MICOMail™
HF E-mail Software

MICOMail Net
Internet Subscriber™
Internet-over-HF Software

User's Guide

68P86855J01-O

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Software Copyrights

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Before You Begin

Introduction

Welcome to MICOMail.
This E-mail software is designed for use with MICOM-2E/2R radios.

MICOMail enables you to communicate in two different manners:

Send e-mail and files directly to other radios over an HF channel, using your PC and a High Speed Modem, and receive e-mail and files from them. This type of communication is referred to in this Guide as "MICOMail HF e-mail".
The first chapters of this Guide are dedicated to MICOMail HF e-mail communication.

Transmit and receive e-mail and files over the Internet.
This type of communication is referred to in this Guide as "MICOM Net Internet Subscriber e-mail". In order to communicate as a MICOM Net Internet Subscriber, one of the radios in your network must be defined as a Server, and must install the MICOM Net Server software.

Note
For more details on communicating as a MICOM Net Internet Subscriber, see *Using MICOMail for Internet Communication* on page 71.
For more information on the MICOM Net Server, see the MICOM Net Server System Administrator's Guide (68P86856J01).

Basic Knowledge

This User's Guide assumes a basic working knowledge of the Microsoft Windows environment and of the operation of Windows-based software.

Note

If you are new to the Windows operating environment, minimize all open programs, and from the desktop press F1 to use the online Windows help. The sections which will be most useful for operating MICOMail are located under the How To heading, and are:
– How to Run Programs
– How to Work with Files and Folders
– How to Print

It is highly recommended that you read your radio manual and become acquainted with the functions of the radio prior to using MICOMail. Please consult your radio manual, MICOM-2E/2R ALE HF SSB Transceiver, Owner's Guide (68P02952C60).

MICOMail Package Contents

Check that you have following components in your MICOMail package before operating the software.

Software on a CD

A high speed external modem (FDN6124)

RS232 control cable (0102707K17)

Radio control cable (FKN4712A)

This User's Guide (68P86855J01)

Required Hardware

In order to operate MICOMail, you will need the following:

A PC, with the configuration described below.

A MICOM-2E/2R radio.

Note

MICOMail operates with radio software version 3.0169 and above. If your radio has an earlier software version, please contact your radio service station and request a software update.

Required Computer Configuration

The hardware and system operation requirements for the computer on which MICOMail is installed are:

IBM PC Pentium/90 MHz or higher.

16 MB RAM

Monitor with a minimum resolution of 800 x 600 and at least 256 colors

Minimum 12 MB of space on the hard drive

A CD-ROM drive.

Two Serial Communication Ports

A mouse or other pointing device

Operating System: MS Windows 95, 98 (Second Edition) or NT4 (Service Pack 4).

Warning

MICOMail does not operate with Windows 98 First Edition.

Conventions Used in this Guide

Being aware of the conventions used in this guide will help you to intuitively use the instructions and explanations it provides.

Commands and Fields

In order to assist you in locating commands easily, the following conventions are used:

Convention for...	For example:
Buttons	The **SEND** button
Menu commands	Select **File** > **Print**
Fields/Windows/Dialog boxes	In the **Subject** field, type in...
	View Message window
	Comm. Ports dialog box

Access to Commands

MICOMail uses both buttons and menus to access the same commands.

In the instructions given in this Guide, the button is always referred to as the first option, and the menu path is indicated in parentheses, in case your toolbar is currently closed. For instance:

5. Press the **CREATE** button (**Message** > **Create Message**) to open the **Create Message** window.

   This means that you can either press the **CREATE** button, or from the **Message** menu select the **Create Message** command in order to open the **Create Message** window.

If there is no button for a certain command, the menu path is indicated without parentheses, for example:

3. Select **Settings** > **Communication Port** > **Modem**.

   This means that you must open the **Settings** menu, select the **Communications Port** command and then select **Modem**.

Hardware and Software Installation

Setting Up the Hardware

The hardware required includes three components which must be interconnected: your MICOM radio, the modem, and a PC.

Note

For more information about the modem supplied with MICOMail, see *Appendix B – HAL DSP-4100 Modem* on page 97.

You will need two free COM ports on your PC, one for connection of the modem and one for connection of the radio. If your PC ports are being used by other applications, purchase a standard port expansion kit, and take note of the definitions of the new COM ports in your PC.

Warning

All equipment must be turned OFF during execution of the physical connections.
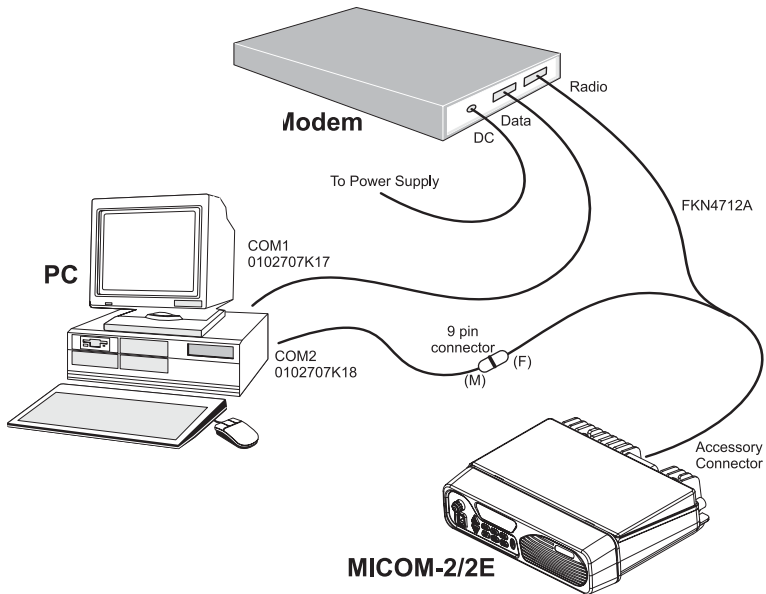
Connecting the external modem to your computer

Use the RS232 Control Cable (0102707K17) to connect the Modem (FDN6124) to your computer, as follows:

1. Connect the 25-pin connector marked *HAL* to the *DATA* Connector located on the rear panel of the Modem.

2. Connect the 9-pin connector marked *PC* to the one of the serial ports (COM#1 or COM#2) on your computer.

> **Note**
> Both the radio and the modem cables use 9-pin connectors to connect to COM1 or COM2 at the PC.
> It is recommended that you connect the modem to COM1.

3. Connect the Modem to the power supply.

Connecting the Modem to your radio

Use the Radio Control Y-Cable (FKN4712A) to connect the Modem (FDN6124) to your radio, as follows:

1. Connect the 25-pin connector marked *MICOM* to the *RADIO* connector located on the rear panel of the radio.

2. Connect the 9-pin (male) connector marked *MODEM* to the *ACCESSORY* connector located on the rear panel of the modem.

3. The loose 9-pin connector of the Y-cable will be used to connect the radio to the computer.

Initializing the Modem

1. Connect a 12VDC power source to the modem. Note that the center pin of the connector is positive.

2. Turn on the modem.

3. All front panel LED's light up for approximately three seconds.
   After this time, only the STBY LED should remain lit.

> **Note**
> If the STBY LED and any combination of the RX, TX, or ERR LEDs are flashing, there may ba a hardware failure. If this occurs, contact technical support (see *Technical Support* on page 90).

Connecting the radio to your computer

Use the Control Cable (0102707K18) to connect the radio to your computer, as follows:

1. Connect the female 9-pin connector marked *PC* to the one of the serial ports (COM#1 or COM#2) on your computer.

   Note

   Both the radio and the modem cables use 9-pin connectors to connect to COM1 or COM2 at the PC.
   It is recommended that you connect the modem to COM2.

2. Connect the male 9-pin connector to the loose 9-pin connector of the FKN4712 control cable, marked *CON-K18*.

3. Verify that the radio's power supply and antenna connections are intact.

Installing MICOMail

Before installing MICOMail, you must:

Ensure that Microsoft Windows is running.

Close all applications.

If a previous version of the MICOMail software is installed, delete the directory containing the old version.

Installing MICOMail on your PC

1. Insert the CD into the CD-ROM drive.

2. Follow the instructions given on the screen.

When installation is completed, the MICOMail icon appears in the Program Manager Window.

Starting the Application

Once you have installed MICOMail and connected the radio, computer, and modem, you can start MICOMail.

1. Turn the computer, radio and modem ON.

2. Double click the icon to start the application program.

The Main Window appears.

Note While you are running MICOMail, disable any software, such as screen locks or Guardit, that may stop the operation of the computer. If the computer's operation is stopped, MICOMail stops transmission and receipt of E-mail messages. To verify that the computer is running, glance at the digital watch indicator at the bottom right corner of the screen.

MICOMail Overview

General

This section contains an overview of MICOMail, and is designed to give you a birds-eye view of the software.

The Main Window

The Main window layout includes an InBox, an OutBox, a Folders pane and a Title Bar, Tool Bar and Status Line. When opened, the Log file also appears in a separate window.
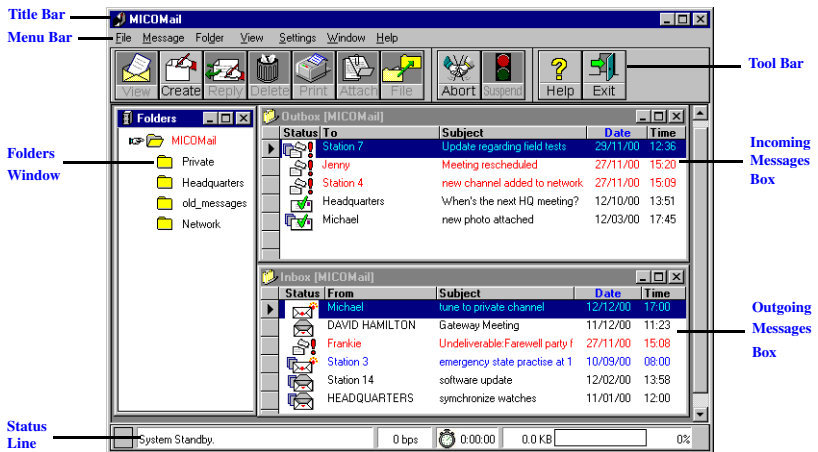
InBox

All incoming messages are displayed in the Inbox. Outgoing messages which have not been successfully transmitted also appear in the Inbox, in order to alert you attention to them.
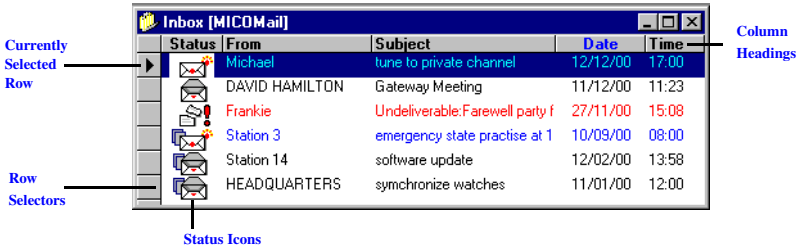
If the InBox is not displayed, select InBox from the View *menu.*

Use the toolbar buttons or commands in the **Message** menu (also available by selecting a message and clicking the right mouse button) to handle messages.

Row Selectors

The row selectors enable you to select messages. You can select more than one message for filing or deleting by holding down the Shift or Cntrl keys on your keyboard while the mouse pointer (arrow shape) hovers over the row selectors, and clicking the messages you want to choose.

Message Status Icons

The icon and the color of the text indicate the status of messages in the InBox.

HF Icon	Description	Text Color
	A new message that you have not yet read.	Blue
	A new message that you have not yet read, with an attachment.	Blue
	A message that was opened (read).	Black
	A message that was opened (read), with an attachment.	Black
	An outgoing message that failed or was aborted during transmission.	Red
	An outgoing message with an attachment that failed or was aborted during transmission.	Red

OutBox

Any messages you have prepared will appear in the **Outbox**.

Outgoing messages which have not been successfully transmitted are automatically transferred to the Inbox.

Note
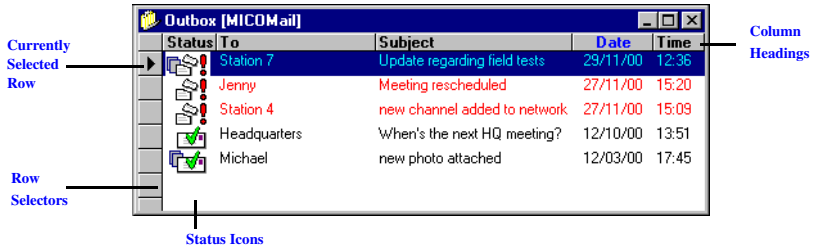
If the OutBox is not displayed, select OutBox from the **View** *menu.*

Use the toolbar buttons or commands in the **Message** menu (also available by selecting a message and clicking the right mouse button) to handle messages.

Row Selectors

The row selectors enable you to select messages. You can select more than one message for filing or deleting by holding down the Shift or Cntrl keys on your keyboard while the mouse pointer (now an arrow shape) hovers over the row selectors, and clicking the messages you want to choose.

Message Status Icons

The following icons show the status of messages in the **OutBox**.

HF Icon	Description	Text Color
	A new message that was created but hasn't been sent yet.	Blue
	A new message with an attachment that hasn't been sent yet.	Blue
	A message that is currently being transmitted.	Blue
	A message with an attachment that is currently being transmitted	Blue
	A message that could not be transmitted, or was aborted by the user.	Red
	A message with an attachment that could not be transmitted, or was aborted by the user.	Red
	A message that was suspended by the user.	Red
	A message with an attachment that was suspended or aborted by the user.	Red
	A message that has been transmitted successfully.	Black
	A message with an attachment that has been transmitted successfully.	Black

Folders Window

The Folders Window displays the main folder and up to nine sub-folders. The main folder is a permanent folder, which includes the **Inbox** and **Outbox**. You can create up to nine sub-folders, which can be used for storing or logging messages according to subjects or criteria you choose. Each sub-folder includes an Incoming and outgoing box for that category.

For more information on creating and handling folders, see *Managing Folders* on page 64.

> To display or hide the folders window, select or deselect **Folders** from the **View** menu.
>
> **Note**

Tool Bar Buttons

The Tool Bar provides quick access to commonly used Message Menu commands and dialog boxes by clicking the relevant buttons (for a short description of each function, see *Messages Menu* on page 16).

To display or hide the toolbar, from the View *menu select or deselect* Tool Bar.

Note

The SUSPEND/RESUME button does not appear in the Message menu. For more information about this function, see *Stopping and Resuming Message Transmission* on page 47.

Status Line

The status line contains information about the modem and the radio status.

Watch   Status   Estimated Speed   Estimated Time   File Size   Percentage of File
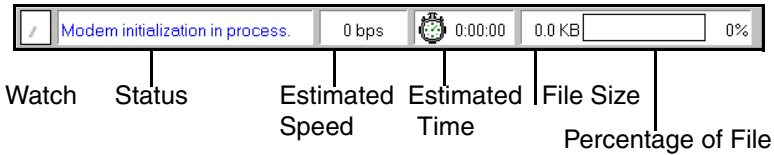
To display or hide the Status Line, selector deselect Status Line from the View menu.

The Status Line contains the following fields:

Field Name	Description
Watch	The seconds hand moves, indicating that the application is running.
Status	A text line indicating the system status. When the Status Field turns red, this indicates a communication failure. Examples of status line messages are: – Communication problem – Modem not found – Radio initialization... – System Standby – Cable communication problem
Estimated Speed	Shows the estimated current speed of transmission or reception of messages.
Estimated Time	Shows the estimated amount of time it will take for completion of file transfer or reception.
File Size	Shows the size of the message to be transmitted or received.
Percentage of file	Gives a rough indication of the percentage of transfer or reception that has taken place.

MICOMail Menus

The pull-down menus at the top of the MICOMail Main window enable you to select commands using the mouse.

MICOMail includes the following menus, which are described below.

MICOMail Menus

File	Message	Folder	View	Settings	Window	Help

- Printer Setup...
- Exit

Folder
- Open folder...
- Create folder...
- Rename folder...
- Print folder list...
- Empty folder...
- Delete folder...

Settings
- Parameters...
- Address Book
  - HF
  - (Internet)
  - (Server)*
- Comm Ports
  - Modem
  - Radio
- Automatic Mailing
- System Reset
- Internet Settings

Message
- View Message...
- Create Message...
- Reply to Message...
- Resend Message...
- File Message...
- Attachments...
- Print...
- Print Message List...
- Sort...
  - Name
  - Date
  - Status
  - Subject
- Delete Message...
- Send Message...
- Abort Message...

View
- Toolbar
- Status line
- Inbox
- Outbox
- (Server Status)*
- Folders
- Log file...
- Radio Control Panel

Window
- Cascade
- Tile Horizontally
- Tile Vertically
- List...

Help
- About MICOM Net Help
- Open PDF Help Manually
- Open Acrobat with PDF Help
- About...
- Configure Acrobat Reader

* Only available for MICOM Net Internet Subscribers.

File Menu

Printer Setup...   Used to select a printer driver and define its settings.

Exit   Quits MICOMail.

Messages Menu

View Message...   Enables you to open and view the selected message.

Create Message...   Opens the **Create Message** window, for creating new messages (see *Creating a New Message* on page 39).

Reply to Message...   Opens the **Reply** window, with the name of the Sender in the **To** field and the subject of the original message in the **Subject** field (see *Replying to a Message* on page 52).

ReSend Message...   Resends failed message from the Inbox.

File Message...   Enables you to move the selected message to one of your folders (see *Filing Messages* on page 59).

Attachments...   This command is used to save attachments received with your e-mail into the location you select in your Windows folders, to be viewed later using the appropriate software (see *Viewing Attachments* on page 50).

Print...   Prints the currently selected message (see *Printing a Message* on page 56).

Print Message list...   Prints the list of messages in the currently viewed folder. For more details, see *Printing the Messages List* on page 56.

Sort   Enables you to sort the list of messages in the **Inbox** or **Outbox** according to: Status, Name, Subject or Date.

Delete Message...   Deletes the currently selected message/s.

Send Message...   Sends the selected message (not available with Automatic mailing) (see *Transmitting an HF Message* on page 46).

Abort Message...   Aborts transmission of the currently selected message. To send the message later, use the **Send Message** command.

To temporarily suspend a transmission instead of aborting it, use the SUSPEND button. You can later resume sending the message from the point where it was suspended.

Folder Menu

See *Managing Folders* on page 64 for more details.

Open folder...   Opens the currently selected folder.

Create folder...   Creates a new folder (you can create up to 9 folders).

Rename folder...   Renames the currently selected folder.

Print folder list...   Prints the list of folders.

Empty folder...   Deletes the entire contents of the selected folder.

Delete folder...   Deletes the selected folder, including all messages in the folder.

View Menu

Toolbar   Enables you to view/hide the toolbar.

Status line   Enables you to view/hide the status line.

Inbox   Enables you to view/hide the **Inbox**.

Outbox   Enables you to view/hide the **Outbox**.

Server Status   Enables the Server administrator to view/hide the Server Status log (for MICOM Net Server Server use only).

Folders   Enables you to view/hide the folders.

Log File   Enables you to view the Log file.

Radio Control Panel   Enables you to view the Radio Control Panel

Settings Menu

Parameters...   Opens a dialog box which includes four tabs:

The **ID** tab contains information about your User Name and Modem ID.

The **Radio** tab contains information about your radio and default mode.

The **Station Type** tab enables you to select the type of communication:

– **Radio** for direct e-mail from one radio to another

– **MICOM Net Internet Subscriber** for e-mail over the Internet (requires a MICOM Net Server connected to the Internet)

– **MICOM Net Server** for operation as an Internet server station (requires purchasing the MICOM Net software separately).

The **Send Settings** tab enables you to control the manner and cycle which the radio uses to resend messages which were not dispatched at the first attempt.

Address Book   This command is used to open the HF address book.

Communication Ports   Enables you to define the Radio and Modem settings.

Automatic Mailing   Enables you to set the system to Automatic or Manual mailing.

System Reset   Resets the modem to its default parameters and the radio to its default mode.

Internet Settings   Used with the MICOM Net Internet Subscriber option (see *Using MICOMail for Internet Communication* on page 71).

Window Menu

Enables you to view the MICOMail windows cascaded, tiled horizontally or tiled vertically, and contains a list of currently open windows.

Help Menu

The Help menu enables you to open a PDF Help file similar to this printed manual, which provides information about how to use MICOMail functions. Version information is also provided in the Help Menu.

The PDF-based Help contains the following navigational tools which will help you to find the information you are seeking:

Bookmarks, which are similar to a collapsing Table of Contents and enable you to view the hierarchy of topics and to access topics directly

Links which lead you from one subject to other related subjects

An Index, which enables you to locate indexed terms

A full-text search function, which scans the entire text of the PDF and enables you to search for specific terms

A List of Procedures, for easy access to instructions for any particular procedure.

> **!** You must install Adobe Acrobat Reader™ (supplied with MICOMail) in order to view the PDF.
> **Important**

When you try to access the PDF Help file for the first time by pressing the **HELP** button on the toolbar or by selecting the **Help**>**Open Acrobat with PDF Help** command, you will be prompted to indicate the folder where Acrobat Reader is installed on your computer.

The next time you press the **HELP** button on the toolbar or use the **Help**>**Open Acrobat with PDF Help** command, the PDF Help file will open automatically in Acrobat Reader.

Alternatively, you can open the PDF Help file manually through Windows Explorer, by double-clicking the file named MICOMNET.PDF, in the folder where MICOMail is installed.

Log File

The Log records the final status of all transmitted and received mail. If you need to verify when a message was sent or received and whether it was transmitted without encountering any communication problems, use the Log file to find this information. For more details about the Log file, see *Using the Log file to Check Message Status* on page 53.

Note   The Log File is limited to 50 messages.

The Encryption Option

An optional MICOMail feature is mail encryption.

When this feature is operated, the Encrypt/Decrypt icon appears on the tool bar.

Note   For additional details on purchasing this option, contact your local dealer.

For more details about using encryption, see *Encrypting and Decrypting Messages* on page 70.

Initial MICOMail Configuration

This section guides you through initial configuration of your MICOMail system. For examples of MICOMail system installations, see *Appendix A — Sample Setup* on page 91.

	Prior to using MICOMail to send an e-mail message, verify that the modem and the radio are turned on and connected properly to the PC.
Note	If you have selected an incorrect baud rate or communication port, a communication failure message appears on the screen indicating that you must select a new value.

Communication Parameters

Before sending and receiving messages, you must customize your radio and modem serial communication parameters.

The following table shows the required communication parameters:

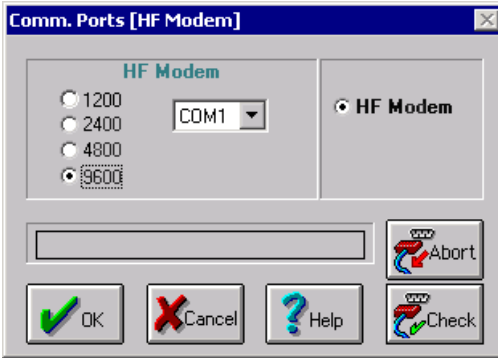| Parameter	Radio	Modem
Baud Rate (user selectable)	1200, 2400, 4800 or 9600	1200, 2400, 4800 or 9600
Data Bits (factory setting)	8	8
Stop Bits (factory setting)	1	1
Parity (factory setting)	Odd	None

Modem Settings

Defining the modem settings in MICOMail

1. Select **Settings** > **Communication Port** > **Modem**.

    The **Comm. Ports** dialog box appears with HF Modem checked.

2. Set the current modem baud rate for your modem.

    ⚠️ **Important**
    To enable e-mail communication between radios using MICOMail, the Baud Rate must be set to the same value on all radios which will be communicating.

3. Select a port from the **COM** drop-down menu.

    📝 **Note**
    It is recommended that you connect the modem to COM1.

4. Click the **CHECK** button to verify the configuration and setup.

    MICOMail performs a modem communication test, indicated on the Progress Bar (above the OK/Cancel/Help buttons). When the test is completed a message box appears, reporting the results of the test.

5. If the test is successful, click **OK** in the message box displaying the test results.

    📝 **Note**
    If the test fails:
    – Check that all cables are connected properly and that the modem is on
    – Verify that you have defined the correct COM port
    – Verify that you have selected the appropriate baud rate
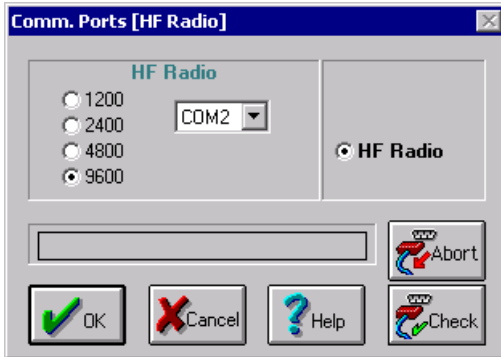   – Repeat the modem communication test.

6. Click the **OK** button in the **Comm. Ports** dialog box to return to the main window.

Radio Settings

Defining the radio settings in MICOMail

1. Select **Settings** > **Communication Port** > **Radio**.

    The **Comm.** dialog box appears with **HF Radio** checked.

2. Select the current baud rate for your installed radio under **HF Radio**.

 Note	If you want to change the radio baud rate, you must first change it in the radio itself, using the radio control panel (see *Using MICOMail's MICOM-2E Control Panel* on page 31).

3. Select a port from the **COM** drop-down menu.

 Note	It is recommended that you connect the radio to COM2.

4. Click the **CHECK** button to verify that the radio is configured to the setup.

    MICOMail performs a radio communication test, and a message reporting the results of the test appears.

5. If the test is successful, click **OK** in the message box displaying the test results.

 | | |
    |---|---|
    |
Note | If the test fails:
– Check that all cables are connected properly and that the radio is on
– Verify that you have defined the correct COM port
– Verify that you have selected the appropriate baud rate
– Repeat the radio communication test. |

6. Click the **OK** button in the **Comm. Ports** dialog box to return to the main window.

MICOMail System Parameters

This section provides information on the ID and Radio parameters in the System Parameters window.
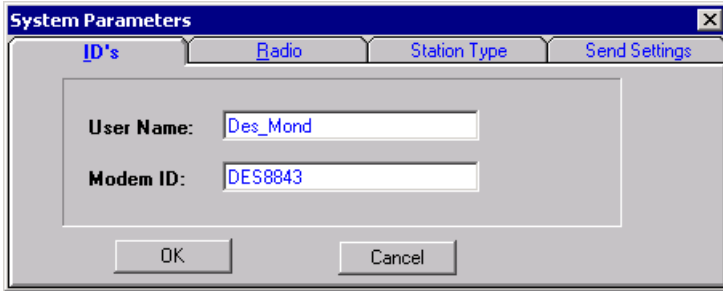
See *Defining your station as an Internet Subscriber* on page 74 for information on the Station Type setting and *How MICOMail Resends Messages* on page 62 for information on Send Settings.

ID Parameters

Customizing MICOMail's ID parameters

1. Select **Settings** > **Parameters**.

The **Parameters** dialog box appears.

2. Select the **ID** tab.

Note In the User Name and Modem ID fields, if you type an incorrect character, the string will appear in red. If all characters are permissible, the string will appear in blue.

3. Fill in the **User Name** field with a name of up to 17 characters.

The User Name appears in the **From** field in messages sent to other MICOMail users, from you. Keep this in mind when selecting your User Name.

Note The User Name can consist of any combination of characters, but cannot contain spaces.

4. Fill in the **Modem ID** field.

The Modem ID is a unique string used by the MICOMail installed at other users to identify your modem. Ask your System Administrator for your Modem ID.

Note The Modem ID field initially has a default value, because HSM FDN6100s modems are shipped with no ID number.
The Modem ID can consist of up to eight characters. Use letters and digits only, without spaces or special characters.

5. Click **OK** to confirm.

The software registers your User Name and initializes the modem with the Modem ID you provided.

Default Radio Park Parameters

The Radio Park Parameters are the defaults for receipt of your messages, and determine the state to which the radio automatically reverts (the Park Status) when MICOMail is in Standby mode. This enables other users to know what net and channel to use to transmit information to your radio. For more information, see *Radio Control* on page 31.

Note

If you select No Default, the radio will remain on the same net and channel used last time an e-mail was sent.

You should receive the appropriate radio settings from your System Administrator, depending on the manner in which the network has been configured.

Setting the default Radio Parameters

1. Select **Settings** > **Parameters**.

    The **Parameters** dialog box appears.

2. Click the **Radio** tab.

    The **Radio** tab is displayed.

3. Verify that the **No Default** box is NOT selected.

4. If you are using the ALE function, select **Scan** mode and under "Default" type the Net number.
    If you are not using ALE, select **Channel** mode and under "Default" type the Channel number.

5. Click **OK** to confirm.

Using the Address Book

The MICOMail Address Book contains a list of recipients for e-mail messages. These addresses should be received from your System Administrator, so that they correlate with the definitions used in other radios in the network.

> **Note**
>
> The *Address Book* on page 105 provides an empty address book for your convenience. Use it to record address data before entering it into your computer, and as a backup in case of computer failure.

Adding a New Address

Adding an address to the HF Address Book

1. Select **Settings** > **Address Book**> **HF Address Book**.

> **Note**
>
> • The address book can only be accessed when the system is in Standby mode (as indicated in the Status Line).
> • When you are operating MICOMail as an Internet Subscriber, the Internet Address Book is used for communication with Internet addressees, and the Server Address Book used for server addresses.

The **Address Book** dialog box appears.

2. Click the **ADD** button.

3. In the **To** field, enter any alphanumeric string enabling you to identify the person you wish to contact (up to 17 characters).

> **Note** This name is used for internal purposes only and is not transmitted to the recipient when you send e-mails.

4. In the **Modem ID** field enter the ID of the receiver modem (up to 8 characters).

> **Note** It is very important that this ID be entered correctly; incorrect IDs will cause communication failure. The recipient's Modem ID is determined by the recipient in his/her MICOMail, under **System Parameters** > **Modem ID**.

5. If you using ALE communication (with a MICOM-2E ALE radio), enter the relevant information:

Station Name Name of the Remote ALE Station (up to 15 characters). If empty, use the modem name with channel parameters.

This name must appear in the ALE directory.
Use MICOM-2E ALE RSS to program the name.

Net Net number (up to 2 numerals). If "0", system uses current net.

This name must appear in the ALE directory.
Use MICOM-2E ALE RSS to program the name.

Channel Channel number (up to 3 numerals). When set to "0", ALE automatically selects the best channel.

> **Note** These fields appear only when working with a MICOM-2E ALE radio and only when the radio control feature is enabled, see *Radio Control* on page 31).

6. Press the **UPDATE** button to record the new address in Address Book database.

> **Note** After making changes to the Address Book, you may have to refresh the address book display in order to view the changes.
> To refresh the list box, click the **REFRESH** button.

Editing the Address Book

Note

After making changes to the Address Book, you may have to refresh the address book display in order to view the changes.
To refresh the list box, click the **REFRESH** button.

Editing an address

Note

You cannot edit an address that is currently in use in the Outbox.
Send any pending outgoing messages using the address you want to edit, and transfer the messages to other mailboxes.

1. Scroll to the name you want to edit and select it.

   The details of that address appear in the **To**, **Modem ID**, **Station Name**, **Net** and **Channel** fields.

2. Edit the relevant fields.

3. Click the **UPDATE** button.

Deleting a name from the Address Book

1. Scroll to the name you want to delete and select it.

2. Click the **DELETE** button.

Radio Control

Using MICOMail's MICOM-2E Control Panel

You can control your MICOM-2E radio from your computer, using MICOMail's built-in Radio Control Panel, which mimics the radio's physical control head.

Note

You can purchase a DeskSet including a PTT microphone and speaker, to facilitate full remote radio operation. Contact your Motorola dealer for more information.
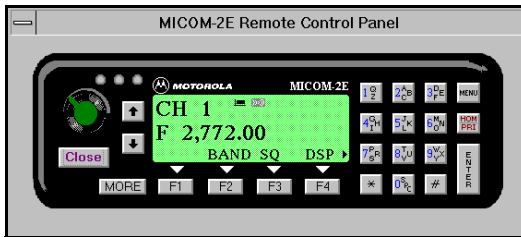
Displaying the Radio Control Panel on your PC

Select **View** > **Radio Control Panel**.

Note

This command is available only when MICOMail is in Standby mode.

The **Radio Control Panel** dialog box appears.

You can now use your mouse to operate the radio keys and control the radio.

Alternatively, use the keyboard Left and Right arrow keys to scroll over the Control Panel buttons, and press the Space Bar to activate the selected button.

Note

When the control panel is displayed, the modem is disabled.
In order to send a message, you must first close the MICOM-2E Control Panel.

Closing the MICOM-2E Control Panel

Click the **CLOSE** button on the Radio Panel.

Using Stations, Nets and Channels Effectively

MICOMail transmits messages over radio frequency waves. The modem you use with MICOMail can be configured to send messages at any radio frequency.

▤   *IMPORTANT! In order to transmit successfully, both the sender and recipient must be on the same radio frequency.*

In order to ensure that the sender and recipient can communicate, you must establish standards for "locating" the other users of MICOMail. This is done through networks, channels, and stations, which are normally set up by your system administrator.

Station   The identifying name of a radio station. When your station sends a message, MICOMail contacts the station designated to receive the message.

Channel   A specific radio frequency on which you can transmit or receive messages. When you define a specific channel frequency for a station, MICOMail communicates with that station only on the specified channel.

Network   A set of defined radio channels. You and others on the network decide which frequencies and channels are to be used to transmit to one another, and these definitions are combined into a radio network. You can configure more than one network on each radio.

Using your MICOM2E/2R radio, you can use the radio's Automatic Link Establishment (ALE) functions to your advantage with MICOMail. ALE automatically selects the channel with the best transmission from the radio's programmed channels. Using ALE is highly recommended because it ensures the best link possible without an in-depth knowledge of radio communications.

When a sender uses MICOMail to send an e-mail message on a particular network, the radio pages the recipient station (either on a selected channel, or, using the radio's ALE mode, on the best available channel). When the recipient radio detects that the sender radio is paging it, the two radios establish a link, and the modems perform a handshake and begin to communicate.

Note   For more information on ALE, see the MICOM-2E/2R ALE HF SSB Transceiver, Owner's Guide.

Using Radio Control

The Radio Control feature enables the MICOMail software to assign a specific default channel or station name for each user (see *Default Radio Park Parameters* on page 21).

When you assign a station name to a user, the system uses the ALE option in the radio to perform the call. Thus, a link is established on the best available channel, resulting in the best transfer rate possible and automatic channel switch in case a modem link fails.

Note	• MICOMail operates with radio software version 3.0169 and above. If your radio has an earlier software version, please contact your radio service station and request a software update. To check the software version, enter channel mode on your radio and press the * button on the radio for a few seconds, until the radio software version is displayed on the radio. • If you intend to use station names or net number in the MICOMail Address Book, the station names or net numbers must be programmed into the ALE directory using MICOM ALE RSS. • If the ALE is not programmed, you can assign channels only for user names in the MICOMail Address Book. • When MICOMail is in Standby mode, the radio must be in ALE mode or in Channel mode.

Enabling ALE

Enabling the Radio's ALE option

1. Use the MICOM2 RSS software to verify that the "Delete ALE" option is disabled.

2. Using the radio's front panel programming menu, press:

    PROG (programming), then

    RAD (radio), then

    OPTS (options), then

    ALE YES.

Creating, Sending and Receiving HF Messages

Using MICOMail, you can create new messages, receive messages from other MICOMail users, reply to incoming messages and transmit your e-mail over the radio network. MICOMail also includes useful mechanisms such the ability to attach files and use signatures.

Creating Messages

Create Message Window

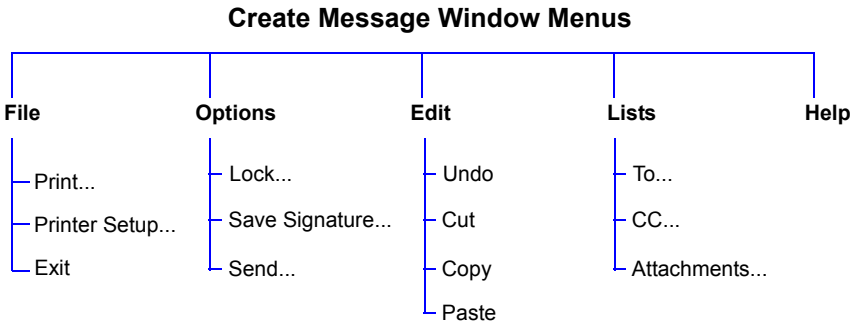New messages are created in a separate window, the **Create Message** window.
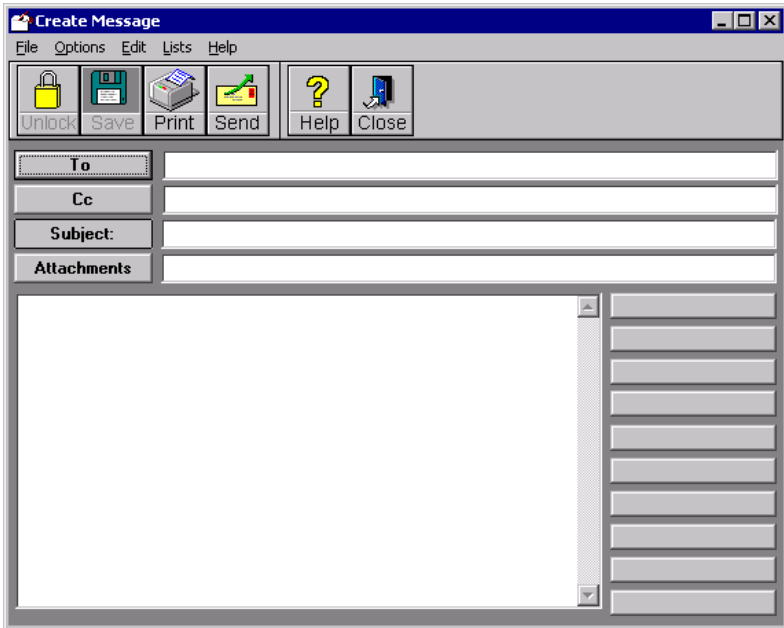
The Create Message Window is opened as a separate window, and has its own icon on the Windows Program Taskbar. If you click outside the **Create Message** window, it will apparently "disappear". To view it again, click the relevant icon on the Windows Taskbar.

Note

You can open two **Create Message** windows simultaneously.

Create Window Menus

The **Create Message** window has its own set of menus, as follows:

Create Message Window Menus

File	Options	Edit	Lists	Help
Print...	Lock...	Undo	To...	
Printer Setup...	Save Signature...	Cut	CC...	
Exit	Send...	Copy	Attachments...	
		Paste		

File Menu

Print...	Enables you to print the message.
Printer Setup...	Enables you to select the desired printer driver and to define its settings.
Exit	Quits the **Create Message** window.

Options Menu

Lock...	Opens the **Password** window, where you can lock files attached to the message with a password. For more information, see *Locking Attachments with a Password* on page 42.
Save...	Used to save signatures. For more information, see *Using Signatures* on page 67.
Send...	Saves the message data, closes the **Create Message** window and adds the message to the **Outbox** queue.

Edit Menu

Contains **Undo**, **Cut**, **Copy** and **Paste** functions, to facilitate text editing.

Lists Menu

To... Opens the Address Book, enabling you to select a recipient for your message.

CC... Opens the Address Book, enabling you to select additional addressees for your message.

Attachments... Enables you to select a file to attach to your message.

Help Menu

Opens the MICOMail PDF Help file.

Create Window Buttons

The Create Window contains the following buttons:

LOCK	Locks an attachment so that it can only be unlocked with a key which you provide. See *Protecting an attachment with a password* on page 42.
SAVE	Save the message as a Signature. See *Creating a Signature* on page 67.
PRINT	Prints the message. See *Printing a message* on page 56.
SEND	Adds the message to the outgoing queue in the Outbox.
HELP	Opens the MICOMail PDF Help file.
CLOSE	Closes the Create Message window and discards the message. *When you use this button, the message is not saved and is not added to the outgoing queue*.
TO	Enables you to select one or more recipients from the Address Book. See *Using the Address Book* on page 27.
CC	Enables you to add one or more recipients who you wish to receive copies of your message.
SUBJECT	A text field where you must type the subject of your message.
ATTACH	Enables you to add attachments to your message. *Sending attachments* on page 41.
MESSAGE TEXT PANEL	A text field where you can type the content of your message.
SIGNATURE BUTTONS	Ten Signature buttons (on the right side of the window), used for predefined signatures. See *Using Signatures* on page 67.

Creating a New Message

When you create a new message, you can determine one or multiple recipients, add attachments, use signatures and send copies as CCs to other recipients.
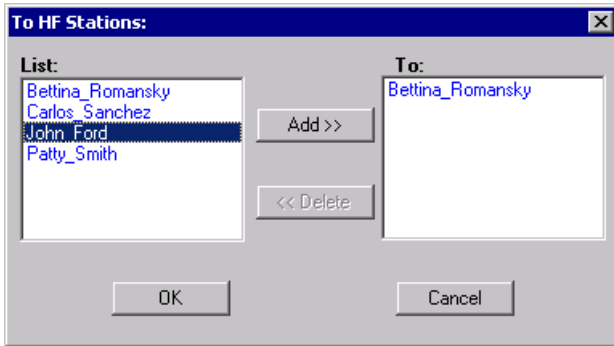
Creating a new message

1. Press the **CREATE** button (**Message Menu** > **Create Message**).

    The **Create Message** window appears.

2. Press the **TO** button (**Lists** > **To**).

📝 **Note**	You cannot type directly in the **To** field. Recipients can only be inserted using the Address Book. To add a name to the address book, see *Using the Address Book* on page 27.

    The **Address book** dialog box appears.

📝 **Note**	You must specify at least one recipient.

3. Select one or more names from the **List** pane on the left, and click the **ADD >>** button.

    The name/s now appear in the **To** pane on the right.

4. Click the **OK** button.

5. If you want, you can add more names to the list by clicking the **CC** button.

📝 **Note**	CC messages are send as separate HF e-mail messages, one after the other. Note that the recipient will receive the message as a regular e-mail message, so that it is recommended that you indicate in the message itself who is CC'd to the message.

6. In the **Subject** field, type in the title of your message.
   The maximum subject line length is 39 characters.

> You must type in a subject.
>
> **Note**

7. If required, insert a signature. For information on using and creating signatures, see *Using Signatures* on page 67.

> The signature must be inserted before you type your message. If you insert a signature after typing in the text field, any typed text will be deleted and replaced by the signature text.
>
> **Important**

8. In the text area, type in your message. If necessary, you can use the **Edit** menu commands: **Undo**, **Cut**, **Copy** and **Paste**.

9. Add any required attachments (see *Attaching Files to Messages* on page 41).

10. If relevant, encrypt your message (see *Encrypting and Decrypting Messages* on page 70).

11. When the message has been completed click the **SEND** button.

    The message is added to the **OutBox** queue.

> If you currently have a different folder open, the **Outbox** is not visible. Click the main folder to see the **Outbox** and to send your new message.
>
> **Note**

12. Unless you are using Automatic mailing, select the message in the **Outbox** and press the **Messages**>**Send Message** command.

> If you have selected the Automatic mailing option, your message will be sent automatically and you do not need to use the Send command. For more information, see *Automatic/Manual Mailing* on page 61.
>
> **Note**

Attaching Files to Messages

You can send any type of file as an Attachment to your E-mail message.

⚠️ **Important**	Remember to compress your attached files, using Winzip or any other compression utility. File compression can reduce your message transmission time – and the time it takes the recipient to receive the file – by up to 90%!

Sending attachments

1. Click the **Attachments** button (**Lists** > **Attachments**).

    The **Add Files to Attachment List** dialog box appears.
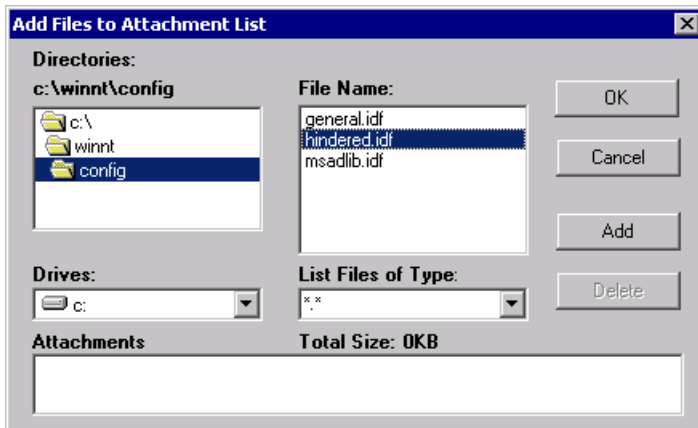
2. To select the file to be attached, browse as you would in any Windows browser, and locate the required file.

📝 **Note**	If your system operates with 32-bits (i.e. Windows 95 and above), it is recommended that all file names are limited to 8 characters, to prevent truncation of names when using MICOMail.

3. Select the file, and click the **ADD** button.

4. To add more than one file, repeat the last two steps.

📝 **Note**	You can attach up to five files to a single message. The total size of the files you have added appears after the words **Total Size**. If you accidentally added the wrong file, select the file in the Attachments pane and click the **DELETE** button.

5. When you have finished selecting all the files you want to attach, click **OK**.

    The list of files appears in the **Attachment** field in the **Create Message** window.

Locking Attachments with a Password

When adding an attachment in a message sent directly to another HF radio, you can lock the attachment with a password so that only a recipient who knows the password can read it.

Protecting an attachment with a password

1. Click the **Lock** button (**Options** > **Lock**).

    The **Password** dialog box appears.
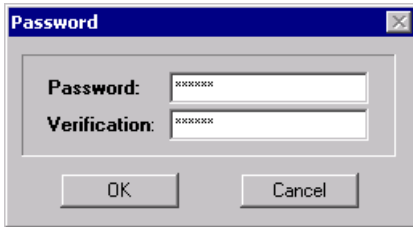
2. Type the password in the **Password** field.

3. Retype the same password in the **Verification** field.

4. Click the **OK** button.

	If you did not type the identical password twice, you will be prompted to re-enter the password.
Note	

    The Lock icon on the **LOCK** button changes to an Unlock icon.

Viewing Messages

You can view any message in any of your folders, regardless of whether it is an incoming message or an outgoing message, and regardless of whether it has been sent or not, using the **View Message** window.

Viewing a message

1. Select the required message in the **OutBox**.

2. Click the **VIEW** button (**Message** > **View**).

Note   You can open up to three windows for other messages at the same time.

3. The **View Message** window appears with the message text in the text box.

The View Window

When you view messages, the **View Message** window is opened.
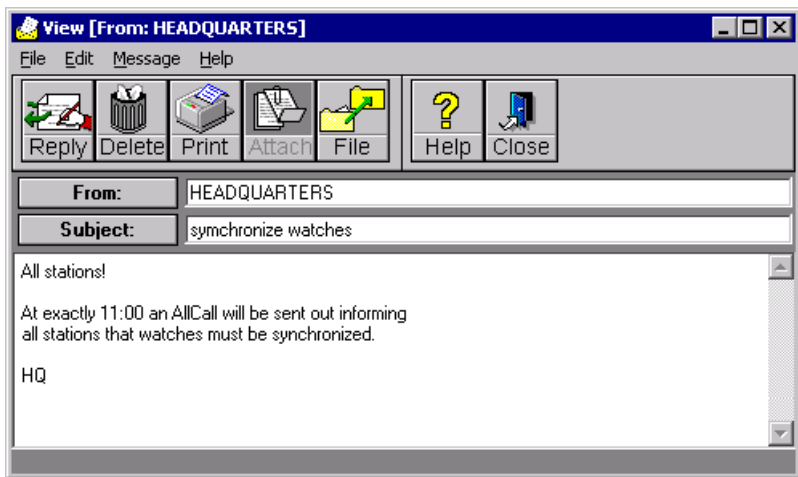
Note   The View Message Window is opened as a separate window, and has its own icon on the Windows Program Taskbar. If you click outside the **Create Message** window, it will apparently "disappear". To view it again, click the relevant icon on the Windows Taskbar.

View Window Menus

The **View Message** window has its own set of menus, as follows:

View Message Window Menus

File	Edit	Message	Help
Print...	Copy	Reply...	
Printer Setup...	Select All	File...	
Exit		Attachments...	
		Delete	
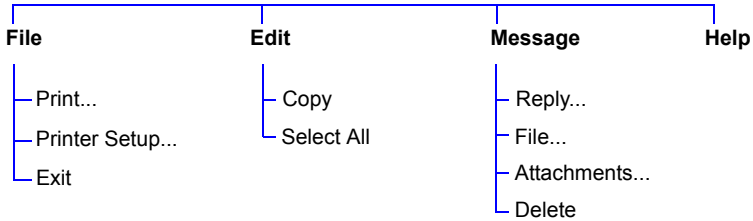
File Menu

Print...	Enables you to print the message.
Printer Setup...	Select the desired printer driver and define its settings.
Exit	Quits the **View Message** window.

Edit Menu

Contains **Copy** and **Select All** functions, to enable copying the text to a new **View Message** window.

Message Menu

Reply...	Reply to the incoming message you are viewing. For more information, see *Replying to a Message* on page 52.
File...	Enables you to file the message in one of the folders. For more information, see *Managing Folders* on page 64.
Attachments...	Enables you to save incoming attachments in a selected location on your hard disk. For more information, see *Viewing Attachments* on page 50.
Delete	Enables you to delete the current message.

Help Menu

Opens the MICOMail PDF Help file.

Editing Messages

Once you have pressed the **SEND** button in the **Create Message** window, you cannot edit the message directly, even if it has not been transmitted yet. In order to edit a message, you must open it in the **View Message** window and copy the text into the **Create Message** window where it can be edited.

Editing a message

1. Select the required message in the **OutBox**.

2. Click the **VIEW** button (**Message** > **View**).

3. Using the mouse, select the message text.

> **Note**
>
> In the **View** window, select **Edit** > **Copy**. You can also use the **Edit** > **Select All** command to select all text in the message.

4. In the **Main** window, click the **CREATE** button (**Message** > **Create Message**).

5. Place the cursor in the **text** field.

6. In the **Create Message** window, select **Edit** > **Paste**.

   The text you copied from the viewed message is pasted into the new message you have created.

7. Edit the text as required.

8. Insert a recipient in the **To** field and a subject in the **Subject** field just as you would for any new outgoing message.

9. Add any required attachments.

10. Click **SEND** to confirm the message and add it to the **Outbox** queue.

> **Note**
>
> If the previous message (before editing) has not yet been transmitted, don't forget to delete it so that it is not transmitted accidentally.

11. Unless you are using Automatic mailing, select the message in the **Outbox** and press the **Messages**>**Send Message** command.

> **Note**
>
> If you have selected the Automatic mailing option, your message will be sent automatically and you do not need to use the Send command. For more information, see *Automatic/Manual Mailing* on page 61.

HF Message Transmission

Note

Prior to using MICOMail to send an e-mail message, verify that the modem and the radio are turned on and connected properly to the PC, and that the status line indicates that MICOMail is in `Standby mode`.

Transmitting an HF Message

If you are using automatic mailing (see *Automatic/Manual Mailing* on page 61), messages in the **Outbox** are sent automatically.

If you have not configured your MICOMail to send your messages automatically, then the new messages are logged in the **OutBox**. These messages are not sent until you send them manually.

Note

If you want to view the status of outgoing messages, open the Log file (see *Using the Log file to Check Message Status* on page 53).

Sending an HF message manually

1. In the **Outbox**, select the message to be sent.

2. Select **Message** > **Send Message**.

3. The application starts to send the specified message.

Stopping and Resuming Message Transmission

While you are in the process of receiving or transmitting a message, you cannot use the radio for other purposes such as voice communication. If you do need to speak on the radio before message transmission has been completed, you can abort or suspend the transmission.

If you wish to resume sending of an Outgoing message at a later stage, use the Suspend command.

Note	Suspending a message takes longer than aborting one, but has the advantage of enabling you to resume transmission from the point where it was suspended. **However, it is important to be aware that as long as the message remains suspended, the receiving station cannot receive any other mail.**

Aborting an incoming or outgoing message

Click the ABORT button (**Message** > **Abort Message**).

Message reception/transmission is terminated, the modem and the radio are disconnected and MICOMail is returned to standby mode.

Note	• A message which has been aborted cannot be resumed. If it was an outgoing message, you must send it again as a new message. If it was an incoming message, you must request that it be sent to you again. • To view the status of an aborted message, open the Log file (see *Using the Log file to Check Message Status* on page 53).

Suspending message transmission

1. Select the message in the **Outbox**.

2. Click the SUSPEND button.

   After a number of seconds, the status line states: `Message has been suspended by the user` and the Suspend icon light flashes in red and yellow.

Note	• The Suspend process can take time. Please be patient and wait for the status to change. • To view the status of a suspended message, open the Log file (see *Using the Log file to Check Message Status* on page 53). In the Log file, a Suspended message will have a percentage below 100%. When you resume transmission of this message, MICOMail will resume where it left off when communication is re-established.

3. You can now use the radio for voice or other communication.

Resuming transmission of a suspended message

1. Verify that the radio is still in the mode (frequency/channel/ALE Link) used before you suspended transmission. If necessary, set the radio to the correct net and channel.

2. Select the message in the **Outbox**.

3. Click the **RESUME** button.

    After a number of seconds, the status line states: `Linked to <user name>`. This indicates that the system has resumed transmission of the message.

Note	• The Resume process can take time. Please be patient and wait for the status to change. • When you resume transmission of this message, MICOMail will resume the count of the percentage transmitted where it left off when the message was suspended.

Receiving HF Messages

When a new message arrives, the **Message Announcement** box pops up, informing you that you have received a new e-mail message.

Note New messages always appear in the **Inbox**, in the Main Folder. If you are currently viewing a different folder, double click the main folder in the **Folders** window to view the **Inbox**.
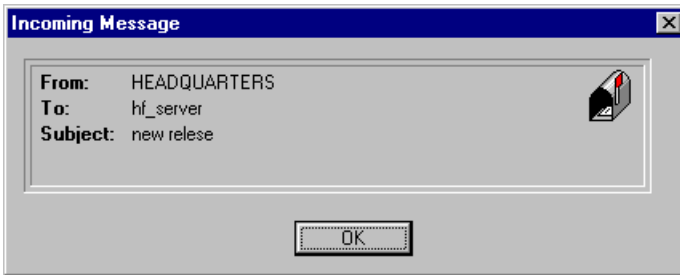
Note If you want to view the status of incoming messages, open the Log file (see *Using the Log file to Check Message Status* on page 53).

Viewing Incoming Messages

Viewing an incoming message

1. Select the message in the **InBox**.

2. Select **Message** > **View**.

Note	You can open up to three windows for other messages at the same time.

3. The **View** window appears with the message in the text box.

Note	The maximum subject line length for HF communication is 39 characters. If the person writing to you has used a longer subject line, the end of the original subject will be ignored by MICOMail.
	If the message is encrypted, you must press the **DECRYPT** button and provide the encryption key, see *Encrypting and Decrypting Messages* on page 70.

Viewing Attachments

If you have received a message with an attachment, the message icon will indicate this, and the **ATTACH** button on the tool bar is enabled.

Viewing an attachment

1. Click the **ATTACH** button (**Message** > **Attachments**).

Note	The sender may have locked the attachment files. In this case, you must know the password in order to view the files.
	If the file is locked, when you click the **ATTACH** button, a window opens, prompting you to enter the password.

The **Save Attachments** dialog box opens, containing a list of the attached files.
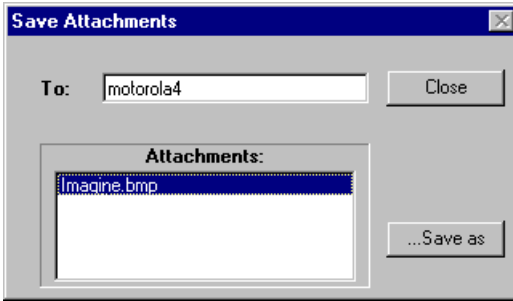
2. Select an attached file from the **Attachments** list and click the **SAVE AS** button.

> If the attachment had an original name longer than 8 characters, the name will be truncated (i.e. will have a ~ sign indicating that there are missing characters).
>
> **Note**

The **Save As** dialog box opens, enabling you to point to the desired location.
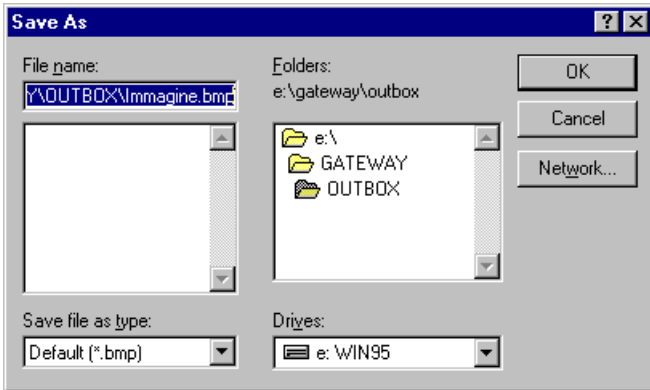
> If you are viewing an encrypted message, a message box appears asking whether you want to decrypt the attachment file. When you press the **YES** button, you are prompted for the decryption key.
>
> **Note**

3. After saving the file, open it and view it as you would any file on your computer.

> You must have the relevant application for viewing attached files (e.g. Acrobat Reader for PDF files, MicroSoft Word for *.doc files, etc.).
>
> **Note**

4. If more than one file was attached, repeat this procedure for all files in the list.

Replying to a Message

You can reply to only one message at a time, either while the message is open in the **View** window, or by selecting the message in the **InBox**.

Replying to a message

1. Select the message in the **Inbox**, or open the message using the **VIEW** button.

2. Click the **REPLY** button (**Message** > **Reply**).

    The **Reply** window appears. This window is identical to the Create Message window (see *Create Message Window* on page 35).

    The **To** field automatically contains the recipient's name, and the **Subject** field automatically contains the subject from the message you are replying to.

    > **Note**
    >
    > You can edit the subject line, and can press the **TO** button to change the recipient or add recipients through the **Address Book**.

3. If required, insert a signature (see *Using Signatures* on page 67).

    > **Important**
    >
    > The signature must be inserted before you type your message. If you insert a signature after typing in the text field, any typed text will be deleted and replaced by the signature text.

4. In the text area, type in your message. If necessary, you can use the **Edit** menu commands: **Undo**, **Cut**, **Copy** and **Paste**.

5. Add any required attachments (see *Attaching Files to Messages* on page 41).

6. When the message is completed, click the **SEND** button.

    The message is added to the **OutBox** queue.

7. Unless you are using Automatic mailing, select the message in the **Outbox** and press the **Messages**>**Send Message** command.

Message Management

Using the Log file to Check Message Status

The Log records the final status of all transmitted and received messages.
If you need to verify when a message was sent and whether communication problems were encountered, use the Log file to find this information.

To open the Log file window, select **View**>**Log File***.*

The Log File Window
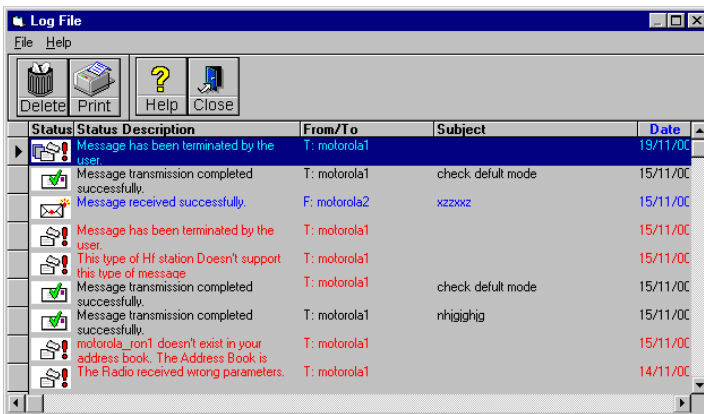
Each message in the Log File contains the following fields:

Status	An icon indicating the message status (Transmitted or Failed)
Description	Describes the event that took place
From/To	Sender/Recipient identification
Subject	Message subject
Date	The date of the log event
Time	The time of the log event
Modem	The name of the remote modem (sending/receiving messages)
Station	Name of the station on which the message was transmitted
Net	The network # on which the message was transmitted
Channel	The channel # on which the message was transmitted
Percent	The percentage of the message that was sent or received

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Log File Operations

Printing the log file

*In the **Log** file, click the* PRINT *button.*

Sorting log messages

*In the **Log** file, click heading of the relevant column.*
The table will be sorted in the according to that column.

Deleting a log message

The Log file is limited to 50 messages. The oldest messages are automatically deleted to make place for newer ones, so that you will not usually need to delete log messages. If you do want to delete one of more messages, in the **Log** file, select the message and click the DELETE button.

Note

You can select more than one message by pressing the Cntrl or Shift keys on your keyboard and simultaneously clicking messages.

Printing from MICOMail

You can print messages, lists and other MICOMail items.

Printed items are printed to the default Windows printer.

You can change the printer driver, and set the orientation in portrait or landscape, the size of the paper, and the source from where the paper will be fed.

Setting the printer information

1. Select **File** > **Printer Setup**.

    The **Print Setup** dialog box appears.
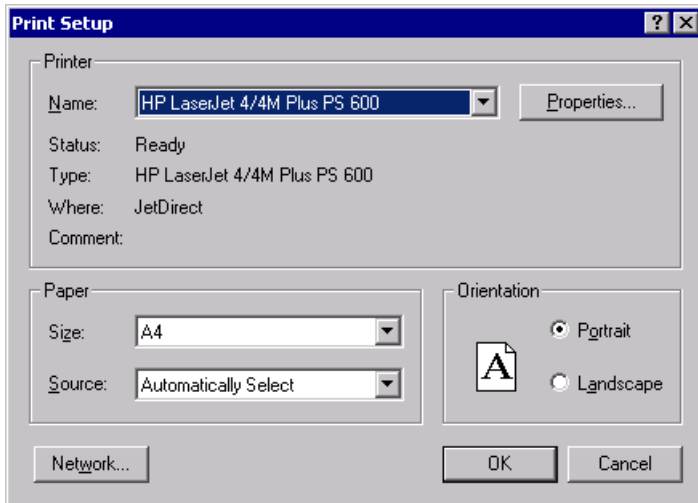
2. Set the required parameters.

3. Click **OK**.

Printing a Message

You can print the contents of any message from the Main, View, Reply and Create Windows.

Printing a message

1. Select the message you want to print in the **Main** window, or open it in the **View** or **Create** window.

2. Click the **PRINT** button (**Message** > **Print**).

    The **Print Message** window appears.

3. Indicate the number of copies to be printed.

4. Click **OK** to confirm and initiate printing.

Printing the Messages List

You can print the list of the messages in any folder in MICOMail's **Folder** window or of the **Outbox/Inbox**.

Printing the message list

1. Open the folder by double clicking the folder name **Folder** > **Open**.

2. Select **Message** > **Print Message List**.

    The **Print** window appears.

3. Indicate the number of copies to be printed.

4. Click **OK** to confirm and initiate printing.

Printing the Folder List

You can print a list of the existing folders.

Printing a list of the folders

1. Select **Folder** > **Print Folder List**.

   The **Print Folder** dialog box appears asking you select the number of copies to be printed.
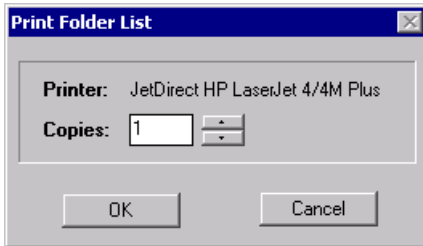
2. Select the number of copies to print.

3. Click the **OK** button to initiate printing.

Printing the Log file

Printing the log file

In the **Log File** window, click the **PRINT** button.

Deleting a Message

You can delete any message from the **Inbox** or **Outbox**.

Deleting a message

1. Select the message you want to delete from the **Inbox** or **Outbox**.

2. Click the **DELETE** button (**Message** > **Delete Message**).

   A confirmation window appears.

3. Click **YES** to delete the message or **NO** to cancel the deletion.

   The selected message is deleted.

Sorting Messages

Messages are listed by default in chronological order, but they can be sorted by:

Date (Date/Time)

Name (To/From)

Status

Subject

Sorting messages

1. Open the **Inbox** or **Outbox**.

2. Select **Message** > **Sort** > **Date** / **Name** / **Status** / **Subject**.
   Alternatively, click the heading of the column you wish to sort.

   The messages are sorted according to your selection.
   For example, if you want to sort by name, click the **Name** label on the **InBox** or **OutBox** header.

Filing Messages

In order to maintain your mail, it is recommended that you create different folders and file your messages by subject For more information on creating and managing folders, see *Managing Folders* on page 64.

Filing a message

1. In the **Inbox** or **Outbox**, select the message you want to file.

	You can select more than one message by pressing the Cntrl or Shift keys on your keyboard while hovering over the message Row selectors (the mouse pointer changes to an arrow shape).
Note	

2. Select **Message** > **File Message**.
   Alternatively, use your mouse to "drag" the item to the required folder, and then release the mouse button. The message is automatically be transferred to the folder.

   The **File Message** window appears.
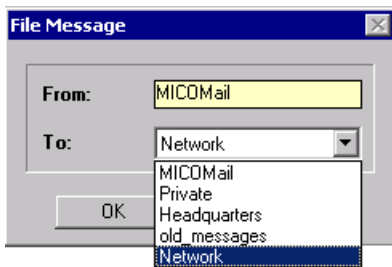
   The **From** field indicates the original folder.

	Initially, all incoming messages appear in the **Inbox**, and all outgoing messages in the **Outbox**, under the main MICOMail folder.
Note	

3. In the **To** drop-down box, select the folder where you wish to file the message.

4. Press **OK** to confirm.

	TIP! You can sort your messages by recipient/sender or subject and then select a group of messages to file simultaneously in one folder.
Note	

More About MICOMail Configuration

Automatic/Manual Mailing

MICOMail can be operated in two modes: automatic mailing and manual mailing.

With **Automatic** mailing, the application automatically transmits queued messages in the **OutBox** in chronological order.

Note	While you are running MICOMail, disable any software, such as screen locks or Guardit, that may stop the operation of the computer. If the computer's operation is stopped, MICOMail stops automatic transmission and receipt of E-mail messages. Make sure the watch indicator at the bottom of the screen shows that the computer is running.

With **Manual** mailing, mail is only transmitted when you select a particular message from the **Outbox** and send it (see *Transmitting an HF Message* on page 46).

Enabling/disabling automatic mailing

Select **Settings** > **Automatic Mailing**.

How MICOMail Resends Messages

If your message is not transmitted at the first attempt, MICOMail provides a sophisticated mechanism for defining the manner in which MICOMail resends the message. This feature is designed so that if a message is not sent after the first or second attempt, your radio will not remain tied up by constant send attempts.

First, decide whether to resend the message indefinitely after initial transmission failure, or whether to determine a resend loop sequence. In the resend loop sequence, the number of send loops, the wait time between loops, the number of loops and the delay co-efficient will all determine the number of attempts and the time delay between them.

The following diagram demonstrates the resend loop sequence:

Unsuccessful at first send attempt

Resend indefinitely

Set parameters for resend loops

No of loops (L)

Wait ___ minutes after the first loop (W)

Mail sent successfully

Send Loop

All attempts in resend loop sequence failed

Delay Co-efficient for wait between attempts (CE)

Failed mail transferred to Inbox

Retry entire resend loop sequence
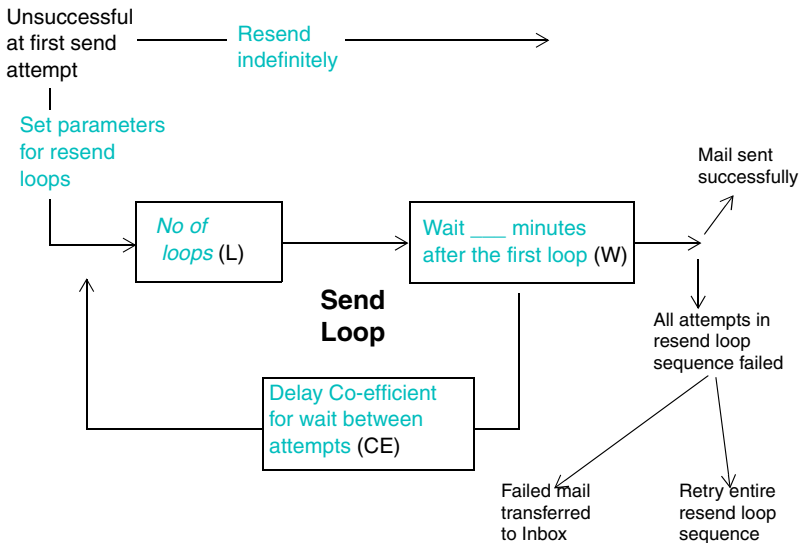
The send algorithm calculates the time to wait between attempts as follows:

$$W \quad x \quad L^{CE} \quad = T$$

Wait X *Loop No.* *Co-Efficient* = **T**ime between attempts in current loop

Note

If you are attempting to send a very large mail and your transmission channel is not of high quality, and the mail fails after more than 1% of the message has been sent, the Send Algorithm will be reset and will start from the beginning.

Defining the Message Send settings

1. Select **Settings** > **Parameters**.

2. Select the **Send Settings** tab.
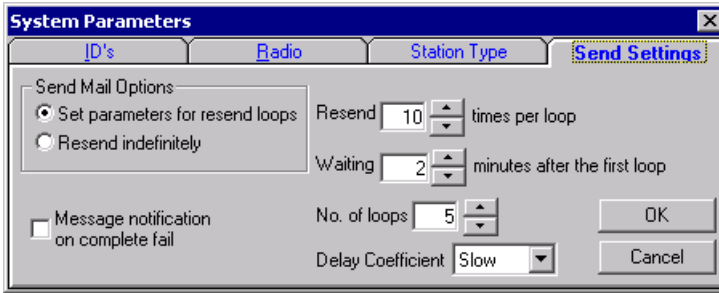
3. Under **Mail Options**, decide whether you want the mail to be resent indefinitely or whether you want to set the **Resend Loop Sequence**.

4. If relevant, set the Resend Loop Sequence parameters:

    The number of resend attempts per loop

    The time that MICOMail waits after the first resend loop.

    The number of resend loops.

    The delay Coefficient (constant, slow, medium, fast).
    When set to *Constant*, the time between one attempt and the next will remain as set in the **Waiting** field.
    When set to *Slow*, *Medium* or *Fast*, the time between one send attempt and the next will increase after each loop.

5. Select or deselect the **Message Notification** box.

    When this box is selected, if your mail is not sent after the entire Resend Loop Sequence, a message box will notify you that your mail was not sent.
    In the message box you can select:
    – **YES** to restart the entire Resend Loop Sequence
    – **NO** to transfer the message to the **Inbox**.

    When this box is not selected, messages which fail after the entire loop sequence are transferred to the **Inbox**.

>
> **Note**
>
> If you wish to resend the message at a later stage, highlight the message in the **Inbox** and select **Message** > **Resend Message** to transfer the message back to the **Outbox**.

Managing Folders

Folders enable you to store messages according to categories that you define (up to nine folders can be defined in MICOMail). You can print the list of existing folders at any time, see *Printing the Folder List* on page 57".

For information on transferring messages from one folder to another, see *Filing Messages* on page 59.

Opening a folder

Note | Only one folder can be opened at a time. When you open a new folder, the Incoming and Outgoing messages in the folder you open replace the **Inbox** and **Outbox** in the MICOMail main window.

1. Double click the folder icon or name.

   The folder name turns red, indicating that it is selected, and the **Incoming** and **Outgoing** windows for that folder appear.

   OR

1. Select **Folder** > **Open Folder** to open the **Open Folder** dialog box.
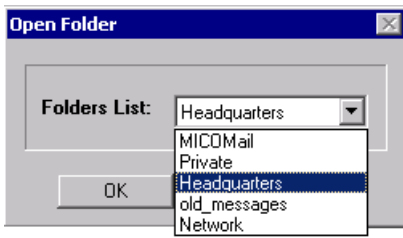
2. Select a folder from the folder list.

3. Click the **OK** button.

Creating a new folder

Each folder should have a logical name which indicates its contents, for instance the name of a client or the name of someone you correspond with frequently, or a Delete folder for old messages.

1. Select **Folder** > **Create Folder**.

    The **Create Folder** dialog box appears.

2. Type in the folder name.

3. Press the **OK** button to confirm.

Deleting a folder

You can delete any folder. This command causes the folder itself, as well as any files it contains, to be deleted.

1. Open the folder you want to delete.

2. Select **Folder** > **Delete Folder**.

    A message box appears prompting for confirmation.

3. Click **YES** to delete the folder.

Renaming a folder

1. Open the folder which you wish to rename.

2. Select **Folder** > **Rename Folder**.

    The **Rename Folder** dialog box appears.
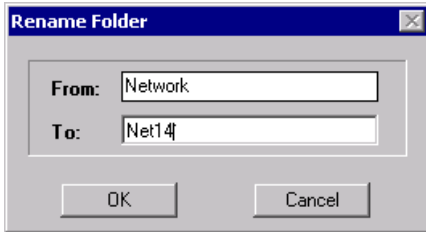
3. Type the new name in the **To** field.

4. Press **OK** to confirm the new name.

Emptying a folder

Instead of deleting single messages from various folders or from the **Inbox**, you can empty the entire contents of a specified folder. For instance, you can create a folder named "Delete" or "Old", transfer messages to it and then when you need to empty the entire folder.

1. Open the folder you want to empty

2. Select **Folder** > **Empty Folder**.

    A message box appears prompting for confirmation.

3. Click **YES** to empty the folder.

Using Signatures

If there are standard text blocks which you insert into messages on regular basis, such as a signature with your title, department and company information, you can save the text as a "Signature". You can then assign a shortcut button to each Signature so that pressing the shortcut will automatically insert the signature into your message.

Creating Signatures

Note

You can create a maximum of ten signatures

Creating a Signature

1. Press the **CREATE** button (**Message** > **Create Message**) to open the **Create Message** window.

2. Type the text of the signature in the text field.

3. Press the **SAVE** button (**Options** > **Save Signatures**) in the **Create Message** window to open the **Signature List** window, where existing signatures appears as option buttons.

4. Click any blank option button, and type the button name in the text box.

5. Click the **OK** button.

   The signature is saved and signature name appears on one of the elongated buttons in the lower right corner of the **Create Message** window.

Inserting Signatures in a Message

The signature is inserted in the course of creating a new message (see *Creating a New Message* on page 39).

Inserting a signature into an outgoing message

1. Press the **CREATE** button (**Message** > **Create Message**) to open the **Create Message** window.

2. Fill in the **To** and **Subject** fields.

3. Select the appropriate signature button (elongated buttons with the signature name on them) from the right bottom corner of the **Create Message** window.

   The signature text is inserted into the text field. You can edit the signature text, or insert your own text before or after it.

   Note — IMPORTANT! The signature must be inserted before you type your message. If you insert a signature after typing in the text field, any typed text will be deleted and replaced by the signature text.

4. In the text area, type in your message.

   Note — If you forget to insert the signature before typing your message, copy your message (**Edit**>**Copy**). Insert the signature, which replaces the text you typed. Now, paste the text you copied (**Edit**>**Paste**) back into the text field.

5. Add any required attachments (see *Attaching Files to Messages* on page 41).

6. When the message is completed click the **SEND** button.

   The message is added to the **OutBox** queue.

7. Unless you are using Automatic mailing, select the message in the **Outbox** and press the **Messages**>**Send Message** command.

   Note — If you have selected the Automatic mailing option, your message will be sent automatically and you do not need to use the Send command. For more information, see *Automatic/Manual Mailing* on page 61.

Managing Signatures

You can rename or delete existing signatures.

Renaming an existing signature

1. Press the **CREATE** button (**Options** > **Create Message**) to open the **Create Message** window.

2. Press the **SAVE** button (**Message** > **Save**) in the **Create Message** window to open the **Signature List** window.

3. Choose the relevant option button.

4. Type in the new name and click **OK**.

Deleting a signature

1. Press the **CREATE** button (**Options** > **Create Message**) to open the **Create Message** window.

2. Press the **SAVE** button (**Message** > **Save**) in the **Create Message** window to open the **Signature List** window.

3. Choose the relevant option button.

4. Click the **DELETE** button.

Editing a signature

You cannot edit a signature directly.

1. Press the **CREATE** button (**Options** > **Create Message**) to open the **Create Message** window.

2. Use the relevant signature button to insert the signature text into the text window.

3. Edit the text as required.

4. Press the **SAVE** button (**Message** > **Save**) in the **Create Message** window to open the **Signature List** window.

5. Choose the option button with the name of the signature you are editing.

6. Click the **OK** button.

Encrypting and Decrypting Messages

If you have purchased this option, MICOMail enables you to encrypt outgoing messages. For more information on the encryption standards used, see *Appendix C – Data Encryption Standard* on page 101.

The **ENCRYPT/DECRYPT** button appears on the toolbar of the **Create Message** window.

!	The Encrypt/Decrypt option is available only for HF messages. if you use the MICOM Net Internet Subscriber option, you will not be able to encrypt Internet messages, but will still be able to encrypt HF messages.
Important	

Encrypting an outgoing HF message

1. Prepare your message as usual, using the **Create Message** window (see *Creating a New Message* on page 39).

2. When the message is ready, press the **ENCRYPT** key.

3. You are prompted to provide an encryption key.

	The key must include eight characters.
	Any alphanumeric characters can be used.
Note	The key is case-sensitive.

4. Press the **SEND** button to transfer the message to the **Outbox** queue.

When a message is encrypted, the subject line in the **Outbox** is also encrypted, and you will not be able to identify the original subject.

Decrypting an incoming HF message

1. Open the incoming message as usual, using the **View Message** window.

2. In the **View Message** window, press the **DECRYPT** key.

3. You are prompted for the decryption key, which you must receive from the sender.

The message is decrypted.

	• Attachments must be decrypted separately, when saving them to your disk.
Note	• Although the message is now decrypted, the subject line in the **Inbox** will remain encrypted.

Using MICOMail for Internet Communication

This section assumes that you are already proficient with using MICOMail over the HF-SSB network, and/or that you have read all previous chapters of this Guide and are familiar with MICOMail's operating principles.

How Does MICOM Internet Communication Work?

In addition to its capabilities as an HF-SSB e-mail software, MICOMail enables you to communicate over the Internet even if you don't have a telephone line available.

To facilitate the relay of Internet e-mail over an HF network, one of the radios in the network must be defined as a Server, using the MICOM Net Server software, available as a separate software package. All other radios are defined as **MICOM Net Internet Subscriber** stations and are referred to in this section as **Internet Subscribers**.

Your HF radio contacts the MICOM Net Server, referred to in this section as the **Server**, which communicates directly with the Internet Service Provider (ISP).

In fact, you will continue to receive your mail using your radio just as you did when receiving HF mail with MICOMail. The server collects the Internet mail from the ISP and then sends it to you. Likewise, when you want to send an e-mail to an Internet address, you send it to the server, which then relays it to the ISP.

Note

You can continue sending and receiving HF mail using the MICOM Net Internet Subscriber option, just as you did with MICOMail.

The following illustration demonstrates how the Subscriber-Server-ISP interrelate.

Subscriber 1

ACC

COM2

COM1

Modem   **Radio**

HF communication
to Server's radio

Subscriber 2

ACC

COM2

COM1

Modem   **Radio**

HF communication
to Server's radio

HF communication to
Subscribers' radios

Server

Modem

ACC   COM1

COM2

Radio

LAN or Dial-Up
connection to Internet
Service provider
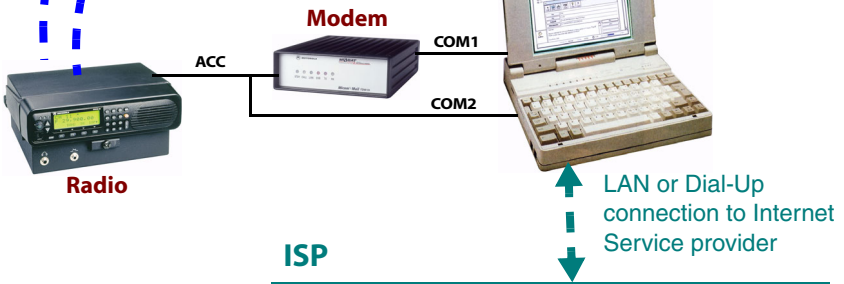
ISP

Subscriber 1 Mailbox	Subscriber 2 Mailbox	Subscriber 3 Mailbox

Setting up your MICOMail for Internet Communication

Receiving Information from the Server

Before setting your Internet Subscriber communication parameters, you will need to receive the following information from the server:

The server's Modem ID, station name and net

Your Internet User Name

Your Internet Address

Your Internet Password.

Initial Internet Subscriber Configuration

If you have not previously used MICOMail, before proceeding you must set up the hardware and software as described in:

Setting Up the Hardware on page 5

Installing MICOMail on page 8

Initial MICOMail Configuration on page 21

⚠️ **Important**　It is also essential that you familiarize yourself with MICOMail operation before you proceed, as the basic principles and most MICOMail operations are identical regardless of whether you are sending HF or Internet mail, and are therefore not described in this section

Inserting your Internet Communication Parameters

Defining your station as an Internet Subscriber

1. Select **Settings** > **Parameters**.

2. Click the **Station Type** tab.

3. Select **MICOM Net Internet Subscriber** as the type of station.

   MICOMail automatically quits.

4. Restart MICOMail.

Updating your system parameters

1. Select **Settings** > **Parameters**.

2. Click the **ID's** tab.

3. Replace the current **User Name** with the Internet User Name received from the server.

   The User Name can contain a combination of upper and lower case, and is case-sensitive.
   Differences in case will cause the Server to fail to identify your mailbox.

   Warning
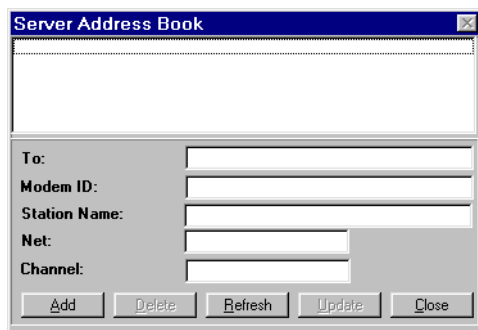
   There is no need to change the **Modem ID** settings.

   Note

Inserting information in the Server Address Book

You can define more than one Internet server in the Server Address Book, and then select the specific server you wish to use.

1. Select **Settings** > **Address Books** > **Server Address Book**.

2. Click the **ADD** button to add a new server to the Server Address Book.

3. In the **To** field, insert the Server name.
This field is for your internal use when selecting a Server.

4. Insert the relevant information you received from the server in the **Modem ID**, **Station Name**, **Net** and **Channel** fields.

5. Click the **UPDATE** button to confirm the details you have entered.

Selecting the desired server

1. Select **Settings** > **Internet Settings**.

   You are prompted for a password.
   The password is *administrator* (lower case only).

   The **Internet Settings** window opens.

2. Select the Configuration tab.
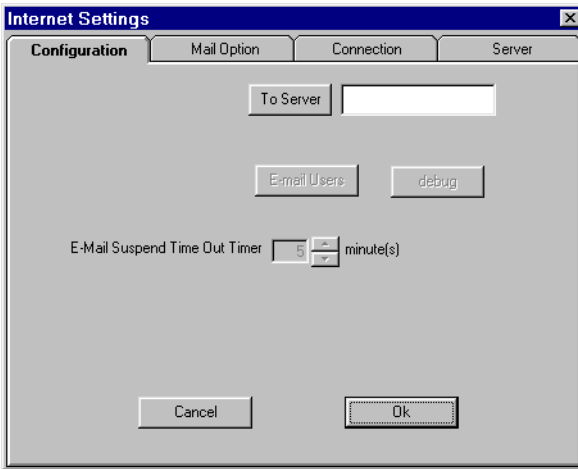
3. Click the **TO SERVER** button.
   This field is for your internal use when selecting a server.

   The **To Server** window opens.
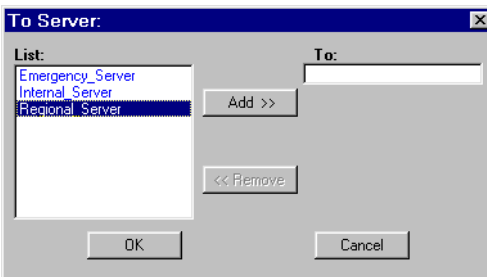
4. From the **List** pane, select the required server, and click the **ADD** button to insert your selection in the **To** field.

Entering your Internet password

1. Select **Settings** > **Internet Settings**.

    You are prompted for a password.
    The password is *administrator* (lower case only).

    The **Internet Settings** window opens.

2. Select the Connection tab.

3. In the **User Name Password** field, enter your password (received from the server).

<table>
<tr><td>

Note

</td><td>

This password is automatically saved, and you will not be required to insert your password at every Internet session.

</td></tr>
</table>

MICOM Net Internet Subscriber Overview

Some of the Internet Subscriber screen fields and options differ from those used for MICOMail HF e-mail. The following sections describe these differences.

The Main Window

The **Main** window layout of Internet Subscriber is almost identical to that of MICOMail.
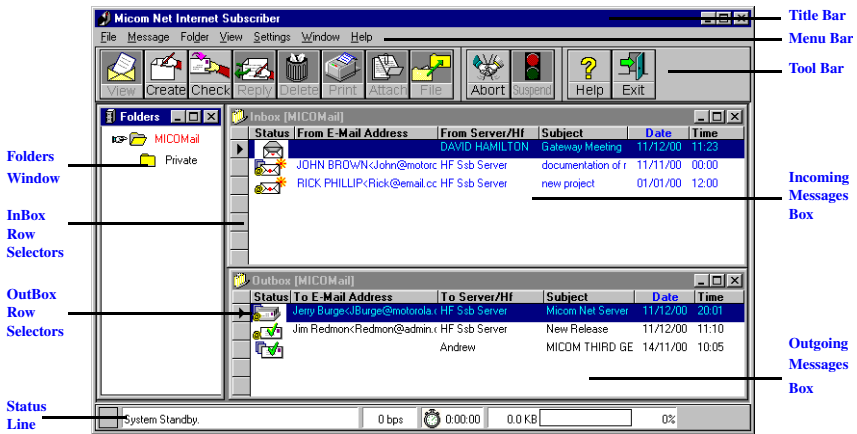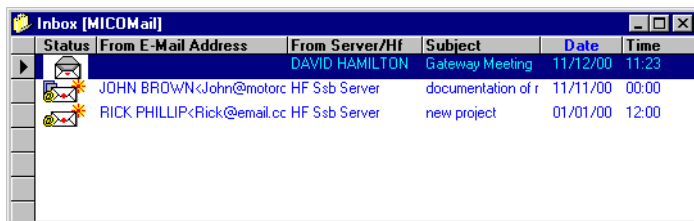
The additional Internet-related functions and fields are:

The **CHECK** button – used to contact the server to check whether there is Internet mail waiting in your mailbox

The **Inbox** and **Outbox** include additional columns and use different icons, as discussed in *Internet Subscriber InBox* on page 79 and *Internet Subscriber OutBox* on page 81.

Internet Subscriber InBox

All incoming messages, both from other HF radios and from the Internet, are displayed in the **Inbox**.

Instead of the **From** column, there are two separate columns:

From E-Mail Address – used for messages received from Internet subscribers

From Server/HF – used for messages received from other HF radios, including the server.

In the above screen, the first message was sent by another HF radio, while the second and third messages were sent by Internet subscribers.

Internet Inbox Message Status Icons

The Internet Subscriber icons are identical to those used by MICOMail for HF mail, but they include a yellow @ sign, indicating that this message was received from an Internet subscriber. The Inbox can include a mixture of Internet and non-Internet icons, depending on the messages you received.

Internet Icon	HF Icon	Description	Text Color
		A new message that you have not yet read.	Blue
		A new message that you have not yet read, with an attachment.	Blue
		A message that was opened (read).	Black
		A message that was opened (read), with an attachment.	Black
		An outgoing message that failed or was aborted during transmission.	Red
		An outgoing message with attachment that failed or was aborted during transmission.	Red
	(none)	An automatic message from the server, indicating that it has received your request to check for Internet mail.	
	(none)	An automatic message from the server, indicating that it has completed your requested Internet mail check.	

Internet Subscriber OutBox

All messages you have prepared are displayed in the **Outbox**.

Note	Outgoing messages which have not been successfully transmitted are automatically transferred to the **Inbox**, and the word UNDELIVERED is added at the beginning of the subject line.

Instead of the **To** column, there are two separate columns:

To E-Mail Address – used for messages sent to Internet subscribers

To Server/HF – used for messages sent to other HF radios, including the server.

In the above screen, the first and second messages are sent to Internet subscribers, as indicated by the yellow @, while the third message was sent to another HF radio.

Internet Outbox Message Status Icons

The Internet Subscriber icons are identical to those used by MICOMail, but they include a yellow @ sign, indicating that this message was sent to an Internet subscriber. The Inbox can include a mixture of Internet and non-Internet icons, depending on the messages you received.

Internet Icon	HF Icon	Description	Text Color
		A queued message that was created but hasn't been sent yet.	Blue
		A queued message with an attachment that hasn't been sent yet.	Blue
		A message that is currently being transmitted.	Blue
		A message with an attachment that is currently being transmitted	Blue
	(none)	An Internet message that could not be sent due to a problem	Red
	(none)	An Internet message with an attachment that could not be sent due to a problem	Red
		A message that could not be transmitted, or was aborted by the user.	Red
		A message with an attachment that could not be transmitted, or was aborted by the user.	Red
		A message that was suspended by the user.	Red
		A message with an attachment that was suspended by the user.	Red
		A message that has been transmitted successfully.	Black
		A message with an attachment that has been transmitted successfully.	Black

On-going Operation of the Internet Subscriber

The Internet Subscriber Create Message Window

The Internet Subscriber **Create Message** window is similar to the MICOMail Create Message window.
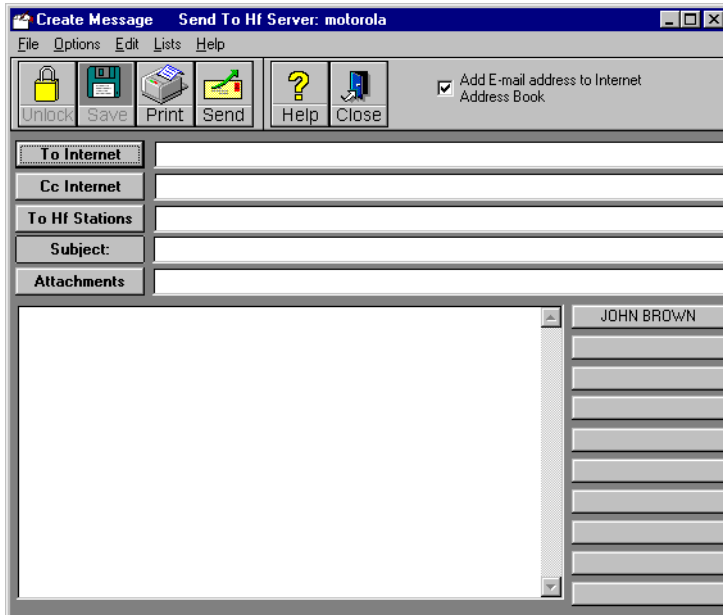
You can use the Internet Subscriber **Create Message** window to create either HF or Internet messages.

This window includes the following additions:

The **To Internet** field, where you can type an Internet address

The **TO INTERNET** button, used to open the Internet Address Book

The **Add E-mail address to Internet Address Book** checkbox, which automatically adds new Internet addresses you type to the Internet Address Book.

> The Lock function is disabled for Internet messages, but can be used for HF messages.

Note

Creating a new Internet message

1. Press the **CREATE** button (**Message Menu** > **Create Message**).

    The **Create Message** window appears.

2. Press the **TO INTERNET** button to open the Internet Address Book and select an address

    or

    In the **To Internet** field, type the required Internet address.

Note	• You can add the name of the addressee before the address. If you want to do so, the address must be included within < > marks, for example: `Sue Collins <scol@yahoo.com>`. • You can send the same message to up to ten addressees. The different addresses must be separated from one another with a semi-colon, for example: `Sue Collins <scol@yahoo.com>; Rob Adams <r.adam.ber.com>`. • You can send the same message to CC addressees, using the **CC Internet** field or button. • You can send the same message to an HF radio station (i.e. not via the Internet), using the **TO HF STATION** button to select up to five addresses from the HF Address Book.

3. Type the subject of the message in the **Subject** column, insert a signature, and type your message text just as you would for HF mail.

4. Add attachments just as you would for HF mail.

Note	Attachments to Internet messages cannot be locked. If you lock an attachment, only HF addressees will receive a locked attachment. Internet addressees will receive the same attachment, not locked.

5. When the message has been completed click the **SEND** button.

    The message is added to the **OutBox** queue, and is sent as an HF message to the Server just like any other HF message.

Sending Internet messages

You do not have to take any special action to send an Internet message.

Outgoing Internet messages appear in the Outbox queue just like any other outgoing message. Depending on your settings, they are sent to the Server by HF communication either manually when you select the Send command, or automatically.

The Server then transfers the messages to the Internet Service Provider.

Sending an HF message using Internet Subscriber

You can continue sending messages to HF stations just as you did using MICOMail.

In the **Create Message** window, ignore the **To Internet** and **CC Internet** fields, and simply click the **TO HF STATION** button to open the HF Address Book and select an addressee. Then proceed preparing the message as usual (see *Creating a New Message* on page 39).

Note

If required, you can send the same message to both Internet and HF addressees by using both the **To Internet** and **To HF Station** fields in the same message.

Contacting the Server to Receive Internet Messages

Depending on your system and server setup, you will either be sent incoming Internet messages automatically, or have to check the server periodically for new messages.

If the server does not send you messages automatically, press the CHECK *button.*

MICOMail sends an HF message to the server, asking it for any mail in your Internet mailbox.

Note

If the server sends you mail automatically, you do not need to use the CHECK button.

Viewing and Replying to Internet Messages

The Internet Subscriber **View Message** window is similar to the MICOMail
View Message window, with the following differences:

Viewing an incoming Internet message

The Internet Subscriber **View Message** window is identical to the
HF **View Message** window, with the following exceptions:

The **From Internet** field contains the name and address of the person sending
you the message.

The **CC Internet** field contains the name/s and address/es of any persons CC'd
to the same message.

View the message as usual (see *Viewing Incoming Messages* on page 50).

Note	If someone attempts to send you a message exceeding the limit of 64,000 characters or with more than five attachments, the server automatically returns the message to the sender.

Opening attachments to Internet messages

Attachments to Internet messages are opened in the same manner as attachments
to HF messages (see *Viewing Attachments* on page 50).

If the original attachment name was longer than 8 characters or had an extension
longer than three characters, MICOMail automatically gives it a new, short name.
When you open the attachment, you will receive the following message:

The real name of the attached file: "xxx.xxx" *(MICOMail file name)* is
"yyy.yyy" *(original file name).* Please rename it after saving the file.

*Save the attached file using the name provided by MICOMail, and then, using
your Windows Explorer, rename the file using the original name provided.*

Viewing an incoming HF message with Internet Subscriber

When you use the Internet Subscriber **View Message** window to view an
incoming HF message, the **From HF Station** field contains the details of the HF
station sending you the message. The **From Internet** and **CC Internet** fields are
empty.

Internet-Related Address Books

Internet Address Book

The Internet Address Book (**Settings** > **Address Books** > **Internet Address Book**) contains the contact details of Internet correspondents.

Adding a new Internet addressee to the Internet Address Book
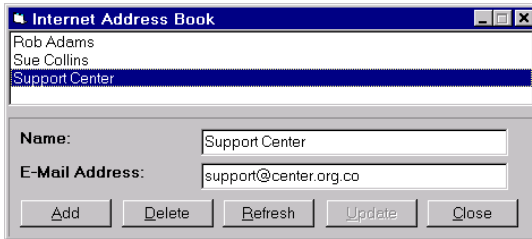
1. Select **Settings** > **Address Book**> **Internet Address Book**.

> **Note**
>
> • The address book can only be accessed when the system is in Standby mode (as indicated in the Status Line).

The **Address Book** dialog box appears.

2. Click the **ADD** button.

3. In the **Name** field, enter any alphanumeric string enabling you to identify the person you wish to contact (up to 20 characters).

4. In the **E-Mail Address** field enter the relevant e-mail address (up to 20 characters).

5. Press the **UPDATE** button to record the new address in Address Book database.

> **Note**
>
> You can let MICOMail automatically update your Internet Address Book by checking the **Add E-mail address to Internet Address Book** checkbox in the Create window.

Server Address Book

The Server Address Book (**Settings** > **Address Books** > **Server Address Book**) contains contact details of the server/s you use to contact the ISP and relay mail.

For details on updating the Server Address Book, see *Inserting information in the Server Address Book* on page 75.

Troubleshooting

If you encounter a problem, you may be able to solve it using the following guidelines. If these do not help, refer to *Technical Support* on page 90.

Problem	Diagnosis and Solution
MICOMail will not install properly	You may be trying to install the software on a Windows 98 First Edition operating system.
	Upgrade to Windows 98 Second Edition, install the software on a different computer, or use a different operating system (Windows 95/NT/ 2000).
A message or the subject of a message you have received is cut off and does not seem complete	The message sent to you it may have exceeded the character limit (115 characters for MICOMail HF communication and 64,000 characters for MICOM Net Internet Subscriber communication).
	Ask the sender to split the message into two separate messages and to resend the second half.
When MICOMail tries to transmit a message, the radios connect but modem communication fails.	There may be a mistake in the MODEM ID field in your Address Book.
	Ask the recipient for the MODEM ID defined in his/her MICOMail, and check against the definition in your software.
You receive a message stating the User Name/ Password is incorrect.	Your MICOM Net Internet Subscriber definitions do not correlate with those registered at the MICOM Net Server server.
	Contact your system administrator or the server administrator to receive the correct user name and password.

System Reset

If you suspect that your modem and radio are not functioning properly, then initialize your system as follows.

Resetting your system

Select **Settings** > **System Reset**.

The application first initializes the modem to its default parameters and resets the radio (to the default mode defined in MICOMail).

When the reset is complete, the words `System Standby` appear in the application status line.

Technical Support

If you encounter a problem, first try to solve the problem, according to the guidelines in *Troubleshooting* on page 89.

When reporting a problem, prepare the following details in advance:

Your phone number and contact details.

Your radio model.

Your modem model.

Your radio software version.

Your MICOMail software version.

Your MICOMail user status: MICOMail, MICOM Net Internet Subscriber or MICOM Net Server.

The Windows operating system installed on your PC.

If you encounter a problem, contact your local representative.

Appendix A — Sample Setup

Following is an example of how a 3-site MICOMail system which uses ALE communication is set up.

SITE 1
Jacky's PC

MODEM1

RADIO1

User Name: Site1   Modem ID: MODEM1
Radio Default: Net1, Channel0

Address Book includes:

To:	Harry	To:	Frankie
Modem ID:	Modem2	Modem ID:	Modem3
Station Name:	Radio2	Station Name:	Radio3
Net:	1	Net:	1
Channel:	0	Channel:	0

SITE 2
Harry's PC

User Name: Site2   Modem ID: MODEM2
Radio Default: Net1, Channel0

Address Book includes:

To:	Jacky	To:	Frankie
Modem ID:	Modem1	Modem ID:	Modem3
Station Name:	Radio1	Station Name:	Radio3
Net:	1	Net:	1
Channel:	0	Channel:	0

RADIO2

MODEM2

HF communication between all radios

SITE 3
Frankie's PC

User Name: Site3   Modem ID: Modem 3
Radio Default: Net1, Channel0

Address Book includes:

To:	Jacky	To:	Harry
Modem ID:	Modem1	Modem ID:	Modem2
Station Name:	Radio1	Station Name:	Radio2
Net:	1	Net:	1
Channel:	0	Channel:	0

RADIO3

MODEM3

Setting up the 3-Site MICOMail System

Radio Settings

The radio ALE parameters for all radios in the system must be set up before you begin to set up the MICOMail Parameters. All radios must use the same Net and Channel settings.

Site 1: Station Name: Radio1
         Net: 1
         Channel: 0

Site 2: Station Name: Radio2
         Net: 1
         Channel: 0

Site 3: Station Name: Radio3
         Net: 1
         Channel: 0

Physical Connections

Connect the radio and modem to the PC at each of the sites (see *Setting Up the Hardware* on page 5).

In this example, the radio in all sites has been connected to COM2 and the modem has been connected to COM1.

Communication Settings

For each of the sites:

1. In the **Comm. Ports [HF Modem]** window, set to: 9600 and COM1 (see *Defining the modem settings in MICOMail* on page 22).

2. Run the communication test to verify proper communication between the PC and the modem.

3. In the **Comm. Ports [HF Radio]** window, set to: 9600 and COM2 (see *Defining the radio settings in MICOMail* on page 23).

4. Run the communication test to verify proper communication between the PC and the radio.

At the end of this process, the status line of the MICOMail main window should display `System Standby`.

MICOMail Parameters

In MICOMail, define the User Name, Modem ID and Radio Parameters. Provide each site with a unique User Name and Modem ID (see *Customizing MICOMail's ID parameters* on page 25). Insert the previously defined radio settings in the Radio tab (see *Setting the default Radio Parameters* on page 26.

Site 1	ID Tab:	User Name:	Site1
		Modem ID:	Modem1
	Radio:	Mode:	Scan
		Default:	Net1, Channel0
Site 2	ID Tab:	User Name:	Site2
		Modem ID:	Modem2
	Radio:	Mode:	Scan
		Default:	Net1, Channel0
Site 3	ID Tab:	User Name:	Site3
		Modem ID:	Modem3
	Radio:	Mode:	Scan
		Default:	Net1, Channel0

Address Book

Create new entries in the Address books at each of the three sites (see *Adding an address to the HF Address Book* on page 27).

At Site1, define the addresses of Sites 2 and 3 as follows:

Site 2:
To:	Harry (or any other internal name you wish to use)
Modem ID:	Modem2
Station Name:	Radio2
Net:	1
Channel:	0

Site 3:
To:	Frankie (or any other internal name you wish to use)
Modem ID:	Modem3
Station Name:	Radio3
Net:	1
Channel:	0

At Site2, define the addresses of Sites 1 and 3 as follows:

Site 1:
To:	Jacky (or any other internal name you wish to use)
Modem ID:	Modem1
Station Name:	Radio1
Net:	1
Channel:	0

Site 3:
To:	Frankie (or any other internal name you wish to use)
Modem ID:	Modem3
Station Name:	Radio3
Net:	1
Channel:	0

At Site3, define the addresses of Sites 1 and 2 as follows:

Site 1:
To:	Jacky (or any other internal name you wish to use)
Modem ID:	Modem1
Station Name:	Radio1
Net:	1
Channel:	0

Site 2:
To:	Harry (or any other internal name you wish to use)
Modem ID:	Modem2
Station Name:	Radio2
Net:	1
Channel:	0

Testing the 3-Site MICOMail System

Perform this test from each of the sites in turn.

1. At Site1, create a new message (see *Creating a new message* on page 39) to be sent to Site2 and Site3.

2. Press the send button.

3. In the **Outbox**, select the message to be sent.

4. Select **Message** > **Send Message**.

   The application starts to send the specified message.

5. Watch the Status Line in the MICOMail Main Window and the radio operation to verify that the message is transmitted.

6. Verify that the message was received by Site2 and Site3.

7. Repeat the test, sending a message from Site2 to Sites 1 and 3, and from Site3 to Sites 1 and 2.

Appendix B – HAL DSP-4100 Modem

General

The HAL DSP-4100 modem supplied with MICOMail is a DSP modem that supports a variety of HF radio communication protocols.

All commands and data are passed via an RS-232 serial I/O connector on the rear panel of the modem. This connector also provides connection to a second serial I/O port which may be used as a "pass-though" between the terminal device and another serial I/O device. All I/O connections to the radio equipment are made via a DE-9S connection on the rear panel. The only rear panel adjustment is the modulator output level.

The modem uses a dual processor architecture with a powerful 16 bit microprocessor controller and a fast DSP for audio processing. Operational software for the two internal processors is stored in non-volatile Flash ROM devices. However, for upgrade purposes, this software may also be revised by uploading new versions via the serial I/O port. As a result, the DSP-4100 modem is a powerful platform for implementing many different modems without any hardware changes.

The DSP-4100 modem operates using 12 VDC power.

Front Panel Indicator LED's

The six LED indicators on the front panel of the modem display the operational status of the modem. The LED status indications are:

Name	Color	When ON, indicates:
STBY	🟢 Green	Modem is ready for use (Standby)
CALL	🟡 Amber	Modem has received a call
LINK	🟢 Green	Modem is currently linked to another station
ERROR	🔴 Red	Receive error detected and currently being corrected
TX	🔴 Red	The transmitter is ON and the modem is in Transmit state (data is being sent)
RX	🟡 Amber	The transmitter is OFF and the modem is in Receive state (data is being received)

Radio/Modem I/O Connections

The radio is connected to Connector J1 (9-pin) on the rear panel of the modem. The connection pins are:

PIN #	FUNCTION	I/O		LIMITS
1	Audio from receiver	+Input		5V p-p
2	Audio from receiver	-Input		5V p-p
3	FSK Output	Output		+50V @ 100 ma
4	Audio to Transmitter	+Output	+ 6dBm	(1.5 V)
5	Audio to Transmitter	-Output	+ 6dBm	(1.5 V)
6	Ground			
7	SEL-CAL Output	Output		+50V @ 100 ma
8	Push-to-Talk Output	Output		+50V @ 100 ma
9	Ground			

Serial Port Connections

The computer is connected to Connector J3 (25-pin) on the rear panel of the modem. The connection pins are:

Pin	Function	Pin	Function
1	Ground	14	STXD
2	TXD	15	NC
3	RXD	16	SRXD
4	RTS	17	NC
5	CTS	18	NC
6	NC	19	SRTS
7	Ground	20	DTR
8	DCD	21	TNC
9	NC	22	NC
10	NC	23	NC
11	NC	24	NC
12	SDCD	25	Boot
13	SCTS		

Technical Specifications:

AUDIO I/O	TI TLC-320AC01 14 Bit A/D & D/A Converter Transformer isolated audio input and output
DSP PROCESSOR	24-bit DSP-56001A @ 20.48 MHz
CONTROL	16-bit 68EC000 Control Processor @ 10.24 MHz
MEMORY	Flash ROM loaded via serial I/O port
DATA PORT	Serial RS-232 Control/Data Port; to 57,600 bps (DB25)
POWER	+10 to +18 VDC @ 250 ma power (500 mA to program ROM)
INDICATORS	STBY, CALL, LINK, ERR, TX, RX
RADIO I/O	RX Audio, TX Audio, PTT, FSK, SEL-CAL (DE9)
CABINET	Black, Extruded 5.25" x 1" Aluminum
CONNECTORS	Radio: DE-9S Connector
	Data:DB-25S Connector
	Power:5.5/2.5 mm Coaxial Power Connector
WEIGHT	2.75 lbs (1.25 kg) net, 5.0 lbs (2.3 kg) shipping

Appendix C –
Data Encryption Standard

Data Encryption Standard (DES) is a widely-used method of data encryption using a private (secret) key that was judged so difficult to break by the U.S. government that it was restricted for exportation to other countries.

There are 72,000,000,000,000,000 (72 quadrillion) or more possible encryption keys that can be used. For each given message, the key is chosen at random from among this enormous number of keys. Like other private key cryptographic methods, both the sender and the receiver must know and use the same private key. [PARA]DES applies a 56-bit key to each 64-bit block of data. The process can run in several modes and involves 16 rounds or operations. Although this is considered "strong" encryption, many companies use "triple DES", which applies three keys in succession. This is not to say that a DES-encrypted message cannot be "broken."

Early in 1997, Rivest-Shamir-Adleman, owners of another encryption approach, offered a $10,000 reward for breaking a DES message. A cooperative effort on the Internet of over 14,000 computer users trying out various keys finally deciphered the message, discovering the key after running through only 18 quadrillion of the 72 quadrillion possible keys! Few messages sent today with DES encryption are likely to be subject to this kind of code-breaking effort. [PARA]DES originated at IBM in 1977 and was adopted by the U.S. Department of Defense. It is specified in the American National Standards Institute X3.92 and X3.106 standards and in the Federal FIPS 46 and 81 standards.

Concerned that the encryption algorithm could be used by unfriendly governments, the U.S. government has prevented export of the encryption software. However, free versions of the software are widely available on bulletin board services and Web sites. Since there is some concern that the encryption algorithm will remain relatively unbreakable, NIST has indicated DES may not be rectified as a standard and submissions for its replacement are being accepted. The next standard will be known as the Advanced Encryption Standard (AES).

Appendix D – Efficient MICOMail Communication

Be precise and short in your messages. Transmitting messages over the radio takes longer than Internet communication.

Carefully consider whether it is necessary to copy some person/s to an e-mail message. Copying more persons than necessary with HF communication means that you have to wait until each message is sent separately.

Use accurate subject titles. This helps to determine importance and also facilitates searching when you need to refer to a particular message.

It is recommended that you compress your attached files, using Winzip or any other compression utility in order to reduce message transmission time.

Address Book

This Address Book is provided for your convenience. Use it to record data before entering it into your computer, and as a backup in case of computer failure.

Name	Internet Address	Modem ID	Station	Net	Channel

Name	Internet Address	Modem ID	Station	Net	Channel

Name	Internet Address	Modem ID	Station	Net	Channel

Name	Internet Address	Modem ID	Station	Net	Channel

List of Procedures

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