19990701 0001 To = 20000101 0001
                                     Key = ABCDEF01234567890123456789ABCDEF
2nd Sending  Id =                               From = 20000101 0001 To = 20000701 0001
                                     Key = 1234567890ABCDEF0123456789ABCDEF
3rd Sending  Id =                               From =                To =
                                     Key =

1st Receiving Id =                               From = 19990101 0001 To = 19990701 0001
                                     Key = 0123456789ABCDEFABCDEF0123456789
2nd Receiving Id =                               From = 19990701 0001 To = 20000301 0001
                                     Key = 0246813579ABCDEFEDCBA9753186420
3rd Receiving Id =                               From = 20000301 0001 To = 20000701 0001
                                     Key = 1234509876ABCDEFABCDEF1234509876
DWS1391 Record VNDOBET2 BANKDEFF exchanged
Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List      6=List First
PF 7=Page -1   8=Page +1   9=Exchange 10=Delete   11=Replace  12=Add

```

Figure 90. Redisplay after Exchange in an Authenticator-Key File Record

Replacing an Authenticator-Key File Record

Replacing an Authenticator-Key File record means replacing an existing record with a record containing new data. This requires that:

1. The home LT, correspondent's LT, and authenticator-key information data must be entered.

Enter the home LT, correspondent's LT and the authenticator-key information in the unauthorized key area. Use the **replace** command to mark the record to be replaced in the Authenticator-Key File.

Remember, the **replace** command can only be used with the functions AUT and AUT1.

The process of entering data for replacement can be made easier by displaying the old record (see "Displaying an Authenticator-Key File Record" on page 149) and copying the old data from the authorized key area to the unauthorized key area (see "Copying Information" on page 161).

2. The entered data must be authorized so that the authenticator keys can be used.

Use the **ok** command to authorize the replacement of the record. Remember, the **ok** command can only be used with the functions AUT and AUT2.

With the AUT function, the **replace** command is used to enter the data and authorize the record in one step. If you used this function to enter the data, you do not have to enter the **ok** command.

The following example shows how to update a record in the Authenticator-Key File.

Select the function AUT1 from the Function Selection panel. Using the information in the previous section, display the record with the home LT VNOBET2 and correspondent LT BANKDEFF.

To change the displayed Authenticator-Key File record, the unauthorized data is entered, as shown in Figure 91. If you only wish to change part of a record, you can display the record and use the **copy** command to copy the authorized data part of the record to the unauthorized data part. In this example, you enter new 1st keys, but no 2nd and 3rd keys. When you have entered the information, press the PF key defined for the **replace** command, or enter **replace** in the command line.

```

Authenticator Key File Maintenance (RECORD DETAIL)           Page 00002
Home LT      : VNOBET2                                       Func AUT1
Corr's LT   : BANKDEFF   Allgemeine Bank AG
                                           Foreign Exchange Division
                                           Frankfurt

Unauthorized Key Area          Start Date = 19990101 End Date =
Correspondent Status = 0 Valid          Suspension Date =
1st Sending  Id =                               From = 19990101 0001 To = 20000101 0001
                                           Key = 0173456289abcdefabcdef0123456789
2nd Sending  Id =                               From =                               To =
                                           Key =
3rd Sending  Id =                               From =                               To =
                                           Key =
1st Receiving Id =                               From = 19990101 0001 To = 20000101 0001
                                           Key = 0173456289abcdefabcdef0123456789
2nd Receiving Id =                               From =                               To =
                                           Key =
3rd Receiving Id =                               From =                               To =
                                           Key =

Command =====>
PF 1=Help   2=Retrieve 3=Return 4=Display 5=List 6=List First
PF 7=Page -1 8=Page +1 9=Exchange 10=Delete 11=Replace 12=Add

```

Figure 91. Replacing a Record in the Authenticator-Key File

You are then asked to confirm that the record is to be replaced. Figure 92 shows the panel after the replacement is made with the status REPLACE PENDING shown after the home LT in the same line. If you do not want to replace the record, enter **no**. When the replacement of the record is confirmed, the panel is redisplayed after the data is stored in the Authenticator-Key File.


```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00002
Home LT      : VNDOBET2  REPLACE PENDING          Func AUT1
Corr's LT    : BANKDEFF  Allgemeine Bank AG
                                   Foreign Exchange Division
                                   Frankfurt

Unauthorized Key Area      Start Date = 19990101 End Date =
Correspondent Status = 0 Valid      Suspension Date =
1st Sending   Id =                From = 19990101 0001 To = 20000101 0001
                                   Key = 0173456289ABCDEFABCDEF0123456789
2nd Sending   Id =                From =                To =
                                   Key =
3rd Sending   Id =                From =                To =
                                   Key =
1st Receiving Id =                From = 19990101 0001 To = 20000101 0001
                                   Key = 0173456289ABCDEFABCDEF0123456789
2nd Receiving Id =                From =                To =
                                   Key =
3rd Receiving Id =                From =                To =
                                   Key =
DWS1392 Record VNDOBET2 BANKDEFF replaced
Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display   5=List     6=List First
PF 7=Page -1   8=Page +1   9=Exchange 10=Delete   11=Replace 12=Add

```

Figure 92. Redisplay after the Replacement of an Authenticator-Key File Record

If an error occurs, the record is not replaced in the Authenticator-Key File. A message in the error line notifies you of this.

If there is no error, the record is now replaced but not authorized. The data you entered remains in the unauthorized key area, and cannot be used for authentication.

If you were to use the function AUT to replace the record in the Authenticator-Key File, you would get the same message. The data you entered in the unauthorized key area would be moved to the authorized key area. The record would be authorized in the same step, and any message authentication would then use the keys you entered.

Deleting an Authenticator-Key File Record

To delete a record from the Authenticator-Key File, you must:

1. Mark the record that is to be deleted.

Remember, the **delete** command can only be used with the functions AUT and AUT1.
2. Authorize the deletion of the record from the file.

Use the **ok** command to authorize the deletion of the record. Remember, the **ok** command can only be used with the functions AUT and AUT2. With the AUT function, the **delete** command is authorized in the same step and the record is deleted from the file.

Note: Since records which are marked ADD PENDING contain no authorized data, they can be deleted without authorization. The **delete** command removes the record immediately from the Authenticator-Key File, even if you are using the AUT1 function.

You can use the **delete home corr** command to delete records in the Authenticator-Key File, where:

- *home* is the home LT
- *corr* is the correspondent's LT.

The record deleted depends on the specifications made:

- When only the first 4 characters of the home LT are specified (that is, the bank code is specified but the country code and location code are left blank), only the records in the Authenticator-Key File beginning with the specified bank code are deleted.
- When all 8 characters of the home LT are specified (that is, the bank code, country code, and location code), only the records in the Authenticator-Key File beginning with the specified bank code, country code, and location code are deleted.
- When the correspondent's LT is not specified, all the records are deleted.
- When only the first 4 characters of the correspondent's LT are specified (that is, the bank code is specified but the country code and location code are left blank), only the records in the Authenticator-Key File beginning with the specified bank code are deleted.
- When all 8 characters of the correspondent's LT are specified (that is, the bank code, country code, and location code), only the records in the Authenticator-Key File beginning with the specified bank code, country code, and location code are deleted.

Before any records are deleted you are asked to confirm the deletion. If you specified a full home LT and a full correspondent's LT (that is, deletion of a single record), the record display panel is displayed with the record and the confirmation message.

If you specified either a generic home LT or a generic correspondent's LT, a list of records is displayed with the confirmation message. You can page through this list using the **forward** and **backward** commands before making your confirmation.

If you enter **yes** to the confirmation request, one of the following occurs:

- From within the AUT function, the records are removed from the file immediately.
- From within the AUT1 function, the records with the status ADD PENDING are removed from the file immediately, and the others are marked DELETE PENDING.

If you enter **no** in response to the confirmation request, the Authenticator-Key File remains unchanged.

The following example shows how to delete all the records for the financial institution with a bank code of VNDO. Select the function AUT1 from the Function Selection menu, and enter the command **delete vndo** in the command line. The list records panel is displayed with a list of all the records that are to be deleted, together with a message asking you to confirm the deletion.

```

Authenticator Key File Maintenance (LIST RECORDS)
-----Sending----- -----Receiving--- FUNC AUT1
Home   Corr      From   To     From   To     Corr-/Change
> VNDO**** BANK**** Start/End 19990101
    1st Key 19990101 19990630 19990101 19990630
    2nd Key 19990630 19991231 19990630 19991231
    3rd Key
> VNDO**** BANKDE** Start/End 19990101          Valid
    1st Key 19990101 19990630 19990101 19990630
    2nd Key 19990630 19991231 19990630 19991231
    3rd Key 19991231 20000630 19991231 20010101
> VNDO**** BANKDEFF Start/End 20000104          Valid REPLACE
    1st Key 20000104 20000630 20000104 20000630
    2nd Key 20000630 20001231 20000630 20001231
    3rd Key 20001231 20010630 20001231 20010630
> VNDOBET2 BANKDEFF Start/End 20000101 20031231 20010530      Susp
    1st Key 20000101 20001231 20000101 20001231
    2nd Key 20001231 20011231 20001231 20011231
    3rd Key 20011231 20020530 20011231 20020530

TO SELECT A RECORD, MOVE THE CURSOR TO ">" AND PRESS THE RELATED PF KEY
DWS1379 Confirm deletion of all records in the list? Enter YES or NO
Command =====> _

```

Figure 93. Confirmation of a Deletion from the Authenticator-Key File (First Page)

You can page through the list using the **forward** and **backward** commands before entering **yes** to confirm the deletion of all the records in the list, or **no** to leave the authenticator-key file unchanged.

Authorizing a Record with a Pending Status

The **ok** command is used to authorize a record that has been marked as pending. The **ok** command can only be used in functions AUT and AUT2. The effect of the command depends on the pending status of the record. When the status is:

- | | |
|------------------------|---|
| ADD PENDING | The data in the unauthorized key area is moved to the same fields in the authorized key area, and the unauthorized key area is cleared. |
| DELETE PENDING | The record is deleted from the Authenticator-Key File. |
| REPLACE PENDING | The data in the authorized key area is replaced by the data in the unauthorized key area, and the unauthorized key area is cleared. |

You use the command **ok home corr** to authorize a record of the Authenticator-Key File, where:

- *home* is the home LT
- *corr* is the correspondent's LT.

Before a record is authorized in the file, you must confirm the authorization by entering **yes** when prompted for confirmation. The authorization is then made in the Authenticator-Key File (as shown above) and, for **add** and **replace**, the pending status is removed. If you enter **no** in response to the confirmation request, the Authenticator-Key File remains unchanged. The following example shows how to authorize the deletion of the record for the home LT VNDOBET2 and correspondent LT BANKDEFF, and the status DELETE PENDING. Select the function AUT2 from the Function Selection menu. Enter the command **ok vndobet2 bankdeff** in the command line of the empty record panel. The record

with the home LT VNDOBET2 and correspondent LT BANKDEFF is displayed, together with a message asking you to confirm the deletion. This is shown in Figure 94.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00001
Home LT          : VNDOBET2  DELETE PENDING          Func AUT
Corr's LT       : BANKDEFF  Allgemeine Bank AG
                                   Foreign Exchange Division
                                   Frankfurt

Authorized Key Area          Start Date = 19990701 End Date =
Correspondent Status = 0 Valid          Suspension Date =
1st Sending   Id =                From = 19990701 0001 To = 20000101 0001
                                   Key = ABCDEF01234567890123456789ABCDEF
2nd Sending   Id =                From = 20000101 0001 To = 20000701 0001
                                   Key = 1234567890ABCDEF0123456789ABCDEF
3rd Sending   Id =                From =                To =
                                   Key =
1st Receiving Id =                From = 19990101 0001 To = 19990701 0001
                                   Key = 0123456789ABCDEFABCDEF0123456789
2nd Receiving Id =                From = 19990701 0001 To = 20000301 0001
                                   Key = 0246813579ABCDEFEDCBA9753186420
3rd Receiving Id =                From = 20000301 0001 To = 20000701 0001
                                   Key = 1234509876ABCDEFABCDEF1234509876
DWS1377 Delete record VNDOBET2 BANKDEFF? Enter YES or NO
Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display  5=List     6=List First
PF 7=Page -1   8=Page +1   9=Exchange 10=Delete  11=Replace 12=Add

```

Figure 94. Confirmation of Deletion from the Authenticator-Key File

If you enter **yes**, an empty record panel is displayed, and a message is shown in the error line confirming that the deletion has been performed. If you enter **no**, the record remains unaltered and a message is shown in the error line indicating that the **ok** command was canceled.

Rejecting a Pending Change to a Record

The **reject** command is used to reject a change that has been made to a record. The **reject** command can only be used in functions AUT and AUT2. The effect of the command depends on the status of the record. When the status is:

- | | |
|------------------------|---|
| ADD PENDING | The record is deleted from the Authenticator-Key File because there is no authorized data in the record. |
| DELETE PENDING | The record is taken out of the DELETE PENDING status. If the record has only authorized data, the pending status is removed. However, if the record contains both authorized and unauthorized data, it is marked REPLACE PENDING. |
| REPLACE PENDING | The unauthorized key area is cleared, and the pending status is removed. |

You use the command **reject home corr** to reject a specific update to the Authenticator-Key File, where:

- *home* is the home LT
- *corr* is the correspondent's LT.

Before the record status is changed, you must confirm the rejection of the update by entering **yes** when prompted for confirmation. The appropriate change is then made to the Authenticator-Key File. If you enter **no** in response to the confirmation request, the Authenticator-Key File remains unchanged.

The following example shows how to reject the addition of the record for the home LT VNDOBET2 and correspondent LT BANKDEFF. To create the record with the status ADD PENDING, repeat the example as shown in “Adding an Authenticator-Key File Record” on page 151 using the function AUT1. Select the function AUT2 from the function selection panel. To reject the addition of the record, enter the command **reject vndobet2 bankdeff** in the command line. The record with the home LT VNDOBET2 and correspondent LT BANKDEFF is then displayed, together with a request for confirmation, as shown in Figure 95.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00002
Home LT      : VNDOBET2  ADD PENDING                    Func AUT
Corr's LT    : BANKDEFF  Allgemeine Bank AG
                                     Foreign Exchange Division
                                     Frankfurt

Unauthorized Key Area      Start Date =      End Date =
Correspondent Status = 0 Valid      Suspension Date =
1st Sending  Id =      From = 19990101 0001 To = 19990701 0001
Key = 0123456789ABCDEFABCDEF0123456789
2nd Sending  Id =      From = 19990701 0001 To = 20000101 0001
Key = ABCDEF01234567890123456789ABCDEF
3rd Sending  Id =      From = 20000101 0001 To = 20000701 0001
Key = 1234567890ABCDEF0123456789ABCDEF
1st Receiving Id =      From = 19990101 0001 To = 19990701 0001
Key = 0123456789ABCDEFABCDEF0123456789
2nd Receiving Id =      From = 19990701 0001 To = 20000301 0001
Key = 0246813579ABCDEFEDCBA9753186420
3rd Receiving Id =      From = 20000301 0001 To = 20000701 0001
Key = 1234509876ABCDEFABCDEF1234509876
DWS1356 Reject ADD of record VNDOBET2 BANKDEFF? Enter YES or NO
Command =====>
PF 1=Help      2=Retrieve  3=Return   4=Display  5=List    6=List First
PF 7=Page -1   8=Page +1  9=Exchange 10=Delete  11=Replace 12=Add

```

Figure 95. Confirmation of Rejection of Addition to the Authenticator-Key File

If you enter **yes**, an empty record panel is displayed, together with a message in the error line confirming the rejection. If you enter **no**, the record remains unaltered, and a message is shown in the error line indicating that the reject command was canceled.

Copying Information

The **copy** command is designed to save retyping data. The command is used when displaying a record. It takes a copy of all the data in the authorized key area, and places it in the unauthorized key area. The **copy** command can also be used to copy selected fields in the unauthorized key area to other fields in the unauthorized key area. Refer to “Appendix C. The User Commands” on page 189 for a description of the **copy** command. This copy only takes place on the screen; no change is made to the Authenticator-Key File.

For example, to add 3rd keys to a record that contains only 1st and 2nd keys, without retyping the 1st and 2nd keys, enter **copy** on the command line as shown in Figure 96.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00001
Home LT          : VNDOBET2                          Func AUT
Corr's LT       : BANKDEFF  Allgemeine Bank AG
                                      Foreign Exchange Division
                                      Frankfurt

Authorized Key Area          Start Date = 19990101 End Date =
Correspondent Status = 0 Valid          Suspension Date =
1st Sending   Id =                      From = 19990101 0001 To = 19990701 0001
                                      Key = 0123456789ABCDEFABCDEF0123456789
2nd Sending   Id =                      From = 19990701 0001 To = 20000101 0001
                                      Key = ABCDEF01234567890123456789ABCDEF
3rd Sending   Id =                      From = 20000101 0001 To = 20000701 0001
                                      Key = 1234567890ABCDEF0123456789ABCDEF
1st Receiving Id =                      From = 19990101 0001 To = 19990701 0001
                                      Key = 0123456789ABCDEFABCDEF0123456789
2nd Receiving Id =                      From = 19990701 0001 To = 20000301 0001
                                      Key = 0246813579ABCDEFEDCBA9753186420
3rd Receiving Id =                      From = 20000301 0001 To = 20000701 0001
                                      Key = 1234509876ABCDEFABCDEF1234509876

Command =====>
PF 1=Help      2=Retrieve 3=Return 4=Display 5=List 6=List First
PF 7=Page -1   8=Page +1 9=Exchange 10=Delete 11=Replace 12=Add

```

Figure 96. Record before the COPY Command

Figure 97 shows the panel as it would appear after the **copy** command has completed.

```

Authenticator Key File Maintenance (RECORD DETAIL)      Page 00002
Home LT          : VNDOBET2                          Func AUT
Corr's LT       : BANKDEFF  Allgemeine Bank AG
                                      Foreign Exchange Division
                                      Frankfurt

Unauthorized Key Area          Start Date = 19990101 End Date =
Correspondent Status = 0 Valid          Suspension Date =
1st Sending   Id =                      From = 19990101 0001 To = 19990701 0001
                                      Key = 0123456789ABCDEFABCDEF0123456789
2nd Sending   Id =                      From = 19990701 0001 To = 20000101 0001
                                      Key = ABCDEF01234567890123456789ABCDEF
3rd Sending   Id =                      From = 20000101 0001 To = 20000701 0001
                                      Key = 1234567890ABCDEF0123456789ABCDEF
1st Receiving Id =                      From = 19990101 0001 To = 19990701 0001
                                      Key = 0123456789ABCDEFABCDEF0123456789
2nd Receiving Id =                      From = 19990701 0001 To = 20000301 0001
                                      Key = 0246813579ABCDEFEDCBA9753186420
3rd Receiving Id =                      From = 20000301 0001 To = 20000701 0001
                                      Key = 1234509876ABCDEFABCDEF1234509876

Command =====>
PF 1=Help      2=Retrieve 3=Return 4=Display 5=List 6=List First
PF 7=Page -1   8=Page +1 9=Exchange 10=Delete 11=Replace 12=Add

```

Figure 97. Record after the COPY Command

The information has been copied to the unauthorized key area, and you can now correct existing keys and dates, and you can add new dates and new keys. The **replace** command is then used to replace the record in the Authenticator-Key File, as described in “Replacing an Authenticator-Key File Record” on page 155.

Determining the Actually Used Authenticator-Key File Record

Since there are generic home and correspondent LTs, start dates and end dates and a correspondent status, which may contain a suspension for a future date or disable authentication at all, the **BKID** command may be helpful to display which record of the Authenticator-Key File will be used to authenticate incoming and outgoing messages at a certain date.

The parameters of the **BKID** command are *home corr [yyyymmdd]*, where the home LT and correspondent LT may be generic as described in “Generic Home and Correspondent LTs and Origin IDs” on page 147. If the date is not specified, the current date is assumed.

The BKID of the sending key that is valid at the specified date and of the three receiving keys is displayed in a panel similar to the record display panel. If keys are exchanged manually, they are displayed instead of the BKID. If there is no valid sending key at this date, the line is left empty. The correspondent’s LT is expanded.

```
Authenticator Key File Maintenance (SELECTED BKID)      Page 00001
Messages between Home LT VNOBET2 Corr's LT BANKDEFF at 19990301
are authenticated with:
Home LT          : VNOBET2                               Func AUT
Corr's LT        : BANKDEFF   Allgemeine Bank AG
                                   Foreign Exchange Division
                                   Frankfurt
Authorized Key Area          Start Date = 19990101 End Date =
Correspondent Status = 0 Valid          Suspension Date =
  Sending Id = B0970101B6D15A28 From = 19990101 0001 To = 19990701 0001
  Key =
1st Receiving Id =                               From = 19990101 0001 To = 19990701 0001
  Key = 0123456789ABCDEFABCDEF0123456789
2nd Receiving Id = B0970701A456FC06 From = 19990701 0001 To = 20000301 0001
  Key =
3rd Receiving Id = B0980301378219CB From = 20000301 0001 To = 20000701 0001
  Key =
Command =====>
PF 1=Help    2=Retrieve  3=Return   4=Display  5=List    6=
PF 7=        8=         9=        10=       11=       12=
```

Figure 98. BKID Used for Authentication

The **search order** for generic keys is described in detail in “Generic Home and Correspondent LTs and Origin IDs” on page 147. First a record is searched with a full home LT and a full correspondent LT, then with generic correspondent LTs and finally with generic home LTs.

Correspondent status, start and end date determine whether the authentication is to be performed and which record will be used:

- A record is used if the correspondent status is **VALID** and if the start date is less than or equal to today or if the end date is in the future.
- If the correspondent status is **VALID** but either the start date or the end date are true, the search will continue for the next best match record.
- If the correspondent status is **INVALID** or **EXCLUSION**, the authentication will fail.

- If the correspondent status is **SUSPENSION** and the suspension date is less than or equal to today (or not specified), the authentication will fail.
- If the correspondent status is **DELETION**, the record is ignored. The search will continue.

Ending the Maintenance Process

When you have finished maintaining the Authenticator-Key File, enter the **return** command. The Function Selection menu is displayed (see Figure 7 on page 15), and you can sign off from MERVA ESA by entering the **sof** command.

Chapter 19. MERVA ESA General File Maintenance

If you are authorized to use the MERVA ESA General File Maintenance function, select the function from the Function Selection panel. The panel shown in Figure 99 is displayed.

```

                                MERVA ESA General File Maintenance      Func FLM
                                File Selection Menu

> PN      Private Nicknames
> CN      Common Nicknames
> SW      SWIFT Correspondents
> CUR     Currency Code File
> TX      Telex Correspondents

To select a file, move the cursor to ">" and press ENTER

Command =====>
PF 1=Help      2=Retrieve  3=Return   4=          5=          6=
PF 7=          8=          9=Hardcopy 10=         11=         12=
```

Figure 99. File Selection Menu

Introduction to the MERVA ESA General Files

In addition to recognizing the names of the General Files, it is important to understand that the files can be classified as follows:

Nonshared Files

Contain only one type of record that can be used and maintained by all users who are authorized to do so. Examples of this kind of file are the SWIFT Correspondents File, Currency Code File, and the Telex Correspondents File

Shared Files

Contain two types of records:

- Common records, which can be used and maintained by all users who are authorized to do so.
- Private records, which can be used and maintained only by the user who owns them.

An example of this kind of file is the Nicknames File.

Any user who is allowed to use the General File Maintenance function can create private records in a shared file. Common records and nonshared files can only be maintained by a user who is defined in his User File record as an FLM administrator.

MERVA ESA supplies the definition of a Nicknames File which is shared, that is, it can be used for private and common nicknames, and of the Telex Correspondents File and SWIFT Correspondents File (which are nonshared). These files are used for the nickname and address expansion facilities of MERVA ESA:

- The Nicknames Files for nickname expansion
- The SWIFT Correspondents File for SWIFT address expansion
- The Telex Correspondents File for telex address expansion.

MERVA ESA provides only the definitions of the files. The data for the Nicknames Files and the Telex Correspondents File must be entered by your installation; the data for the SWIFT Correspondents File can be obtained from S.W.I.F.T. in the form of the BIC Bankfile or the BIC Directory Update Tape.

Nicknames can be created for those correspondents with whom you communicate most frequently, and you can choose any name or abbreviation as a nickname. Nickname records can either be common to all users, or private for a single user.

When address expansion takes place, the record in a user's Private Nicknames File is used in preference to the record in the Common Nicknames File, if the same nickname is found in both places.

Maintaining the SWIFT Correspondents File

To maintain the SWIFT Correspondents File, place the cursor on the > preceding the SW file identifier and press ENTER. Figure 100 shows an empty record of the SWIFT Correspondents File.

File SW	MERVA ESA General File Maintenance	Page 00001
	SWIFT Correspondents Record	Func FLM
Bank Identifier Code (BIC)	: -	
Correspondent Name	: -	
Correspondent Address	:	
Zip Code	:	
Creation	:	
Last Update	:	
Command =====>		
PF 1=Help	2=Retrieve	3=Escape
4=Display	5=List	6=List First
PF 7=Page -1	8=Page +1	9=Hardcopy
10=Delete	11=Replace	12=Add

Figure 100. Empty Record of the SWIFT Correspondents File

The records in the SWIFT Correspondents File contain the following information:

Bank Identifier Code (BIC)	This is the ISO or SWIFT identifier (SWIFT address) of the correspondent financial institution.
Correspondent Name	This is the financial institution's name (built by DWSCORUT from the Institution Name, Branch Information, and City Heading fields on the BIC tape). During address expansion, the correspondent name is inserted into the SWIFT message after the SWIFT address. Four lines of 35 characters each are reserved for displaying or entering the correspondent's name. Note: DWSCORUT is the name of the SWIFT Correspondents File Utility program.
Correspondent Address	This is the postal address of the correspondent financial institution (built by DWSCORUT from the Physical Address, Location, and Country Name fields on the BIC tape). Five lines of 40 characters each are reserved for displaying or entering the postal address.
Zip Code	This is the zip code of the correspondent financial institution's postal address (left blank by DWSCORUT).
Creation	The date and time of creation, and the user identification of the user who created the record. If the record was created by the SWIFT Correspondents File Utility program, DWSCORUT is shown. This information is created automatically and cannot be changed.
Last Update	The field shows the date and time of the last update, and the user identification of the user who did the update. If the record was updated by the SWIFT Correspondents File Utility program, DWSCORUT is shown. This information is created automatically each time the record is updated.

In addition, the following fields are copied (unedited by DWSCORUT) from the BIC tape: Institution Name, Branch Information, City Heading, Subtype indication, Value Added Services, Extra Information, Physical Address, Location, Country name, POB Number, POB Location, and POB Country.

Listing SWIFT Correspondents Records

To get a summary of the records stored in the SWIFT Correspondents File, enter the **list** command.

Figure 101 on page 168 shows the first page of a list of SWIFT Correspondents File records, one record per line and sorted in alphabetical order of BIC.

```

File SW                MERSA ESA General File Maintenance
                    List of SWIFT Correspondents                Func FLM

    BIC                Correspondent Name                Last Update
> ANYBFI22XXX        ANYBANK (FINLAND) LTD.                1999/07/29 MINE1
> ANYBSA22BIC        ANYBANK                                1999/05/22 DWSCORUT
> ANYBSAJEBIC        ANYBANK                                1999/05/22 DWSCORUT
> ANYBSARIBIC        ANYBANK                                1999/05/22 DWSCORUT
> BANKDE33XXX        TESTBANK AG                            1999/01/02 MINE1
> BANKDE33010        TESTBANK AG                            1999/05/22 DWSCORUT
> BANKDE33020        TESTBANK AG                            1999/05/22 DWSCORUT
> BANKDE33030        TESTBANK AG                            1999/05/22 DWSCORUT
> BANKDE33040        TESTBANK AG                            1999/05/22 DWSCORUT
> BIGBDE33AAC        BIGBANK EG                             1999/05/22 DWSCORUT
> BIGBDE33ALS        BIGBANK EG                             1999/05/22 DWSCORUT
> BIGBDE33JUE        BIGBANK EG                             1999/05/22 DWSCORUT
> OTHBUS33BIC        ALLBANK CORPORATION                   1999/05/22 DWSCORUT
> OTHBUS44XXX        ALLBANK CORPORATION                   1999/05/22 DWSCORUT
> OTHBDEFFBIC        ALLBANK FRANKFURT                     1999/05/22 DWSCORUT
To select a record, move the cursor to ">" and press the related PF key

Command =====>
PF 1=Help           2=Retrieve   3=Escape   4=Display   5=List      6=List First
PF 7=Page -1        8=Page +1   9=Hardcopy 10=Delete   11=         12=

```

Figure 101. List of Records from the SWIFT Correspondents File

For each SWIFT Correspondents File record, the list gives the following information:

BIC	The ISO/SWIFT identifier of the correspondent financial institution (for example, ANYBFI22).
Correspondent Name	The first line of the name of the financial institution (for example, ANYBANK (FINLAND) LTD.).
Last Update	The date of the last update and the user identifier of the user who performed it, or DWSCORUT if the update was performed by the SWIFT Correspondents File Utility program.

To move to the next page in the list, enter the **list** command again. To return to the first page of the list, enter the command **list first**.

You can enter the **list** command with a complete BIC or an abbreviation of a BIC as a command parameter. In that case, the list of records displayed starts with the record whose BIC matches the entry. To continue listing the records from that point, enter **list**.

Displaying SWIFT Correspondents Records

To display a specific SWIFT Correspondents File record:

- Place the cursor on the > in the line showing the BIC of the record you want to display and press the PF key assigned to the **display** command.
- Enter **display bic** on the command line and press ENTER.
- When you are already displaying a record, override the BIC on the panel with the BIC of the record to be displayed and enter the **display** command.

The following example shows you how to select the record for the Allbank Corporation (OTHBUS44) from the list of SWIFT Correspondents File records. Move the cursor to the > in the line containing the BIC OTHBUS44 and press PF4 (**display**).

Figure 102 shows the panel displaying the first page of the record. Figure 103 and Figure 104 show the second and third pages.

File SW	MERVA ESA General File Maintenance SWIFT Correspondents Record	Page 00001 Func FLM
Bank Identifier Code (BIC)	: OTHBUS44	
Correspondent Name	: ALLBANK CORPORATION KANSAS CITY, MO	
Correspondent Address	: 400 MONTGOMERY STREET KANSAS CITY, MISSOURI	
Zip Code	: 60606	
Creation	: 1999/06/12 15:59:59 DWSCORUT	
Last Update	: 1999/07/15 11:22:59 DWSCORUT	
Command =====>		
PF 1=Help	2=Retrieve	3=Escape
4=Display	5=List	6=List First
PF 7=Page -1	8=Page +1	9=Hardcopy
10=Delete	11=Replace	12=Add

Figure 102. Page 1 of the Display of a SWIFT Correspondents File Record

To display another record, override the BIC with the BIC of the record you want to display and enter the **display** command.

You can use the **list** command to return to the display of the list of records displayed before you displayed a single record.

```

File SW                MERV A ESA General File Maintenance          Page 00002
                      SWIFT Correspondents Record      Func FLM

Unedited data from BIC Tape

Institution Name      :

Branch Information    :

City Heading         :

Subtype Indication   :

Value Added Services :

Extra Information     :

Command =====>
PF 1=Help    2=Retrieve  3=Escape  4=Display  5=List    6=List First
PF 7=Page -1 8=Page +1  9=Hardcopy 10=Delete 11=Replace 12=Add

```

Figure 103. Page 2 of the Display of a SWIFT Correspondents File Record

```

File SW                MERV A ESA General File Maintenance          Page 00003
                      SWIFT Correspondents Record      Func FLM

Physical Address      :

Location             :

Country name         :

POB Number           :

POB Location         :

Command =====>
PF 1=Help    2=Retrieve  3=Escape  4=Display  5=List    6=List First
PF 7=Page -1 8=Page +1  9=Hardcopy 10=Delete 11=Replace 12=Add

```

Figure 104. Page 3 of the Display of a SWIFT Correspondents File Record

Adding a Record to the SWIFT Correspondents File

You can only add records to the SWIFT Correspondents File if you are an administrator of MERV A ESA General Files (an FLM administrator). Before you add a record, display the record using the **display** command to ensure that the record does not already exist in the file. However, if you try to create a duplicate record, an error message is displayed when you try to store the duplicate record.

If you have entered the **display** command with a new BIC, the current panel is redisplayed together with a message telling you that the record does not exist. If the record displayed on the screen contains any information, empty the BIC field and enter the command **display**. This will display an empty record. When the empty record is displayed, you can enter the information for a new record.

You can also display a record that contains information similar to the record you want to create. When this record is displayed, override the BIC and any other information that is different. When you have finished typing the data, enter the **add** command.

The following example shows how to add a record for another branch of the Allbank Corporation. Select the Allbank Corporation (OTHBUS44) from the list of records:

1. List the first records in the file by entering the **list first** command.
2. Move the cursor down to the > on the line showing the BIC: OTHBUS44 and press the PF key assigned to the **display** command.

When the record is displayed, you can add the new information as shown in Figure 105. Enter the **add** command.

```

File SW                MERVA ESA General File Maintenance          Page 00001
                    SWIFT Correspondents Record      Func FLM

Bank Identifier Code (BIC) : othbus6s101
Correspondent Name       : ALLBANK CORPORATION
                        san francisco branch

Correspondent Address    : 400 MONTGOMERY STREET
                        KANSAS CITY, MISSOURI

Zip Code                 : 94111

Creation                 : 1999/06/12 15:59:59 DWSCORUT
Last Update              : 1999/07/15 11:22:59 DWSCORUT

Command =====> add_
PF 1=Help      2=Retrieve  3=Escape   4=Display   5=List     6=List First
PF 7=Page -1   8=Page +1   9=Hardcopy 10=Delete   11=Replace 12=Add

```

Figure 105. Adding a Record to the SWIFT Correspondents File

The record is redisplayed with new Creation and Last Update information, and a message informing you that the record has been added to the file. The creation and last update information show the current date, time, and your user identifier. Figure 106 on page 172 is an example of a panel that is displayed after a record has been added.

If an error occurs, a message is displayed informing you of the error, and the record is not added to the file. Correct the error and try the **add** command again.

```

File SW                MERVA ESA General File Maintenance      Page 00001
                      SWIFT Correspondents Record  Func FLM

Bank Identifier Code (BIC) : OTHBUS6S101
Correspondent Name       : ALLBANK CORPORATION
                          SAN FRANCISCO BRANCH

Correspondent Address    : 400 MONTGOMERY STREET
                          KANSAS CITY, MISSOURI

Zip Code                 : 94111

Creation                 : 1999/07/15 16:32:17 MINE
Last Update              : 1999/07/15 16:32:17 MINE

DSL1906 Record OTHBUS6S101 added
Command =====>
PF 1=Help      2=Retrieve  3=Escape  4=Display  5=List    6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete 11=Replace 12=Add

```

Figure 106. Redisplay after Adding a Record to the SWIFT Correspondents File

When you look at the redisplayed panel, you realize that the address of the new branch office has not been entered. The next section explains how you can change the address in the record.

Replacing a Record in the SWIFT Correspondents File

To replace records in the SWIFT Correspondents File, you must be an administrator of MERVA ESA General Files (an FLM administrator).

Before replacing a record, display the record you want to replace.

Once the record is displayed, enter the new information in the record, replacing the existing information.

Note: You cannot change the BIC in a SWIFT Correspondents File record. If you change this field, you create a new record, and must use the **add** command.

This example shows you how to change the address in the record created in the last section. Display the record with the BIC OTHBUS6S101. When the record is displayed, enter the new address as shown in Figure 107 on page 173 and issue the **replace** command.


```

File SW                MERVA ESA General File Maintenance          Page 00001
                     SWIFT Correspondents Record      Func FLM

Bank Identifier Code (BIC) : OTHBUS62101
Correspondent Name       : ALLBANK CORPORATION
                        SAN FRANCISCO BRANCH

Correspondent Address    : 300 california street
                        san francisco, california

Zip Code                 : 10167

Creation                 : 1999/07/15 16:32:17 MINE
Last Update              : 1999/07/15 16:32:17 MINE

Command =====> replace
PF 1=Help      2=Retrieve  3=Escape  4=Display  5=List    6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete 11=Replace 12=Add

```

Figure 107. Replacing a Record of the SWIFT Correspondents File

A panel is displayed with the updated information together with a message asking you to confirm the replacement.

Enter **yes** in the command line to confirm your request. The record is then redisplayed with the latest update information, and a message informing you that the record has been replaced.

If you enter **no** in the command line, your request is canceled and no replacement takes place. A message informs you of this, and the record is redisplayed without the changes.

If an error has occurred, a message is displayed telling you of the error, and the record is not replaced. Correct the error and try the **replace** command again.

Deleting a Record from the SWIFT Correspondents File

To delete records from the SWIFT Correspondents File, you must be an administrator of the MERVA ESA General Files (an FLM administrator).

You use the **delete** command to delete a record from the file. There are several ways to delete a record:

- Enter the **delete bic** command in the command line, where *bic* is the BIC of the record to be deleted.
- Type the BIC in the field identified by Bank Identifier Code when displaying a record, and issue the **delete** command.
- If you are displaying a list of records, you can select a record by positioning the cursor under the > in the line containing the BIC of the record to be deleted, and pressing the PF key assigned to the **delete** command.

This example shows you how to delete the record of a financial institution where the BIC is OTHBUS6S101. Enter the command **list oth** to display a list of the records in the file. When the list is displayed, move the cursor to the > in the line containing the BIC **OTHBUS6S101** and press the PF key defined for **delete**.

Figure 108 shows the panel that is displayed. A message in the panel asks you to confirm the deletion of the record.

```
File SW                MERVESA General File Maintenance      Page 00001
                      SWIFT Correspondents Record      Func FLM

Bank Identifier Code (BIC) : OTHBUS6S101
Correspondent Name       : ALLBANK CORPORATION
                          SAN FRANCISCO BRANCH

Correspondent Address    : 300 CALIFORNIA STREET
                          SAN FRANCISCO, CALIFORNIA

Zip Code                 : 10167

Creation                 : 1999/07/15 16:32:17 MINE
Last Update              : 1999/07/15 16:45:20 MINE

DSL1901 Delete record OTHBUS6S101 ? Enter YES or NO
Command =====> yes
PF 1=Help      2=Retrieve  3=Escape  4=Display  5=List    6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete 11=Replace 12=Add
```

Figure 108. Request for Confirmation of a DELETE Command

Enter **yes** in the command line to confirm your request. The record is then deleted from the file. As you requested deletion while displaying the list of records, the list is redisplayed with a blank line at the place where the record was previously displayed.

If you request deletion from a record panel, an empty record panel is displayed, together with a message informing you that the record has been deleted.

To cancel the request for deletion, enter **no** in the command line in response to the confirmation prompt. The record selected for deletion is displayed, together with a message informing you that the record has not been deleted.

If you try to delete a record that is not found in the file, a message informing you of this is displayed on the panel.

To return to the File Selection menu, enter the **escape** command. The File Selection menu is then displayed, as shown in Figure 99 on page 165.

Maintaining the Currency Code File

The Currency Code File is a nonshared file and can therefore only be updated if you are an FLM administrator.

Each record in the Currency Code File contains:

- The Currency Code
- The maximum length of the fractional digits
- The name of the currency
- A list of countries using the currency.

In MERVA ESA the Currency Code File can be used together with the currency code table. In this case, it is only needed to record the changes in the Currency Code File. It is possible to add or modify a currency in the table by adding a record for this currency in the file. It is possible to invalidate a currency in the table by adding a record for this currency in the Currency Code File and specifying **DEL* in the currency name field.

You can select the Currency Code File in either of the following ways:

- Place the cursor under the > sign to the left of the file identifier CUR and press ENTER.
- Type the file identifier CUR in the command line and press ENTER.

An empty record of the Currency Code File is then displayed, as shown in Figure 109.

```

File CUR                MERVA ESA General File Maintenance      Page 00001
                        SWIFT Currency Record                               Func FLM

Currency Code : _      Fractional Digit :

Cur Name

Code      Country Name

Command =====>
PF 1=Help    2=Retrieve  3=Escape   4=Display   5=List     6=List First
PF 7=Page -1 8=Page +1  9=Hardcopy 10=Delete  11=Replace 12=Add

```

Figure 109. Empty Record of the Currency Code File

The fields of the Currency Code Record are as follows:

Currency Code

This field contains the unique identifier for the currency. It is 3 characters long.

Fractional Digit

This field contains the maximum number of digits that are allowed for the currency.

Cur Name

This field contains the name of the currency. If the string in this field starts with **DEL*, the currency is considered invalid in MERVA ESA and will be flagged as an error by message checking.

Code This field contains the country code of the country using the currency.

Country Name

This field contains the country name of the country using the currency.

You can now add, list, replace, and delete records of the Currency Code File using the commands described in “Maintaining the SWIFT Correspondents File” on page 166.

Maintaining the Telex Correspondents File

The Telex Correspondents File is a nonshared file and can therefore only be updated if you are an FLM administrator.

Each record in the Telex Correspondents File contains:

- The sender’s or correspondent’s identification.
- The sender’s or correspondent’s address in two lines of up to 35 characters each.
- One or two telex numbers of the correspondent, consisting of dial-up numbers, optionally followed by the answerback codes.
- Optionally, a list of message types that need a test key, as required by the sender, or as agreed upon with the correspondent. This list of message types is only necessary if these requirements differ from the general test-key requirements defined in the Telex Link test-key requirements table (see the *MERVA for ESA Customization Guide*).

The Telex Correspondents File is used by the Telex Link during creation or modification of an outgoing telex message as described in “Filling in the Telex Header Area” on page 82. All data retrieved from the Telex Correspondents File can be modified in the telex header area.

You can select the Telex Correspondents File in either of the following ways:

- Place the cursor under the > sign to the left of the file identifier TX and press ENTER.
- Type the file identifier TX in the command line and press ENTER.

An empty record of the Telex Correspondents File is then displayed, as shown in Figure 110 on page 177.

```

File TX                MERVA ESA General File Maintenance      Func FLM
                      Telex Correspondents Record

Correspondent Identifier : _
Correspondent Address   :

Correspondent Telex Number :
                        Answerback 1 :
Correspondent Alternate No :
                        Answerback 2 :
Test-Key Requirements   :

Creation                :
Last Update             :

Command =====>
PF 1=Help      2=Retrieve  3=Escape  4=Display  5=List    6=List First
PF 7=Page -1   8=Page +1  9=Hardcopy 10=Delete 11=Replace 12=Add

```

Figure 110. Empty Record of the Telex Correspondents File

The fields of the Telex Correspondents File Record are as follows:

Correspondent Identifier

This field contains the unique identifier for the sender or for the correspondent. It is from 1 to 11 characters long.

A record with an asterisk (*) can be used if a specific record for a sender is not provided.

Correspondent Address

This field contains two lines for the address of the sender or for the correspondent, up to 35 characters each.

Correspondent Telex Number

This field contains the telex number of the correspondent.

Answerback 1

This field contains the answerback code of the correspondent.

Correspondent Alternate No

This field contains an alternative telex number for the correspondent.

Answerback 2

This field contains the answerback code of the alternative correspondent.

Test-Key Requirements

This field contains 20 subfields for test-key requirements for a sender or a correspondent. Each test-key requirement is contained in one of these subfields, which are 5 characters long:

- The first 4 alphanumeric characters indicate the message type or message type group. Asterisks can be used in any of the four positions and are considered equal to the same position in a specific message type. Blanks in the test-key requirement specification are considered as significant characters. MERVA ESA allows for 8-character message types, but only the first 4 characters are tested by the Telex Link.
- The fifth character must be:

- Y if a test key is required
- N if a test key is not required.

Refer to the *MERVA for ESA Customization Guide* for information about the Telex Link General Test-Key Requirement Table.

You can now add, list, replace, and delete records of the Telex Correspondents File using the commands described in "Maintaining the SWIFT Correspondents File" on page 166.

Maintaining the Nicknames Files

The Nicknames Files contain the nicknames used in retrieving a SWIFT BIC, a telex correspondent, or any other identifier that is used for expansion in SWIFT messages, telex messages or other messages. To update the Common Nicknames File, you must be an FLM administrator. If you are not an FLM administrator, you can only use the **display** and the **list** commands. If you have a Private Nicknames File, only you can update it. The steps are the same for maintaining both the Common and Private Nicknames Files.

Select the Common Nicknames File from the File Selection menu. Position the cursor under the > on the line containing the file identifier CN and press ENTER. The panel shown in Figure 111 is then displayed.

File CN	MERVA ESA General File Maintenance Common Nicknames Record	Func FLM
Nickname	: _ Identifier :	
Creation	:	
Last Update	:	
Command =====>		
PF 1=Help	2=Retrieve	3=Escape
PF 7=Page -1	8=Page +1	9=Hardcopy
	4=Display	10=Delete
	5=List	11=Replace
	6=List First	12=Add

Figure 111. Empty Record of the Common Nicknames File

The record contains the following information:

- Nickname** This is the nickname to be used to identify the correspondent.
During address expansion, this name is used to reference the SWIFT BIC to retrieve the correspondents address. The nickname can be up to 11 characters long.
- Identifier** The SWIFT address, telex identifier, or any other identifier in use in your institution.

- Creation** The date and time of creation, and the user ID of the user who created the record.
This information is created automatically and cannot be changed.
- Last Update** The date and time of the update, and the user ID of the user who performed it.
This information is created automatically each time the record is updated.

Figure 112 shows a list of records from the common Nicknames File.

File CN	MERVA ESA General File Maintenance List of Common Nicknames	Func FLM
Nickname	Identifier	Last Update
> AA	OTHBDE33	1999/04/04 USER2
> ABNHH	BANKDEHH	1999/05/13 MAS
> COLMAR	BIGBFRPP903	1999/05/13 MAS
> FI	BIGBFI22	1999/06/25 MAS
> KABUL	TESTAFKABIC	1999/04/04 USER
> LILLE	BANKFRPP863	1999/05/13 MAS
> NY	OTHBUS33	1999/05/13 MAS
> PARIS	ANYBFRPP	1999/05/13 MAS
> PAU	TESTFRPP869	1999/05/13 MAS
> SAN	ANYBUS6S	1999/05/13 MAS
> SINGAPUR	ANYBSGSG	1999/05/13 MAS

To select a record, move the cursor to ">" and press the related PF key

Command =====>

PF 1=Help	2=Retrieve	3=Escape	4=Display	5=List	6=List First
PF 7=	8=	9=Hardcopy	10=Delete	11=	12=

Figure 112. List of Records from the Common Nicknames File

When you are sure that your chosen nickname does not exist in the Common Nicknames File, enter the command **escape pn** in the command line. PN is the file identification of the Private Nicknames File; if a different identifier is used in your installation, use that in the command. An empty record panel of the Private Nicknames File is then displayed. The File Selection panel is not displayed.

Fill in the data shown in Figure 113 on page 180 to create the new record for the Private Nicknames File. When you have typed the data, enter the command **add** in the command line.

```

File PN                MERV A ESA General File Maintenance      Func FLM
                    Private Nicknames Record          User MINE

Nickname      : any          Identifier      : anybus6s

Creation      :
Last Update   :

Command =====> add_
PF 1=Help    2=Retrieve  3=Escape   4=Display   5=List     6=List First
PF 7=Page -1 8=Page +1  9=Hardcopy 10=Delete   11=Replace 12=Add

```

Figure 113. Adding a Record to the Private Nicknames File

The panel is redisplayed with a message showing that the record has been added to the file. The line identified by Creation now shows when the record was created. If you wish to check that the new record has been added to the file, enter the **list** command and look at the records in your Private Nicknames File.

Ending the Maintenance Process

When you have finished with the function for General File Maintenance, enter the **escape** command if you want to process another file, or the **return** command if you want to leave the General File Maintenance function. The File Selection menu is displayed. Enter the **return** command. The Function Selection menu is displayed (see Figure 7 on page 15), and you can sign off MERV A ESA using the **sof** command. Alternatively, you can enter the **sof** command in the command line of the File Selection menu.

Part 5. Appendixes

Appendix A. Overview of MERVA ESA User Commands

This appendix provides an overview of the various types of MERVA ESA, SWIFT Link, and Telex Link user commands. For information on the operator commands, refer to the *MERVA for ESA Operations Guide*.

- **Session commands** control the MERVA ESA session

hardcopy	Prints the current display
repeat	Repeats the last command
retrieve	Retrieves the last command
return	Returns to the Function Selection menu
signoff	Ends the MERVA ESA session.

- **Message-selection commands** select the message to be worked on

copy	Copies a message from the forms queue
get	Selects the next, first, last, or a specific message from a queue
list	Lists the messages in a queue
mt	Creates the specified message.

Note: If you use any of these commands when displaying a message, the message-processing command **eom** is carried out.

- **Message-processing commands** tell MERVA ESA what to do with the message

authent	Manually authenticates a message. This command is available only with the SWIFT Link
check	Checks the message for correctness
delete	Deletes the message displayed or messages from the queue list
eom	Ends the message processing, and checks the message for errors
escape	Discards the message, and returns you to the Message Selection panel
free	Frees a message that is inaccessible after the program that processed has ended abnormally
length	Calculates the length of the message in the external network format
ok	Indicates that a message is correct or incorrect
replace	Returns the message at the same position in the queue, without checking for errors
requeue	Returns the message and adds it at the end of the queue, without checking for errors
route	Routes the message to the specified function queue
telex	Either sets the telex state for the user session, or sets the telex header for a formatted message
testkey	For test-key processing of telex messages
txinfo	For processing of the telex status fields.

- **Combined message-processing and selection commands**

esckey	Discards the current message and selects a specific message from the queue
escnext	Discards the current message and selects the next message from the queue
okkey	Authorizes the current message and selects a specific message from the queue
oknext	Authorizes the current message and selects the next message from the queue
nokey	Rejects the current message and selects a specific message from the queue
nonext	Rejects the current message and selects the next message from the queue.

- **Display and edit commands** tell MERVA ESA how to display a message, and what changes to make to the message

- Commands that can be used in PROMPT and NOPROMPT display modes:

line	Displays the selected line as the current line
page	Displays the selected page as the current page
pfkeys	Changes PF key settings
prompt	Changes to PROMPT display mode, with or without compression
telex	Initializes a telex header for a formatted message.

- Commands that can only be used when displaying a message in one of the PROMPT display modes:

docc	Deletes the current occurrence of a repeatable sequence in a SWIFT message
noprompt	Changes to NOPROMPT display mode
occ	Sets repeatable sequences off and on in a SWIFT message
socc	Scrolls the occurrences of a repeatable sequence in a SWIFT message to make the specified or next occurrence the current occurrence
srep	Scrolls the repeatable sequences in a SWIFT message
txnumber	Displays the telex text lines with prefix number
txdelete	Deletes lines from the telex text
txinsert	Inserts lines into the telex text
txjoin	Joins two telex text lines
txsplit	Splits a telex text line.

- Commands that can only be used in NOPROMPT mode:

/	Specifies this line as the current line (prefix command only)
erase	Erases one or more lines (prefix command: e)
find	Finds the linstarting with a specified string
insert	Inserts one or more lines (prefix command: i)

- x Extends a line (prefix command only).
- Special display commands:
 - end** Ends a display from a **help** or **show** command
 - form** Changes the form of a message
 - help** Displays a help panel
 - show** Displays the specified Message Control Block
 - ul** Sets the underlining input fields on and off.
- **File maintenance commands** are used to maintain MERVA ESA files
 - add** Adds a record to a file
 - backward** Pages backward through a list of Authenticator-Key File records
 - bkid** Display which record is used for Authentication
 - copy** Copies the authorized data area of a User File record, or of an Authenticator-Key File record to the unauthorized data area
 - display** Displays a record from a file
 - delete** Deletes a record, or group of records from a file
 - escape** Returns to the File Selection panel
 - exchange** Changes the authenticator keys in a record, or group of records of the Authenticator-Key File
 - forward** Pages forward through a list of Authenticator-Key File records
 - list** Lists records of a file
 - no** Negative response to a confirmation message
 - ok** Authorizes a record to be added, replaced, or deleted
 - reject** Rejects any pending change to a record of the User File or of the Authenticator-Key File
 - replace** Replaces an existing record in a file
 - split** Switches between the split and nonsplit display of a User File record
 - yes** Positive response to a message requesting confirmation.

Appendix B. MERVA ESA Command Format

This appendix explains the format used for the user commands described in "Appendix C. The User Commands" on page 189.

A command can consist of either a command word with one or more parameters, or just a command word.

If a command contains any parameters, you must separate the command word and each of its parameters with a blank or a comma (,). The following table shows the possible formats you use to enter commands.

comword	
comword	parm1 parm2 parm3 parm20
comword	parm1,parm2,parm3,.....,parm20

Command Words

A command word (**comword**) can be from 1 to 8 characters long. You can abbreviate command words that contain more than 4 characters to their first 4 characters. Where you can abbreviate a command word, the format description shows the shortest acceptable abbreviation. For example, the following is the format of the **return** command:

return

This means that **retu**, **retur**, and **return** are all acceptable forms of this command. Some special abbreviations are defined for some of the command words of MERVA ESA. These are given on a separate line in the command description. For example:

- The abbreviation **ret** is defined for the command word **return**.
- The abbreviation **hco** is defined for the command word **hardcopy**.
- The abbreviation **tk** is defined for the command word **testkey**.

You can enter the command words and their abbreviations in either upper- or lowercase.

Parameters

A parameter (*parm*) can be from 1 to 63 characters long. If the parameter contains a blank, comma, or any other special character, you enclose the parameter in single quotation marks when you enter it. For example, if you use the parameter CH,ICE, you enter it as 'CH,ICE'. MERVA ESA uses the single quotation marks to identify the beginning and end of the parameter.

If the parameter contains a single quotation mark, you enter two single quotation marks. For example, you enter the parameter CH'ICE as 'CH"ICE', where two single quotation marks replace the quotation mark that is part of the parameter, and the beginning and end of the parameter are also marked by single quotation marks. Do **not** use double quotation marks. You do not include the quotation marks enclosing the parameter when determining the length of a parameter.

If parameters are shown in *italics* in the format description, they can be substituted by an appropriate value.

You can enter parameters in either upper- or lowercase.

Optional Parameters

Parameters for some of the commands are optional. You can enter one, a combination, or none of the optional parameters.

[] Brackets show that the parameter is optional.

{ } Braces show that you must select one option from several.

| A bar is used to separate a list of parameters of which one can be selected.

Do not enter the brackets, braces, or bars.

An underlined parameter in the format description shows a default option. If no parameter is entered for the command, MERVA ESA assumes the underlined default.

For example, the command:

telex	[[<u>ON</u> OFF]]
--------------	----------------------

can be entered as **telex on**, **telex off**, or **telex**.

Mandatory Parameters

You *must* enter a parameter for some of the commands. Mandatory parameters are shown without brackets or braces.

For example, the command:

route rou	<i>function</i>
----------------------------	-----------------

requires a function name in order to execute the command.

Appendix C. The User Commands

This appendix describes the MERVA ESA user commands. The commands are arranged in alphabetical order.

/ (Prefix) Command

/	
---	--

This command is a prefix command used to specify a line as the current line. You can enter it only in the prefix area (===) when displaying a message in NOPROMPT mode. The command displays the line at the top of the panel. To use the command, enter / in the prefix area of the line you want to become the current line. The command must be defined for the function you are using.

ADD Command

add	
-----	--

Use this command to add to the file the record that you are currently displaying. With the general file maintenance function, the record is added to the file immediately. With the user file maintenance and authenticator-key file maintenance functions, the processing depends on your authorization level:

- If you are allowed to authorize additions, records are added and authorized immediately.
- If you are not allowed to authorize additions, records are included with a status of ADD PENDING (authorization pending). These records must be authorized by a different user before they can be used.

AUTHENT Command

authent aut	[key]
----------------	-------

Use this command to authenticate a message manually. To use the command, the following conditions must be met:

- The SWIFT Link must be installed with the use of the authentication service.
- The command must be defined for the function.
- The message on display must be a SWIFT output message.

The parameter *key* specifies the authenticator key used by the command in the authentication of the message. If you specify no *key*, the SWIFT Link uses the authenticator key from the authenticator-key file.

BACKWARD Command

BACKWARD Command

backward bwd	
-----------------	--

Use this command to page backward through the current list of authenticator-key file records.

BKID (Command for Authenticator-Key File Maintenance)

bkid	<i>Home-LT Corr-LT [yyyymmdd]</i>
------	-----------------------------------

With this command you can display which record of the authenticator-key file is used to authenticate messages between *Home-LT* and *Corr-LT* at *yyyymmdd*.

The parameters for this command are:

- Home-LT* This parameter is a generic Home LT, either:
- 8 characters for the bank, country, and location, for example, VNDOBET2
 - 6 characters for the bank and country and 2 asterisks for all locations, for example, VNDOBE**
 - 4 characters for the bank and 4 asterisks for all countries and locations, for example, VNDO****
- Corr-LT* This parameter is a generic Correspondent LT, either:
- 8 characters for the bank, country, and location, for example, BANKDEFF
 - 6 characters for the bank and country and 2 asterisks for all locations, for example, BANKDE**
 - 4 characters for the bank and 4 asterisks for all countries and locations, for example, BANK****
- yyyymmdd* If this parameter is omitted, the current date is assumed.

CHECK Command

check	
-------	--

Use this command to check a whole message for correctness. This is useful when you want to ensure that the message is free of errors before you enter the **com** command. If there are errors, the help panel Error Message Display shows the errors.

For messages in external line format, this command is meaningless, because no checking routine is provided for the DSLELF field.

COPY Command

There are three **copy** commands. One is used during the message-processing functions, one during the user file maintenance function, and one during the authenticator-key file maintenance function.

COPY (Message-Processing Command)

copy	{KEY1 <i>keyvalue</i> } {K1 <i>keyvalue</i> } {KEY2 <i>keyvalue</i> } {K2 <i>keyvalue</i> } { <u><i>keyvalue</i></u> }
-------------	--

Use this command to copy a form from a forms queue to create a new message, and to display the first panel of this form. Forms are messages that are already partly filled with data. You can use this command only if a forms queue is specified for your message-processing function. You can copy only a specific form and must therefore enter a parameter with the command.

In this command, **key1** and **key2** are the key fields of your forms queue and not the key fields of the function you are currently using.

The following parameters may be used:

K1 *keyvalue* Copies the form with a KEY1 of the value specified in *keyvalue*.

K2 *keyvalue* Copies the form with a KEY2 of the value specified in *keyvalue*.

keyvalue Copies the form with a:

- **key1** that matches the *keyvalue*, if only **key1** is defined for the forms queue.
- **key2** that matches the *keyvalue*, if only **key2** is defined for the forms queue.
- **key1** that matches the *keyvalue* if both **key1** and **key2** are defined for the forms queue.

If **key1** and **key2** are both defined, and you want to copy a form using **key2**, it is necessary to use the **copy key2** or **copy k2** command. The KEY1 or K1 parameter can usually be omitted. The keys are defined during the installation process. Ask your MERVA ESA administrator for details of the keys for your forms queue.

Note: The use of the COPY command is restricted to those message types the user is authorized to in his User File record.

COPY (Command for User File Maintenance)

copy	
-------------	--

Use this command to copy the data displayed in the authorized data area of a User File record to the unauthorized data area. Only the display is changed; the record in the file remains unchanged. The command simplifies the replacement of User File records.

If you use this command in the nonsplit mode on page 1, the **copy** command immediately shows page 2, with the new unauthorized data (see the **split** command for split and nonsplit mode).

COPY Command

COPY (Command for Authenticator-Key File Maintenance)

<code>copy</code>	[[AUTH UNAUTH A U]] [[SEND RECV S R]] [[source-key] {target-key}]
-------------------	---

Use this command to copy the data displayed in the authorized data area of an authenticator-key file record to the unauthorized data area, or to copy data from one field to another within the unauthorized area. Only the display is changed; the record in the file remains unchanged. The command makes the replacement of authenticator-key file records easier.

You use the parameters as follows:

AUTH UNAUTH | A U

These parameters copy all authorized data to the unauthorized data area. If you do not specify a parameter with the **copy** command, these parameters are taken as defaults.

SEND RECV | S R

These parameters copy the unauthorized sending key data to the unauthorized receiving key.

source-key target-key

These parameters copy the data for one unauthorized key to either another unauthorized key or to all unauthorized keys. The source-key can have the value 1S, 2S, 3S, 1R, 2R or 3R. The target-key can have the value 1S, 2S, 3S, 1R, 2R, 3R or ALL.

DELETE Command

There are three **delete** commands. One is used during the message-processing functions, one during the General File and User File maintenance functions, and one during the authenticator-key file maintenance function.

DELETE (Message-Processing Command)

<code>delete</code> <code>del</code>	<i>qsn1 qsn2</i>
---	------------------

Use this command to delete from the queue of the message-processing function:

- The message currently on display. In this case, the command is entered without any parameters. When the message is deleted, MERVA ESA displays the Message Selection panel.
- One or more messages when the queue key list is displayed:
 - If you use the *qsn1* parameter only, and not the *qsn2* parameter, the message with this queue sequence number (QSN) is deleted.
 - If you use both the *qsn1* and the *qsn2* parameters (where *qsn2* is a higher QSN than *qsn1*), all messages with QSNs in this range are deleted. The message DSL1065 tells you how many messages were deleted, as not every QSN in the range may have been present in the queue.

After the deletion, the queue key list is displayed again without the deleted messages.

The command must be allowed in the function.

DELETE (Command for General File and User File Maintenance)

delete del	[<i>ident</i>]
---------------	------------------

Use this command to delete a record, or group of records, from a file.

The action of the **delete** command depends on the file:

- General Files
 - If you are displaying a record when you enter this command, the record you are displaying is deleted.
 - If you are not displaying a record, you must specify which record is to be deleted by entering a record identifier.
- User File

The process depends on your authorization and parameter specification:

 - If you are allowed to authorize deletions, then the records you delete are immediately deleted.
 - If you are not allowed to authorize deletions, then records that you delete are given the status DELETE PENDING (authorization pending). These records must then be authorized by a different user before they are deleted from the file.
 - If you are displaying a record when you enter this command, the record you are displaying is processed.
 - If you are not displaying a record, you must enter a user identifier to specify which record is to be processed.

DELETE (Command for Authenticator-Key File Maintenance)

delete del	[<i>Home-LT</i> [<i>Corr-LT</i>]]
---------------	--------------------------------------

Use this command to delete a record, or group of records, from a file.

The parameters for this command are:

- Home-LT* This parameter is a generic Home LT, either:
- 4 characters: All Home LTs with the bank code.
 - 8 characters: All Home LTs with the bank, country, and location codes.
- Corr-LT* This parameter is a generic Correspondent LT, either:
- 0 characters: All Correspondent LTs.
 - 4 characters: All Correspondent LTs with the bank code.
 - 8 characters: All Correspondent LTs with the bank, country, and location codes.

The action of the command depends on your authorization and the parameter specification:

DELETE Command

- If you are allowed to authorize deletions, then the records you delete are immediately deleted.
- If you are not allowed to authorize deletions, then records that you delete are given the status DELETE PENDING (authorization pending). These records must then be authorized by a different user before they are deleted from the file.
- If you are displaying a record when you enter this command and do not enter the parameters *Home-LT* or *Corr-LT*, the record you are displaying is deleted.
- If you enter a generic *Home-LT* or a generic *Corr-LT*, all records matching these generic parameters are deleted.

DISPLAY Command

There are two **display** commands. One is used during General File and User File maintenance functions, and the other during the authenticator-key file maintenance function.

DISPLAY (Command for General File and User File Maintenance)

display dis	[<i>ident</i>]
------------------------------	------------------

Use this command to display a record from a file. The identifier for the record is specified in the parameter *ident*. The identifier used depends on the file:

- User File
The identifier for this file is the user's identification for signing on to MERVA ESA.
- MERVA ESA General Files
The identifier for these files is as follows:
 - The SWIFT address of the correspondent, if you have selected the SWIFT Correspondents File
 - The correspondent identifier, if you have selected the Telex Correspondents File
 - The nickname of the correspondent, if you have selected one of the Nicknames Files.

If no identifier is entered, and you have not already displayed a record, an empty record will be displayed. The **display** command without a parameter can also be used to switch from a list panel to a record panel.

DISPLAY (Command for Authenticator-Key File Maintenance)

display dis	[<i>Home-LT</i>][<i>Corr-LT</i>]]
------------------------------	---------------------------------------

Use this command to display a record from a file.

The parameters for this command are:

Home-LT This parameter is a full Home LT, that is, bank, country, and location codes.

DISPLAY Command

Corr-LT This parameter is a full Correspondent LT, that is, bank, country, and location codes.

If the *Home-LT* and *Corr-LT* are not specified and the current panel is the record panel, an empty record is displayed. The **display** command without a parameter can also be used to switch from a list panel to a record panel.

DOCC Command

docc	
-------------	--

Use this command to delete the current occurrence of a repeatable sequence from a message. The current occurrence has a highlighted occurrence number.

You select the current occurrence by using the command **socc** and **srep**, before you use the **docc** command.

END Command

end	
------------	--

Use this command to end a test or help display started by a **show** or **help** command. After you enter the **end** command, the panel on which you first entered the **show** or **help** command is redisplayed.

EOM Command

eom	
------------	--

Use this command to show that the processing of a message is complete.

If the message-processing function is defined with CHECK=YES, **eom** causes MERVA ESA to check the message for errors. If MERVA ESA does not check for errors, or if it finds no errors, the message is routed to the queue of the next message-processing function. If errors are found in the message, a panel is displayed showing all the error messages.

You can either correct the errors, or return the message to your function queue using the **requeue** or **escape** command.

ERASE and E (Prefix) Command

erase e (prefix command)	<u>[n]</u> <u>[1]</u>
---	--------------------------

Use the **erase** command to delete lines from a message that is being displayed in NOPROMPT mode. The lines are deleted beginning with the current line. The parameter *n* specifies how many lines to delete. If you enter no value, the command uses a default value of 1, and deletes the current line.

ERASE Command

The **e** command is a prefix command in NOPROMPT mode. You can enter it only in the prefix area (===). Use this command to delete lines beginning with the line where you entered the command. With the prefix command, you enter the value after the **e**. For example, if you wanted to delete 5 lines, you would enter **e5** in the prefix area. This deletes the line where the command is entered and the next four lines. The default value is 1. The command must be defined for the function you are using.

ESCAPE Command

There are two **escape** commands. One is used during the message-processing functions, and the other during the MERVA ESA general file maintenance.

ESCAPE (Message-Processing Command)

escape esc	
---------------	--

Use this command to escape from a message you have been working on, leaving it exactly where it was in the message-processing queue before it was processed. Any changes made to the message are lost. If you were creating a new message, the message is deleted.

Use this command also to end the display of a list of messages in a message-processing function.

ESCAPE (General File Maintenance Command)

escape esc	[<i>fileid</i>]
---------------	-------------------

Use this command with the parameter *fileid* to escape from one of the files, and to go immediately to another. The parameter *fileid* is used to identify the file you want to go to. If you omit the *fileid* parameter, the File Selection menu is displayed.

ESCKEY Command

This command can be used during the message-processing functions.

esckey	<i>keyvalue</i>
--------	-----------------

Use this command to escape from a message you have been working on, leaving it exactly where it was in the message-processing queue before it was processed. Any changes made to the message are lost. If you were creating a new message, the message is deleted.

The message with a KEY1 of the value specified in *keyvalue* is retrieved and displayed. When the function you are working in is not defined with KEY1, the message is retrieved with KEY2.

ESCNEXT Command

This command can be used during the message-processing functions.

escnext	
---------	--

Use this command to escape from a message you have been working on, leaving it exactly where it was in the message-processing queue before it was processed. Any changes made to the message are lost. If you were creating a new message, the message is deleted.

The next message in the queue that is not being processed by another user or program is displayed. You get the next message after your current position in the queue.

EXCHANGE Command

exchange	[<i>Home-LT</i> [<i>Corr-LT</i>] [<i>yyyymmdd</i>] [<i>type</i>]]
----------	--

Use this command to exchange the authenticator keys in a record or a group of records in the authenticator-key file. Only the data in the authorized data part of the record is processed. When you use the **exchange** command, if the 3rd key FROM date is less than or equal to the date parameter, the 1st keys are deleted, the 2nd keys are moved to the 1st key areas, and the 3rd keys are moved to the 2nd key areas.

The parameters for this command are:

Home-LT This parameter is a generic Home LT, either:

- 4 characters: All Home LTs with the bank code.
- 8 characters: All Home LTs with the bank, country, and location codes.

Corr-LT This parameter is a generic Correspondent LT, either:

- 0 characters: All Correspondent LTs.
- 4 characters: All Correspondent LTs with the bank code.
- 8 characters: All Correspondent LTs with the bank, country, and location codes.

yyyymmdd All records with 3rd key FROM dates that are earlier than or equal to the date will have their keys exchanged.

type This parameter indicates which keys are to be exchanged. The parameter can have the value BOTH (the default), SEND, or RECEIVE.

The action of the command depends on the parameters entered:

- If you are displaying a record when you enter this command and do not enter any parameters, or you enter a full *Home-LT* and a full *Corr-LT*, the record you are displaying is exchanged and the current date is used.
- If you enter a generic *Home-LT* or a generic *Corr-LT*, all records matching these generic parameters are exchanged.

EXCHANGE Command

- Only keys with a 3rd FROM date earlier than or equal to the current date will be exchanged.
- If the type parameter is SEND, only the sending keys are exchanged.
- If the type parameter is RECEIVE, only the receiving keys are exchanged.
- If the type parameter is BOTH, both the sending keys and the receiving keys are exchanged.

If the change date of only one of the keys matches the date you enter, then only that key is exchanged.

FIND Command

<code>find</code>	<code>'string'</code>
-------------------	-----------------------

Use this command in NOPROMPT mode to move the line starting with the specified *'string'* to the top of the panel, as the current line. The message is searched for the first occurrence of the specified *'string'*. The search starts at the current line and continues to the end of the message. If no line starting with *'string'* is found, the search continues from the beginning of the message to the current line.

When the line starting with *'string'* is found, the command moves it to the current line position at the top of the screen. If the search for the *'string'* fails, the current line remains the same.

Note: Single quotation marks around the string are optional. Do *not* use double quotation marks.

FORM Command

<code>form</code>	<code>[language-code] X S W 1 2</code>
-------------------	--

Use this command to change the form or language used by the MERVA panels. Which values you can specify and their effects depend on what panel is displayed and the display mode you are in when you enter the command:

- In PROMPT mode, this command determines the language used by MERVA ESA for displays, and affects only the SCREEN section of the MCB definition. Ask your MERVA ESA administrator about the available language codes in your installation. The default is E for English.
- In NOPROMPT mode, this command determines the message format used to display messages, and affects only the NET section of the MCB definition. Possible values are:
 - S** Displays the message in SWIFT I format
 - W** Displays the message in SWIFT II format
 - X** Displays expanded fields (this is the default).

The code you specify must be valid, that is, it must have been defined in the DSSLDEV macro of the MCB for that message.

- When the Function Selection panel is displayed, enter the value:
 - 1** To display the function names and the function descriptions

- 2 To display only the function names (this lets the menu display more function names on each page).

This command has no effect on the responses to MERVA ESA operator commands.

FREE Command

This command can be used during the message-processing functions, but only in the Queue List panel.

free	<i>qsnvalue</i>
-------------	-----------------

Use this command to free a message in the queue that remained IN SERVICE because a program tried to process it and then terminated abnormally, and now the message cannot be accessed by another program.

Specify the message to be freed in the parameter *qsnvalue*, which is a number from 1 to 2147483647 and can be specified without leading zeroes.

Note: Take care not to free a message that is still being processed by a program.

FORWARD Command

forward fwd	
------------------------------	--

Use this command to page forward through the current list of authenticator-key file records.

GET Command

get	[{FIRST}] [{F}] [{NEXT}] [{N}] [{LAST}] [{L}] [{KEY1 <i>keyvalue</i> }] [{K1 <i>keyvalue</i> }] [{KEY2 <i>keyvalue</i> }] [{K2 <i>keyvalue</i> }] [{ <i>keyvalue</i> }] [{QSN <i>qsn</i> }]
------------	--

You use this command to display the next, first, last, or a specific message from the queue of a message-processing function. You cannot get a message that is being processed by another user or program.

If you are working in PROMPT mode, the message is displayed in a format which is defined for the function by the system administrator. In NOPROMPT mode, the complete message is displayed, irrespective of the *msgid* definition for the function.

Use the parameters as shown below:

GET Command

- To display the first message in the queue (that is not being processed by another user or program), enter the command **get first**, or **get f**.
- To display the next message in the queue (that is not being processed by another user or program), enter the command **get next** or **get n**. You get the next message after your current position in the queue.
- To display the last message in the queue (only if it is not being processed by another user or program), enter the command **get last** or **get l**.
- To display a specific message (only if it is not being processed by another user or program), use one of the **get keyvalue** commands.

For example:

- **key1** which matches the *keyvalue*, if only **key1** is defined.
- **key2** which matches the *keyvalue*, if only **key2** is defined.
- **key1** which matches the *keyvalue* if both **key1** and **key2** are defined.

If **key1** and **key2** are both defined, and you want to retrieve a message using **key2**, it is necessary to use the **get key2** or **get k2** command. The KEY1 or K1 parameter can usually be omitted.

You can use the *keyvalue* parameter only if one or both of the keys are defined in your installation. The keys are defined during the installation of MERVA ESA. Ask your MERVA ESA administrator for details of the keys in your installation.

You can enter the complete key value exactly as it is in the message, or you can enter a value using substitution characters:

- The substitution character ***** represents any number of characters. As many asterisks as are required may appear anywhere in the key value.
- The substitution character **%** is a place-holding character representing any single character. As many percent symbols as are necessary may appear anywhere in the key value.

The following examples show the way substitution characters can be used with this command:

- The command **get key1 fx*** would retrieve the first message whose **key1** field begins with the characters **fx**.
- The command **get key1 %%cd** would retrieve the first message whose **key1** is 4 characters long and contains the characters **cd** in the third and fourth position of the key value.
- The command **get key1 *pay*** would retrieve the first message whose **key1** field contains the characters **pay** anywhere in the key value.

The **get qsn** command also lets you select a specific message by queue sequence number (QSN). You can find the QSN of a message by displaying the Queue Key List panel. The message is only displayed if it is not being processed by another user or program.

HARDCOPY Command

hardcopy hco	
-----------------	--

This command has a different action depending on the type of MERVA ESA function:

HARDCOPY Command

- With a message-processing function, the command prints the whole message currently in process.
- With a file-maintenance function, the command prints the panel displayed. If the panel is one of a series, all the panels are printed.
- If you are displaying a panel (for example, the Message Selection panel or a Help panel), it is printed. If the panel is one of a series, then the command prints all the panels.

Notes:

1. The printout may not be identical to the screen display, as the definitions for the screen and printer functions may be different.
2. The command will have no effect unless a printer function has been assigned to your message-processing, file-maintenance, or operator-command processing function.

HELP Command

help	[<i>pname</i>] [<i>selection</i>]
-------------	---------------------------------------

Use this command to display the help panel specified in the parameter *pname*, where *pname* is either the MCB name of the help panel you want to display, or a message identification.

The value specified with *selection* is stored in the MERVA ESA field *DSLHSEL*. The field value can be used to modify the display of the help panel, for example, display or suppress conditional parts. When a numeric *selection* value is specified it is used as a page number within the help MCB. If you specify no *pname*, the command displays the MERVA ESA Help Menu. Use the **end** command to return to the panel originally displayed. If you use the command twice without a parameter, the second **help** command ends the first display, and displays the MERVA ESA Help Menu.

INSERT and I (Prefix) Command

insert i (prefix command)	[<i>n</i>] <u>[1]</u>
--	----------------------------

Use the **insert** command in NOPROMPT mode to insert empty lines in a message after the current line. The parameter *n* specifies how many lines to insert. If you enter no value, the command uses a default value of 1, and adds one line after the current line. The **i** command is a prefix command in NOPROMPT mode. You can enter it only in the prefix area (===). Use this command to insert the lines after the line where you entered the command. With the prefix command you enter the value after the **i**. For example, to insert 3 lines you enter **i3** in the prefix area. This will insert three empty lines after the line containing the command. The default value is 1. The command must be defined for the function you are using.

LENGTH Command

length	[<i>format</i>]
---------------	-------------------

LENGTH Command

Use this command in the message-processing functions to calculate the length of a message in its external network format. For example, SWIFT has specified a maximum length for every message type to be sent to the SWIFT network, but some SWIFT message types allow the data entry of more characters.

The *format* parameter for the **length** command is the line format of the external network line. The permitted values for this parameter are:

P	Telex via MERVA Link
Q	The MERVA ESA internal queue format
T	The telex network
W	The SWIFT network
Y	The SWIFT format in NOPROMPT mode
Z	EDIFACT.

If you do not use the *format* parameter, the Default Network field of your User File record is used. If this field is empty, *W* is used.

The **length** command transforms the data of the message you process actually into the external network format using the specified or default line format to obtain the actual message length, and informs you in the command response.

Note: You should not use the maximum length when entering data for a message. For example, the SWIFT Link may add trailers to a message when sending it to the SWIFT network, and the message must not exceed the specified number of characters including the trailers. That means that you should leave sufficient space in a SWIFT message to allow space for the trailers.

LINE Command

line	[[{+ -}][<i>n</i>]] [CHECK]
lin	[<u>+1</u>]

Use this command to identify a line as the current line. The command displays the line at the top of the panel. There are several ways to enter this command:

- If you enter the command without a parameter, a default of +1 is taken, and the next line moves to the top of the panel.
- If you enter *n*, a number, without a sign (either + or -), the line with that line number becomes the current line. For example, if you enter the command **line 7**, line number seven moves to the top of the panel as the current line.
- If you enter *n* with a sign (+ or -), the number is added to or subtracted from the number of the current line. The line with the resulting line number becomes the current line. If the resulting line number is less than 1, the first line in the message becomes the current line.

If you use the CHECK parameter, the line scrolling only takes place if the page contains no errors.

LIST Command

There are three **list** commands. One is used during message selection in the message-processing functions, one during the General File and User File maintenance functions, and one during the authenticator-key file maintenance function.

LIST (Message Selection Command)

list	[<i>start</i>][<i>direction</i>][<i>select</i>]
-------------	---

Use this command to list the messages in the queue, as specified by the parameters:

start This parameter indicates where to start the queue list and can have one of the following values:

FIRST Start the list at the beginning of the queue.

LAST Start the list at the end of the queue. The direction **BACK** is assumed with this parameter.

QSN *qsnvalue*

Start the list at the specified queue sequence number, or if this QSN is not found, start the list at the next highest QSN. The value *qsnvalue* is a number from 1 to 2147483647 and can be specified without leading zeros.

KEY1 *keyvalue* or **K1** *keyvalue*

Start the list at the key 1 specified for *keyvalue*. If this key is not found, no list is displayed. You can specify 1 to 24 characters for *keyvalue*. You can use the wildcard character * to represent any string of characters, or the wildcard character % to represent any single character.

KEY2 *keyvalue* or **K2** *keyvalue*

Start the list at the key 2 specified with *keyvalue*. If this key is not found, no list is displayed. You can specify 1 to 24 characters for *keyvalue*. You can use the wildcard character * to represent any string of characters, or the wildcard character % to represent any single character.

OFF End the display of the list and return to the Message Selection panel. You can also end the display by using the **escape** command.

direction This parameter can have one of the following values:

FORWARD or **FWD**

If specified without a *start* parameter, continue the list starting with the next message in the queue and continuing with the messages that follow.

If specified with a *start* parameter, start with the specified message and continue with the messages that follow. **FORWARD** is the default direction for all *start* parameters except **LAST**.

BACK If specified without a *start* parameter, continue the list

LIST Command

starting with the previous message in the queue and the messages before the previous message.

If specified with a *start* parameter, start with the specified message and continue with the messages before this one. BACK is the default direction for the *start* parameter LAST.

select The *select* parameter can have one of the following values:

- BUSY** Display only busy messages; that is, those messages currently in use.
- ALL** Display all messages. This is the default value for the *select* parameter.

When a selection parameter is used, it remains effective for all subsequent **list** commands, until another selection parameter is used or the queue list display is ended.

If there is no list displayed and you enter the **list** command without a *start* parameter, the list starts at the beginning of the queue. If a list is already displayed and you enter the **list** command without a *start* parameter, the displayed list is refreshed. Pressing ENTER with no command also refreshes the display. You can enter the *start*, *direction* and *select* parameters in any order.

Note: You can modify the display of the queue list using the Select only fields on the Queue Key List panel, using *keyvalue* values as described for the KEY1 parameter. Refer to Figure 36 on page 55.

LIST (Command for General File and User File Maintenance)

list	[{FIRST <i>ident</i> }]
lis	

Use this command to list the records in a User File or General File.

The first time you enter the command, a list of the first 10 records is displayed. When you use the command again the next 10 records are displayed.

If you enter the command with an *ident* (user identification, nickname, SWIFT address, or telex correspondent's ID), the display starts with the record specified. If you enter the command with the parameter FIRST, the first 10 records in the file are listed. You can enter an incomplete record identification for the parameter *ident*. In this case, the list begins with the first record whose identification starts with the characters you enter.

LIST (Command for Authenticator-Key File Maintenance)

list	[{FIRST LAST Home-LT}] [Corr-LT][select] [date,rel,type]
lis	

Use this command to list the records in the authenticator-key file. You can list only those records that have a home SWIFT address that is equal to the first 8 characters of your origin ID, which is specified in your User File record. When you enter the command, a list of records from the authenticator-key file is prepared,

and its first page is displayed. The records are listed in alphabetical order of the home LT and correspondents' LTs. You can page through the list with the page command.

Parameters:

FIRST The list begins with the first record in the authenticator-key file with a Home-LT that has the same bank code as the bank code of the origin identifier defined in your User File record.

LAST The list begins with the last record in the authenticator-key file with a Home-LT that has the same bank code as the bank code of the origin identifier defined in your User File record. The list is built up backward from the last record.

Home-LT All Home LTs with the 4-character bank code or 8-character bank, country, and location code you specify.

Corr-LT All Correspondent LTs with the 4-character bank code or 8-character bank, country, and location code you specify. If you do not specify this parameter, all Correspondent LTs are listed.

select Can be one of:

ADD The list is limited to records which are ADD PENDING. Only the dates of unauthorized keys are displayed.

DELETE or DEL The list is limited to records which are DELETE PENDING. Only the dates of authorized keys are displayed.

REPLACE or REP The list is limited to records which are REPLACE PENDING. Only the dates of authorized keys are displayed.

AUTH The list is limited to records which contain authorized data. Only the dates of authorized keys are displayed.

UNAUTH The list is limited to records which contain unauthorized data. Only the dates of unauthorized keys are displayed.

PENDING The list is limited to records which are ADD PENDING, DELETE PENDING or REPLACE PENDING. Only the dates of authorized keys are displayed.

ALL All records are shown. Only the dates of authorized keys are displayed.

date, rel, type These parameters are used to limit the records displayed in the list.

date Specifies the date for the selection test in the format YYYYMMDD. The date is compared with 3rd key FROM date.

rel Specifies a relationship between the records to be listed and the date given in this record selector:

LIST Command

EQ	Limits the list to records whose change dates match the date specified.
LT	Limits the list to records whose change dates are earlier than the date specified.
LE	Limits the list to records whose change dates are earlier than or the same as the date specified.
GT	Limits the list to records whose change dates are later than the date specified.
GE	Limits the list to records whose change dates are later than or the same as the date specified.
<i>type</i>	Indicates which change dates on a record should be examined when compiling the list to be displayed. The default value is BOTH.
BOTH	Causes a record to be included in the list if either the new sending key, or the new receiving key, has a change date that matches the <i>rel</i> specified.
SEND	Causes a record to be included in the list if the new sending key has a change date that matches the <i>rel</i> specified.
RECEIVE	Causes a record to be included in the list if the new receiving key has a change date that matches the <i>rel</i> specified.

Note: The dates are compared with the authorized data area, unless the **list** command also has a status selector of ADD or UNAUTH. In that case, the dates are compared with the unauthorized data area.

You can display a single record by using the **display** command while listing the records. When you have finished displaying the record enter the **list** command to return to the list.

MT Command

mt	<i>msgtype</i>
-----------	----------------

Use this command to create a new message or form in the forms queue and to display the first page of the message or form. The fields of the message are empty to allow you to enter the information for them. You can use this command only with Data Entry functions. With the parameter *msgtype* you specify the type of message you want to create. All message types must be specified in the MERVA ESA Message Type Table (DSLMTTT). However, DSLMTTT also defines message types that you cannot use with the *msgtype* parameter, for example, message types that are only received from the SWIFT network, and never sent to the SWIFT network.

For the SWIFT message types, the following rules apply:

MT Command

- The SWIFT general purpose application (GPA) message types are entered in the form SGnnn, where S stands for SWIFT, G for GPA, and nnn for the 3-digit message type defined by S.W.I.F.T., for example, SG037 for the Time Zone Status Request.
- The SWIFT financial application (FIN) system message types (the first digit of the three is 0) are entered in the form SFnnn, where S stands for SWIFT, F for FIN, and nnn for the 3-digit system message type defined by S.W.I.F.T., for example, SF037 for the Time Zone Status Request.
- The SWIFT financial application (FIN) financial message types (the first digit of the three is 1 to 9) are entered in the form Snnn, where S stands for SWIFT, and nnn for the 3-digit financial message type defined by S.W.I.F.T., for example, S100 for the Customer Transfer.

If you enter just a 3-digit message type without the command word MT, MERVA ESA assumes an **mt** command and combines the 3 digits with the default network defined in your User File record. For example, if your default network is S, and you enter 100, the command is expanded to **mt s100**.

NO Command

no	
-----------	--

The **no** command has the following uses:

- Enter **no** instead of **ok no** (see “OK Command” on page 209).
- Enter **no** when you are asked for confirmation in a file maintenance function, when you do not want the action to take place (for example, to stop the deletion of a record from a file).

NOKEY Command

This command can be used during the message-processing functions.

nokey	<i>keyvalue</i>
--------------	-----------------

Use this command if the current message is incorrect and not authorized to be sent. The MERVA ESA routing process decides to which message-processing queue the message is routed for correction. The message with a KEY1 of the value specified in *keyvalue* is retrieved and displayed. When the function you are working in is not defined with KEY1, the message is retrieved with KEY2.

NONEXT Command

This command can be used during the message-processing functions.

nonext	
---------------	--

Use this command if the current message is incorrect and not authorized to be sent. The MERVA ESA routing process decides to which message-processing queue the message is routed for correction. The next message in the queue that is not being processed by another user or program is displayed. You get the next message after your current position in the queue.

NOPROMPT Command

NOPROMPT Command

noprompt nop	
-----------------	--

Use this command to change the display mode from PROMPT to NOPROMPT mode. MERVESA returns to the beginning of the message and displays the first page in NOPROMPT mode.

In NOPROMPT mode, the complete message is displayed, irrespective of the *msgid* definition for the function with which you are working. The command must be defined for the function you are using.

OCC Command

occ	[[ON]] [[OFF]]
-----	-------------------

Use this command to start and stop the display of empty occurrences of a repeatable sequence in a SWIFT message. Occurrences containing data are always displayed.

If you use the parameter ON, at least one empty occurrence of the repeatable sequence is displayed until the maximum number is reached. If more than one empty occurrence fits on the screen page, the remaining space on this page is used to display more empty occurrences. This allows empty occurrences to be added to the repeatable sequence.

If you use the parameter OFF, the command stops the display of empty occurrences of a repeatable sequence. The last occurrence with data is the last occurrence displayed after the minimum number has been reached.

When the command **prompt unit** has been entered before, the display of empty occurrences (units) is suppressed after the minimum number has been reached, irrespective of the setting of the **occ** command.

If you have entered line display mode by entering the **line** command, and if you then enter the command **occ on**, the maximum empty occurrences are available. The maximum number of occurrences for a unit is defined in the MCB. You leave the line display mode by entering the **page** command.

The following list shows the default parameters for the commands:

- If **occ off** was previously specified, and you enter **occ** without a parameter, the default is ON.
- If **occ on** was previously specified, and you enter **occ** without a parameter, the default is OFF.
- When you use the Data Entry function, and a repeatable sequence exists in the message, the status is as with an **occ on** command.
- When you use the verification function, the status is as with an **occ off** command.

When you use this command, the first page of the message will be displayed. When you are in the **occ on** status, and you enter the **eom** command (or a command that implies the **eom** command), an **occ off** command is implied. This means that empty occurrences following the last occurrence containing data are removed from the message after the minimum number of occurrences is reached. However, empty occurrences are not removed if they are followed by an occurrence containing data. These empty occurrences must either be filled with data, or must be deleted using the **docc** command.

OK Command

There are three **ok** commands. One is used during the message-processing functions, one during the User File maintenance function, and one during the authenticator-key file maintenance function.

OK (Message-Processing Command)

ok	[{YES}] [{NO}] [{signature}]
-----------	------------------------------------

Use this command in the message-processing functions to show that the message is correct:

- With the retype verification function, the command shows whether the message contains any mistakes.
- With the authorization function, the command shows whether the message is authorized to be sent.

The command must be defined for the function you are using. Any parameter entered must be checked in the routing table provided by the installation. MERVA ESA provides examples for the parameters YES and NO.

The parameters for the **ok** command are:

- YES** This parameter shows that the message is correct, or is authorized to be sent. If you enter the command **ok** without a parameter, YES is taken as the default.
- NO** This parameter shows that the message is incorrect or is not authorized to be sent.

signature

This is a parameter, from 1 to 8 characters in length, that is used by the routing process to decide to which message-processing queue the message is to be routed. It is evaluated in the MERVA ESA routing tables. A signature can be, for example, a queue name which is verified in the routing table. Ask your system administrator for your signature, if signatures are used in your installation.

OK (User File Maintenance Command)

ok	
-----------	--

Use the **ok** command to authorize the addition, replacement, or deletion of a record in the file.

OK Command

OK (Authenticator-Key File Maintenance Command)

ok	[<i>Home-LT</i> <i>Corr LT</i>]
----	-----------------------------------

Use the **ok** command to authorize the addition, replacement, or deletion of a record in the file. The parameters for this command are:

Home-LT

This parameter is a full Home LT, that is, bank, country, and location codes.

Corr-LT

This parameter is a full Correspondent LT, that is, bank, country, and location codes.

If you are displaying a record when you enter this command and do not enter the parameters *Home-LT* or *Corr-LT*, the record you are displaying is processed.

OKKEY Command

This command can be used during the message-processing functions.

okkey	<i>keyvalue</i>
-------	-----------------

Use this command if the current message is correct and authorized to be sent. The MERVA ESA routing process decides to which message-processing queue the message is routed.

The message with a KEY1 of the value specified in *keyvalue* is retrieved and displayed. When the function you are working in is not defined with KEY1, then the message is retrieved with KEY2.

OKNEXT Command

This command can be used during the message-processing functions.

oknext	
--------	--

Use this command if the current message is correct and authorized to be sent. The MERVA ESA routing process decides to which message-processing queue the message is routed. The next message in the queue that is not being processed by another user or program is displayed. You get the next message after your current position in the queue.

PAGE Command

page pag	[[{+ -}][<i>n</i>]] [CHECK] [+1]
-------------	---------------------------------------

Use this command to specify a page as the current page. The current page number is displayed at the top of the panel. There are several ways to enter this command:

- If you enter the command without a parameter, a default of +1 is taken, and the command displays the next page.

PAGE Command

- If you enter *n*, a number, without a sign (either + or -), the command displays the page with that page number. For example, if you enter the command **page 3**, page number three is displayed.
- If you enter *n* with a sign (+ or -), the number is added to or subtracted from the number of the current page. The command displays the page with the resulting page number. If the resulting page number is less than 1, the first page in the message is displayed.

If you use the CHECK parameter, page scrolling only takes place if the page contains no errors.

PFKEYS Command

pfkeys	<i>pfkey-table</i>
---------------	--------------------

Use this command to change the current setting of the PF keys by selecting another PF-Key table.

PROMPT Command

prompt pro	[LINE] [UNIT]
-----------------------------	---------------

Use this command to:

- Switch from NOPROMPT to PROMPT mode
- Change the compression of the display for the PROMPT mode.

When you enter the command, MERVA ESA displays the first page of the message in PROMPT mode in a form as described in the *msgid* definition for the function.

The parameters for compression are:

LINE Specifies line compression. MERVA ESA displays only the lines of a message which contain either data or a literal. Empty lines are not displayed.

UNIT Specifies unit compression. If all the fields defined for a unit are empty, MERVA ESA does not display the unit.

LINE UNIT

Is a combination of both line and unit compression. It can also be entered as UNIT LINE.

REJECT Command

There are two **reject** commands. One is used during the User File maintenance function, and the other during the authenticator-key file maintenance function.

REJECT (Command for User File Maintenance)

reject	
---------------	--

Use this command to reject a pending change to a record in the User File.

REJECT Command

REJECT (Command for Authenticator-Key File Maintenance)

reject	[<i>Home-LT</i> <i>Corr LT</i>]
--------	-----------------------------------

Use this command to reject a pending change to a record in the authenticator-key file. The parameters for this command are:

Home-LT

This parameter is a full Home LT, that is, bank, country, and location codes.

Corr-LT

This parameter is a full Correspondent LT, that is, bank, country, and location codes.

If a record was marked as:

- ADD PENDING, the record is deleted from the file.
- REPLACE PENDING, the data in the unauthorized data area is cleared, and the replace pending status is removed.
- DELETE PENDING, the delete pending status is removed.

If you are displaying a record when you enter this command and do not enter the parameters *Home-LT* or *Corr-LT*, the record you are displaying is processed.

REPEAT Command

repeat =	
-------------	--

Use this command to repeat the last command that you entered.

REPLACE Command

There are two **Replace** commands. One is used during maintenance functions, and the other during message processing functions.

REPLACE Command (for Maintenance Functions)

replace	
---------	--

Use this command to replace a record with a new version of the record. You are prompted to confirm the replacement.

In the general file maintenance function, the record is replaced immediately.

In the user file maintenance and authenticator-key file maintenance functions, the processing depends on your authorization level:

- If you are allowed to authorize replacements, the records you replace are immediately replaced in the file when the command is confirmed.
- If you are not allowed to authorize replacements, the records are given the status REPLACE PENDING (authorization pending) after the command is confirmed. The replacement must be authorized by a different user.

REPLACE Command (for Message Processing)

replace rep	
----------------	--

Use this command to store a message at the same position of the message-processing queue it was in before it was processed. All changes that have been made to the record are kept. If you are creating a new message, MERVA ESA stores it in the queue of your data entry function.

The command does not check the message for errors, and can therefore be used to store a partially-completed or incorrect message.

REQUEUE Command

requeue req	
----------------	--

Use this command to store a message at the end of the message-processing queue it was in before it was processed. All changes that have been made to the record are kept. If you are creating a new message, MERVA ESA stores it in the queue of your data entry function.

The command does not check the message for errors, and can therefore be used to store a partially-completed or incorrect message.

RETRIEVE Command

retrieve ?	
---------------	--

Use this command to retrieve the last command that you entered or used via a PF key, and to display it in the command line. It does not run the command.

RETURN Command

return ret	[function]
---------------	------------

Use this command to take you out of the current function. When you use this command without a parameter, the Function Selection menu is displayed. When you specify a function, the appropriate panel is displayed.

The function you specify must exist in the Function Selection menu. If you specify an incorrect function, or if you do not specify a function, the command displays the Function Selection menu.

When you use the command while processing a message, an **eom** command is implicitly carried out. You can use the **return** command at any time during a MERVA ESA session.

ROUTE Command

ROUTE Command

<code>route</code> <code>rou</code>	<i>function</i>
--	-----------------

Use this command to indicate to MERVA ESA where to route a message. The message is not checked for errors. You can specify:

- A function name, in which case it can be checked in a routing table: for example, to see whether it is an allowed target from this message-processing function.
- Any 1- to 8-character string, in which case it must be checked in a routing table and must be translated into a valid queue name.

The command must be allowed in the function you are using.

SHOW Command

<code>show</code>	<i>pname</i> [<i>selection</i>]
-------------------	-----------------------------------

Use this command to display the panel specified in the parameter *pname*, where *pname* is either the MCB name of the panel you want to display, or a message identification.

The value specified with *selection* is stored in the MERVA ESA field *DSLHSEL*. The field value can be used to modify the display of the panel, for example, display or suppress conditional parts. When a numeric selection value is specified, it is used as a page number within the MCB.

If you want to display all the errors for the page of a message currently being processed, use the **show** command with a *pname* of 0ERR. If you want to display the unique message reference (UMR) of the current message, enter the command **show umr**. Use the **end** command to return to the panel displayed before you used the command.

SIGNOFF Command

<code>signoff</code> <code>sof</code>	
--	--

Use this command to end the MERVA ESA session. If you are processing a message when you enter the command, an **eom** command is processed for this message. You can use the **signoff** command at any time during a session.

SOCC Command

<code>socc</code>	[[{+ -}][<i>n</i>]] [CHECK] [+1]
-------------------	---------------------------------------

Use this command to scroll through occurrences of a repeatable sequence of a message. The current occurrence number is highlighted. There are several ways to enter this command:

SOCC Command

- If you enter the command without a parameter, a default of +1 is taken, and the command displays the next occurrence.
- If you enter *n*, a number without a sign (either + or -), the command displays the occurrence with that occurrence number. For example, if you enter the command **socc 7**, occurrence number seven of the current repeatable sequence is displayed.
- If you enter *n* with a sign (+ or -), the number is added to or subtracted from the number of the current occurrence. The command displays the occurrence with the resulting occurrence number. If the resulting number is less than 1, the first occurrence of the repeatable sequence is displayed. If the resulting number is greater than the number of the last occurrence of a repeatable sequence, this last occurrence is displayed.

If you use the CHECK parameter, scrolling stops on the first page that contains an error.

SPLIT Command

split	
-------	--

Use this command to display User File records in one of the following ways:

Nonsplit mode

The first page of the display shows all authorized data of the User File record, and the second page of the display shows all unauthorized data of the User File record.

Split mode

The first page shows in the upper half the first part of the authorized data of the User File record, and in the lower half the same fields of the unauthorized data part of the User File record. The second and third page show the second and third parts of the User File record in the same way.

When entering the user file maintenance, nonsplit mode is active. When you enter the **split** command, it switches from the current mode to the other mode (that is, from nonsplit to split mode, or from split to nonsplit mode).

SREP Command

srep	[[{+ -}][<i>n</i>]] [CHECK] [+1]
------	---------------------------------------

Use this command to scroll through repeatable sequences in a message. There are several ways to enter this command:

- If you enter the command without a parameter, a default of +1 is taken, and the command displays the next repeatable sequence.
- If you enter *n*, a number without a sign (either + or -), the repeatable sequence with that number is displayed. For example, if you enter the command **srep 2**, the second repeatable sequence is displayed.
- If you enter *n* with a sign (+ or -), the number is added to or subtracted from the number of the current repeatable sequence. The repeatable sequence with the resulting number is displayed. If the resulting number is less than 1, the first repeatable sequence is displayed. If the resulting number is greater than the

SREP Command

number of the highest repeatable sequence, the current repeatable sequence remains displayed and a message is displayed.

Forward scrolling through repeatable sequences always starts at the current occurrence of the current repeatable sequence. When nested repeatable sequences are in the message, the next repeatable sequence is the first repeatable sequence that is embedded in the current one.

You can use **srep +1** and **srep -1** to scroll forward and backward through a hierarchy of nested repeatable sequences. Normally, you are positioned at the first occurrence of the requested sequence. However, if you scroll backward and the requested repeatable sequence is still within the same nested hierarchy, then you are positioned at the occurrence that was last accessed in that sequence.

You can also use a sequence of **srep** and **socc** commands to display a specific occurrence within a hierarchy of nested repeatable sequences. Up to 10 levels of nesting within repeatable sequences is supported by these commands. When the requested repeatable sequence is not in the current hierarchy, and the requested number is less than the current repeatable sequence number, scrolling starts from page 1 until the requested repeatable sequence is reached. Entering the command **srep** in the line display mode switches to the page display mode before scrolling to the requested repeatable sequence.

If you use the CHECK parameter, scrolling stops on the first page that contains an error.

TELEX Command

telex	[[ON OFF]]
-------	------------

Use this command as follows:

- Entered with the ON parameter or with no parameter in the MERVA ESA Message Selection panel, this command sets the telex state; that is, all new formatted messages you create are presented with the telex header area. The free-format telex message with the message type TELEX is always displayed with the telex header area with or without being in the telex state.
- Entered with the OFF parameter in the MERVA ESA Message Selection panel, this command resets the telex state; that is, all new formatted messages you create are presented without the telex header area for sending to the receiver via a network other than the telex network.
- Entered with the ON parameter, or with no parameter, in any panel of a formatted message you create or modify, the telex header area is displayed for entering the data necessary to send this message to the receiver via the telex network. A free-format telex message of message type TELEX is always displayed with the telex header area, whether the **telex on** command has been issued or not. You can also use the **telex on** command for received messages that you want to forward to another correspondent via the telex network.
- Entered with the OFF parameter in any panel of a formatted message you create or modify, all data contained in the telex header area and the telex status fields are removed from the message.

It is not necessary to remove the telex information from a SWIFT message when you want to send it via the SWIFT network. This is because MERVA ESA allows for proper formatting for the SWIFT network even when the telex information is present in the message.

TESTKEY CALCULATE Command

testkey tk	{CALCULATE C}[,{NEW N}]
---------------	-----------------------------

Use the **testkey calculate** command (abbreviated **tk c**) to invoke the test-key processing program to calculate the test key from the input provided in the test-key input area. With the NEW parameter (abbreviated N), you can repeat the test-key calculation, or calculate a new test key if you want to forward a telex message. You can either reuse the data contained in the test-key input area for the new test-key calculation, or change it.

If the test-key calculation is successful, the test-key input area is redisplayed with the following information:

- The calculated test-key value
- The test-key flag **OK-C**
- An information message that confirms the successful test-key calculation.

If the test-key calculation fails, an error message of the test-key processing program is displayed instead.

TESTKEY CLEAR Command

testkey tk	{CLEAR CL}[,{ALL A TESTKEY TK T}]
---------------	---

Use the **testkey clear** command (abbreviated **tk cl**) to clear the following test-key fields of a telex message:

- All currency code fields
- All amount fields
- The data contained in the fields tagged Date, Letter, and Corr.

With the ALL parameter (abbreviated A), you can also clear the fields:

- Test-key value
- Test-key flag.

With the TESTKEY parameter (abbreviated TK or T), you only clear the fields:

- Test-key value
- Test-key flag.

After clearing these fields, you can enter new test-key data and calculate a new test key.

Note: Deleting a test key from a telex message with the **testkey clear** command can cause a gap in the sequence numbers used by the test-key processing program, and the correspondent may miss the telex message with the sequence number associated with the deleted test key. Therefore, you must either inform the correspondent of the gap or reset the database of the test-key processing program before you calculate a new test key.

TESTKEY EXTRACT Command

TESTKEY EXTRACT Command

testkey tk	{EXTRACT E}
---------------	---------------

Use the **testkey extract** command (abbreviated **tk e**) to extract the data defined in a DSLLEDEV TYPE=NET,ID=K section of the Message Control Block (MCB) of a formatted telex message (as described in the *MERVA for ESA Customization Guide*). Copy the data into the fields of the test-key input area. For example, you can extract from a SWIFT message currency codes, amounts, letter code, date, and correspondent data for the fields of the test-key input area:

- Pairs of one currency code and one amount each are grouped according to the currency codes.
- Amounts having more than 3 fractional digits are truncated. An information message indicates this truncation.

TESTKEY LARGE Command

testkey tk	{LARGE L}
---------------	-------------

Use the **testkey large** command (abbreviated **tk l**) to display all of the following fields of the test-key input area:

- 6 currency code fields
- 18 amount fields
- 2 comment lines.

You can use the **testkey small** command to display only some of these fields.

TESTKEY OK Command

testkey tk	{OK O}
---------------	----------

Use the **testkey ok** command (abbreviated **tk o**) to set the test-key flag to OK-M in the test-key input area of a telex message, after you have:

1. Calculated or verified the test key manually.
2. Entered the calculated test key into the field Test-Key of the test-key input area.

The test-key flag OK-M can be used for routing the telex message to the next processing function.

TESTKEY SMALL Command

testkey tk	{SMALL S}
---------------	-------------

Use the **testkey small** command (abbreviated **tk s**) to display only some of the following fields of the test-key input area:

TESTKEY SMALL Command

- 2 of the 6 currency code fields
- 6 of the 18 amount fields
- 1 of the 2 comment lines.

The fields that are not displayed still exist. You can use the **testkey large** command to display all fields.

TESTKEY TEST Command

testkey tk	{TEST T}
---------------	------------

Use the **testkey test** command (abbreviated **tk t**) to test if test-key calculation or verification is possible with the data provided in the fields of the test-key input area.

TESTKEY VERIFY Command

testkey tk	{VERIFY V}
---------------	--------------

Use the **testkey verify** command (abbreviated **tk v**) to verify the test key of a received telex message, after you have:

1. Entered the necessary data into the fields of the test-key input area, for example, by copying it from the text of the telex message.
2. Entered the identification of the correspondent who sent you this message.

If the test-key verification is successful, the test-key input area is redisplayed with the following information:

- An information message indicating whether the test key is correct.
- If the verification is successful, the test-key flag **OK-V** is set, or, if there are gaps in the message sequence or the message fits into a gap detected earlier, the test-key flag **OK-G** is set.
- If the verification is not successful, no test-key flag is set.

TXDELETE Command

txdelete	<i>line[,number]</i>
----------	----------------------

Use the **txdelete** command to delete one or several lines from the text of a free-format telex message. The deletion starts with the line specified with the parameter *line*, and as many lines are deleted as specified with the parameter *number*. If the parameter *number* is not specified, one line is deleted. Both *line* and *number* must be at least 1.

If you want to delete only one line, you can type the **txdelete** command without a parameter in the command line, move the cursor to the line you want to delete, and then press ENTER. If a PF key is defined for the **txdelete** command, you move the cursor to the line you want to delete, and then press this PF key.

TXINFO Command

TXINFO Command

<code>txinfo</code>	<code>[[ON OFF]]</code>
---------------------	-------------------------

Use this command with the ON parameter, entered in any panel of a formatted or free-format telex message, to display the telex status fields that inform you about the transmission status of the telex message. The telex status fields are displayed before the telex header area. If used with a formatted message, the **telex on** command must have been used before the **txinfo on** command.

Entered with the OFF parameter in any panel of a formatted or free-format telex message, this command removes the telex status fields with the transmission status information from the message. Removal of this information is necessary if you want to send a telex message again, or if you want to forward a telex message to another correspondent.

Note: You cannot use the abbreviation **txin** for the command **txinfo** as this is reserved for the **txinsert** command.

TXINSERT Command

<code>txinsert</code>	<code>line[,number]</code>
-----------------------	----------------------------

Use the **txinsert** command to insert one or several lines into the text of a free-format telex message. The lines are inserted after the line specified with the parameter *line*, and as many lines are inserted as are specified with the parameter *number*. If the parameter *number* is not specified, one line is inserted.

If you want to insert only one line, you can enter the **txinsert** command without a parameter in the command line. Move the cursor to the line after which you want to insert the line, and then press ENTER. If a PF key is defined for the **txinsert** command, you move the cursor to the line after which you want to insert the line, and then press this PF key.

TXJOIN Command

<code>txjoin</code>	<code>line[,offset]</code>
---------------------	----------------------------

Use the **txjoin** command to join two consecutive text lines of a free-format telex message into one line. You specify the line you want joined with the next line with the parameter *line*, and with the parameter *offset* you specify the offset where the second line is to join the first. If there is data in the first line at or after the position indicated by the *offset* parameter, this data is overwritten by the data of the second line. If there is a gap between the last character of the first line and the specified offset, the gap is padded with blanks. Both *line* and *offset* must be at least 1.

You can enter the **txjoin** command without a parameter in the command line. Move the cursor to the first line and offset where you want the second line to be joined, and then press ENTER. If a PF key is defined for the **txjoin** command, you move the cursor to the first line and offset where you want to join the second line, and then press this PF key.

TXNUMBER Command

<code>txnumber</code>	{ON OFF}
-----------------------	------------

Use the **txnumber on** command to display the text of a free-format telex message with line numbers on the left side of the text lines. You can use these line numbers in the telex editing commands **txdelete**, **txinsert**, **txsplit**, and **txjoin**.

You use the **txnumber off** command to remove the line numbers from the display.

You can use the **txnumber** command only on the first page of a free-format telex message.

TXSPLIT Command

<code>txsplit</code>	<i>line</i> [, <i>offset</i>]
----------------------	--------------------------------

Use the **txsplit** command to split one line of the text of a free-format telex message into two lines. You specify the line you want to split with the parameter *line*, and with the parameter *offset* you specify the offset where the split is to be made. The character indicated by the *offset* parameter becomes the first byte of the second line. If there is no data at the specified offset, the line is not split. Both *line* and *offset* must be at least 1.

You can enter the **txsplit** command without a parameter in the command line. Move the cursor to the line and offset where you want to have the line split, and then press ENTER. If a PF key is defined for the **txsplit** command, move the cursor to the line and offset where you want to split the line, and then press this PF key.

UL Command

<code>ul</code>	[[ON]] [[OFF]]
-----------------	-------------------

This command is only for screen terminals with extended highlighting capabilities.

Use this command to switch on and off the underlining of input areas on your screen terminal.

If you use the parameter ON, all input areas are underlined. Protected data fields, literals, and nondisplay areas (for example, for passwords) are not underlined.

If you use the parameter OFF, all lines are displayed without underlining, except for fields where this is specified in a Message Control Block.

The following list shows the default parameters for the commands:

- If **ul off** was previously specified, and you enter **ul** without a parameter, the default is ON.
- If **ul on** was previously specified, and you enter **ul** without a parameter, the default is OFF.
- When you start a MERVA ESA session, the status is as with an **ul on** command.

X (Prefix) Command

X (Prefix) Command

x	[<i>n</i>] [1]
---	---------------------

This command is a prefix command. Use it to extend the line of a message. You can enter it only in the prefix area (===) when displaying a message in NOPROMPT mode.

You enter the parameter *n* after the command in the prefix area to specify the number of empty lines to be displayed. For example, to extend a line by 2 empty lines you enter **x2** in the prefix area. This provides 2 empty lines following the data already contained in the line.

If you enter no number, the command uses a default value of 1, and extends the current line by one empty screen line. Empty lines are displayed on the screen, and the data you enter is then appended to the previous line.

Note: You can enter only one **x** command at a time, and you must not use it together with the other prefix commands. The command must be defined for the function you are using.

YES Command

yes	
-----	--

The **yes** command has the following meanings:

- Enter **yes** instead of **ok yes** (see “OK Command” on page 209).
- Enter **yes** when you are asked for confirmation in a file maintenance function, when you want the action to take place (for example, to complete the deletion of a record from a file).

Appendix D. Help Information

You can display a help panel at any time by entering

help *pname*

in the command line, where *pname* is the name (or nickname) of the help panel you want to display. The names and nicknames of the help panels are listed below.

Type of Help Information	Help Panel Name	Help Panel Nicknames
Help Menu	0help	menu
Help Index	0hidx	index
MERVA ESA Base Help Menu	0hbase	base
MERVA ESA Commands	0hicmd	command
Environment Data	0henv	system, info
Message-Trace Display	0hmtr	trace
Unique Message Reference Display	0umr	umr
Program Function Keys	0hpfk	pfkeys
General File Maintenance Commands	0hflm	
Queue Utility and Test Commands	0hque	
Screen Commands	0hsc	
User File Maintenance Commands	0husr	
MERVA ESA Operator Commands	0hcmd	
MERVA ESA Return and Reason Codes	0hretc	
SWIFT Link Help Menu	shelp	
Operator Commands for SWIFT Network	shcmd	
Authenticator-Key File Maintenance Commands	shaut	
Financial Message Types	shmtb	
Financial Message Header	shhead	
System Message Types	shmts	
Currency Codes in file and table	shcur2	
Currency Codes	shcur	
SWIFT Link Return and Reason Codes	shretc	
SWIFT Link X.25 Return Codes	shxcod	
SWIFT Error (NAK) Codes	shnak	
Message Authentication	shmac	msgmac
Telex Link Help Menu	lhhelp	
MERVA Link Help Menu	mhelp	

Appendix E. Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Deutschland
Informationssysteme GmbH
Department 3982
Pascalstrasse 100

70569 Stuttgart
Germany

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement or any equivalent agreement between us.

The following paragraph does apply to the US only.

All IBM prices shown are IBM's suggested retail prices, are current and are subject to change without notice. Dealer prices may vary.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrates programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. You may copy, modify, and distribute these sample programs in any form without payment to IBM for the purposes of developing, using, marketing, or distributing application programs conforming to IBM's application programming interfaces.

Trademarks

The following terms are trademarks of the IBM Corporation in the United States, other countries, or both:

- Advanced Peer-to-Peer Networking
- AIX
- APPN
- C/370
- CICS
- CICS/ESA
- CICS/MVS
- CICS/VSE
- DB2
- DB2 Universal Database
- Distributed Relational Database Architecture
- DRDA
- IBM
- IMS/ESA
- Language Environment
- MQSeries

- MVS
- MVS/ESA
- MVS/XA
- OS/2
- OS/390
- RACF
- VisualAge
- VSE/ESA
- VTAM

Workstation (AWS) and Directory Services Application (DSA) are trademarks of S.W.I.F.T., La Hulpe in Belgium.

Pentium is a trademark of Intel Corporation.

PC Direct is a trademark of Ziff Communications Company in the United States, other countries, or both, and is used by IBM Corporation under license.

C-bus is a trademark of Corollary, Inc. in the United States, other countries, or both.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, and service names may be trademarks or service marks of others.

Glossary of Terms and Abbreviations

This glossary defines terms as they are used in this book. If you do not find the terms you are looking for, refer to the *IBM Dictionary of Computing*, New York: McGraw-Hill, and the *S.W.I.F.T. User Handbook*.

A

ACB. Access method control block.

ACC. MERVA Link USS application control command application. It provides a means of operating MERVA Link USS in USS shell and MVS batch environments.

Access method control block (ACB). A control block that links an application program to VSAM or VTAM.

ACD. MERVA Link USS application control daemon.

ACT. MERVA Link USS application control table.

address. See *SWIFT address*.

address expansion. The process by which the full name of a financial institution is obtained using the SWIFT address, telex correspondent's address, or a nickname.

AMPDU. Application message protocol data unit, which is defined in the MERVA Link P1 protocol, and consists of an envelope and its content.

answerback. In telex, the response from the dialed correspondent to the WHO R U signal.

answerback code. A group of up to 6 letters following or contained in the answerback. It is used to check the answerback.

APC. Application control.

API. Application programming interface.

APPC. Advanced Program-to-Program Communication based on SNA LU 6.2 protocols.

APPL. A VTAM definition statement used to define a VTAM application program.

application programming interface (API). An interface that programs can use to exchange data.

application support filter (ASF). In MERVA Link, a user-written program that can control and modify any data exchanged between the Application Support Layer and the Message Transfer Layer.

application support process (ASP). An executing instance of an application support program. Each application support process is associated with an ASP entry in the partner table. An ASP that handles outgoing messages is a *sending ASP*; one that handles incoming messages is a *receiving ASP*.

application support program (ASP). In MERVA Link, a program that exchanges messages and reports with a specific remote partner ASP. These two programs must agree on which conversation protocol they are to use.

ASCII. American Standard Code for Information Interchange. The standard code, using a coded set consisting of 7-bit coded characters (8 bits including parity check), used for information interchange among data processing systems, data communication systems, and associated equipment. The ASCII set consists of control characters and graphic characters.

ASF. Application support filter.

ASF. (1) Application support process. (2) Application support program.

ASPDU. Application support protocol data unit, which is defined in the MERVA Link P2 protocol.

authentication. The SWIFT security check used to ensure that a message has not changed during transmission, and that it was sent by an authorized sender.

authenticator key. A set of alphanumeric characters used for the authentication of a message sent via the SWIFT network.

authenticator-key file. The file that stores the keys used during the authentication of a message. The file contains a record for each of your financial institution's correspondents.

B

Back-to-Back (BTB). A MERVA Link function that enables ASPs to exchange messages in the local MERVA Link node without using data communication services.

bank identifier code. A 12-character code used to identify a bank within the SWIFT network. Also called a SWIFT address. The code consists of the following subcodes:

- The bank code (4 characters)
- The ISO country code (2 characters)
- The location code (2 characters)
- The address extension (1 character)

- The branch code (3 characters) for a SWIFT user institution, or the letters “BIC” for institutions that are not SWIFT users.

Basic Security Manager (BSM). A component of VSE/ESA Version 2.4 that is invoked by the System Authorization Facility, and used to ensure signon and transaction security.

BIC. Bank identifier code.

BIC Bankfile. A tape of bank identifier codes supplied by S.W.I.F.T.

BIC Database Plus Tape. A tape of financial institutions and currency codes, supplied by S.W.I.F.T. The information is compiled from various sources and includes national, international, and cross-border identifiers.

BIC Directory Update Tape. A tape of bank identifier codes and currency codes, supplied by S.W.I.F.T., with extended information as published in the printed BIC Directory.

body. The second part of an IM-ASPDU. It contains the actual application data or the message text that the IM-AMPDU transfers.

BSC. Binary synchronous control.

BSM. Basic Security Manager.

BTB. Back-to-back.

buffer. A storage area used by MERVA programs to store a message in its internal format. A buffer has an 8-byte prefix that indicates its length.

C

CBT. SWIFT computer-based terminal.

CCSID. Coded character set identifier.

CDS. Control data set.

central service. In MERVA, a service that uses resources that either require serialization of access, or are only available in the MERVA nucleus.

CF message. Confirmed message. When a sending MERVA Link system is informed of the successful delivery of a message to the receiving application, it routes the delivered application messages as CF messages, that is, messages of class CF, to an ACK wait queue or to a complete message queue.

COA. Confirm on arrival.

COD. Confirm on delivery.

coded character set identifier (CCSID). The name of a coded set of characters and their code point assignments.

commit. In MQSeries, to commit operations is to make the changes on MQSeries queues permanent. After putting one or more messages to a queue, a commit makes them visible to other programs. After getting one or more messages from a queue, a commit permanently deletes them from the queue.

confirm-on-arrival (COA) report. An MQSeries report message type created when a message is placed on that queue. It is created by the queue manager that owns the destination queue.

confirm-on-delivery (COD) report. An MQSeries report message type created when an application retrieves a message from the queue in a way that causes the message to be deleted from the queue. It is created by the queue manager.

control fields. In MERVA Link, fields that are part of a MERVA message on the queue data set and of the message in the TOF. Control fields are written to the TOF at nesting identifier 0. Messages in SWIFT format do not contain control fields.

correspondent. An institution to which your institution sends and from which it receives messages.

correspondent identifier. The 11-character identifier of the receiver of a telex message. Used as a key to retrieve information from the Telex correspondents file.

cross-system coupling facility. See XCF.

coupling services. In a sysplex, the functions of XCF that transfer data and status information among the members of a group that reside in one or more of the MVS systems in the sysplex.

couple data set. See XCF *couple data set*.

CTP. MERVA Link command transfer processor.

currency code file. A file containing the currency codes, together with the name, fraction length, country code, and country names.

D

daemon. A long-lived process that runs unattended to perform continuous or periodic systemwide functions.

DASD. Direct access storage device.

data area. An area of a predefined length and format on a panel in which data can be entered or displayed. A field can consist of one or more data areas.

data element. A unit of data that, in a certain context, is considered indivisible. In MERVA Link, a data

element consists of a 2-byte data element length field, a 2-byte data-element identifier field, and a field of variable length containing the data element data.

datagram. In TCP/IP, the basic unit of information passed across the Internet environment. This type of message does not require a reply, and is the simplest type of message that MQSeries supports.

data terminal equipment. That part of a data station that serves as a data source, data link, or both, and provides for the data communication control function according to protocols.

DB2. A family of IBM licensed programs for relational database management.

dead-letter queue. A queue to which a queue manager or application sends messages that it cannot deliver. Also called *undelivered-message queue*.

dial-up number. A series of digits required to establish a connection with a remote correspondent via the public telex network.

direct service. In MERVA, a service that uses resources that are always available and that can be used by several requesters at the same time.

display mode. The mode (PROMPT or NOPROMPT) in which SWIFT messages are displayed. See *PROMPT mode* and *NOPROMPT mode*.

distributed queue management (DQM). In MQSeries message queuing, the setup and control of message channels to queue managers on other systems.

DQM. Distributed queue management.

DTE. Data terminal equipment.

E

EBCDIC. Extended Binary Coded Decimal Interchange Code. A coded character set consisting of 8-bit coded characters.

ECB. Event control block.

EDIFACT. Electronic Data Interchange for Administration, Commerce and Transport (a United Nations standard).

ESM. External security manager.

EUD. End-user driver.

exception report. An MQSeries report message type that is created by a message channel agent when a message is sent to another queue manager, but that message cannot be delivered to the specified destination queue.

external line format (ELF) messages. Messages that are not fully tokenized, but are stored in a single field in the TOF. Storing messages in ELF improves performance, because no mapping is needed, and checking is not performed.

external security manager (ESM). A security product that is invoked by the System Authorization Facility. RACF is an example of an ESM.

F

FDT. Field definition table.

field. In MERVA, a portion of a message used to enter or display a particular type of data in a predefined format. A field is located by its position in a message and by its tag. A field is made up of one or more data areas. See also *data area*.

field definition table (FDT). The field definition table describes the characteristics of a field; for example, its length and number of its data areas, and whether it is mandatory. If the characteristics of a field change depending on its use in a particular message, the definition of the field in the FDT can be overridden by the MCB specifications.

field group. One or several fields that are defined as being a group. Because a field can occur more than once in a message, field groups are used to distinguish them. A name can be assigned to the field group during message definition.

field group number. In the TOF, a number is assigned to each field group in a message in ascending order from 1 to 255. A particular field group can be accessed using its field group number.

field tag. A character string used by MERVA to identify a field in a network buffer. For example, for SWIFT field 30, the field tag is :30.

FIN. Financial application.

FIN-Copy. The MERVA component used for SWIFT FIN-Copy support.

finite state machine. The theoretical base describing the rules of a service request's state and the conditions to state transitions.

FMT/ESA. MERVA-to-MERVA Financial Message Transfer/ESA.

form. A partially-filled message containing data that can be copied for a new message of the same message type.

G

GPA. General purpose application.

H

HFS. Hierarchical file system.

hierarchical file system (HFS). A system for organizing files in a hierarchy, as in a UNIX system. OS/390 UNIX System Services files are organized in an HFS. All files are members of a directory, and each directory is in turn a member of a directory at a higher level in the HFS. The highest level in the hierarchy is the root directory.

I

IAM. Interapplication messaging (a MERVA Link message exchange protocol).

IM-ASPDU. Interapplication messaging application support protocol data unit. It contains an application message and consists of a heading and a body.

incore request queue. Another name for the request queue to emphasize that the request queue is held in memory instead of on a DASD.

InetD. Internet Daemon. It provides TCP/IP communication services in the OS/390 USS environment.

initiation queue. In MQSeries, a local queue on which the queue manager puts trigger messages.

input message. A message that is input into the SWIFT network. An input message has an input header.

INTERCOPE TelexBox. This telex box supports various national conventions for telex procedures and protocols.

interservice communication. In MERVA ESA, a facility that enables communication among services if MERVA ESA is running in a multisystem environment.

intertask communication. A facility that enables application programs to communicate with the MERVA nucleus and so request a central service.

IP. Internet Protocol.

IP message. In-process message. A message that is in the process of being transferred to another application.

ISC. Intersystem communication.

ISN. Input sequence number.

ISN acknowledgment. A collective term for the various kinds of acknowledgments sent by the SWIFT network.

ISO. International Organization for Standardization.

ITC. Intertask communication.

J

JCL. Job control language.

journal. A chronological list of records detailing MERVA actions.

journal key. A key used to identify a record in the journal.

journal service. A MERVA central service that maintains the journal.

K

KB. Kilobyte (1024 bytes).

key. A character or set of characters used to identify an item or group of items. For example, the user ID is the key to identify a user file record.

key-sequenced data set (KSDS). A VSAM data set whose records are loaded in key sequence and controlled by an index.

keyword parameter. A parameter that consists of a keyword, followed by one or more values.

KSDS. Key-sequenced data set.

L

LAK. Login acknowledgment message. This message informs you that you have successfully logged in to the SWIFT network.

large message. A message that is stored in the large message cluster (LMC). The maximum length of a message to be stored in the VSAM QDS is 31900 bytes. Messages up to 2MB can be stored in the LMC. For queue management using DB2 no distinction is made between messages and large messages.

large queue element. A queue element that is larger than the smaller of:

- The limiting value specified during the customization of MERVA
- 32KB

LC message. Last confirmed control message. It contains the message-sequence number of the application or acknowledgment message that was last confirmed; that is, for which the sending MERVA Link system most recently received confirmation of a successful delivery.

LDS. Logical data stream.

LMC. Large message cluster.

LNK. Login negative acknowledgment message. This message indicates that the login to the SWIFT network has failed.

local queue. In MQSeries, a queue that belongs to a local queue manager. A local queue can contain a list of messages waiting to be processed. Contrast with *remote queue*.

local queue manager. In MQSeries, the queue manager to which the program is connected, and that provides message queuing services to that program. Queue managers to which a program is not connected are remote queue managers, even if they are running on the same system as the program.

login. To start the connection to the SWIFT network.

LR message. Last received control message, which contains the message-sequence number of the application or acknowledgment message that was last received from the partner application.

LSN. Login sequence number.

LT. See *LTERM*.

LTC. Logical terminal control.

LTERM. Logical terminal. Logical terminal names have 4 characters in CICS and up to 8 characters in IMS.

LU. A VTAM logical unit.

M

maintain system history program (MSHP). A program used for automating and controlling various installation, tailoring, and service activities for a VSE system.

MCA. Message channel agent.

MCB. Message control block.

MERVA ESA. The IBM licensed program Message Entry and Routing with Interfaces to Various Applications for ESA.

MERVA Link. A MERVA component that can be used to interconnect several MERVA systems.

message. A string of fields in a predefined form used to provide or request information. See also *SWIFT financial message*.

message body. The part of the message that contains the message text.

message category. A group of messages that are logically related within an application.

message channel. In MQSeries distributed message queuing, a mechanism for moving messages from one queue manager to another. A message channel comprises two message channel agents (a sender and a receiver) and a communication link.

message channel agent (MCA). In MQSeries, a program that transmits prepared messages from a transmission queue to a communication link, or from a communication link to a destination queue.

message control block (MCB). The definition of a message, screen panel, net format, or printer layout made during customization of MERVA.

Message Format Service (MFS). A MERVA direct service that formats a message according to the medium to be used, and checks it for formal correctness.

message header. The leading part of a message that contains the sender and receiver of the message, the message priority, and the type of message.

Message Integrity Protocol (MIP). In MERVA Link, the protocol that controls the exchange of messages between partner ASPs. This protocol ensures that any loss of a message is detected and reported, and that no message is duplicated despite system failures at any point during the transfer process.

message-processing function. The various parts of MERVA used to handle a step in the message-processing route, together with any necessary equipment.

message queue. See *queue*.

Message Queue Interface (MQI). The programming interface provided by the MQSeries queue managers. It provides a set of calls that let application programs access message queuing services such as sending messages, receiving messages, and manipulating MQSeries objects.

Message Queue Manager (MQM). An IBM licensed program that provides message queuing services. It is part of the MQSeries set of products.

message reference number (MRN). A unique 16-digit number assigned to each message for identification purposes. The message reference number consists of an 8-digit domain identifier that is followed by an 8-digit sequence number.

message sequence number (MSN). A sequence number for messages transferred by MERVA Link.

message type (MT). A number, up to 7 digits long, that identifies a message. SWIFT messages are identified by a 3-digit number; for example SWIFT message type MT S100.

MFS. Message Format Service.

MIP. Message Integrity Protocol.

MPDU. Message protocol data unit, which is defined in P1.

MPP. In IMS, message-processing program.

MQA. MQ Attachment.

MQ Attachment (MQA). A MERVA feature that provides message transfer between MERVA and a user-written MQI application.

MQH. MQSeries queue handler.

MQI. Message queue interface.

MQM. Message queue manager.

MQS. MQSeries nucleus server.

MQSeries. A family of IBM licensed programs that provides message queuing services.

MQSeries nucleus server (MQS). A MERVA component that listens for messages on an MQI queue, receives them, extracts a service request, and passes it via the request queue handler to another MERVA ESA instance for processing.

MQSeries queue handler (MQH). A MERVA component that performs service calls to the Message Queue Manager via the provided Message Queue Interface.

MRN. Message reference number.

MSC. MERVA system control facility.

MSHP. Maintain system history program.

MSN. Message sequence number.

MT. Message type.

MTP. (1) Message transfer program. (2) Message transfer process.

MTS. Message Transfer System.

MTSP. Message Transfer Service Processor.

MTT. Message type table.

multisystem application. (1) An application program that has various functions distributed across MVS systems in a multisystem environment. (2) In XCF, an authorized application that uses XCF coupling services. (3) In MERVA ESA, multiple instances of MERVA ESA that are distributed among different MVS systems in a multisystem environment.

multisystem environment. An environment in which two or more MVS systems reside on one or more processors, and programs on one system can communicate with programs on the other systems. With XCF, the environment in which XCF services are available in a defined sysplex.

multisystem sysplex. A sysplex in which one or more MVS systems can be initialized as part of the sysplex. In a multisystem sysplex, XCF provides coupling services on all systems in the sysplex and requires an XCF couple data set that is shared by all systems. See also *single-system sysplex*.

MVS/ESA. Multiple Virtual Storage/Enterprise Systems Architecture.

N

namelist. An MQSeries for MVS/ESA object that contains a list of queue names.

nested message. A message that is composed of one or more message types.

nested message type. A message type that is contained in another message type. In some cases, only part of a message type (for example, only the mandatory fields) is nested, but this "partial" nested message type is also considered to be nested. For example, SWIFT MT 195 could be used to request information about a SWIFT MT 100 (customer transfer). The SWIFT MT 100 (or at least its mandatory fields) is then nested in SWIFT MT 195.

nesting identifier. An identifier (a number from 2 to 255) that is used to access a nested message type.

network identifier. A single character that is placed before a message type to indicate which network is to be used to send the message; for example, **S** for SWIFT

network service access point (NSAP). The endpoint of a network connection used by the SWIFT transport layer.

NOPROMPT mode. One of two ways to display a message panel. NOPROMPT mode is only intended for experienced SWIFT Link users who are familiar with the structure of SWIFT messages. With NOPROMPT mode, only the SWIFT header, trailer, and pre-filled fields and their tags are displayed. Contrast with *PROMPT mode*.

NSAP. Network service access point.

nucleus server. A MERVA component that processes a service request as selected by the request queue handler. The service a nucleus server provides and the way it provides it is defined in the nucleus server table (DSLNSVT).

O

object. In MQSeries, objects define the properties of queue managers, queues, process definitions, and namelists.

occurrence. See *repeatable sequence*.

option. One or more characters added to a SWIFT field number to distinguish among different layouts for and meanings of the same field. For example, SWIFT field 60 can have an option F to identify a first opening balance, or M for an intermediate opening balance.

origin identifier (origin ID). A 34-byte field of the MERVA user file record. It indicates, in a MERVA and SWIFT Link installation that is shared by several banks, to which of these banks the user belongs. This lets the user work for that bank only.

OSN. Output sequence number.

OSN acknowledgment. A collective term for the various kinds of acknowledgments sent to the SWIFT network.

output message. A message that has been received from the SWIFT network. An output message has an output header.

P

P1. In MERVA Link, a peer-to-peer protocol used by cooperating message transfer processes (MTPs).

P2. In MERVA Link, a peer-to-peer protocol used by cooperating application support processes (ASPs).

P3. In MERVA Link, a peer-to-peer protocol used by cooperating command transfer processors (CTPs).

packet switched public data network (PSPDN). A public data network established and operated by network common carriers or telecommunication administrations for providing packet-switched data transmission.

panel. A formatted display on a display terminal. Each page of a message is displayed on a separate panel.

parallel processing. The simultaneous processing of units of work by several servers. The units of work can be either transactions or subdivisions of larger units of work.

parallel sysplex. A sysplex that uses one or more coupling facilities.

partner table (PT). In MERVA Link, the table that defines how messages are processed. It consists of a

header and different entries, such as entries to specify the message-processing parameters of an ASP or MTP.

PCT. Program Control Table (of CICS).

PDE. Possible duplicate emission.

PDU. Protocol data unit.

PF key. Program-function key.

positional parameter. A parameter that must appear in a specified location relative to other parameters.

PREMIUM. The MERVA component used for SWIFT PREMIUM support.

process definition object. An MQSeries object that contains the definition of an MQSeries application. A queue manager uses the definitions contained in a process definition object when it works with trigger messages.

program-function key. A key on a display terminal keyboard to which a function (for example, a command) can be assigned. This lets you execute the function (enter the command) with a single keystroke.

PROMPT mode. One of two ways to display a message panel. PROMPT mode is intended for SWIFT Link users who are unfamiliar with the structure of SWIFT messages. With PROMPT mode, all the fields and tags are displayed for the SWIFT message. Contrast with *NOPROMPT mode*.

protocol data unit (PDU). In MERVA Link a PDU consists of a structured sequence of implicit and explicit data elements:

- Implicit data elements contain other data elements.
- Explicit data elements cannot contain any other data elements.

PSN. Public switched network.

PSPDN. Packet switched public data network.

PSTN. Public switched telephone network.

PT. Partner table.

PTT. A national post and telecommunication authority (post, telegraph, telephone).

Q

QDS. Queue data set.

QSN. Queue sequence number.

queue. (1) In MERVA, a logical subdivision of the MERVA queue data set used to store the messages associated with a MERVA message-processing function. A queue has the same name as the message-processing function with which it is associated. (2) In MQSeries, an

object onto which message queuing applications can put messages, and from which they can get messages. A queue is owned and maintained by a queue manager. See also *request queue*.

queue element. A message and its related control information stored in a data record in the MERVA ESA Queue Data Set.

queue management. A MERVA service function that handles the storing of messages in, and the retrieval of messages from, the queues of message-processing functions.

queue manager. (1) An MQSeries system program that provides queueing services to applications. It provides an application programming interface so that programs can access messages on the queues that the queue manager owns. See also *local queue manager* and *remote queue manager*. (2) The MQSeries object that defines the attributes of a particular queue manager.

queue sequence number (QSN). A sequence number that is assigned to the messages stored in a logical queue by MERVA ESA queue management in ascending order. The QSN is always unique in a queue. It is reset to zero when the queue data set is formatted, or when a queue management restart is carried out and the queue is empty.

R

RACF. Resource Access Control Facility.

RBA. Relative byte address.

RC message. Recovered message; that is, an IP message that was copied from the control queue of an inoperable or closed ASP via the **recover** command.

ready queue. A MERVA queue used by SWIFT Link to collect SWIFT messages that are ready for sending to the SWIFT network.

remote queue. In MQSeries, a queue that belongs to a remote queue manager. Programs can put messages on remote queues, but they cannot get messages from remote queues. Contrast with *local queue*.

remote queue manager. In MQSeries, a queue manager is remote to a program if it is not the queue manager to which the program is connected.

repeatable sequence. A field or a group of fields that is contained more than once in a message. For example, if the SWIFT fields 20, 32, and 72 form a sequence, and if this sequence can be repeated up to 10 times in a message, each sequence of the fields 20, 32, and 72 would be an occurrence of the repeatable sequence.

In the TOF, the occurrences of a repeatable sequence are numbered in ascending order from 1 to 32767 and can be referred to using the occurrence number.

A repeatable sequence in a message may itself contain another repeatable sequence. To identify an occurrence within such a nested repeatable sequence, more than one occurrence number is necessary.

reply message. In MQSeries, a type of message used for replies to request messages.

reply-to queue. In MQSeries, the name of a queue to which the program that issued an MQPUT call wants a reply message or report message sent.

report message. In MQSeries, a type of message that gives information about another message. A report message usually indicates that the original message cannot be processed for some reason.

request message. In MQSeries, a type of message used for requesting a reply from another program.

request queue. The queue in which a service request is stored. It resides in main storage and consists of a set of request queue elements that are chained in different queues:

- Requests waiting to be processed
- Requests currently being processed
- Requests for which processing has finished

request queue handler (RQH). A MERVA ESA component that handles the queueing and scheduling of service requests. It controls the request processing of a nucleus server according to rules defined in the finite state machine.

Resource Access Control Facility (RACF). An IBM licensed program that provides for access control by identifying and verifying users to the system, authorizing access to protected resources, logging detected unauthorized attempts to enter the system, and logging detected accesses to protected resources.

retype verification. See *verification*.

routing. In MERVA, the passing of messages from one stage in a predefined processing path to the next stage.

RP. Regional processor.

RQH. Request queue handler.

RRDS. Relative record data set.

S

SAF. System Authorization Facility.

SCS. SNA character string

SCP. System control process.

SDI. Sequential data set input. A batch utility used to import messages from a sequential data set or a tape into MERVA ESA queues.

SDO. Sequential data set output. A batch utility used to export messages from a MERVA ESA queue to a sequential data set or a tape.

SDY. Sequential data set system printer. A batch utility used to print messages from a MERVA ESA queue.

service request. A type of request that is created and passed to the request queue handler whenever a nucleus server requires a service that is not currently available.

sequence number. A number assigned to each message exchanged between two nodes. The number is increased by one for each successive message. It starts from zero each time a new session is established.

sign off. To end a session with MERVA.

sign on. To start a session with MERVA.

single-system sysplex. A sysplex in which only one MVS system can be initialized as part of the sysplex. In a single-system sysplex, XCF provides XCF services on the system, but does not provide signalling services between MVS systems. A single-system sysplex requires an XCF couple data set. See also *multisystem sysplex*.

small queue element. A queue element that is smaller than the smaller of:

- The limiting value specified during the customization of MERVA
- 32KB

SMP/E. System Modification Program Extended.

SN. Session number.

SNA. Systems network architecture.

SNA character string. In SNA, a character string composed of EBCDIC controls, optionally mixed with user data, that is carried within a request or response unit.

SPA. Scratch pad area.

SQL. Structured Query Language.

SR-ASPDU. The status report application support PDU, which is used by MERVA Link for acknowledgment messages.

SSN. Select sequence number.

subfield. A subdivision of a field with a specific meaning. For example, the SWIFT field 32 has the subfields date, currency code, and amount. A field can

have several subfield layouts depending on the way the field is used in a particular message.

SVC. (1) Switched Virtual Circuit. (2) Supervisor call instruction.

S.W.I.F.T. (1) Society for Worldwide Interbank Financial Telecommunication s.c. (2) The network provided and managed by the Society for Worldwide Interbank Financial Telecommunication s.c.

SWIFT address. Synonym for *bank identifier code*.

SWIFT Correspondents File. The file containing the bank identifier code (BIC), together with the name, postal address, and zip code of each financial institution in the BIC Directory.

SWIFT financial message. A message in one of the SWIFT categories 1 to 9 that you can send or receive via the SWIFT network. See *SWIFT input message* and *SWIFT output message*.

SWIFT header. The leading part of a message that contains the sender and receiver of the message, the message priority, and the type of message.

SWIFT input message. A SWIFT message with an input header to be sent to the SWIFT network.

SWIFT link. The MERVA ESA component used to link to the SWIFT network.

SWIFT network. Refers to the SWIFT network of the Society for Worldwide Interbank Financial Telecommunication (S.W.I.F.T.).

SWIFT output message. A SWIFT message with an output header coming from the SWIFT network.

SWIFT system message. A SWIFT general purpose application (GPA) message or a financial application (FIN) message in SWIFT category 0.

switched virtual circuit (SVC). An X.25 circuit that is dynamically established when needed. It is the X.25 equivalent of a switched line.

sysplex. One or more MVS systems that communicate and cooperate via special multisystem hardware components and software services.

System Authorization Facility (SAF). An MVS or VSE facility through which MERVA ESA communicates with an external security manager such as RACF (for MVS) or the basic security manager (for VSE).

System Control Process (SCP). A MERVA Link component that handles the transfer of MERVA ESA commands to a partner MERVA ESA system, and the receipt of the command response. It is associated with a system control process entry in the partner table.

System Modification Program Extended (SMP/E). A licensed program used to install software and software changes on MVS systems.

Systems Network Architecture (SNA). The description of the logical structure, formats, protocols, and operating sequences for transmitting information units through, and for controlling the configuration and operation of, networks.

T

tag. A field identifier.

TCP/IP. Transmission Control Protocol/Internet Protocol.

Telex Correspondents File. A file that stores data about correspondents. When the user enters the corresponding nickname in a Telex message, the corresponding information in this file is automatically retrieved and entered into the Telex header area.

telex header area. The first part of the telex message. It contains control information for the telex network.

telex interface program (TXIP). A program that runs on a Telex front-end computer and provides a communication facility to connect MERVA ESA with the Telex network.

Telex Link. The MERVA ESA component used to link to the public telex network via a Telex substation.

Telex substation. A unit comprised of the following:

- Telex Interface Program
- A Telex front-end computer
- A Telex box

Terminal User Control Block (TUCB). A control block containing terminal-specific and user-specific information used for processing messages for display devices such as screen and printers.

test key. A key added to a telex message to ensure message integrity and authorized delivery. The test key is an integer value of up to 16 digits, calculated manually or by a test-key processing program using the significant information in the message, such as amounts, currency codes, and the message date.

test-key processing program. A program that automatically calculates and verifies a test key. The Telex Link supports panels for input of test-key-related data and an interface for a test-key processing program.

TFD. Terminal feature definitions table.

TID. Terminal identification. The first 9 characters of a bank identifier code (BIC).

TOF. Originally the abbreviation of *tokenized form*, the TOF is a storage area where messages are stored so that their fields can be accessed directly by their field names and other index information.

TP. Transaction program.

transaction. A specific set of input data that triggers the running of a specific process or job; for example, a message destined for an application program.

transaction code. In IMS and CICS, an alphanumeric code that calls an IMS message processing program or a CICS transaction. Transaction codes have 4 characters in CICS and up to 8 characters in IMS.

Transmission Control Protocol/Internet Protocol (TCP/IP). A set of communication protocols that support peer-to-peer connectivity functions for both local and wide area networks.

transmission queue. In MQSeries, a local queue on which prepared messages destined for a remote queue manager are temporarily stored.

trigger event. In MQSeries, an event (such as a message arriving on a queue) that causes a queue manager to create a trigger message on an initiation queue.

trigger message. In MQSeries, a message that contains information about the program that a trigger monitor is to start.

trigger monitor. In MQSeries, a continuously-running application that serves one or more initiation queues. When a trigger message arrives on an initiation queue, the trigger monitor retrieves the message. It uses the information in the trigger message to start a process that serves the queue on which a trigger event occurred.

triggering. In MQSeries, a facility that allows a queue manager to start an application automatically when predetermined conditions are satisfied.

TUCB. Terminal User Control Block.

TXIP. Telex interface program.

U

UMR. Unique message reference.

unique message reference (UMR). An optional feature of MERVA ESA that provides each message with a unique identifier the first time it is placed in a queue. It is composed of a MERVA ESA installation name, a sequence number, and a date and time stamp.

UNIT. A group of related literals or fields of an MCB definition, or both, enclosed by a DSLUNIT and DSLUEND macroinstruction.

UNIX System Services (USS). A component of OS/390, formerly called OpenEdition (OE), that creates a UNIX environment that conforms to the XPG4 UNIX 1995 specifications, and provides two open systems interfaces on the OS/390 operating system:

- An application program interface (API)
- An interactive shell interface

UN/EDIFACT. United Nations Standard for Electronic Data Interchange for Administration, Commerce and Transport.

USE. S.W.I.F.T. User Security Enhancements.

user file. A file containing information about all MERVAs ESA users; for example, which functions each user is allowed to access. The user file is encrypted and can only be accessed by authorized persons.

user identification and verification. The acts of identifying and verifying a RACF-defined user to the system during logon or batch job processing. RACF identifies the user by the user ID and verifies the user by the password or operator identification card supplied during logon processing or the password supplied on a batch JOB statement.

USS. UNIX System Services.

V

verification. Checking to ensure that the contents of a message are correct. Two kinds of verification are:

- Visual verification: you read the message and confirm that you have done so
- Retype verification: you reenter the data to be verified

Virtual LU. An LU defined in MERVAs Extended Connectivity for communication between MERVAs and MERVAs Extended Connectivity.

Virtual Storage Access Method (VSAM). An access method for direct or sequential processing of fixed and variable-length records on direct access devices. The records in a VSAM data set or file can be organized in logical sequence by a key field (key sequence), in the physical sequence in which they are written on the data set or file (entry sequence), or by relative-record number.

Virtual Telecommunications Access Method (VTAM). An IBM licensed program that controls communication and the flow of data in an SNA network. It provides single-domain, multiple-domain, and interconnected network capability.

VSAM. Virtual Storage Access Method.

VTAM. Virtual Telecommunications Access Method (IBM licensed program).

W

Windows NT service. A type of Windows NT application that can run in the background of the Windows NT operating system even when no user is logged on. Typically, such a service has no user interaction and writes its output messages to the Windows NT event log.

X

X.25. An ISO standard for interface to packet switched communications services.

XCF. Abbreviation for *cross-system coupling facility*, which is a special logical partition that provides high-speed caching, list processing, and locking functions in a sysplex. XCF provides the MVS coupling services that allow authorized programs on MVS systems in a multisystem environment to communicate with (send data to and receive data from) authorized programs on other MVS systems.

XCF couple data sets. A data set that is created through the XCF couple data set format utility and, depending on its designated type, is shared by some or all of the MVS systems in a sysplex. It is accessed only by XCF and contains XCF-related data about the sysplex, systems, applications, groups, and members.

XCF group. The set of related members defined to SCF by a multisystem application in which members of the group can communicate with (send data to and receive data from) other members of the same group. All MERVAs systems working together in a sysplex must pertain to the same XCF group.

XCF member. A specific function of a multisystem application that is defined to XCF and assigned to a group by the multisystem application. A member resides on one system in a sysplex and can use XCF services to communicate with other members of the same group.

Bibliography

MERVA ESA Publications

- *MERVA for ESA Version 4: Application Programming Interface Guide*, SH12-6374
- *MERVA for ESA Version 4: Advanced MERVA Link*, SH12-6390
- *MERVA for ESA Version 4: Concepts and Components*, SH12-6381
- *MERVA for ESA Version 4: Customization Guide*, SH12-6380
- *MERVA for ESA Version 4: Diagnosis Guide*, SH12-6382
- *MERVA for ESA Version 4: Installation Guide*, SH12-6378
- *MERVA for ESA Version 4: Licensed Program Specifications*, GH12-6373
- *MERVA for ESA Version 4: Macro Reference*, SH12-6377
- *MERVA for ESA Version 4: Messages and Codes*, SH12-6379
- *MERVA for ESA Version 4: Operations Guide*, SH12-6375
- *MERVA for ESA Version 4: System Programming Guide*, SH12-6366
- *MERVA for ESA Version 4: User's Guide*, SH12-6376

MERVA ESA Components Publications

- *MERVA Automatic Message Import/Export Facility: User's Guide*, SH12-6389
- *MERVA Connection/NT*, SH12-6339
- *MERVA Connection/400*, SH12-6340
- *MERVA Directory Services*, SH12-6367
- *MERVA Extended Connectivity: Installation and User's Guide*, SH12-6157
- *MERVA Message Processing Client for Windows NT: User's Guide*, SH12-6341
- *MERVA-MQI Attachment User's Guide*, SH12-6714
- *MERVA Traffic Reconciliation*, SH12-6392
- *MERVA USE: Administration Guide*, SH12-6338
- *MERVA USE & Branch for Windows NT: User's Guide*, SH12-6334

- *MERVA USE & Branch for Windows NT: Installation and Customization Guide*, SH12-6335
- *MERVA USE & Branch for Windows NT: Application Programming Guide*, SH12-6336
- *MERVA USE & Branch for Windows NT: Diagnosis Guide*, SH12-6337
- *MERVA USE & Branch for Windows NT: Migration Guide*, SH12-6393
- *MERVA USE & Branch for Windows NT: Installation and Customization Guide*, SH12-6335
- *MERVA Workstation Based Functions*, SH12-6383

S.W.I.F.T. Publications

The following are published by the Society for Worldwide Interbank Financial Telecommunication, s.c., in La Hulpe, Belgium:

- *S.W.I.F.T. User Handbook*
- *S.W.I.F.T. Dictionary*
- *S.W.I.F.T. FIN Security Guide*
- *S.W.I.F.T. Card Readers User Guide*

Index

Special Characters

- % (command entry) 54
- % (user functions) 129
- * (address expansion) 27
- * (command entry) 54
- * (mandatory field) 25
- ! (received telex) 101
- = (REPEAT) command 212
- ? (RETRIEVE) command 213
- * (user functions) 129
- / command (current line) 189

A

- ACK 113
- ADD command
 - file maintenance (example) 134, 151, 170
 - format 189
- address expansion
 - in NOPROMPT mode 49
 - in PROMPT mode 26
 - in SWIFT messages 26
 - in telex messages 83
 - use of general files 166
- administration 17
 - authenticator-key file maintenance 141
 - authorized user 124
 - command authorization 129
 - currency code file 174
 - default network 24, 128
 - define user functions 129
 - DSLUSER (first password) 13
 - first sign-on 13
 - FLM administrator 127
 - general file maintenance 165
 - group ID 124
 - message types 129
 - nicknames file 178
 - NOPROMPT mode 128
 - origin ID 124, 128
 - password definition 127
 - PF-key set name 129
 - SWIFT correspondents file 166
 - telex correspondents file 176
 - transaction code 11
 - user file maintenance 123
 - user ID 126
 - user type 126
- answerback 101
- asterisk 129
 - address expansion 27
 - command entry 54
 - mandatory field 25
 - asterisk (user functions) 129
- AUT (AUTHENT) command 189
- AUT function 142
- AUT0 function 142
- AUT1 function 142

- AUT2 function 142
- AUTHENT command
 - example 59
 - format 189
- authentication of SWIFT messages 59
- authenticator-key file
 - add a record 151
 - authenticator key 59
 - authorize a record 159
 - authorized key area 144
 - change a record 155
 - command overview 148
 - copy information 161
 - copy part of record 156
 - correspondent LT 144, 145, 147
 - delete a record 157
 - display a record 149
 - DWSAUTIN program 141
 - DWSDGPA program 141
 - exchange a record 153
 - generic LTs 147
 - home LT 143, 145, 147
 - maintenance functions 142
 - origin ID 147
 - reject a pending change 160
 - replace a record 155
 - SWIFTAUT program 141
 - SWIFTII program 141
 - unauthorized key area 145
- authorized
 - commands 129
 - key area 144
 - user 124
- authorizing a message 53, 56

B

- BACKWARD command
 - format 190
- bank identifier code (BIC) 26
- BIC (bank identifier code) 26
- Bilateral Key Exchange (BKE) 63
- BKE (Bilateral Key Exchange) 63
- BKE discontinuation 63
- BKE Discontinuation 71
- BKE manual start 63
- BKE Manual Start 69
- BKE pre-agreements 63, 64
- BKID command 190
 - format 190
- BWD (BACKWARD) command 190

C

- cancel changes 29
- character set (Telex Link) 81
- CHECK command 190
- CMD function (operator command processing) 16
- combined commands 184

- commands
 - abbreviations 187
 - entering 9
 - format 187
 - HELP 9
 - parameters 187
 - prefix 49
 - substitution characters 54
- commands, combined 184
- commands, Display and Edit 184
- commands, file maintenance 185
- commands, message-processing 183
- commands, message-selection 183
- commands, session 183
- commands, user 183
- common records in shared files 165
- communication area 7, 82
- completing a message 33
- confirmation
 - negative 207
 - positive 222
- COPY command
 - file maintenance (example) 136, 156, 161
 - file maintenance (format) 191
 - message processing (example) 23
 - message processing (format) 191
- correction of messages 45, 47, 85
- correspondent identifier 177
- create
 - SWIFT message 23
 - telex message 81
- currency code 175
- currency code file
 - maintenance function 174
 - nonshared file 174
 - record fields 174, 175
- current line command (/) 189
- customizing MERVA ESA 12

D

- data entry
 - SWIFT message 23
 - telex message 82
- default network 128
- DEL (DELETE) command 192
- delete BK 74
- DELETE command
 - authenticator-key file maintenance (format) 193
 - file maintenance (example) 131, 138, 157, 173
 - file maintenance (format) 193
 - message processing (example) 102, 117
 - message processing (format) 192
- delete extra occurrences 47
- deletion of BK records 74
- DIS (DISPLAY) command 194

- discard
 - changes 29
 - message processing 29
 - messages 27
- discontinuation (BKE) 63
- Discontinuation (BKE) 71
- Display and Edit commands 184
- DISPLAY command
 - example 132, 150, 168, 178
 - format 194
- display mode
 - NOPROMPT 33
 - PROMPT 30
 - PROMPT LINE 32
 - PROMPT UNIT 31
 - PROMPT UNIT LINE 33
- distributing a received message
 - SWIFT output message 60
 - telex message 101
- distribution 72
- distribution of keys 72
- DOCC command
 - example 47
 - format 195
- DSL (Base Functions) 8
- DSLGRPT (group table) 128
- DSLUSER (first user ID) 13
- DWS (SWIFT Link) 8

E

- E (ERASE) command (NOPROMPT prefix)
 - example 49
 - format 195
- EKA (MERVA Link) 8
- END command
 - example 33
 - format 195
- end display 33
- ENL (Telex Link) 8
- entering data
 - SWIFT message 23
 - telex message 82
- EOM command
 - example 18, 88
 - format 195
- ERASE command
 - example 49
 - format 195
- erasing data 49
- error handling
 - authenticator-key file 157
 - displaying error messages 34, 86
 - during sign-off 34
 - during verification 45, 46
 - general 10
 - general files 171
 - in SWIFT message 34
 - in telex message 85
 - incorrect authenticator key 59
 - incorrect data 27
 - omitted mandatory field 28
 - SHOW ERROR command 34
- ESC (ESCAPE) command 196
- ESCAPE command
 - file maintenance (example) 179

- ESCAPE command (*continued*)
 - file maintenance (format) 196
 - message processing (example) 27, 34
 - message processing (format) 196
- ESCKEY command 196
- ESCNEXT command 197
- EXCHANGE command
 - example 153
 - format 197
- exclamation mark (received telex) 101
- expansion 26
- extend line command 222
- extended group ID checking 124
- extended origin ID checking 124, 128

F

- file maintenance
 - commands 185
 - functions 121
- FIND command 198
- FLM administrator 127, 166
- FORM command
 - format 198
 - NOPROMPT restrictions 49
- forms for messages 3
- forms queue 23
- FORWARD command
 - format 199
- forward message 103
- FREE command
 - format 199
- function
 - definition 129
 - selection 14
- FWD (FORWARD) command 199

G

- general files
 - add a record 170
 - change a record 172
 - currency code file 174
 - delete a record 173
 - display a record 167
 - end maintenance function 180
 - list records 167
 - maintenance function 165
 - nicknames file 178
 - nonshared files 165
 - purpose 165
 - replace a record 172
 - shared files 165
 - SWIFT correspondents file 166
 - telex correspondents file 176
- generic LTs 147
- GET command
 - format 199
 - message by key (example) 53, 54, 59
 - message selection (example) 23, 45, 47, 88
 - select by QSN (example) 56
- group ID 128
 - extended group ID checking 124
- group table (DSLGRPT) 128

H

- HARDCOPY command
 - example 102
 - format 200
- HCO (HARDCOPY) command 200
- Headoffice Telex on a fault-tolerant system (journal) 111
- HELP command 9
 - example 10, 86
 - format 201
- help function 9
- help panel list 223

I

- I (INSERT) command (NOPROMPT prefix)
 - example 50
 - format 201
- incoming messages
 - SWIFT output messages 59
 - telex messages 101
- incorrect data 27
- information line 8
- input message 23
- INSERT command
 - example 50
 - format 201
- inserting data 50
- italics 188

J

- journal (Headoffice Telex on a fault-tolerant system) 111

K

- keys
 - authentication 59
 - authenticator-key file 141
 - message by key 59
 - program function 9
 - select by key 53

L

- language ID 127
- last sign-on date 130
- last update 130
- layout (panel) 8, 81
- leaving a function 34
- LENGTH command
 - example 33
 - format 201
- LIN (LINE) command 202
- LINE command 202
- LIS (LIST) command (file maintenance) 204
- LIST command
 - authenticator-key file maintenance (format) 204
 - file maintenance (example) 130, 167, 168, 178
 - file maintenance (format) 204

LIST command (*continued*)
 message selection (example) 54
 message selection (format) 203
listing messages in a queue 54
logical acknowledgment 111

M

MAC trailer 33
mandatory field
 in nested message 43
 in SWIFT message 25
 in telex message 82
 omitted 28
mandatory parameters 188
manual calculation of test-key 93
manual start (BKE) 63
Manual Start (BKE) 69
MERVA Link
 general 3
MERVA-MQI Attachment
 general 3
MERVA system control function
 (MSC) 16
message
 authentication 59
 authorizing 56
 correction 45, 85
 distribution 60
 forms 3
 nested 41
 path 5
 processing 4
 queue 4, 5, 17
 repeatable sequences 37
 routing 5, 17
 verification 45
message-processing
 commands 183
message processing
 commands 184
 function 16
 general 4
message-selection commands 47, 183
message types (definition) 129
modifying MERVA ESA 12
MSC function (MERVA system
 control) 16
MT 100
 authentication 59
 data entry 25
 retype verification 45
 telex transmission 95
MT 192 41
MT 950
 authorization example 56
 visual verification 47
MT command
 example 23, 24, 95
 format 206

N

NAK,FMT 113
NAK,NC 115
NAK,NP 115

NAK,OCC 115
negative
 acknowledgment 115
 confirmation 207
nested message 41
network identifier 24, 128
nicknames file
 authorization restriction 178
 maintenance function 178
 record fields 178
NO command
 example 56
 format 207
NOKEY command 207
NONEXT command 207
nonshared files 165
NOP (NOPROMPT) command 208
NOPROMPT command
 example 48
 format 208
 general 33
 line ID 128
 prefix area 48
 prefix commands 49
 restrictions 48, 49
normal telex 111
Notices 225

O

OCC command
 example (MT S950) 38
 format 208
occurrences (repeatable sequences) 38
OK command
 authenticator-key file maintenance
 (format) 210
 file maintenance (example) 134, 136,
 151, 159
 file maintenance (format) 209
 message processing (example) 46, 56
 message processing (format) 209
OKKEY command 210
OKNEXT command 210
omitted mandatory field 28
operator
 command processing (CMD) 16
 commands 9
origin ID
 authenticator-key file 147
 definition 7
 extended origin ID checking 124, 128
 SWIFT message 7
 telex message 82
outgoing message
 SWIFT input message 23
 telex message 81
output message
 authentication 59
 definition 23

P

PAG (PAGE) command 210
PAGE command
 format 210

panel
 command line 8
 communication area 7, 8, 82
 display and entry area 8
 information line 8
 layout 8, 81
 PF keys 9
 prefix area 101
 telex header area 82
 telex message layout 81
 test-key input area 89
 text area 82
 title area 82
parameters (command entry) 187
password
 changing 13
 DSLUSER 13
 first sign-on 13
 in user file maintenance 124, 125,
 127, 133
path 5
PDE trailer 30, 33
percent (command entry) 54
percent (user functions) 129
PF-key-set name 129
PF keys 9
PFKEYS command 211
positive
 acknowledgment 116
 confirmation 222
pre-agreements (BKE) 63, 64
prefix area 101
prefix commands (NOPROMPT)
 / (current line) command 189
 E (ERASE) command 195
 I (INSERT) command 201
 X (extend) command 222
printing the user file 132
private records in shared files 165
PRO (PROMPT) command 211
processing
 function 5
 steps 4
program-function keys 9
PROMPT command
 display commands 184
 example 37
 format 211
 PROMPT LINE (example) 32
 PROMPT mode 30
 PROMPT UNIT (example) 31
 PROMPT UNIT LINE (example) 33

Q

QSN (queue sequence number) 56
queue 5
queue-key list 54
queue sequence number (QSN) 56

R

RBN (relative block number) 56
received telex 108
receiving key 144, 145

- record
 - SWIFT correspondents file 167
 - user file 130
- REJECT command
 - authenticator-key file maintenance (format) 212
 - example 131, 139, 160
 - file maintenance (format) 211
- Rejected signons 128
- relative block number (RBN) 56
- REPEAT command 212
- repeatable sequences
 - deleting occurrences 47
 - general 37
 - scrolling through occurrences 47
- REPLACE command
 - example 136, 155, 172
 - file maintenance (format) 212
 - message processing (format) 213
- REQ (QUEUE) command 213
- QUEUE command
 - example 27, 33, 34, 61, 88
 - format 213
- RET (RETURN) command 213
- RETRIEVE command 213
- retrieve message
 - by key 53
 - from queue 23
- RETURN command
 - file maintenance (example) 139
 - format 213
 - message processing (example) 34
- retype verification 45
- ROU (ROUTE) command 214
- ROUTE command
 - example 61, 102, 116
 - format 214
- routing messages 5, 17

S

- security 12
- select
 - forms 23
 - function 14
 - message 23
- selection
 - commands 184
- sender's address 83
- sending a telex message 111
- sending key 144, 145
- session (MERVA ESA) 12
- session commands 183
- shared files 165
- SHOW command
 - example 34
 - format 214
- sign-on date, last 130
- signing off (MERVA ESA) 34
- signing on (MERVA ESA)
 - first sign-on 13
 - password 12, 13
 - user ID 12, 13
- SIGNOFF command
 - example 34
 - format 214
 - without EOM command 34

- signons, number of rejected 128
- SOCC command
 - example 47
 - format 214
- SOF (SIGNOFF) command 214
- SPLIT command
 - example 133, 138
 - format 215
- splitting of lines (telex) 119
- SREP command 215
- starting a MERVA ESA session 12
- status fields
 - received telex 117
 - sending a telex 111
 - transmission 111
- STELEX 89
- stopping a MERVA ESA session 34
- storing a message 33, 34
- substitution characters (command entry) 54
- substitution characters (user functions) 129
- suspend BK 75
- suspension of BK records 75
- suspension/reactivation (BKE) 63
- SWIFT
 - system message 021 41
- SWIFT correspondents file
 - add a record 170
 - change a record 172
 - delete a record 173
 - display a record 167, 168
 - list records 167
 - record fields 166
 - replace a record 172
- SWIFT message
 - origin ID 7
- SWIFT messages 45, 47
 - address expansion 26, 49
 - authentication 59
 - creating 23
 - customize format 98
 - data entry 23
 - distributing output messages 60
 - input message 23
 - input message via telex 96
 - message format for telex transmission 98
 - MT 100 24, 25
 - MT 192 41
 - MT 950 37
 - nested message 41
 - output message 23
 - output message via telex 96
 - repeatable sequence 37, 47
 - sample 17
 - SWIFT Link (general) 3
 - telex transmission 95
 - test-key calculation 98

T

- TELEX (message type) 81
- TELEX command
 - example 95, 97
 - format 216

- telex correspondents file
 - maintenance function 176
 - nonshared file 176
 - record fields 176, 177
- telex header area 82
- Telex Interface Program 111
- telex messages
 - character set 81
 - common nicknames file 83
 - correct message using Headoffice
 - Telex on a fault-tolerant system 111
 - correspondent's identification 83
 - creation 81
 - data entry 87
 - incoming 101
 - incorrect received 119
 - input message 96
 - maximum number of lines 87
 - negative acknowledgment 107, 115
 - origin ID 82
 - output message 96
 - panel layout 81
 - positive acknowledgment 106
 - preparation 105
 - printout 119
 - priority 85
 - private nicknames file 83
 - receipt report 106
 - reception 108
 - retransmission 116
 - route 102
 - sender's address 82, 83
 - splitting of lines 119
 - status fields (received telex) 117, 118
 - status fields (transmission) 112, 113
 - status information 106, 108
 - SWIFT format for telex
 - transmission 95, 98
 - TELEX (message type) 81
 - Telex Link (general) 3
 - Telex Link of MERVA OS/2 105
 - telex number 84
 - test-key 88
 - test-key calculation 93
 - timed 85
 - TINV 117
 - transmission 106, 111
 - TRCV (message type) 101
 - truncation 119
 - unidentified acknowledgment 108
 - verification 102
 - workstation based telex
 - functions 105
- test key
 - flag 102
 - verification 102
- test-key
 - calculation for SWIFT message 98
 - calculation for telex message 91
 - flag 91
 - incoming telex messages 91
 - indicator 91
 - input area 89, 92
 - large input area 98
 - manual calculation 93
 - outgoing telex messages 91
 - processing program (STELEX) 89

- test-key (*continued*)
 - verification 91
- TESTKEY CALCULATE command
 - example 92, 98, 103
 - format 217
- TESTKEY CLEAR command 217
- TESTKEY command (general) 89
- TESTKEY EXTRACT command
 - example 97, 98
 - format 218
- TESTKEY LARGE command
 - example 90, 98
 - format 218
- TESTKEY OK command
 - example 93, 102
 - format 218
- TESTKEY SMALL command 218
- TESTKEY TEST command 219
- TESTKEY VERIFY command
 - example 102
 - format 219
- text area 82
- TINV (message type) 117
- title area 82
- TK (TESTKEY) command 217
- TK C (TESTKEY CALCULATE)
 - command 217
- TK CL (TESTKEY CLEAR)
 - command 217
- TK E (TESTKEY EXTRACT)
 - command 218
- TK L (TESTKEY LARGE) command 218
- TK O (TESTKEY OK) command 218
- TK S (TESTKEY SMALL) command 218
- TK T (TESTKEY TEST) command 219
- TK V (TESTKEY VERIFY) command 219
- trailer
 - MAC 33
 - PDE 30, 33
- transaction code 11
- transmission acknowledgment
 - (Headoffice Telex on a fault-tolerant system) 111
- transmitting telexes 106
- TRCV (message type) 101
- truncation (telex) 119
- TXDELETE command
 - format 219
 - general 88
- TXINFO command
 - example 111, 112, 117
 - format 220
- TXINSERT command
 - format 220
 - general 88
- TXJOIN command
 - format 220
 - general 88
- TXNUMBER command
 - example 101
 - format 221
 - general 88
- TXSPLIT command
 - format 221
 - general 88

U

- UL command
 - example 14
 - format 221
- unauthorized
 - commands 129
 - key area 145
- underlined fields 14
- unidentified acknowledgment 117
- unique message reference 214
- update, last 130
- urgent telex 111
- user commands 183
- user file
 - add a record 134
 - authorize a record 137
 - authorize changes 134
 - authorized data 133
 - change a record 136
 - command overview 130
 - create record (USR) 13
 - default network 24
 - delete a record 138
 - display a record 132
 - DSLUSER (first password) 13
 - end maintenance 139
 - first sign-on 13
 - FLM administrator 127
 - list records 130
 - maintenance functions 123
 - NOPROMPT restrictions 49
 - password definition 127
 - printing 132
 - record fields 126
 - replace a record 136
 - unauthorized data 133
 - user type 126
- User File
 - purpose 7
- user functions
 - substitution characters 129
- user ID
 - in extended group ID checking 124
 - in extended origin ID checking 124
 - signing on 12
- user profile 7
- user type 126
- USGRP operand
 - DSLPARM macro 128
- USR function 124
- USR0 function 123
- USR1 function 123
- USR2 function 123

V

- verifying
 - SWIFT message 45
 - telex message 102
- visual verification 45

X

- X (extend) command (NOPROMPT prefix) 222

Y

- YES command 222

MERVA Requirement Request

Use the form overleaf to send us requirement requests for the MERVA product. Fill in the blank lines with the information that we need to evaluate and implement your request. Provide also information about your hardware and software environments and about the MERVA release levels used in your environment.

Provide a detailed description of your requirement. If you are requesting a new function, describe in full what you want that function to do. If you are requesting that a function be changed, briefly describe how the function works currently, followed by how you are requesting that it should work.

If you are a customer, provide us with the appropriate contacts in your organization to discuss the proposal and possible implementation alternatives.

If you are an IBM employee, include at least the name of one customer who has this requirement. Add the name and telephone number of the appropriate contacts in the customer's organization to discuss the proposal and possible implementation alternatives. If possible, send this requirement online to MERVAREQ at SDFVM1.

For comments on this book, use the form provided at the back of this publication.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

Send the fax to:

**To: MERVA Development, Dept. 5640
Attention: Gerhard Stubbe**

**IBM Deutschland Entwicklung GmbH
Schoenaicher Str. 220
D-71032 Boeblingen
Germany**

**Fax Number: +49-7031-16-4881
Internet address:
mervareq@de.ibm.com**

MERVA Requirement Request

To: MERVA Development, Dept. 5640
Attention: Gerhard Strubbe

Fax Number: +49-7031-16-4881
Internet address:
mervareq@de.ibm.com

IBM Deutschland Entwicklung GmbH
Schoenaicher Str. 220
D-71032 Boeblingen Germany

Page 1 of _____

Customer's Name	_____
Customer's Address	_____ _____ _____
Customer's Telephone/Fax	_____
Contact Person at Customer's Location Telephone/Fax	_____ _____
MERVA Version/Release	_____
Operating System Sub-System Version/Release	_____ _____
Hardware	_____
Requirement Description	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Expected Benefits	_____ _____ _____

Readers' Comments — We'd Like to Hear from You

MERVA for ESA
User's Guide
Version 4 Release 1

Publication No. SH12-6376-01

Overall, how satisfied are you with the information in this book?

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How satisfied are you that the information in this book is:

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Accurate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to find	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Well organized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable to your tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us how we can improve this book:

Thank you for your responses. May we contact you? Yes No

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

Name

Address

Company or Organization

Phone No.



Fold and Tape

Please do not staple

Fold and Tape

PLACE
POSTAGE
STAMP
HERE

IBM Deutschland Entwicklung GmbH
Information Development, Dept. 0446
Schoenaicher Strasse 220
71032 Boeblingen
Germany

Fold and Tape

Please do not staple

Fold and Tape



Program Number: 5648-B29

SH12-6376-01

