

ULTRIX

MH User's Guide

Order Number: AA-PFTEA-TE
May 1991

Product Version: MH Version 6.7
Operating System and Version: ULTRIX Version 4.2

This manual describes how to use the MH user agent to send and receive electronic mail on ULTRIX.

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About This Manual

The purpose of this guide is to provide users of the MH user agent with all the information they need to use it quickly and efficiently.

Audience

This guide is intended for users with knowledge of basic ULTRIX concepts and commands.

Organization

This book contains nine chapters and one appendix.

- Chapter 1. Introduction
Gives an overview of MH and its features, and describes what you need to do to use it for the first time.
- Chapter 2. Creating and Sending Messages
Describes how to write and send messages with MH, and how to store unsent draft messages.
- Chapter 3. Receiving and Reading Messages
Describes how to fetch and read new mail, and how to save, print or delete it.
- Chapter 4. Replying to and Forwarding Messages
Describes how to reply to incoming messages, or forward them to other users. Describes how to use the automatic reply and forwarding utilities.
- Chapter 5. Filing Messages in Folders
Describes the concepts of folders and how to store and refile messages, and explains how to use folders within folders.
- Chapter 6. Saving Addresses: the alex Utility
Describes the alex utility, and how to use it to extract addresses from messages and create aliases. Gives an overview of the concepts of aliasing.
- Chapter 7. Setting up your User Profile
Describes how to add and modify entries in your user profile to customize MH.
- Chapter 8. Setting up an Alias File
Explains in depth the principles of aliasing, and describes how to set up an alias file.

- Chapter 9. Manipulating Messages
Describes how to search for messages in folders, and explains how to set up and use sequences.
- Appendix A. Addressing Mail
Describes how to address mail on ULTRIX, and how to recognize other common address forms.
- Index

Related Documents

The Little Gray Book: An ULTRIX Primer

DECwindows User's Guide, in the *ULTRIX Workstation Software* manual, Volume 2

The ULTRIX Reference Pages, Sections 1mh, 5mh and 8mh

Conventions

%	The default user prompt is your system name followed by a right angle bracket. In this manual, a percent sign (%) is used to represent this prompt.
UPPERCASE lowercase	The ULTRIX system differentiates between lowercase and uppercase characters. Literal strings that appear in text, examples, syntax descriptions, and function definitions must be typed exactly as shown.
macro	In text, this typeface is used to introduce new terms.
% cat	A regular constant-width typeface is used for code examples, system prompts in interactive examples, and names of commands and other literal strings in text. A bold constant-width typeface is used for typed user input in interactive examples and for routines in function definitions.
<i>filename</i>	In examples, syntax descriptions, and function definitions, this typeface indicates variable values.
cat file	In syntax definitions, a bold sans serif typeface is used for literal strings and a sloping sans serif typeface is used for variable values.
...	In syntax descriptions and function definitions, a horizontal ellipsis indicates that the preceding item can be repeated one or more times.
cat(1)	A cross-reference to a reference page includes the appropriate section number in parentheses. For example, a reference to <code>cat(1)</code> indicates that you can find the material on the <code>cat</code> command in Section 1 of the <i>ULTRIX Reference pages</i> .
RETURN	This symbol is used in examples to indicate that you must press the named key on the keyboard.
CTRL/x	This symbol is used in examples to indicate that you must hold down the CTRL key while pressing the key <i>x</i> that follows the slash. When you use this key combination, the system sometimes echoes the resulting character, using a circumflex (^) to represent the CTRL key (for example, ^C for CTRL/C). Sometimes the sequence is not echoed.

This chapter introduces the MH user agent. It gives a brief overview of what you can do with MH, explains some of its features, and describes what you have to do to use it for the first time.

MH is a user agent which is supplied with the ULTRIX operating system. A user agent is your interface with the mail system. It provides the commands you use to send, read and handle mail, as well as determining the form of all drafts and mail messages that you send.

You can use MH for sending memos and personal messages; sending files to other people; exchanging documents; forwarding messages to other people; and replying to messages you have received.

Unlike some other systems, you do not have to go into a separate mail utility or program to send and read messages. With MH, you can type a mail command at any time. You can use mail commands and other ULTRIX commands as you wish; you can intersperse them, or even combine them on one line. The computer treats mail commands like any other commands.

This manual explains all you need to know to use MH effectively. You do not need any special knowledge of electronic mail systems to use it. It is assumed that you have a basic knowledge of ULTRIX commands.

The rest of this chapter describes some general features of MH. It contains the following sections:

- Some Terms you Need to Know
- Using MH for the First Time
- What You Can Send
- Using DECwindows Mail
- Using the Online Reference Pages

1.1 Some Terms You Need to Know

This section describes some of the terms and conventions used in this manual. A full list of the standard ULTRIX documentation conventions is given in the About This Manual chapter at the start of the book. This section explains some of the terminology associated with the mail system.

It is assumed that you are familiar with basic ULTRIX commands and terminology. For example, you should understand terms like file, directory, and home directory. If you are not sure about these terms, you should read *The Little Gray Book*, which will give you a basic knowledge of ULTRIX very quickly.

A **mail message** (usually referred to simply as a **message**) is anything that is sent over electronic mail. It can be a memo, a personal message, or any kind of document. You can create and send messages to other users, and receive them.

All messages include a **message header**. This appears at the top of a message. It is separated from the main text of the message by a blank line or a line of dashes. The message header contains information used to address and deliver the message to its intended recipient. Each line of the message header is known as a **header field**.

MH stores mail messages in **folders**. Folders are explained in more detail in Chapter 5. For the moment you only need to know that you can create folders, and store or file messages in them. (You can think of folders as directories, with mail messages stored in them as files.) You can choose your own names for folders. MH puts a plus sign (+) before the name of a folder; for example, `+copylog`. Whenever you give a folder name in a command, you must put the plus sign before it. For consistency, whenever folders are referred to in this book, the plus sign is used before the name.

There is one special folder, where all messages that you fetch (or incorporate) are placed. This is called your **inbox**. As it is a folder like any other, it is usually referred to as `+inbox`. This is described in more detail in Chapter 3.

In some of the examples in the book, pathnames of files or folders are given. In these, the term `$HOME` is used to refer to your home directory. This is not what you will see on your screen. In real examples, a full pathname is given; for example, an example in the book might read:

```
Create folder "$HOME/Mail/inbox"?
```

In fact, what you see is more like:

```
Create folder "/usr/users/fred/Mail/inbox"?
```

Since this display will be different for every system, `$HOME` is used throughout the book for consistency.

Finally, you will find references in the book to your **system manager**. This is the person who looks after users on your system. He or she may have set up your mail environment for you, before you start to use MH. If you have any questions about how MH is set up on your particular system, ask your system manager.

1.2 Using MH for the First Time

This section describes what you have to do to use MH for the first time. It also describes what you might see the first time you type an MH command.

1.2.1 Before You Start

Before you can use MH, you need to add an entry to your `PATH` environmental variable. To do this, you need to be familiar with `ULTRIX` and editing files. If you are not sure how to proceed, ask your system manager to add the entry for you.

You need to add the directory `/usr/bin/mh` to your `PATH` variable. Depending on the shell you are using, this should be done in one of the files `.login`, `.profile` or `.cshrc` in your home directory.

For more information on adding a `PATH` entry, see the reference page for the shell you are using; for example, `csh(1)` or `sh(1)`.

1.2.2 Using Your First Mail Command

This section describes what happens when you type your first MH command. MH creates your own mail environment for you.

Your system manager may already have set up a basic mail environment for you. If this is the case, you may not see any of the messages described here, and you can go on to the next section, Section 1.3.

When you enter your first command, MH creates standard files and directories for you. For example, enter the `inc` command:

```
% inc
I'm going to create the standard MH path for you.
```

You do not need to do anything; MH sets everything up automatically.

You also see the result of the `inc` command displayed. If you have not received any mail yet, this is a message telling you that you have no mail to incorporate. This is described in detail in Chapter 3.

If you have received mail, MH asks you whether you want to create a folder to keep your messages in, called your `+inbox`. To create the folder, enter the following:

```
Create folder "$HOME/Mail/inbox"? yes
```

In general, if MH wants to create new folders or directories for you, it prompts you in this way. See Chapter 5 for more detailed information on how to create folders.

1.3 What You Can Send

Most of the messages you send using MH will probably be interoffice memoranda or personal messages. You can also send files or documents.

MH lets you send and receive the following kinds of messages:

- Text messages (including memos, personal messages, and so on)
- Forwarded messages from other people
- Text files
- PostScript files and documents
- Any combination of the above types

Text files include most of the files you commonly use on your system. Anything that looks like normal text counts as a text file, and can be sent using the mail system.

1.4 Using DECwindows Mail

If you use DECwindows on a workstation, you can use the DECwindows mail application. This application provides a graphical interface to the mail system.

For information about how to use DECwindows mail, refer to the *ULTRIX Workstation Software* manual, Volume 2, *DECwindows User's Guide*.

1.5 Using the Online Reference Pages

You can get more information on MH by using the online reference pages, if they are installed on your system.

Reference pages are literally pages from an ULTRIX reference manual that you can display on your screen. Every ULTRIX command has a separate page. Since MH commands are part of ULTRIX, you will find a page for every command described in this book.

To call up the page for a particular command, enter `man`, followed by the command name. For example, to see the page on the `inc` command, enter:

```
% man inc
```

The reference page for `inc` is displayed on your screen.

If you have trouble using the `man` command, it may be because the reference pages have not been installed on your system. If you are in doubt, ask your system manager.

At various points in this manual, you are directed to the reference page on a particular command, for more information. The reference page is referred to by name, and by an entry in parentheses; for example, `inc(1mh)`. This entry refers to the section of the ULTRIX reference pages that the page appears in. All mail commands that are intended for users are in Sections 1 and 1mh. (You do not need to type in the section number when you are using the reference pages online. However, it may help you to find the command you are looking for in the reference pages manual.)

There is a special reference page which gives you an introduction to MH, and lists all the reference pages related to it. It is called `mh(1mh)`. To read this page, enter:

```
% man mh
```

Writing and Sending Messages 2

This chapter describes how you use MH commands to write and send simple messages to other users. It contains the following sections:

- The Message Header
- Writing a Message
- Actions with a Completed Message
- Creating and Using Your Own Message Header
- Sending Files in Messages
- Saving Unsent Draft Messages

2.1 The Message Header

This section describes each line in the message header and explains what information you should type on each line. The header is the part of the message where you type the address of the person you are sending the message to. The electronic address contains the information that the mail system uses to deliver the message to the right person at the right place. The message header also contains information about the subject of the message.

To write, or compose, a new message, enter:

```
% comp
```

You are provided with the following message header lines:

```
To:  
cc:  
Subject:  
-----
```

Beneath the header lines there is a line of dashes. The area below the line of dashes is where you type the text of your message.

If you use the `prompter` editor, each header line appears one at a time. After typing in the information required for each line, you press the Return key. You are immediately prompted for the next line.

If you need to carry the information in a header line onto a second line, you must start the new line with a blank (a space or tab character). This is useful if you have a lot of addresses to include in the `TO:` or `CC:` lines of a message. MH treats any header line that begins with a blank as a continuation of the previous line.

The information required for each header line is explained in the following list:

- **To:**
The **To:** line is a mandatory line in the message header. It should contain the address of the user to receive the message. You can enter more than one address on this line. If you enter more than one address, separate each one with a comma.
You can enter an alias on this line which can stand for one or more addresses. Aliases are explained in Chapter 6.
- **cc:**
The **cc:** line is an optional line in the message header. It is a carbon copy line for the addresses of the user or users you want to send copies of a message. The same rules apply to addresses on this line as on the **To:** line.
- **Subject:**
The **Subject:** line is an optional line in the message header. It is intended for a brief description of the message and is useful for identifying messages.

If you use the `prompter` editor, each header line appears one at a time. After you have filled in each line, this line is displayed:

```
-----Enter initial text
```

Your cursor is placed beneath this line. This is where you type the text of your message.

2.2 Writing a Message

The editor that is provided for you to fill in the header and the message text is called `prompter`. If you have already set up a different editor, use it to enter the text of your message. To write your message using `prompter`, simply type the text from your keyboard. As you type, the text automatically continues on to the next line, breaking the word at the end of the line. If you do not want to have broken words in your message, press the Return key at a convenient point to go on to the next line.

You cannot go back to a line once you have pressed the Return key. You can only move back along the line that you are on using the Delete key to delete what you have just typed. To move forward along a line, press the space bar.

To finish writing a message, press the Return key after the last line of your message. Then type `Ctrl/D`. `Ctrl/D` means you must hold down the key marked `Ctrl` while you type the letter that follows the slash.

2.2.1 Using a Different Editor

To use a different editor to write a message you can use the `-editor editor-name` option with the `comp` command to specify your preferred editor. For example, to use the `vi` editor to write a message, enter:

```
% comp -editor vi
```

Alternatively, you can specify an editor in your user profile that is then automatically used whenever you enter the `comp` command. For more information on the user profile and how to modify it to suit your own needs, see Chapter 7.

2.3 Actions with a Completed Message

Once you have completed your message, the mail system displays:

```
What now?
```

There are several actions you can choose from. At the `What now?` prompt, press the Return key to display the following list of available options:

```
What now?
Options are:
  display [<switches>]
  edit [<editor> <switches>]
  list [<switches>]
  push [<switches>]
  quit [-delete]
  refile [<switches>] +folder
  send [<switches>]
  whom [<switches>]
```

The commonly used options are described in this section. For details on the `display` option, see Section 4.1.1. For details on the `push` and `refile` options, see `whatnow(1mh)`.

2.3.1 The send Option

Use this option to send the message you have just completed. When the message has been sent, the normal prompt appears.

2.3.2 The edit Option

To return to edit the message you have just written, enter:

```
What now? edit
```

This is useful if you have forgotten something that you want to add. You can specify a different editor by adding its name as in the following example:

```
What now? edit vi
```

2.3.3 The list Option

To display the message you have just written, enter:

```
What now? list
```

Your message is displayed and you are returned to the `What now?` prompt.

2.3.4 The quit Option

To delete a message that you have finished but decided not to send, enter:

```
What now? quit -delete
```

You can use the `quit` option without `-delete` to save the message you have written in a draft folder. This means you can edit it and send it later. For more details about the draft folder and `quit`, see Section 2.6.

2.3.5 The whom Option

To check who you have addressed the message to, enter:

```
What now? whom
```

All addresses that appear in the `To:` and `cc:` lines are displayed. If you have used your own alias or distribution list, you receive a display of the full address or addresses.

To check that your addresses are in the correct format, enter:

```
What now? whom -check
```

This command checks whether the address is in the correct format to be sent by MH. If you are sending the message to someone on your own system, this command will also check whether MH thinks that the message can be delivered. If MH decides that the address is deliverable, this is not a guarantee that the message will arrive. It only means that MH thought that the message could be delivered at the time when it checked.

2.4 Creating and Using Your Own Message Header

You can add lines to your message header by editing the header for each individual message. Alternatively, you can create your own customized message header containing the lines you want to use regularly. You do this by creating a file containing the message header as you want it to appear when you enter `comp` or `forw`. The `comp` command is the one you use to compose new messages. The `forw` command is the one you use to forward messages you have received. For more information on forwarding, see Chapter 4.

You should follow these rules when creating your own message header:

- Each header line must begin with a keyword, such as `To`, followed by a colon.
- The header must include the `To:` line. This is a mandatory line for all message headers.
- Message headers must never start with a blank. A blank is a space or tab character.
- The last line of a header must be a line of dashes or a blank line.

For example, to create a message header that contains the `Bcc:` line, create a file in your Mail directory called `bcc_header`.

The file `bcc_header` should look like this:

```
To:
cc:
Bcc:
Subject:
-----
```

You specify your customized header by using the command with the option `-form filename`, where `filename` is the name of the file that contains your header. For

example, to use the header shown above when creating a new message, enter:

```
% comp -form bcc_header
```

You can then write the message in the normal way.

These are some of the optional header lines that are available:

- **Bcc:**
This is the blind carbon copy line. It is for addresses of additional recipients of a message. This line is not visible in the copies received by those named on the **To:** and **cc:** lines. This line and its contents appear only in the copies of the message received by those indicated on the **Bcc:** line itself.
- **Fcc:**
This is the folder carbon copy line. See Section 2.4.1 for more information.

You can set up your own permanent header file to be the one that always appears when you use the `comp` command. To do this, create a file called `components` in your Mail directory. This file should contain your choice of header. When you type, `comp`, MH automatically uses the header from your `components` file. You do not need to type any options to `comp`.

If you wish, you can override the header in your `components` file by using the `-form` option to `comp`, as described above.

To find out more information on the user profile and alternative message headers, see Chapter 7.

2.4.1 Keeping Copies of Messages You Send: the Fcc line

You can store copies of your own messages in a folder, so that you have a copy of all the messages you have sent. To keep copies of messages you send, create a file containing a message header with the **Fcc:** line, as shown in the following example:

```
To:
cc:
Fcc: +copylog
Subject:
-----
```

To write a message using this header, enter:

```
% comp -form filename
```

where *filename* is the name of the file containing the message header. When you write and send your messages using that message header, a copy is stored in the `+copylog` folder. Names of folders are always preceded by the plus sign (+). If you have specified a folder that does not exist, the mail system asks you if you want to create it before going ahead and sending the message.

This is illustrated in the following example. To create the folder `+copylog` and

store a copy of the message you send, enter the following:

```
What now? send  
Create folder "$HOME/Mail/copylog"? yes
```

Enter `no` if you want to send the message but do not want to create the folder and store the message in it.

For more information on folders, see Chapter 5.

2.5 Sending Files in Messages

There are two ways of incorporating files that were not created specifically as mail messages:

- Use an editor that supports this
- Use the `forw -file filename` command

2.5.1 Sending a File in a Message Using an Editor

This example shows how to incorporate a file called `report` into a mail message using the `vi` editor. Note that you cannot do this with the `prompter` editor.

1. Enter:

```
% comp
```

and fill in the message header lines.

2. Move into the body of the message to type any introductory text required.
3. Press the Escape key to enter the command mode of `vi`.
4. Enter `:r report` to copy the content of the file named `report` into the message.
5. Edit the file as necessary.

If the file you want to include in a message is not in the directory you are working in, you must specify the pathname to allow `vi` to find it.

Most editors enable you to incorporate files into mail messages. Consult the documentation for your particular editor to find out how it provides this feature.

2.5.2 Sending a File in a Message Using the `forw` Command

This example shows how to incorporate a file called `report` into a mail message using the `forw` command with the `-file` option:

1. Enter

```
% forw -file report
```

2. The file is displayed inside a mail message with an empty header as shown in the

following example:

```
To:
cc:
Subject:
-----
```

```
Report for August 1990
-----
```

Here is the text of the report covering the month of August...

Enter the address of the person you are sending the message to. Depending on the editor you are using, you can add text above, below or within the file. If you are using the prompter editor, you may only add text above the file.

3. Once you have completed the message, you receive the What now? prompt. Choose one of the actions to take as you would with any other mail message.

If the file you want to include in a message is not in the directory you are working in, you must specify the pathname to allow the `forw` command to find it.

2.6 Saving Unsent Draft Messages

Normally, when you have created a mail message, you send it immediately. However, you can store the completed draft without sending it. You might want to do this if you are interrupted while composing a long message; or if you are waiting for information to include in your draft.

The mail system saves your messages in a folder, usually called `+drafts`.

To check whether your system manager has already set up the mail system to use a drafts folder automatically, enter:

```
% ls ~/Mail
```

If you see a file listed called `drafts`, you may not need to enter the `-draftfolder` option described in the following section. If you are not sure whether a drafts folder has been set up automatically for you, ask your system manager.

For more information about the `ls` command, see `ls(1)`.

2.6.1 Saving Draft Messages Using the `-draftfolder` Option

To save a draft of a message without sending it, add the `-draftfolder` option to the `comp` command when you create the new message. For example:

```
% comp -draftfolder +drafts
```

If you do not already have a `+drafts` folder, the system asks you whether you want to create one. To create a draftfolder, enter the following:

```
Create folder "$HOME/Mail/drafts"? yes
```

Your cursor is placed within the draft message. Complete the message in the normal

way. When you have finished typing your message, enter:

```
What now? quit
```

The mail system saves your message in the `+drafts` folder and tells you what number the message is in the folder. For example:

```
whatnow: draft left on $HOME/Mail/drafts/1
```

If you decide not to send a message and do not want to save the draft, enter:

```
What now? quit -delete
```

Note

Most options to mail commands can be abbreviated to their shortest unique forms. The command and options in the previous example could therefore be written in the following way:

```
% comp -draftf +drafts
```

2.6.2 Saving Draft Messages Using the `refile` Command

If you forget to type the `-draftfolder` option to `comp` when you start your mail message, you can still save the draft for future use.

Complete the text of your message in the usual way, and exit from the editor. At the `What now?` prompt, enter the following:

```
What now? refile +drafts
```

The mail system files your unsent draft message in your `+drafts` folder.

2.6.3 Using Draft Messages You Have Saved

All your unsent drafts are stored in your `+drafts` folder. You can see the contents of this folder by using the `scan` command, as follows:

```
% scan +drafts
 1 07/08*To:smith           Minutes of team meeting<<Here ar
 2+ 08/08*To:davidson      Lunch tomorrow?<<Hi Dorothy, Cou
```

The asterisk (*) indicates that the draft has not been sent. The current message is marked by a plus sign (+).

For information about how to use the `scan` command, see Section 3.2.1.

If you want to edit or send the current message in the `+drafts` folder, enter:

```
% comp -draftfolder +drafts -use
```

To edit any draft other than the current one, enter:

```
% comp -draftfolder +drafts -use msg-number
```

You are placed in the draft so that you can edit it. Edit it in the usual way. When

you have finished, exit from the editor. To send the draft, enter:

```
What now? send
```

To save the draft for future use, enter:

```
What now? quit
```

The draft is not sent and remains in the `+drafts` folder.

To delete the draft without sending it, enter:

```
What now? quit -delete
```

The draft is deleted without being sent.

2.6.4 Using Your Drafts Folder Automatically

You can set your mail system up to save drafts in your `+drafts` folder automatically, so that you do not have to type all of the options given above every time you want to save a draft message. This means that you do not have to type the `-draftfolder +drafts` option when you save or use draft messages.

To do this, you need to add an entry to your user profile. For more information on your user profile, including how to add entries to it, see Chapter 7. To add the relevant entry to your profile, follow the instructions in Section 7.4.5. If your profile already has an entry called `Draft-folder`, you can ignore the `-draftfolder +drafts` options in the commands given above.

Ask your system manager if you think this entry has already been added to your user profile.

This chapter tells you how to receive messages, read them and print them. It also explains how to delete messages or save them in files. It contains the following sections:

- Receiving Messages
- Reading Messages
- Saving Messages in Files
- Printing Messages
- Deleting Messages

3.1 Receiving Messages

To set up your mail system so that you are notified every time a new mail message arrives, enter:

```
% biff y
```

When new mail arrives for you, you will receive a message on your screen telling you this.

You can set this command up to run automatically each time you log in by entering it in your `.login` file. If you do not know how to do this, ask your system manager for assistance.

If you use DECwindows, you can set up `dxbiff` to let you know when new messages arrive. For more information about `dxbiff`, see `dxbiff(1)`.

When you have been notified that a message has arrived, enter the `inc` command to fetch the message and place it in your `+inbox` folder. The `+inbox` folder is where all your messages are initially stored when you use the `inc` command. Once a message has been transferred into your `+inbox` using the `inc` command, you can read it in full. You can reply to it, forward it or file it in another folder. For more information about folders, see Chapter 5.

If you use the `inc` command when you have no new messages, you see this message:

```
inc: no mail to incorporate
```

When a message has been placed in your `+inbox`, it is numbered sequentially in

relation to any other messages that may be stored there. For example:

```
% inc
31+ 04/04 smith@ultrixhost Meeting at 10.00 tomorrow <<Hi T
```

The first of any new messages you have most recently incorporated into your `+inbox` becomes the current message. It is marked as the current message with the plus sign (+). Any commands apply to the current message unless you specify a particular message by its number.

3.2 Reading Messages

Once a message has been fetched and placed in your `+inbox` folder, you can use the `show` command to read the message in full on your screen. Here is a sample message that has already been fetched by the `inc` command:

```
31+ 04/04 smith@ultrixhost Meeting at 10.00 tomorrow <<Hi T
```

To read this message in full, enter:

```
% show
```

The message is displayed in full on your screen, as shown in the following example message:

```
Return-Path: smith@ultrixhost
Date: Wed, 4 Apr 90 18:26:10 +0100
From: smith@ultrixhost (Bob Smith, ext 4564)
To: miller
Subject: Meeting at 10.00 tomorrow
```

```
Hi
```

```
There will be a staff meeting at 10.00 am tomorrow.
```

```
Bob
```

A message may be too long to be shown in full on your screen. Long messages are divided into screen-sized pages which are separated by a line like this:

```
--More-- (40%)
```

To move forward through the message a screen at a time, press the space bar. To move backward, type `Ctrl/B`. To display more of the message one line at a time, press the Return key. For further information on `more`, see `more(1)`.

The `show` command lets you read the current message, which is the message you have most recently read, replied to or forwarded. The first new message that you receive when you enter the `inc` command becomes the current message. To read other messages, you can use the `show` command with the number of the message you want to read, like this:

```
% show 3
```

If you have more than one message in your inbox, you can use the following commands to read them:

- `next`

To read the message after the current message, enter:

```
% next
```

The next message is displayed in full. The message displayed becomes the current message, so you can use the `next` command repeatedly to read all your messages one after the other.

- `prev`

To read the message before the current one, enter:

```
% prev
```

The previous message is displayed in full. The message displayed becomes the current message, so you can use the `prev` command repeatedly to read all your messages one after the other in reverse order through the folder.

3.2.1 Listing Your Messages

To display a list of all the messages you have, enter:

```
% scan
 1+ 26/04 smith@ultrixhost   This is a report from Dave - FYI
 2  26/04 newcombe         Meeting on Wednesday<<Date: 15th
 3  26/04 clive            Welcome<<Please join me in welcom
```

The message marked with the plus (+) sign is the current message. It is the message that is displayed in full when you enter the `show` command without specifying a particular message by its number.

When there are too many messages to be displayed on your screen, enter:

```
% scan | more
```

The list is displayed a screenful at a time. To move forwards through the list, press the space bar.

For further details on `more`, see `more(1)`.

3.2.2 Different Ways of Displaying Lists of Messages

To display a list of messages with the most recently received message first, enter:

```
% scan -reverse
```

To display a list of messages within a range of numbers, enter:

```
% scan 20-40
```

To list messages from the current message onwards, enter:

```
% scan cur-last
```

To list messages from a specific number onwards, enter:

```
% scan 20-last
```

To obtain a list of the ten most recent messages, enter:

```
% scan last:10
```

You can specify any number other than ten. For example, the following example shows you how to obtain a list of the five most recent messages:

```
% scan last:5
```

3.3 Saving Messages in Files

To save message number 3 in a file, enter:

```
% show 3 > temp
```

Message number 3 is now contained in a file called `temp`. You can treat the file in the same way as any other ordinary text file.

To add a message to the contents already in an existing file, enter:

```
% show 4 >> temp
```

The angle brackets (`>>`) ensure that the messages are appended to the existing contents of a file rather than replacing them.

Note

Be careful to use the correct option. If you use a single angle bracket (`>`), you will delete the previous contents of the file.

You can save a number of messages in a file in the same way. For example, to add messages 5, 6 and 7, enter:

```
% show 5 6 7 >> temp
```

3.4 Printing Messages

You can also use the `show` command with the `lpr` command to print your message. For example, to print message number 28 of the current folder, enter:

```
% show 28 | lpr
```

To print several messages, enter the numbers of the messages separated by spaces, or specify a range. For example, to print message numbers 28, 30 and 31, enter:

```
% show 28 30 31 | lpr
```

To print all the messages between 28 and 31 inclusive, enter:

```
% show 28-31 | lpr
```

To print a message without its header, first save the message in a file. For example, to save message number 3 in a file enter:

```
% show 3 > temp
```

Message number 3 is now contained in a file called `temp`. Edit the file to delete the header part of the message.

To print the file `temp` which contains only the text part of message number 3, enter:

```
% lpr temp
```

3.4.1 Printing a Message Containing a PostScript File

A PostScript file can be recognized by the first lines which look something like this:

```
%!PS-Adobe-2.1
%%Creator: DECwrite V1.0
%%DocumentFonts: (atend)
```

To print a message that contains a PostScript file, follow these steps:

1. Save the message in a file by entering:

```
% show > psfile
```

The file called `psfile` now contains a copy of the PostScript message.

2. Use an editor to delete the header part of the message.
3. Check that there is no other text after the end of the PostScript file. If there is, delete it.
4. Ask your system manager for the name of the printer that prints PostScript documents.
5. Print the PostScript file by entering:

```
% lpr -Pprintername psfile
```

For more information about the `lpr` command and the options you can use with it, see `lpr(1)`.

3.5 Deleting Messages

To delete the current message, use the `rmm` command. Enter:

```
% rmm
```

To delete a message other than the current message, enter:

```
% rmm msg
```

You can delete several messages at once, or a range of messages by specifying the message numbers.

To delete several messages that are in the current folder, for example, enter:

```
% rmm 1 3 5 7 9
```

To delete a range of messages, for example, all messages in the current folder from number 3 to 9 inclusive, enter:

```
% rmm 3-9
```

To delete a message in a folder other than the current folder, enter:

```
% rmm msg +foldername
```

3.5.1 Retrieving Deleted Messages

Once a message has been deleted by the `rmm` command, it is stored in the folder for a short time. During this time you can, if necessary, retrieve messages that you have deleted. The amount of time the messages are stored depends on the way your mail system is set up. Ask your system manager for further details.

Deleted messages do not appear in the list of messages displayed by the `scan` command. To view messages that have been deleted, you use the `ls` command. The `ls` command is the ULTRIX command you use to list the contents of directories. To view all the contents of the `+inbox` folder, including messages that have been deleted, enter:

```
% ls $HOME/Mail/inbox/
```

The contents of the folder are displayed as illustrated in the following example:

```
,1 ,25 ,4 12 15 18 21 5 8
,2 ,26 10 13 16 19 22 6 9
,24 ,3 11 14 17 20 23 7
```

Messages are listed by number only. Numbers preceded by a comma, for example, `,24`, denote messages that have been deleted and are being stored temporarily before being permanently removed. To view such a message use the `more` command in the following way:

```
% more $HOME/Mail/inbox/,24
```

To retrieve the deleted message `,24`, it must be renumbered to remove the comma. To renumber a message, you use the `mv` command. The following example illustrates how to retrieve message `,24` by giving it a new number without a comma:

```
% mv $HOME/Mail/inbox/,24 $HOME/Mail/inbox/30
```

Message `,24` is now number 30 and is displayed when you use the `scan` command. The `scan` command is explained in Section 3.2.1.

Note

When renumbering messages, choose a number higher than the highest number in the folder; otherwise you could inadvertently lose a message permanently.

If you wish to re-number the messages in the folder in date order, you can use the `sortm` and `folder -pack` commands. See Section 5.4.

To find out more about `ls`, see `ls(1)`. For further information about `more`, see `more(1)`. To find out more about `mv`, see `mv(1)`.

Replying to and Forwarding Messages 4

This chapter explains how to reply to and forward messages that you have received from other users. It contains the following sections:

- Replying to Messages
- Forwarding Messages

4.1 Replying to Messages

You can reply to messages that you have received from other users. Messages that you receive always have information that can be used by the mail system to construct a return address to reply to messages. This information can be seen in the `Return-Path:` field of messages you receive.

To reply to the current message, enter:

```
% repl
```

Carbon copies of your reply messages are sent automatically to all those who received the original message. To avoid this, see Section 4.1.3.

To reply to a message other than the current message, enter the `repl` command and the number of the message you want to reply to:

```
% repl msg
```

To reply to a message in a folder other than the current folder, enter the `repl` command, the number of the message you want to reply to and the name of the folder:

```
% repl msg +foldername
```

Here is an example of a received message:

```
(Message inbox:31)
Return-Path: smith@ultrixhost
Date: Wed, 4 Apr 90 18:26:10 +0100
From: smith@ultrixhost (Bob Smith, ext 4564)
To: miller
Subject: Meeting at 10.00 tomorrow
```

Hi

There will be a staff meeting at 10.00 am tomorrow.

Bob

To reply to this message, enter:

```
% repl 31
```

Your cursor is placed in a draft message that looks like this:

```
To: smith@ultrixhost (Bob Smith, ext 4564)
Subject: Re: Meeting at 10.00 tomorrow
In-reply-to: Your message of Wed, 4 Apr 90 18:26:10
              <7839289.43892@ultrixhost>
-----
```

Your cursor is placed beneath the message header in the part of the message where you type the text of your reply.

4.1.1 Writing the Text of a Reply Message

The `repl` command places you beneath the message header where you can type in the text of your reply.

The editor that is provided for you to fill in the message text is called `prompter`. You type the text of a reply message in exactly the same way as the text of a new message using `comp`. To write the text of your reply message, type the text from your keyboard. The text automatically continues on to the next line, breaking the word at the end of the line. If you do not want to have broken words in your message, press the Return key at a convenient point to go on to the next line.

You cannot go back to a line once you have pressed the Return key. You can only move back along the line that you are on using the Delete key to delete what you have just typed. To move forward along a line, press the space bar.

To finish writing a reply message, press the Return key after the last line of your message. Then type `Ctrl/D`. `Ctrl/D` means you must hold down the key marked `Ctrl` while you type the letter that follows the backslash.

Once you have completed your message, the mail system displays the `What now?` prompt. There are several actions you can take with your reply message.

To send your reply, enter:

```
What now? send
```

Normally, your reply is sent to the original sender, and carbon copies are sent to all the addressees on the original message. To send your reply message to the sender only, see Section 4.1.3.

To review the original message before you send your reply, enter:

```
What now? display
```

To see the other possible options, press Return at the `What now?` prompt. All the relevant options are explained in Section 2.3. To find out more, see also `whatnow(1mh)`.

4.1.2 Using a Different Editor

To use a different editor to reply to a message you can use the `-editor editor-name` option with the `repl` command to specify your preferred editor. For example,

to use the `vi` editor to write a reply message, enter:

```
% repl -editor vi
```

Alternatively, you can specify an editor in your user profile that is then automatically used whenever you enter the `repl` command. For more information on how you modify your user profile, see Chapter 7.

When you have finished typing your reply, end the message in the usual way. To send the reply, enter the following at the `What now?` prompt:

```
What now? send
```

4.1.3 Choosing Who to Reply to

Normally, your reply is sent to the original sender, and carbon copies are sent to all the addressees on the original message. This includes all those people specified on the `To:` and `cc:` lines. To send your reply to the sender of the original message only, enter:

```
% repl -nocc all
```

This command places you in the body part of a message where you can type in the text of your reply in the normal way. Once you have completed and saved your message, you are at the `What now?` prompt. Type `send` to send your reply to the sender of the original message only.

You can set up your mail system so that the `repl` command always behaves in this way, sending your reply only to the original sender. To do this, you need to add the `repl -nocc all` option to your user profile. For instructions on how to do this, see Section 7.5.

4.1.4 Marking Messages You Have Replied to

To mark messages that you have replied to, enter:

```
% repl -annotate
```

Write the text of your reply message in the usual way. When you have sent the reply message, the original message is marked with a dash (-). For example, to see which messages in your `+inbox` folder you have replied to using the `repl` command with the `-annotate` option, enter:

```
% scan +inbox
```

The following example shows that you have replied to message number 3,

```
1+ 26/04 smith@ultrixhost   This is a report from Dave - FYI
2  26/04 newcombe         Meeting on Wednesday<<Date: 15th
3 -26/04 clive            Welcome<<Please join me in welcom
```

4.1.5 Keeping a Copy of Your Reply

A common practice is to store copies of your messages in a folder, so that you have a copy of all the messages you have replied to. The following example command keeps

a copy of a reply to the current message in a folder called `+copylog`:

```
% repl -fcc +copylog
```

You can call this folder whatever you choose, as long as it begins with the plus sign (+).

The header of your reply message now contains the line:

```
Fcc: +copylog
```

Type the text of your reply as usual, then end and save the message. If the folder you have named with the `-fcc` option does not already exist, the mail system asks you whether you want to create it. To create the folder, enter:

```
Create folder "$HOME/Mail/copylog"? yes
```

The mail system displays the `What now?` prompt. To send the message and store a copy in your `+copylog` folder, enter:

```
What now? send
```

If you change your mind and do not want to create the folder and keep a copy, enter `no`. The mail system displays the `What now?` prompt. You can still send the message.

For more information about how to create and use folders, see Chapter 5.

4.1.6 Enclosing the Original Message

To enclose the original message in your reply, check to see whether a file called `replfilter` exists in your Mail directory. To do this, enter:

```
% ls $HOME/Mail/
```

If `replfilter` is among the names of files that are listed, you can enclose the original message in your reply by entering:

```
% repl -filter replfilter
```

The original message is placed in the reply message with each line preceded by an angle bracket, as shown in the following example:

```
To: smith@ultrixhost (Bob Smith, ext 4564)
Subject: Re: Meeting at 10.00 tomorrow
In-reply-to: Your message of Wed, 4 Apr 90 18:26:10
              <7839289.43892@ultrixhost>
```

```
-----
```

```
>
> Hi
>
> There will be a staff meeting at 10.00 am tomorrow.
>
> Bob
```

You may add the text of your reply in the body part of the message.

If you are using the `prompter` editor, you may only add the text of your reply above the enclosed message which is not visible until you enter `Ctrl/D`. Then the mail system displays the `What now?` prompt.

If the `replfilter` file does not already exist in your Mail directory, you must add it before you can enclose messages in your replies.

The `replfilter` file is a text file. It usually consists of only two lines which look like this:

```
:  
body:component=" > ",compwidth=0,overflowtext=" "
```

You can copy the example of the `replfilter` file exactly as shown above.

Alternatively you can copy the `repl.include` filter file that is provided with this mail system by entering the following command as shown:

```
% cp /usr/lib/mh/repl.include $HOME/Mail/
```

Note that the file name is `repl.include`. To include an original message using this file enter:

```
% repl -filter repl.include
```

For more information about `repl` and its options, see `repl(1mh)`.

4.2 Forwarding Messages

To forward a message that you have received, use the `forw` command. This encloses the original message and provides an empty message header as shown in the following example:

```
To:  
cc:  
Subject:  
-----
```

```
----- Forwarded Message
```

```
Return-Path: smith@ultrixhost  
Date: Wed, 4 Apr 90 18:26:10 +0100  
From: smith@ultrixhost (Bob Smith, ext 4564)  
To: miller  
Subject: Meeting at 10.00 tomorrow
```

```
Hi
```

```
There will be a staff meeting at 10.00 am tomorrow.
```

```
Bob
```

```
----- End of Forwarded Message
```

If you use the `prompter` editor, you are prompted for each message header line in turn.

You can edit the message and add your own text. If you add your own text, it should

be entered either before the

```
----- Forwarded Message
```

line, or after the

```
----- End of Forwarded Message
```

line. If you are using the `prompter` editor, you may only add text before the

```
----- Forwarded Message
```

line. You do not see the full message with the enclosed original message until you have finished entering the text using `prompter` and pressed `Ctrl/D`. You are then at the `What now?` prompt.

You must provide the address of one or more recipients and any copy recipients that you want to forward the message to.

As with the `repl` command, you can provide a message number and folder name as options. For example:

```
% forw 31
```

If you do not provide any options to the `forw` command, the current message of the current folder is used.

4.2.1 Using a Different Editor

To use a different editor to edit a message before forwarding, you can use the `-editor editor-name` option with the `forw` command to specify your preferred editor. For example, to use the `vi` editor to edit a message, enter:

```
% forw -editor vi
```

Alternatively, you can specify an editor in your user profile that is then automatically used whenever you enter the `forw` command. For more information on how to modify your user profile, see Chapter 7.

When you have edited the message, end it in the usual way. To forward the message, enter the following at the `What now?` prompt:

```
What now? send
```

For more information about `forw` and its options, see `forw(1mh)`.

4.2.2 Creating and Using Your Own Message Header

You can set up your own permanent message header to be the one that always appears when you use the `forw` command. This header can be different from the one you use with the `comp` command. The file must be in your Mail directory and must be called `forwcomps`.

For example, you might want to use a message header with the `Bcc:` line for forwarded messages. This is the blind carbon copy line on which you can enter addresses of people you want to send a copy of a message to, without the recipients on the `To:` or `cc:` line seeing it. To do this, create a file in your Mail directory called `forwcomps`.

You can also use a customized message header with the `-form` option. This option is used with the `comp` command in Chapter 2. You can use the `-form` option in exactly the same way with the `forw` command. For further details about how to use

the `-form` option, see Section 2.4.

4.2.3 Keeping Copies of Your Forwarded Messages

You can store copies of your messages in a folder so that you have a copy of all the messages you have forwarded. To keep copies of messages you send, edit your `forwcomps` file to contain this message header:

```
To:
cc:
Fcc: +copylog
Subject:
-----
```

Every time you enter the `forw` command, the message header in your `forwcomps` file is used. The `Fcc: +copylog` line ensures that when you have sent your forwarded message, a copy is stored in a folder called `+copylog`.

If the `+copylog` folder does not already exist the first time you use the header, the mail system asks you whether you want to create it. To create the folder, enter the following:

```
Create folder "$HOME/Mail/copylog"? yes
```

The mail system then displays the `What now?` prompt.

You can call the folder for storing copies whatever you like, as long as it begins with a plus sign (+).

4.2.4 Forwarding a File in a Message

The following example shows you how to send a file called `report` in a mail message using the `forw` command with the `-file` option:

1. Enter:

```
% forw -file report
```
2. The file is displayed inside a mail message with an empty header as shown in this example:

```
To:
cc:
Subject:
-----
```

```
Report for August 1990
-----
```

```
Here is the text of the report covering
the month of August.
```

If you use the `prompter` editor, you are prompted for each message header line in turn.

Enter the address of the person you are sending the message to. Depending on the editor you are using, you can add text above, below or within the file. If you are using the `prompter` editor, you may only add text above the file. You do not see the full message with the enclosed original message until you have finished entering the text using `prompter` and pressed `Ctrl/D`. You are then at the `What now?` prompt.

3. Once you have completed the message, the mail system displays the `What now?` prompt. Choose one of the actions to take as you would with any other mail message.

Note

If the file you want to include in a message is not in the directory you are working in, you must specify the pathname to allow the `forw` command to find it.

Filing Messages in Folders 5

This chapter describes how to file and store messages using folders.

When you incorporate incoming mail into your mail system, it is placed in your inbox folder. If you read a message and decide not to delete it, you can leave it in your inbox for future reference. However, this means that your inbox rapidly becomes crowded and difficult to manage.

To overcome this, you can create more folders to store your messages in. You can use folders to store messages that are related. For example, you could store all messages about a particular topic in one folder; all messages from a particular person in a folder; or even all messages sent before a certain date.

Folders provide a flexible filing system. You can list, read and scan through your mail easily, in the same way as you do with your inbox. You can refile messages in different folders as often as you like, or keep multiple copies of the same message in a number of folders.

All your mail folders are created and kept in your Mail directory. The name of the folder is preceded by a plus sign (+). This is to distinguish folders from ordinary files. So, for example, your inbox is known to MH as `+inbox`.

Some folders have already been described in previous chapters. The `+drafts` and `+copylog` folders are described in Chapter 2. The `+inbox` folder is described in Chapter 3. All of the commands in this chapter can be applied to these folders.

The rest of this chapter describes how to create and use folders. It contains the following sections:

- Creating Folders and Saving Messages
- Listing the Messages in Your Folders
- Listing Your Folders
- Sorting the Messages in your Folders
- Deleting Your Folders
- Renaming Folders
- Using Folders Within Folders

5.1 Creating Folders and Saving Messages

You can file messages into folders using the `refile` command.

You must provide the name of the folder into which you want to file the message. Remember that names of folders always start with a plus sign (+). You can also supply the number of the message that you want to file. If you do not supply a message number, the current message is filed.

The following example files message number 16 in the folder `+meetings`:

```
% refile 16 +meetings
```

The folder does not have to exist before you file the message in it. If you try to file a message in a folder that does not exist, MH asks you whether you want to create that folder, as in the following example. To create the folder, enter the following:

```
% refile 16 +meetings
Create folder "$HOME/Mail/meetings"? yes
```

The `refile` command is a convenient way of creating new folders. You need only create a new folder when you want to file a message in it.

When you file a message into a folder, the message is removed from the original folder and placed in the new one. So in the last example, message 16 is removed from your `+inbox` folder, and becomes message 1 in the new folder `+meetings`.

You can give folders any name you like, so long as the name does not include spaces. It helps to choose a name that identifies the contents, such as `+meetings`, or `+from_chris`. One folder name is special: MH reserves the name `+inbox` for the folder in which new mail is placed.

You can also use `refile` to file a message in more than one folder. For example, if you want to keep a copy of a message number 20 in the `+meetings` folder, and a second copy in your `+project_team` folder, enter:

```
% refile 20 +meetings +project_team
```

Like other mail commands, `refile` can also take more than one message at once. So you can file messages 1 to 5 in the folder `+project_team` by entering:

```
% refile 1-5 +project_team
```

5.2 Listing the Messages in Your Folders

You can see a list of the messages in a particular folder by using the `scan` command.

The following example lists the messages in the `+meetings` folder:

```
% scan +meetings
```

You see a display that looks like this:

```
1 04/07 newcombe           Team meeting tomorrow<<Tomorrow's
2 08/07 smith@ultrixhost   Meeting <<Could we make it 11.00?
```

The folder that has been used most recently is known as the current folder. Any mail commands you use, such as `show` or `repl`, apply to messages in the current folder. For example, the following command would now reply to message 2 in the `+meetings` folder rather than message 2 in your inbox:

```
% repl 2
```

You can return to your inbox in one of two ways. Every time you use the `inc` command to incorporate new mail, your inbox automatically becomes the current folder, so that you can read your new mail. Alternatively, at any time you can return

to your inbox by entering:

```
% scan +inbox
```

For more information on the display produced by `scan`, and the different ways you can list the contents of files, see Section 3.2.1 and Section 3.2.2.

5.3 Listing Your Folders

You can list the folders you have created using the `folders` command, as illustrated in the following example:

```
% folders
  Folder      # of messages ( range ); cur msg (other files)
  copylog has 102 messages ( 1- 102); cur= 102.
  courses has   1 message ( 1-  1); cur=   1.
  drafts has   5 messages ( 1-  9).
  inbox+ has  47 messages ( 1- 65).
  meetings has   3 messages ( 1-  3); cur=   2; (others).
  personnel has 26 messages ( 1- 26); cur=   2.
```

The display gives you a breakdown of all your folders, together with the number of messages they contain. The current message in each folder is indicated after the range of messages. The current folder is marked by a plus sign (+).

You can also get information on a particular folder using the `folder` command. To get information on the `+meetings` folder, enter:

```
% folder +meetings
% folder +mee
  meetings+ has   3 messages ( 1-  3); cur=   2.
```

When you specify a folder name with the `folder` command, this becomes the current folder. (This is marked by a plus sign (+) in the display.) This is useful if you want to change to another folder without getting a full listing of its contents.

If you do not specify a folder name, `folder` displays information about the current folder.

5.4 Sorting the Messages in Your Folders

If you have filed a number of messages in different folders, or deleted some messages, your folders can begin to look untidy. For example, the `+personnel` folder contains the following messages:

```
% scan +personnel
  1 13/08 newcombe          CANCELLATION OF GROUP MEETING<<To
  3 08/08 davies@person.dne Salary planning update<<Dear empl
  5+ 10/08 kate@magnet      RE: long time no see<<Hi! How's t
```

The messages in this folder are not numbered consecutively. Messages 2 and 4 have been removed, either by being deleted altogether or by being filed in another folder. Also, the messages are not in date order. Message 1 was sent after messages 3 and 5, but because message 1 was filed in this folder before messages 3 and 5, it has a lower number.

You can use the `sortm` command to sort the messages in the folder into chronological order:

```
% sortm
% scan
 1 08/08 davies@person.dne Salary planning update<<Dear empl
 3 10/08 kate@magnet      RE: long time no see<<Hi! How's t
5+ 13/08 newcombe        CANCELLATION OF GROUP MEETING<<To
```

The messages are sorted by the time at which they were received. The `sortm` command puts them into date order, but it does not fill gaps in the numbering. Although the messages have been reordered, there is still no message number 2 or 4.

(Note also that message 5 remains the current message, marked with a plus sign (+), even though a different message is now numbered 5.)

To fill the gaps in the numbering, you can use the `folder -pack` command:

```
% folder -pack
personnel+ has 3 messages ( 1- 3); cur= 3.
% scan
 1 08/08 davies@person.dne Salary planning update<<Dear empl
 2 10/08 kate@magnet      RE: long time no see<<Hi! How's t
3+ 13/08 newcombe        CANCELLATION OF GROUP MEETING<<To
```

The messages are renumbered so that there are no gaps. Note that `folder -pack` does not list the messages in the folder; it gives only the number of messages, the range, and the number of the current message.

If you want to sort the messages in a folder other than the current folder, you can supply a folder name to both `sortm` and `folder -pack`. If you do not supply a folder name, both commands are applied to the current folder.

If you specify a folder name with `folder -pack`, it becomes the new current folder.

5.5 Deleting Your Folders

You can delete a folder with the `rmf` command. For example, to delete the `+personnel` folder, enter:

```
% rmf +personnel
```

The `rmf` command is very powerful, and hence potentially dangerous. When you use it to delete a folder, it first deletes all the mail messages in the folder, and then the folder itself. If you are not careful, you can easily lose important messages.

You should always use the `-interactive` option with `rmf`. This option asks you for confirmation before it deletes any messages or folders, as in the following example. To delete the folder, enter the following:

```
% rmf -interactive +personnel
Remove folder "personnel"? yes
```

If you are not sure whether to delete the folder, enter `no`. Remember that when you delete the folder, you also delete all the messages that are in that folder. You should always check that you do not want to keep any of the messages in a folder before you delete it.

You can set up `rmf` to take the `-interactive` option automatically by adding an entry to your user profile. This may already have been set up for you; check with

your system manager. If it has not, see Section 7.5 for details of how to do this. We strongly advise you to set up this option.

5.6 Renaming Folders

You may sometimes wish to rename a folder without changing its contents. For example, you may want to change the name of the folder to something that is easier to remember; or you might want to choose a name that bears more relation to the contents of the folder.

To rename a folder, use the `mv` command. This is not specifically an MH command; it is an ULTRIX command, used to move or rename files and directories.

The following example shows how to rename the `+meetings` folder to `+project`:

```
% mv ~/Mail/meetings ~/Mail/project
```

The `mv` command treats folders as standard ULTRIX directories. As it is not a mail command, you do not place the plus sign (+) in front of the name of the folder. Instead, you give the pathname as you would with any other ULTRIX command. The pathname `~/Mail/meetings` indicates that `meetings` is a directory in your Mail directory. The second pathname, `~/Mail/project`, indicates that you want to rename it as `project`, again a directory in your Mail directory.

You must not use the plus sign (+) when you are giving the full pathname of a folder in this way.

If you are unsure about directories or pathnames in ULTRIX, read *The Little Gray Book*, or talk to your system administrator. For more information on the `mv` command, see `mv(1)`.

5.7 Using Folders Within Folders

MH allows you to create and use folders within folders. (You may be familiar with the terms “subfolders”, or “nested folders”.)

The ability to use folders within folders provides you with a more flexible filing system. For example, if your `+meetings` folder became too full for easy management, you could create subfolders within it for `group`, `personnel`, and so on. All the messages would still be kept together in one folder, but the subfolders would make it easier to read and access the contents of the folder.

Any command that normally takes a folder name can be used with subfolders. Instead of supplying the folder name, you have to supply the pathname to the subfolder. This is explained in detail in the rest of this section.

5.7.1 Creating Subfolders and Filing Messages

The `refile` command works in exactly the same way for folders within folders. You must still supply the number of the message which you want to file; instead of supplying the name of the folder, you must supply the pathname of the subfolder.

If the subfolder you are trying to file the message in does not exist, `refile` asks whether you want to create it. This is a convenient way of creating folders within folders.

The following example creates a new folder called `group` within the existing folder

+meetings, and files message 5 in it:

```
% refile 5 +meetings/group
Create folder "$HOME/Mail/meetings/group"? yes
```

Note that you must not supply a plus sign (+) before `group`. MH regards the name of the subfolder as `+meetings/group`, so you only need one plus sign at the start of that name.

When you use subfolders with commands, you should refer to them by their full name; for example, `+meetings/group`. For details of how you can abbreviate subfolder names, see Section 5.7.5.

You can create as many levels of subfolders as you like. If you try to create a subfolder in a folder that does not exist, MH creates the folder first. For example, you might try to create a subfolder `work` within a new folder `+new`:

```
% refile +new/work
Create folder "$HOME/Mail/new/work"? yes
```

MH creates a new folder `+new`, and, within it, a subfolder called `work`. The current message is refiled in the subfolder.

5.7.2 Listing and Sorting Messages in Subfolders

You can use the `scan` command in the usual way with folders within folders. You need to supply the pathname rather than a folder name. For example, to see the contents of the subfolder `group` within `+meetings`, enter:

```
% scan +meetings/group
1 14/07 smith@ultrixhost Strategy presentation.<<Tomorrow
```

This command makes the subfolder `group` current. You can read, delete and refile the messages in this subfolder using the standard mail commands `show`, `rmm`, and `refile`.

You can also sort messages in folders within folders, using the commands `sortm` and `folder -pack`. Once again, you need to supply the pathname rather than a simple folder name. Otherwise, the commands work in exactly the same way as with normal folders.

5.7.3 Deleting Subfolders

You can delete folders within folders in the same way as you delete normal folders. Once again, you have to use the pathname rather than a simple folder name.

The same warnings apply about using the `rmf` command. We strongly recommend that you do not use `rmf` without the `-interactive` option.

You can only delete one level of folder at a time. If a folder contains a subfolder, you must delete the subfolder first. If you have a folder `+meetings` which contains a subfolder called `group`, you must enter two commands to delete them:

```
% rmf -interactive +meetings/group
Remove folder "meetings/group"? yes
% rmf -interactive +meetings
Remove folder "meetings"? yes
```

If either of these folders contains messages, they are deleted with the folder.

5.7.4 Listing Your Subfolders

Subfolders are not shown when you list the contents of a folder with `scan`. Only messages are shown.

You can tell which folders contain subfolders by using the `folders` command. This produces a list of your folders:

```
% folders
Folder      # of messages ( range ); cur msg (other files)
  inbox+ has 23 messages ( 1- 23).
    new has  no messages          ;          (others).
  drafts has  6 messages ( 2-  7); cur=  7.
  copylog has 58 messages ( 1- 58); cur= 46.
```

The final column of this display lists the folders which contain files that are not messages. Those that do are marked by the entry `others`. Since subfolders are not messages, any folders with subfolders will have an entry in that column.

You can include your subfolders in this list by using the `-recurse` option with the `folders` command. This command lists all folders, and also all subfolders. For example, the following list has an entry for the subfolder `new/work`:

```
% folders -recurse
Folder      # of messages ( range ); cur msg (other files)
  inbox+ has 23 messages ( 1- 23).
    new has  no messages          ;          (others).
new/work has  1 message ( 1-  1).
  drafts has  6 messages ( 2-  7); cur=  7.
  copylog has 58 messages ( 1- 58); cur= 46.
```

Subfolders are listed directly below the folders within which they belong.

5.7.5 Relative Folder Addressing

Pathnames to folders can be unwieldy. For example, if you have a folder called `+personnel`, and a subfolder called `wages_claims`, the full pathname of the subfolder is a little long to type every time you want to use a command.

MH provides a shorthand to make folders within folders easier to handle. If you want to refer to a folder within the current folder, you can use the commercial “at” sign (`@`). This shorthand works with all mail commands. For example, if you are in the folder `+personnel` and you want to list the contents of the subfolder `wages_claims`, enter:

```
% scan @wages_claims
  1 02/07 miller@stump          REMINDER - PHONE CHANGE NEXT WEEK
```

MH interprets the address as relative to the current folder `+personnel`.

This shorthand only applies to subfolders in the current folder. If you want to refer to a subfolder within another folder, you must use the full pathname.

The address line extractor utility, called `alex`, copies electronic mail addresses from the header of the current message. The message it extracts can be either displayed on your screen, or stored in your alias file.

This chapter describes how to use `alex`. It contains the following sections:

- Extracting Addresses
- Saving and Storing Addresses
- Reading Your Alias File

6.1 Extracting Addresses

The `alex` utility extracts addresses from messages you have received. This is useful when a message contains a long or complex address: using `alex` saves you from having to type the address in, and guarantees that it is copied accurately.

The addresses you extract can either be displayed on your screen, or saved in an alias file. The alias file and aliasing are described in Section 6.2. This section describes how to use `alex` to extract addresses, and some of the options you can use.

The `alex` utility has a large number of options you can use to specify which messages you want to extract addresses from, and which addresses you want to extract. It does not matter what order you supply these options in, so long as they do not give conflicting instructions.

The first two options specify the message you want to extract addresses from. Most other MH commands take options of this sort:

- `msgs`

Use this option to apply `alex` to a particular message. For example:

```
% alex 5
```

You can also specify a range of messages. For example, to apply `alex` to all the messages from number 1 to 10, enter:

```
% alex 1-10
```

If you do not specify a particular message, the `alex` command is automatically applied to the current message.

- *+folder*

Use this option to apply the command to the message in a particular folder. If you do not give a *msg* number, *alex* takes the current message from the named folder. For example:

```
% alex +inbox
```

If you do not specify a folder, *alex* is automatically applied to the current folder.

The next option is used to specify which address or addresses *alex* extracts from the message:

- *-field fieldname*

Use this option to specify which header field you want to extract addresses from. You must not include the colon (:) in the command. You can specify more than one field to be searched for addresses in the following way:

```
% alex -field from -field sender
```

You can also specify what order header fields should be searched. As soon as an address is found in one field, the addresses in other fields are ignored. Use the *-field* option to specify an order in this way:

```
% alex -field from/sender/cc
```

If you use the *-field* option, you must specify a field or an order of fields to search. If you do not use the *-field* option, *alex* automatically searches the *Reply-to/sender/from* fields in that order until an address is found.

To specify your own preferred order of fields to search automatically, add an entry in your user profile. For example:

```
alex: -field from/sender
```

To override any automatic order that might be set up, enter:

```
% alex -nofield all ...
```

To find out more about how to add and amend entries in the user profile, see Chapter 7.

As an example of how to use these options, you might want to extract an address from the following message, which is message 16 in your *+meetings* folder:

```
Return-Path: macintosh@cyborg.comput.sgsu.com
Received: by cyborg.comput.sgsu.com (5.57/sgs-15Nov90)
       id AA28097; Mon, 04 Apr 90 10:12:32 -0500
Date: Mon, 04 Apr 90 10:12:32 -0500
From: macintosh@cyborg.comput.sgsu.com (Ken MacIntosh)
Message-Id: <9012101512.AA28097@cyborg.comput.sgsu.com>
To: miller@ultrixhost
Subject: Teleconference cancelled.
```

```
Tomorrow's teleconference is cancelled.
Sorry for the short notice.
```

```
Ken
```

To extract the address from the `From:` line, enter the following command:

```
% alex 16 +meetings -field from
macintosh@cyborg.comput.sgsu.com
```

By default, `alex` displays the extracted address on your screen, as shown in the above example. The next section describes how to store the extracted address in your alias file, and gives you an introduction to aliasing.

6.2 Saving and Storing Addresses

Besides displaying addresses on your screen, `alex` lets you store them in your alias file. Your alias file is a special file in your Mail directory, which allows you to store addresses along with a short, easily remembered code name (known as the alias). One code name can stand for a long, complex address, or for a list of addresses.

Aliases make addressing mail messages easier. When you use an alias you only have to type that code name on the `To:` or `cc:` line, instead of the full address or addresses. For example, if you stored the address in the previous section under the code name `ken`, instead of typing:

```
To: macintosh@cyborg.comput.sgsu.com
```

you could type:

```
To: ken
```

This section explains how to use `alex` to store aliases in your alias file. For more details on aliasing and the alias file, see Chapter 8.

Besides the options listed in the previous section, `alex` also has two more options which let you store addresses as aliases:

- `-alias aliasfile`

Use this option to give the name of the alias file in your Mail directory.

- `-name aliasname`

Use this option with the code name you have chosen to stand for an address or a group of addresses. You must use this option in order to add the address to the alias file. Otherwise, `alex` automatically displays the address on your screen.

Here is an example of a message received from Dave Morrison:

```
Return-Path: morrison@ultrixhost.dnet
Date: Wed, 4 Apr 90 19:01:56 +0100
From: morrison@ultrixhost.dnet (Dave Morrison, Engineering)
To: miller
Subject: 9am Meeting
```

Please note the meeting is cancelled.

Sorry for the short notice.

Regards,

Dave.

To save Dave's address for future use, copy it from the `From:` field of the received message and add it to your alias file using the code name `dave_m`. To do this, enter:

```
% alex -field from -name dave_m -alias aliases
```

Each option can be abbreviated to its shortest unique form. So you can enter the same command in the following way:

```
% alex -f from -na dave_m -al aliases
```

In this example, `alex` creates an alias using the code name `dave_m`, as specified by the `-name` option. Dave Morrison's address is copied from the `From:` field of the received message's header, as specified by the `-field` option. The result of the example command is the addition of an entry in the alias file, as specified by the `-alias` option.

The new entry in the alias file looks like this:

```
dave_m: morrison@ultrixhost.dnet
```

The first time the `alex` command is used with the `-alias` option, your Mail directory is searched for the alias file with the name that you have specified. If an alias file with that name does not already exist, you are asked whether you want to create one, as in the following example. To create the file, enter the following:

```
% alex -name dave_m -field from -alias aliases  
Create alias file "$HOME/Mail/aliases"? yes
```

An alias file called `aliases` is created, and the alias for Dave Morrison's address is then entered.

Once Dave Morrison's address has been entered with the code name `dave_m`, you can address messages to him by typing:

```
To: dave_m
```

instead of:

```
To: morrison@ultrixhost.dnet
```

6.2.1 Creating and Amending Distribution Lists

You can use the `alex` utility to create and amend distribution lists. A distribution list is a list of addresses stored under a code name in your alias file. A distribution list can contain as many addresses as you like.

To create a distribution list called `mgrs` to contain the addresses of a group of managers whose addresses appear in the `cc:` field of the current message, enter:

```
% alex -alias aliases -field cc -name mgrs
```

The following entry, for example, may be placed in your alias file:

```
mgrs: smith@ultrixhost, schmidt@koln.dnet, \  
      macdonald@ultrixhost.dnet
```

To append to the same distribution list the address of another manager whose address

appears in the `cc:` field of message number 9, enter:

```
% alex 9 -alias aliases -field cc -name mgrs
```

Another address is appended to the entry under `mgrs` so that the distribution list now looks like this:

```
mgrs: smith@ultrixhost, schmidtf@koln.dnet, \  
      macdonald@ultrixhost.dnet, maryj@money.dnet
```

To address a message to all the managers in the distribution list, you only need to enter:

```
To: mgrs
```

To extract only some of the addresses included in a header line of a received message, use the `-query` option. Each individual address contained in a field is displayed and you are asked whether or not you want to add the address to the alias file. Enter `y` to add the address and `n` to ignore it. In the following example, the addresses of Franz Schmidt and Mary Jones are extracted from the distribution list contained in the `cc:` field of the current message:

```
% alex -alias aliases -name mgrs -field cc -query  
smith@ultrixhost  
Add this address to alias mgrs (y/n) ? n  
schmidtf@koln.dnet  
Add this address to alias mgrs (y/n) ? y  
macdonald@ultrixhost.dnet  
Add this address to alias mgrs (y/n) ? n  
maryj@money.dnet  
Add this address to alias mgrs (y/n) ? y
```

See `alex(1mh)` for more information on further options that you can use with the `alex` command.

For more information on the alias file, see Chapter 8.

6.3 Reading Your Alias File

To read your alias file on your screen, enter:

```
% ali
```

To use the `ali` command, you must have an entry for the alias file in your user profile. To add the entry in your user profile, use an editor to add the line:

```
Aliasfile: aliases
```

To find out more about how to modify the user profile, see Chapter 7.

If your alias file is too long to fit on your screen, enter:

```
% ali | more
```

You can then move through the file line by line or a screenful at a time. To move forward line by line, press `Return`. To move forward through the file a screen at a time, press the space bar. To move backward through the file a screen at a time, press `Ctrl/B`. For further details on `more` and its options, see `more(1)`.

To find out the addresses that are included under a particular code name, add the code name to the command. For example, to find out what addresses are included under the code name `dave_m`, enter:

```
% ali dave_m
```

The following is displayed on your screen:

```
dave_m: morrison@ultrixhost.dnet
```

Setting up your User Profile 7

This chapter describes how you can set up your user profile so that you can make the most effective use of MH.

You can set up or modify any of the features described in this chapter without any specialized knowledge of the mail system. MH is designed to be as versatile as possible, and to be easily customized by any user. All you need for this and the following chapter is basic knowledge of how to use an editor (for example, `vi`) and how to edit a file.

7.1 What Is Your User Profile?

Your user profile is a file that you can use to set up the characteristics of your mail system. The file is created for you automatically when you first use MH. You can then use it to modify MH to suit your own needs.

MH consults your user profile every time you enter a mail command. By adding or modifying the entries in your user profile, you can control the way in which MH behaves.

For example, you can add an entry to your profile which tells MH which editor you would like to use to create mail messages. Every time you enter `comp`, MH reads this entry in your profile and puts you into the editor you have chosen.

Everyone's profile is unique. The entries in your profile only affect your own use of the mail system, so you can change it to suit yourself without affecting anyone else.

Your user profile is called `.mh_profile`, and is located in your home directory. (The dot (`.`) at the start of its name means that it does not appear when you enter `ls` to list the files in the directory). To look at it, go into your home directory and enter:

```
% more .mh_profile
```

7.2 Editing Your User Profile

To edit your user profile, you need to be able to use an ULTRIX editor to edit a file. If you are not sure about how to do this, read *The Little Gray Book*, or talk to your system manager. Your user profile is called `.mh_profile`.

The format of entries is simple. Each entry consists of a keyword, followed by a value. The two are separated by a colon. For example:

```
Path: Mail
```

Any line you add or alter must be in this format. The sample profile in the next section gives an example of what a typical `.mh_profile` file looks like.

The keywords in your profile are not case-sensitive; you can use uppercase or lowercase letters. However, if you use your profile to set up options to mail commands, you must write the options in lowercase. If you are in doubt, follow the

examples given throughout the chapter.

If you want to remove an entry from your profile temporarily without deleting it, you can comment it out. This means that the mail system ignores the entry whenever it consults your `.mh_profile`. To comment out an entry, edit the line so that it begins with a hash (pound) sign (#):

```
# comp: -form copydraft
```

The following sample profile contains an entry that has been commented out.

7.3 A Sample User Profile

The mail system creates a very basic user profile for you the first time you enter a mail command. This contains only one entry:

```
Path: Mail
```

If your user profile looks like this, you will certainly want to add more entries. Look at the sample profile given below, and read through the explanation of the entries in the rest of this chapter. Add any of the entries which you think will be useful to you, and modify them as you want.

The system manager for your site may have set up a profile for you. If this is the case, you may have more entries in your profile. Most of them are explained in the rest of this chapter. Some more advanced or technical entries are beyond the scope of this book; if you need more information on these, see `mh_profile(5mh)`. You can add entries to this profile or modify existing entries to suit your own needs.

Example 7-1 shows a typical user profile. It contains some of the features you might find most useful. You can add, remove or modify these entries in your own profile, and include any others you may come across.

Example 7-1: Sample Profile

```
Path: Mail
Editor: vi
Signature: "Maggie Brown (0865-737465, RMH1-F3)"
comp: -form copydraft
Draft-folder: +drafts
Aliasfile: aliases
repl: -nocc me -fcc +copylog
# repl: -annotate
rmf: -inter
whom: -check
```

7.4 Entries in the User Profile

The rest of this chapter describes in detail the entries you can add to your `.mh_profile`. There is a separate section on each type of entry you can add. This list is not exhaustive, but it contains most of the features of your mail system that you may want to customize. If you want to investigate some of the more advanced and technical ways to modify your user profile, see `mh_profile(5mh)`.

This chapter has sections on:

- Path
- Editor
- Signature
- Message Headers
- Draft Folders
- Alias Files
- Setting up Mail Command Options

7.4.1 Path

The `Path:` entry in your profile sets the location of your Mail directory. This is where information relating to your mail system is kept. For example, your Mail directory is where MH creates the folders in which you store your messages.

This entry is set up automatically by MH when you first use a mail command. The default location for your Mail directory is `$HOME/Mail`; this location is assumed in the examples in the rest of this book. This is shown in the following line from the sample profile:

```
Path: Mail
```

Unless the path begins with a `/`, MH assumes that it starts from your home directory.

7.4.2 Editor

MH is supplied with a built-in editor, called `prompter`. This editor is limited, as you cannot go back to correct what you entered on previous lines.

You can set up a more versatile editor for creating mail using the `Editor` line of your profile. The sample profile sets up `vi` as the main editor for MH, with the following line:

```
Editor: vi
```

When you set up an editor in your profile, it becomes the default whenever you create or edit a message. You are automatically put into this editor whenever you enter `comp`, `forw`, or `repl`.

7.4.3 Signature

Your mail signature appears on the `From:` line of messages you send. This line only appears when the mail system sends the message, so it does not appear on your draft message. Signatures usually contain information that is not otherwise available to recipients of mail, such as your telephone number, physical location, or your job. The sample profile contains a typical signature:

```
Signature: "Maggie Brown (Devt Manager, 0865-737465, RH1-F3)"
```

You can include anything you like in your mail signature, as long as you obey the following rules:

- The text of the signature should be in double quotes ("")
- Components of the signature other than the name should be enclosed in parentheses ()
- If the signature is longer than one line, any continuation lines start with a blank (a space or a tab character)

There is no need to include your electronic mail address in your signature, as this is added automatically by the mail system.

When mail is received, the header, including the signature, will look something like this. (Note that the mail address of both the recipient and the sender is placed in brackets <>.)

```
Return-Path: brown
To: "Clive Todd (Marketing 0756-78386, RAM1-F/G4)" <todd>
Subject: Re: Later note says Wednesday is too late...
In-Reply-To: Your message of "Mon, 06 Aug 90 11:29: 48 BST."
Date: Mon, 06 Aug 90 11:46:55 +0100
From: "Maggie Brown (Devt Manager, 0865-737465, RH1-F3)" <brown>
```

7.4.4 Message Headers

The default mail system gives you the following message header every time you use the `comp` command:

```
To:
Cc:
Subject:
-----
```

If you want to use a different message header for your draft messages, you can set up your choice in your profile.

Using your profile to set up your message header works in the same way as the `comp -form` option described in Section 2.4. The difference is that once you have set up the entry in your profile, you do not need to type any options. Your customized header appears automatically when you enter `comp`.

To use your own choice of header, you need to add a line to your `.mh_profile`. You also need to create a file in your Mail directory which contains the new header lines you wish to use. First, edit the `.mh_profile` to include this line:

```
comp: -form copydraft
```

Next, create the `copydraft` file in your Mail directory. Include in this file the header which you want to have appear on your draft messages. You can include any of the standard fields from the default header as well as a number of others, such as `Bcc:` and `Fcc:`. These are all described in Section 2.4.

A typical `copydraft` file might look like this:

```
To:
cc:
Bcc:
Subject:
-----
```

There are some rules you must follow when creating your header:

- Each header field must start with a keyword (for example, `To`), followed by a colon
- Your header must include a `To:` line
- Message header fields never start with a blank (a blank is a space or a tab character)
- The body of the message must be divided from the header by a line of dashes or by a blank line

You can include values in the header fields of your `copydraft` file, if you wish. A useful thing to do is to send copies of all your messages to a `+copylog` folder, so that you have a copy of all the messages you have sent. You can set this up automatically by adding a filled in `Fcc:` field to your `+copydraft` file, as follows:

```
To:
cc:
Fcc: +copylog
Subject:
-----
```

You can still use the `comp -form` option to override the default header that you have set up. This allows you to have a number of different headers for different kinds of messages.

For example, if you often send blind carbon copies of messages, create a file called `blind_copy` in your Mail directory with a suitable header, for example:

```
To:
cc:
Bcc:
Subject:
-----
```

Then, whenever you wanted to send a blind carbon copy of a message, you would enter:

```
% comp -form blind_copy
```

The draft message would then contain your blind carbon copy header.

If you wish, you can set up a number of different headers in this way, each for a different sort of message. This does not affect the option you set up in your user profile. If you just want to send a normal mail message, the header that you set up in your profile appears when you type `comp`.

You can also set up default headers for forwarding mail. For this, you do not need to edit your `.mh_profile` at all. Instead, you can simply create a `forwcomps` file. For a full description of how to do this, see Section 4.2.2.

7.4.5 Draft Folders

If you want to keep copies of unsent draft messages, you need to use a drafts folder. Otherwise, you have to delete any old drafts before you can create a new message. Draft folders and draft messages are explained in full in Section 2.6.

You can use your profile to set up a default drafts folder, so that you do not need to keep typing options at the command line. Add the following line to your

```
.mh_profile:
```

```
Draft-folder: +drafts
```

Every time you create a message using `comp`, `repl`, or `forw`, the draft is created in the `+drafts` folder. If you decide not to send the draft, it is stored in the folder until you delete it or send it at a later date.

Like all the defaults you set up in your `.mh_profile`, you can override your choice of draftfolder by typing a different option on the command line. For example, you might want to store the draft messages you write to your manager in a folder called `+mgr`. To create the messages, enter:

```
% comp -draftfolder +mgr
```

If you decide not to send the draft, it is stored in the `+mgr` folder.

All drafts are deleted automatically when the message is sent. If you want to keep a copy of the messages you send, see Section 7.4.4.

7.4.6 Alias Files

To set up and use an alias file, add the following line to your `.mh_profile`:

```
Aliasfile: aliases
```

For a full description of how to set up aliasing and use an alias file, see Chapter 8.

7.5 Setting up Mail Command Options

Like most ULTRIX commands, the mail system commands have a large number of options. If you find that you use particular options very frequently, you can use your `.mh_profile` to set up these options automatically. This saves you having to type in the option every time you type the command.

It is very simple to add a command option to the `.mh_profile`. You need to add a line to the profile, giving the command name and the option you want to set up. The following examples come from the sample profile:

```
repl: -nocc me -fcc +copylog  
rmf: -inter  
whom: -check
```

Once you have added these entries to your profile, the mail system picks them up automatically. Every time you enter `repl`, for example, the mail system looks in your `.mh_profile` and finds the entry for `repl`. It reads the options you have specified there, and runs the command accordingly.

You can specify any options you wish in your `.mh_profile`. In practice, though, you probably will not want to use many. It is only worth adding an entry to your profile if you want to use the option every time you enter a particular command. The

entries in the sample profile are good examples of the kinds of entry you might like to add. (These options are all described in more detail in Chapters 3, 4 and 5 of this manual).

The following entries are included in the sample profile:

```
repl: -nocc me -fcc +copylog
```

This entry sets up two options for the `repl` command. They are specified one after the other, just as they would be on the command line. `-nocc me` stops the mail system sending a copy of your reply to yourself. The second entry, `-fcc +copylog`, keeps a copy of all your replies in the `+copylog` folder.

```
rmf: -interactive
```

The `rmf` command removes folders from your Mail directory. If you set up the `-interactive` option, the mail system asks you to confirm before deleting a folder. This is a useful safeguard against accidentally deleting the wrong folder.

```
whom: -check
```

The `whom` command lists the recipients of a draft message (it is usually used only as a response to the `What now?` prompt when you are creating a draft). With the `-check` option, the mail system also checks that the addresses are valid, within certain restrictions.

Other useful options to add to your `.mh_profile` are:

- `repl: -annotate`
- `repl: -filter replfilter.`

The `-annotate` command adds a note to the original message recording when you replied to it, and marks the message with a dash (-) on the `scan` listing. The `-filter replfilter` command encloses a copy of the original message in the reply.

For more information on these options to `repl`, see Chapter 4.

7.5.1 Overriding Command Options

Like all entries in your `.mh_profile`, the options you set up can usually be overridden by options on the command line. For example, assume that you set your profile up to include the `repl -annotate` option. You reply to a message, but decide that you do not want to annotate the original. Rather than remove (or comment out) the `-annotate` option from your profile, you could override it by entering:

```
% repl -noannotate
```

This would reply to the message without adding any annotation to it, and without marking it on the `scan` listing. The option you set up in your profile would not be affected, so next time you used `repl`, it would annotate the message in the usual way.

Setting up an Alias File **8**

Aliasing is a method of addressing messages using code names or other easily remembered names instead of full mail addresses. Instead of entering:

To: `khatton@cyborg.comput.sgsu.com`

you could use the alias:

To: `Kevin`

Aliasing is also the easiest way of sending a mail message to a number of recipients or to a distribution list.

This chapter describes how to set up an alias file if you do not have one, and how to add and delete entries. For more information on the principles of aliasing, and how to use aliases in your mail messages, see Chapter 6.

In order to modify your alias file, you need to be able to edit a file. If you are not sure how to do this, read *The Little Gray Book*, or talk to your system manager.

Your alias file is unique to you. You can edit it without worrying about affecting the mail system or other users. Any changes you make will only affect you.

The mail system provides a tool to help you extract addresses from messages you receive and create aliases for them. It is called `alex`, and is explained in Chapter 6, and the `alex(1mh)` reference page.

This chapter contains the following sections:

- Setting up Your Alias File
- A Sample Alias File
- Adding and Deleting Aliases
- Looking up Your Aliases
- How the Mail System Handles Aliases
- The System Alias File

This chapter covers all the information you need to set up and customize your alias file. If you want to investigate some of the more advanced and technical aspects of aliasing, read the `mh-alias(5mh)` reference page.

8.1 Setting up Your Alias File

Before you can start using aliases, you need to have an alias file. You must also add an entry to your user profile, so that the mail system consults your alias file automatically.

The most common location for your alias file is `$HOME/Mail/aliases`. Your system manager may have already set your alias file up and added the entry to your

user profile. If this is the case, you can go on to the next section. If you are not sure whether this has been set up, ask your system manager.

If you have used `alex` to save addresses, you will already have an alias file. You may also have the entry in your profile. If you are not sure, check your user profile for the `Aliasfile` entry.

Your user profile is described in full in Chapter 7. If you are not sure how to edit it, refer to that chapter.

To create your alias file:

1. Change directory to your Mail directory.
2. Enter:

```
% touch aliases
```

This creates an empty file called `aliases`.

If a file called `aliases` already exists, this command does not overwrite it or affect it in any way, so you do not have to worry about deleting anything important.

To add the entry to your profile:

1. Change directory to your home directory.
2. Edit the `.mh_profile` file to include the following line:

```
Aliasfile: aliases
```

If there is already an entry for `Aliasfile`, you do not need to add another one.

8.2 A Sample Alias File

Example 8-1 shows a typical alias file. It contains aliases for both individual recipients and for three distribution lists, `Proj_team`, `Writers`, and `Devt_team`:

Example 8-1: Sample Alias File

```
Eric:    schmidt@cyborg.comput.sgsu.com
John:    miller@cyborg.comput.sgsu.com
Ursula:  ursula@ultrixhost.dnet
# Gillian:  sutton@cyborg.comput.sgsu.com
Kevin:   khatton@cyborg.comput.sgsu.com

SteveJ:  sjones@ultrixhost.dnet

Jennifer: jenny@magnet

#
# Distribution lists follow
#

Proj_team: khatton@cyborg.comput.sgsu.com, \
           sjones@ultrixhost.dnet, jenny@magnet, ursula@ultrixhost.dnet
```

Example 8-1: (continued)

```
Writers: khatton@cyborg.comput.sgsu.com, \  
         miller@cyborg.comput.sgsu.com, todd@ultrixhost.dnet, \  
         brown@magnet
```

```
Dev_t_team: downton@myhost, stevens@myhost, field, sanders, \  
           jsmith@dalek, harrisp@dalek
```

8.3 Adding and Deleting Aliases

Your alias file is unique to you. You can add or delete entries as you wish, without affecting the way anyone else uses the mail system.

8.3.1 Adding Entries

You can use the `alex` utility to add entries to your alias file. It is useful if you want to extract addresses from mail you receive and place them in your alias file. For more information on `alex`, see Chapter 6, and `alex(1mh)`.

You can also add entries by editing the alias file yourself. If you want to set up your own entries, especially your own distribution lists, this is probably the most practical method.

To edit the alias file, you need to be in your Mail directory. When adding entries, you should make sure that they are in the correct format. The basic rules are:

- Each new entry must start on a new line
- The alias name comes first, followed by a colon (:) and one or more blank spaces, then the address or addresses
- Addresses must be separated by a comma (,)
- If distribution lists are longer than one line, each line must end with a backslash (\)

You can include as many blank lines as you wish between entries.

You should be careful not to use existing alias names when you add new entries. If there are two entries with the same name in the alias file, the mail system always takes the first one, and ignores the second. If you are using `alex` to add new entries, you should be especially careful about using existing names, as you could overwrite the existing entry. For more information, see `alex(1mh)`.

8.3.2 Deleting Entries

To delete an entry from your alias file, you need to edit the file. Go into the file and use the editor to remove the entries you wish to delete.

You should be careful not to delete entries which you might want to use in the future. If you want to remove an entry from use temporarily, you can comment it out rather than deleting it; this is described in the next section.

8.3.3 Adding Comments to Your File

If you want to, you can add comments to your alias file. Comments are ignored by the mail system when it consults the alias file, but are visible when you view or edit the file.

To add a comment, place a hash (pound) sign (#) in front of the lines you want to be treated as a comment. There is an example in the sample alias file:

```
#  
# Distribution lists follow  
#
```

Three hash (pound) signs were used to make the comment stand out more clearly. Comments do not appear when you use the `ali` command to list your aliases. The `ali` command is described in the next section.

You can also use the hash (pound) sign (#) to comment out entries. This is useful if you want to disable an alias temporarily, without deleting it from your file. Edit the file to put a hash (pound) sign at the start of each line of the entry. If the entry goes over one line, you need to comment out each line individually.

The following entry in the sample alias file has been commented out:

```
# Gillian: sutton@cyborg.comput.sgsu.com
```

When you want to use the entry again, go into the file and remove the hash (pound) signs.

8.4 Looking up Your Aliases

You can look up the contents of your alias file using the `ali` command. To see a full list of all the aliases you have set up, enter:

```
% ali
```

The contents of your alias file are displayed.

The `ali` command tidies up your file before displaying it. All comments are removed, and all backslashes (\) are removed from the ends of lines. Blank spaces are placed between individual entries in distribution lists; if entries go over one line, continuation lines are indented. All blank lines are removed.

You can also use the `ali` command to look up an individual entry. To check who is included in your alias for `Proj_team`, enter:

```
% ali Proj_team
```

The mail system displays:

```
khatton@cyborg.comput.sgsu.com, sjones@ultrixhost.dnet, jenny@magnet,  
ursula@ultrixhost.dnet
```

You can also use `ali` to look up a particular user, using the `-user` option. You provide the user's address as it appears in the alias file; `ali` then lists the aliases which include that name.

For example, you might want to find out what aliases contained the address `khatton@cyborg.comput.sgsu.com`. Enter:

```
% ali -user khatton@cyborg.comput.sgsu.com
```

The mail system lists the aliases as follows:

```
khatton@cyborg.comput.sgsu.com: Kevin, Proj_team, Writers
```

8.5 How the Mail System Handles Aliases

Aliases appear on your draft messages exactly as you typed them in. For example, if you were sending a message to the `Proj_team` alias, on your draft you would see the following line:

```
To: Proj_team
```

When the message is sent, the mail system expands the aliases. This means that instead of the alias, the recipients see the full mail addresses on the distribution list, like this:

```
To: khatton@cyborg.comput.sgsu.com, sjones@ultrixhost.dnet,  
jenny@magnet, ursula@ultrixhost.dnet
```

This makes it easy for the recipients to see the full list of those who received the mail.

If you want to expand the aliases on your draft before you send the message, you can use the `whom` command. This allows you to see the full list of intended recipients. Complete your draft message in the usual way, and exit from the editor. At the `What now?` prompt, enter:

```
What now? whom
```

The mail system displays a list of all the addresses to which the mail is going to be sent, including all those included in your alias:

```
khatton@cyborg.comput.sgsu.com  
sjones@ultrixhost.dnet  
jenny@magnet  
ursula@ultrixhost.dnet
```

For more information on `whom` and its options, see `whom(1mh)`.

8.6 The System Alias File

As well as your personal alias file, there is also a system alias file.

The system alias file contains aliases that are useful to all users on the system. It is usually set up and maintained by the system manager. Anyone can use the aliases in the system alias file, but only the system manager adds, deletes or modifies the entries in it.

The system alias file usually contains aliases used by project teams or other groups of people. You can look at the contents of the file by entering:

```
% more /usr/lib/mh/MailAliases
```

The format of the file is the same as that of your personal alias file.

You can use aliases from the system alias file in your messages in exactly the same way as you would use your personal aliases.

The mail system consults the system alias file automatically, without you having to supply any options or set up an entry in your user profile. Simply type the alias

name in the appropriate field of the message header.

If you want to see who is included in an alias in your draft message, you can use the `whom` command at the `What now?` prompt. The alias will be expanded into a list of individual addresses, as with your personal aliases.

Manipulating Messages 9

This chapter describes some of the ways that MH lets you handle and manipulate messages. Normally, you deal with one message at a time. For instance, you usually read, file or delete only one message with each command. This chapter describes how you can group messages together, for easy reference and handling.

The chapter covers three main ways of manipulating and grouping messages. Firstly, it describes how to search a folder for messages that match certain criteria. Secondly, it describes how you can group messages together into named sequences, allowing you to handle groups of messages as easily as one. Finally, it explains how you can take advantage of some additional features of MH by adding two entries to your user profile.

No specialist knowledge of MH is needed to use the commands described in this chapter. However, you should be familiar with the basic MH commands covered earlier in the book. In order to add entries to your user profile, you need to be able to use an editor to edit a file.

The chapter contains the following sections:

- Searching for Messages
- Using Sequences
- Setting up Sequences in Your User Profile

9.1 Searching for Messages

The `pick` command lets you search for messages in a folder. `pick` is quite versatile. You can search for messages by the entries in the header fields; for example, you can look for all messages sent by a particular person. You can also look for a particular word or string of characters in the body of a message. You can even search for messages by the time and date at which they were sent.

This section contains the following subsections:

- Searching Header Fields
- Searching the Body of a Message
- Searching by Date
- Searching a Range of Messages
- Using the Messages You have Found

9.1.1 Searching Header Fields

The most common use of `pick` is to search the header fields of messages. You can specify the header field that you want `pick` to look at, and the pattern you want it to look for. It lists the numbers of any messages that match your criteria.

The following command searches for all messages that are from Christine:

```
% pick -from christine
7
22
24
```

The header field is given as an option, with a dash (-) in front of it; the content of the field comes after.

The `pick` command only recognizes the most common header fields: `To:`, `cc:`, `From:`, `Subject:`, and `Date:`. If you want to search any other header field, you need to put two dashes in front of the field name. For example, to search the `Reply-to:` field for the word `scott`, enter:

```
% pick --reply-to scott
```

These options are not case-sensitive; that is, they treat capital and lowercase letters as the same. So `pick` searches for `Scott` as well as `scott`.

If you want to, you can include spaces in the pattern you are searching for. If you do, you must put double quotes (") around it. So to look for messages that contain `status meeting` in the `Subject:` field, enter:

```
% pick -subject "status meeting"
```

A warning: `pick` only looks for the string of characters you have specified; it cannot identify whether it is a separate word or not. This can cause unexpected results. For example, a command intended to pick out all messages from `Chris` in fact picks out all messages with the pattern `Chris` in the `From:` field; this will include all messages from `Christine` or `Christopher` as well.

9.1.2 Searching the Body of a Message

You can tell `pick` to search for a particular word or pattern of characters using the `-search` option. It searches the entire message (including the header fields) for the pattern which you specify.

To search for a particular pattern, type `pick -search`, followed by the pattern you are searching for. The pattern must always be enclosed in double quotes ("). `pick` searches the entire message for the pattern, including the header fields.

The following command searches for all messages which include the word `strawberries`:

```
% pick -search "strawberries"
```

Unlike the header field options, the `-search` option is case-sensitive; it treats uppercase and lowercase letters as different characters. So the last command would pick out all messages with the word `strawberries`, but not those with the word `Strawberries`. (This is similar to the way in which the `ULTRIX` command `grep` works.)

9.1.3 Searching by Date

Besides pattern-matching, `pick` also allows you to search for messages by date. Two options let you do this: `-before` and `-after`.

The `-before` option searches for messages sent before a specified date; `-after` searches for messages sent after a specified date. So, for example, to search for messages sent since 10th June, enter:

```
% pick -after "10 jun"
```

You can combine the two options to search for messages sent in a certain date range. The next command searches for messages sent between last Wednesday and today:

```
% pick -before today -after Wednesday
```

Both of these options recognize dates written in standard format. They recognize days of the week: Monday, Tuesday, and so on. Note that all days of the week refer to days in the past; for example, Sunday is always interpreted as last Sunday. They also recognize the three special dates `today`, `tomorrow`, and `yesterday`.

The date options are completely independent of the other pattern-matching options of `pick`. You can combine them with other options as you wish. For example, you can search for messages from Steven, sent between 4th June and 9th June:

```
% pick -from Steven -after "4 jun" -before "9 jun"
```

9.1.4 Searching a Range of Messages

By default, `pick` searches through all the messages in the current folder for the pattern that you specify.

If you do not want `pick` to search all the messages, you can specify a range of messages. For example, to search messages 10-20 in the current folder, enter:

```
% pick 10-20 -from christine
```

You can also specify a folder other than the current folder, by giving its name. So to search for messages from Christine in the `+meetings` folder, enter:

```
% pick +meetings -from christine
```

You can type these options in any order; it makes no difference to the result.

9.1.5 Using the Messages You Have Found

The `pick` command normally displays the numbers of the messages it has found, for example:

```
% pick -from chris
7
21
24
```

You can then use these message numbers with other mail commands in the usual way. For instance, you could read the messages individually using the `show` command; or you could file them in another folder using `refile`.

You can use `pick` more effectively by combining it directly with other mail commands. To do this, you need to use a technique called backquoting. This is a

standard way of combining commands in ULTRIX.

To use backquoting with `pick`, enclose your entire `pick` command in backquotes (```). This includes any options and arguments. The ULTRIX system carries out the command in backquotes before it carries out any other commands.

A good example of using backquoting is combining `pick` with `scan`. The following command gives you a scan listing of all the messages from Chris:

```
% scan `pick -from chris`
 20 31/07 chris          Yoga- did you get this message? <
 24 02/08 chris          Re: Writers' Meeting notes <<Hi t
 26 03/08 chris          Ideas for Improving the Agenda <<
```

This command is very useful if you are looking for a message from a particular person, as it saves you having to search through all the messages in your inbox.

You can also use `pick` in a similar way with other mail commands. The next command files all mail with the pattern `Team meeting` in the `Subject:` field in the folder `+meetings`:

```
% refile `pick -subject "Team meeting"` +meetings
```

For more information on backquoting, see the appropriate reference page for your shell; for example, `csh(1)` or `sh(1)`.

9.2 Using Sequences

A sequence of messages is simply a number of messages that have been grouped together under a name. You can use that name with any mail command, instead of a message number. This gives you great flexibility when dealing with messages. You can move or file whole groups of messages together with just one command; you can keep messages on related subjects together for easy access; and you can keep your sequences updated as new messages arrive.

You can still handle and use messages individually, even when they belong to a sequence. Using a sequence name with a command is just a convenient way of handling a lot of messages together, almost like shorthand.

For example, you might set up a sequence called `odd_numbers` containing all the odd numbered messages in a folder. The following two commands would then be equivalent:

```
% rmm odd_numbers
% rmm 1 3 5 7 9 11 13 15 17 19 21 23
```

Likewise, a message can belong to more than one sequence at a time.

Sequences are limited to one folder. Each sequence you set up can only contain messages within that folder.

9.2.1 Marking out a Sequence

MH allows you to set up your own sequences using the `mark` command. The `mark` command takes a group of messages and places them in a sequence, with a name you have chosen. You can then use this name in place of a message number with any MH command.

The following command shows you how you can create a sequence called `out` containing messages 10 to 20 in your current folder. The second half of the example

uses this sequence name to file all these messages in the `+old_messages` folder:

```
% mark 10-20 -sequence out
% refile out +old_messages
```

You can use any name for a message sequence, as long as you follow a few basic rules. This means that you can create meaningful names for your sequences, to make them easy to recognize. The only restraints on the names you can use are:

- The sequence name must start with an alphabetic character
- The rest of the name must consist only of alphanumeric characters; punctuation (including underscores) is not allowed
- You must not use standard names reserved by the mail system, such as `first`, `cur`, or `prev`

As well as creating sequences by giving message numbers, you can combine `mark` with the output of `pick` for a very flexible way of creating sequences. The following example takes all the messages from Adrian in the current folder, and places them in a sequence called `Admail`:

```
% mark `pick -from adrian` -sequence Admail
```

If you are not familiar either with `pick` or with the use of backquotes (```) with ULTRIX commands, see Section 9.1.5.

You can create up to a maximum of ten sequences in each folder. The number of messages in each sequence is controlled by the space the mail system needs to keep a record of the sequence. In practice, this gives a reasonable limit of about 200 messages for each sequence. Most sequences are considerably shorter.

9.2.2 Listing Sequences

You can list the sequences in your current folder by entering `mark` without any options. This lists all the sequences that you have created, and the messages that belong to them. The following example shows how this command works:

```
% mark
cur: 20
Admail: 1 5 9-12
test: 3-7
```

The sequence `cur` is created and updated automatically by the mail system. It contains the current message in the folder. The example also shows that one message can belong to more than one sequence at a time. Message number 5 belongs to the sequence `Admail`, and also to `test`.

You can also list the sequences in another folder by entering `mark` and the folder name. The following command lists the sequences in the folder `+meetings`:

```
% mark +meetings
cur: 26
develteam: 2 6 21
status: 1 9 12
```

9.2.3 Modifying Existing Sequences

You can modify existing sequences using two options to mark:

- `-add`
- `-delete`

The `-add` option adds new messages to a sequence. You must give the name of the sequence you want to add messages to, and the message numbers you want to add. If you do not give a message number, the current message is added. The following example adds messages 15 to 18 to the sequence `Admail`, and lists the new sequences in the folder:

```
% mark -add 15-18 -sequence Admail
% mark
cur: 20
Admail: 1 5 9-12 15-18
test: 3-7
```

Normally, `mark` adds the messages you specify to the existing contents of the sequence. However, `mark` also provides a `-zero` option. This allows you to remove all the existing messages from the sequence before adding the new messages. This means that the sequence will contain only those messages you have listed in the command. The next example repeats the command given in the previous example, but uses the `-zero` option:

```
% mark -add -zero 15-18 -sequence Admail
% mark
cur: 20
Admail: 15-18
test: 3-7
```

You can delete messages from sequences using the `-delete` option. This removes the messages that you name from the sequence. The following example removes message 16 from the `Admail` sequence:

```
% mark -delete 16 -sequence Admail
% mark
cur: 20
Admail: 15 17-18
test: 3-7
```

Note the messages are removed from the sequence only. They are not deleted or removed from the folder.

There is also a `-zero` option to `-delete`. It works a little differently from how it works with `-add`. If you use the `-delete -zero` option, all the messages in the folder are added to the sequence, and then the messages you specify are removed. So the sequence contains all the messages in the folder except the ones you have listed. The following example shows how this works. All 20 messages are added to the sequence `Admail`, and then messages 16 and 17 are deleted:

```
% mark -delete -zero 16-17 -sequence Admail
% mark
cur: 20
Admail: 1-15 18-20
test: 3-7
```

When you remove a message from a folder, it is automatically removed from any sequences which it belonged to. If all the messages are removed from a sequence,

the sequence is removed from the folder.

You cannot use the `-add` and `-delete` options in the same command. If you try to use both options, `mark` takes the last option you specified and ignores any previous options.

9.3 Setting up Sequences in Your User Profile

Sequences provide you with a very powerful and flexible way of dealing with messages. This section describes two features of MH which allow you greater flexibility in your use of sequences: the unseen sequence, and sequence negation.

To set up these two features, you need to add entries to your user profile. For more information on your user profile, see Chapter 7. If you are not sure how to add entries to your profile, you should read that chapter.

The features described in this section are very easy to use. Once you have set them up in your profile, you do not need to update or maintain them at all.

9.3.1 The Unseen Sequence

MH keeps a record of which messages you have read, and which messages you have not yet seen.

You can make use of this information by adding the following line to your user profile (the `.mh_profile` file):

```
Unseen-sequence: unseen
```

This entry automatically places all messages that you have not read in a sequence called `unseen`. When you use `inc` to incorporate mail, all the new messages are automatically added to the sequence `unseen`. When you read these messages, using `show`, `next` or `prev`, they are automatically removed from the sequence. At any time the sequence contains only those messages that you have not yet read.

This is especially useful if you receive a lot of mail, or if you are very busy. When you first use `inc` to pull in your mail, you can select only the messages that look important. Then, later, when you have more time, you can easily review the messages that you have not yet read, by entering:

```
% scan unseen
```

You can use the sequence with other mail commands, instead of a message number. For instance, you could file all your unread messages in a folder called `+pending` by entering:

```
% refile unseen +pending
```

9.3.2 Sequence Negation

Normally, you use sequences as a kind of shorthand, to tell a mail command to use a particular group of messages. However, it is sometimes useful to be able to tell a mail command to use all the messages that are not in a particular sequence.

MH allows you to do this by defining an entry for sequence negation in your user profile. Add the following entry to your profile:

```
Sequence-negation: not
```

This entry allows you to use `not` as a prefix to define all the messages not in a particular sequence. For example, `nottest` includes all messages that are not in the sequence `test`, and `notAdmail` includes all the messages not in `Admail`.

The following example shows how you can use this in a command. It takes all the messages not in the sequence `Admail` and files them in a folder called `+others`:

```
% refile notAdmail +others
```

Addressing Mail **A**

This Appendix explains the basic principles of addressing mail. It covers three sections:

- Addressing Mail to Local Users
- Addressing Mail to Non-local Users
- Other Address Forms you Might See

Mail addresses are based on user names and host names.

Your user name is the name that you log onto your system with. A host is an individual computer system in a network that can communicate with other computer systems in the network. You may be more familiar with the term “node”; the two are equivalent.

You can address mail to more than one person. Separate the addresses on the `TO:` or `CC:` lines with commas. If the list of addresses goes over one line, start each continuation line with a blank (a space or a tab character). You can also use aliases; there are examples of aliases in Chapter 8.

A.1 Addressing Mail to Local Users

A local user is someone who is on the same host as you.

To send mail to someone on the same host, all you need give is their user name. For example, to send mail to the user `smith`, who is on your host, the address would be:

```
To: smith
```

A.2 Addressing Mail to Non-local Users

You can also send mail to users on different hosts but the same mail system; for instance, if they are part of the same company.

You need to know the user name of the intended recipients of the message, and also their host. The two parts of the address are separated by a commercial “at” sign (`@`). The user name comes first.

For example, to send a message to the user `green` on the host `ultrixhost`, the address would be:

```
To: green@ultrixhost
```

Or to send mail to `chris` on the host `dalek`, enter:

```
To: chris@dalek
```

You may come across more complex addresses of this kind. This depends on how your particular mail system is set up. For instance, you might see an address of the form:

```
To: mcdonald@ultrixhost.dnet
```

This is a standard address, with the suffix `.dnet` added to the host name. This suffix indicates how the mail is to be transported. In this case, `.dnet` tells the mail system to send the message over DECnet. You do not have to specify a transport method in this way; if you do not, the mail system usually chooses the best method for you.

Some mail is sent over the ARPANET, a world-wide network linking universities, government bodies and private companies. ARPANET addresses are even more complex, for example:

```
To: khatton@cyborg.comput.sgsu.com
```

If you need to send mail to someone outside your own mail system, consult your system manager.

A.3 Other Address Forms you Might See

The addressing style described above is the standard ULTRIX style. It uses the commercial “at” sign (`@`) to separate address components.

Other mail systems have different addressing conventions. Descriptions of some of these follow. You may see addresses that look like these on messages you receive. However, you do not have to worry about them when you are writing messages. You can use the standard ULTRIX addressing style to send mail to other mail systems.

The VMS mail system, known as VMSmail, uses a different addressing style from ULTRIX. Double colons (`::`) separate the address components, and the host name precedes the user name. For example, to send mail to `davidson` on the host `vmsnode`, the address would be:

```
To: vmsnode::davidson
```

(The ULTRIX style writes addresses the other way round: the name of the user precedes that of the host.)

Another addressing style you might see is UUCP. UUCP is the UNIX to UNIX copy program, and is sometimes used to send mail between ULTRIX users. The UUCP style uses the exclamation mark (`!`) as an address separator. Like VMSmail, it places the host name before the user. For example, to send mail to `jones` on the host `host1`, the address would be:

```
To: host1!jones
```

These are address styles you might see on incoming mail. When you are writing mail, it is best to use the ULTRIX style of addressing, to avoid confusion. You should never mix addressing styles in one address.

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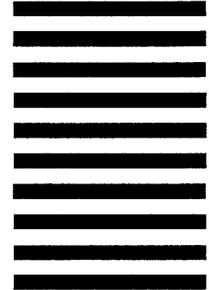


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