

**INTERACTIVE TERMINAL SERVICE
USER GUIDE**

XEROX

Network Administration Library

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Purpose The Interactive Terminal Service User Guide describes all that you need to know to set up and maintain your Interactive Terminal Service. This guide explains all the service commands and shows how these commands are used to perform service-related tasks. In addition, this guide lists all the messages that can be generated while running this service and tells you what to do when a message is displayed.

Intended audience This publication is intended for System Administrators who are responsible for starting up and keeping the Interactive Terminal Service running efficiently.

Before you read this booklet There is some general information about services that you will need to be familiar with before you can understand this booklet. Read the "Services Executive" section in the *Server Operation and Maintenance* booklet, and the *Introduction to Network Administration* booklet. All of these publications in the *Network Basic Services* volume.

Before you can use this service As part of the preparation for setting up the Interactive Terminal Service, you need to perform the procedures described in the *Server Software Installation* booklet. This booklet is also part of the *Network Basic Services* volume.

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1 Description of a full pathname

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The Interactive Terminal Service (ITS) allows you to access your Xerox Network with any teletypewriter-like terminal or personal computer. Even if you are working at home, or in an office remote from your network, you can dial into ITS using a modem and communication software. Once your terminal is connected to ITS, you can perform network mailing, filing, and printing operations.

Introducing the Interactive Terminal Service

The ITS mailing commands allow you to create, send, retrieve, and read mail messages. You can retrieve messages sent to you from users located anywhere in the world. To enhance your ability to exchange messages and documents, ITS provides conversion options for mail messages. When you transmit a message, you can choose to have it converted to plain text or 860 format, so that it can be readily displayed on the destination workstation, teletypewriter terminal, or personal computer.

Through a combination of interactive commands and reliable file transfer commands, ITS allows you to browse through the file systems managed by your network File Service and perform operations such as copying, moving, and deleting files and directories stored on the File Service. ITS supports document exchange between remote personal computers and the File Service via the industry standard XModem protocol. You can, therefore, use your own word processing or spreadsheet software to create files of any format type. These files can then be transmitted to ITS via the XModem protocol and stored in their original formats on a File Service.

With ITS you can also send files created on your terminal, or files stored on your File Service, to a network system printer by using XModem protocol. ITS can send documents in the Xerox Interpress format to a network Print Service and provide the proper conversion of documents in the Xerox Memorywriter format and in ASCII plain text format.

In just three hours...

It may be hard to believe, but in less than three hours you will learn how to:

- Log on to ITS
- Create, edit, delete, and send messages
- Receive, display, and forward messages
- Create, copy, delete, display, and move files
- Create, copy, delete, list, and move directories

- Retrieve files from a File Service to your personal computer
- Send files from your personal computer to a network File Service
- Print files stored on your terminal at a network 8000 printer
- Print files stored on a File Service at a network 8000 printer
- Log off from ITS

You will be well on your way to developing valuable skills that will help increase the speed and reliability of mailing, filing, and printing in your organization.

This guide is written in practice format to allow you to use the commands while you are learning about ITS. The commands you are asked to type are in boldface type. Be sure to read the instructions carefully as you proceed through the practice exercises.

Required materials

To learn to use ITS you need:

- A terminal or a terminal-emulating personal computer, such as an IBM personal computer, a VT100, a Memorywriter, or any other personal computer equipped with a modem, communication hardware, and terminal emulation software.
- The manuals accompanying your personal computer and modem for instructions on how to load your communication software and dial-up ports.
- Communication software.

Note: It is recommended that the communications package that you use with your terminal to send messages to ITS supports the XModem protocol. The use of ASCOM protocol is not completely reliable,

- Paper for your printer, if the output of your terminal is printed, rather than displayed on a screen.

Ask your System Administrator if you have questions about any of these items.

Required information

You also need the following information, which you can record on the ITS Data Form.

- The procedure for loading communication software in your terminal
- The ITS telephone access number
- Whether or not your modem has an acoustic coupler
- Your user name and password
- Your domain and organization
- The name, domain, and organization of your System Administrator
- The name, domain, and organization of the ITS you wish to access

Ask your System Administrator if you do not have this information.

ITS Data Form	
Procedure for loading communication software:	_____

ITS telephone access number:	_____
My user name:	_____
My domain name:	_____
My organization name:	_____
System Administrator name:	_____
System Administrator domain:	_____
System Administrator organization:	_____
ITS name, domain, and organization:	_____

Commands

You communicate with ITS by typing in commands. You need only type enough of an ITS command to identify it uniquely. For example, if you type <H> and then press <RETURN>, you display the **help** command, since it is the only ITS command beginning with the letter "h." However, to log off, you must type at least the first two characters "lo" and press <RETURN>, since "l" could mean either **logoff** or **list directory**.

You can ask ITS to complete the command for you by pressing the spacebar or <ESC>. For example, typing the letter <H> and pressing the spacebar results in the ITS displaying the full **help** command. You can then press <RETURN> to display the **help** command information.

You must see a prompt (>) on your screen before you type a command. A summary of the important commands, along with when and how they operate, is contained in the following listing.

- The **Set Width**, **Set Height**, **Set Padding**, **Set Terminal**, **Set Flow Control**, **Help**, **Logon**, and **Quit** commands are available before you log on.
- Pressing <CTRL> and <C> cancels your current command and allows you to type a new command.
- Pressing <CTRL> and <H> erases the previous letter.
- Pressing <CTRL> and <W> erases the previous word.
- Pressing <CTRL> and <R> redisplay the field you are editing.
- Pressing <CTRL> and <X> deletes the editing changes you have made.

Commands and responses to ITS prompts are almost always ended by pressing <RETURN>. You press <ESC> to indicate that you are finished in cases where you may want to use <RETURN> as part of your input. In these cases, ITS reminds you that you must press <ESC> when you are finished.

When you are asked for a confirmation, type <Y> to confirm, or type <N> if you decide you do not want to confirm. Then press <CTRL> and <C> to cancel the command.

The **Help** command allows you to select a particular area of ITS operation for further explanation. Type **Help** and press <RETURN> to get a menu of areas for which help is available. Type a command name, followed by <?> and <RETURN>, to get help for a particular command.

Important keys

Before you get started on ITS, locate the following keys on your keyboard:

- **<RETURN>** - On your keyboard, this key may also be labeled **<CARRIAGE RETURN>** or **<ENTER>**. Alternatively, it may be labeled with a bent left-facing arrow. This key is frequently used to complete a command to ITS.
- **<ESC>** - On your keyboard, this key may be labeled **<ESCAPE>** or **<ESC>**. It is occasionally used to complete a command to ITS.
- **<BACKSPACE>** - On your keyboard, this key may be labeled with an arrow, or it may not be present at all. This key moves you back one position each time you press it and erases the character that was in the space.
- **<CTRL>** - This key is sometimes used with other keys to tell ITS to do something.

With these four basic keys, plus your standard typewriter keyboard, you can learn to use the efficient electronic mailing, filing, and printing functions of ITS.

Contact your System Administrator if your terminal does not have some of these keys.

This chapter lists all of the ITS commands in alphabetical order within three distinct categories: filing, mailing, and printing.

Mailing commands

The following ITS commands, which allow you to send and examine mail, are available after you have logged on and your mailbox exists:

Answer
Create Message
Delete Message
Display Message
Forward
List Mailbox
Undelete Message

ITS assigns message numbers to the messages in your mailbox. These numbers do not change during an ITS session (unless you log off and then log on again), and are not changed by deleting messages.

The mailing commands listed above will ask you to "Enter message number(s)." Your response can take any of the following forms:

Current	The current message (the message that you last dealt with)
Next	The message following the current message
All	All messages (both deleted and undeleted, displayed and not displayed)
-	All messages that are marked for deletion
Undeleted	All undeleted messages
*	All undeleted messages that have not been displayed
Old	All undeleted messages that have been displayed
X	All messages whose document fields cannot be displayed at your terminal
< number >	A single message number
< number > to < number >	An inclusive range of message numbers, may be decreasing

<item>, <item> Where <item> is any of the above

For example, "c,11to14,*" refers to messages 1,11,12,13,14,24, and 25 (in that order) if 1 is the current message and messages 24 and 25 are your displayed messages. Notice that you do not have to type the entire word "current."

When a range (<number>to<number>) is specified, commands (except undelete message) operate only on the undeleted messages.

Filing commands

The following commands, which are available when you are logged on, allow you to access directories and files.

- Copy Directory**
- Create Directory**
- Delete Directory**
- List Directory**
- Move Directory**
- Set Current Directory**

- Copy File**
- Create File**
- Delete File**
- Display File**
- Edit File**
- Move File**
- Retrieve File**
- Store File**

- List File Attributes**

- Set XModem Options**

Enclose File Service names with parentheses. Separate directory names with slashes. For example:

(File Service Name)directory name/file name

Component names can consist of any characters (including spaces) except:

! # * ' /

These characters can be included in component names if preceded by ' (single quote.)

A complete pathname is one that specifies a File Service and one or more directories.

The last component of a pathname indicates the name of the object that ITS is to operate on. That object might be a file or a directory.

Printing commands

The following commands are available when you are logged on:

Print File
Print Local File
Set Formatting Options
Set Printing Options

The **Print File** command requires you to enter the pathname of the file you wish to print. Specify the pathname in the format given in the "Filing commands" section.

Once printing options are set using the **Set Printing Options** command, they do not have to be reset unless you want to change them. ITS stores your printing options in a user profile. These options remain the same until they are set again with the **Set Printing Options** command.

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3. Preliminary steps

The sections of this chapter cover:

- Getting started with the Interactive Terminal Service
- Setting the display format for your terminal
- Correcting typing mistakes
- Logging on
- Logging off

Getting started with the Interactive Terminal Service

Boldface letters used in the procedures in this booklet indicate an action you should perform. To start using ITS:

1. Turn on the power to your terminal. Refer to the instructions that came with your terminal, if necessary.
2. Start up your terminal until you see the startup prompt (on a Xerox 820 or 820-II screen, you see A>). Ask for assistance if necessary from System Administrator.

If your terminal uses communication software

Load the communication software. Contact your System Administrator or an experienced operator if you are not sure how to do this.

Note: It is recommended that the communications package that you use with your terminal to send messages to ITS supports the XModem protocol. The use of ASCOM protocol is not completely reliable.

If your terminal has a local echoing option

Make sure the echo is turned off.

If your terminal is connected to ITS by telephone

You need to perform the following operations one after the other without pausing.

1. Read all the instructions first. Then follow them to connect to ITS. After you complete these instructions, you will have about 10 seconds to connect the phone to the acoustic coupler or to switch the modem to the data position.
2. Dial the ITS telephone access number. You should hear a high-pitched tone coming from the receiver when the call is completed.

If your modem uses an acoustic coupler

1. Put the telephone receiver securely into the cups on the modem before the tone stops. Follow the instructions that came with the modem. You will see the following message displayed on your terminal.

"Services x.x Greeter. Type CR to begin."

"Interactive Terminal Service x.x."

2. Type "?" and press <RETURN> to see the list of available commands.

Note: If your ITS is set up to connect directly to the Greeter, a menu is displayed and you must select the "Interactive Terminal Service" option. After you select the ITS option, you are asked to give the name of the ITS. At this point you can press <RETURN> and the Greeter will list all ITS names, or you can type the first few letters of an ITS name, followed by an asterisk (*), and the Greeter will list all the ITS names beginning with those letters.

3. ITS is waiting for you to tell it what to do. First, make sure the display format is set properly for the terminal you are using. Then you can log on to the system and send messages.

If your modem does not use an acoustic coupler

1. Follow the instructions that came with the modem, or contact your System Administrator.
2. When you are connected to ITS, press any key on your terminal. You are now ready to start using ITS.
3. Look for the message: "Interactive Terminal Service x.x."

Type "?" and press RETURN to see the list of available commands.

4. ITS is waiting for you to tell it what to do. First, make sure the display format is set properly for the terminal you are using. Then you can log on to the system and send some messages.

User profile

When you first log on to ITS, it will create a user profile file for you on a File Service. This file is used by ITS to store information on the terminal options you set with the commands used to set your display format. ITS also stores other information, such as the name of the Print Service you last used and your current directory path. This information is stored when you log off so that you do not have to retype it each time you log on to ITS.

Note: If there is no printer defined in your user profile, or if the Print Service is not available when logging on, the printer status information will not be displayed.

Setting the display format for your terminal

The ITS display format has already been set so it will work with almost all terminals. For example, ITS will run with the following terminals without adjustment:

- Xerox 860 Information Processing System
- Xerox 820-II Personal Computer
- Lear Siegler ADM 3A Terminal
- Most personal computers

If you are not sure what kind of terminal you have, contact your System Administrator. If this preset display format does not work with your terminal, then use the following commands to set the display format.

Set Height command

To specify the number of lines to be displayed on each page or screen:

1. Identify the number of lines your terminal normally displays on the screen or prints on a page. If this number is less than 24, you may want to change this setting.
2. Locate the > prompt.
3. Type **Set Height** and press <RETURN>.
4. Type the appropriate number of lines per page or screen for your terminal. This number must either be in the range of 2 through 200 or be 0. Press <RETURN>.

Note: ITS will set your screen for 24 lines unless you tell it to do otherwise. 0 results in a page with no end. (This is the setting you would normally use for a hardcopy terminal, such as the Texas Instruments 745.)

Set Width command

To specify the number of characters to be displayed or printed on each line:

1. Identify the number of characters your terminal normally displays or prints per line. If this number is less than 79, you may want to change this setting.

Note: ITS will set your screen for 79 characters per line unless you tell it to do otherwise. 0 results in a page of infinite width. This means the entire output, up to a carriage return, will be displayed or printed on one line.

2. Locate the > prompt.
3. Type **Set Width** and press <RETURN>.

4. Type the appropriate number of characters per line for your terminal. This number must be either in the range of 10 through 200 or be 0. Press <RETURN>.

Set Flow Control command

Some terminals (the Memorywriter in particular) require you to set flow control before sending or receiving data over communication lines. If your terminal is equipped with flow control, make sure it is turned on for ITS. To set flow control:

1. Notice the prompt: >.
2. Type **Set Flow Control** and press <RETURN>. You should see: "On (Y/N):"
3. If your terminal has flow control, type **Y**; otherwise, type **N** and press <RETURN>. If you type **Y**, you will see: "Line delay needed (Y/N):"
4. Usually terminals and personal computers with display terminals do not require delays. If this is the case, type **N** and press <RETURN>.
5. If your terminal requires extra delays inserted in the line, type **Y**. Otherwise, type **N** and press <RETURN>. Usually terminals and personal computers with video display terminals do not require delays. The Xerox Memorywriter and other printer-type terminals need line delays. If you type **Y**, you will see the message:

"Line Speed (300, 600, 1200, 2400, 4800, 9600): 1200."
6. Enter the speed of the line that you are using to access ITS. You can obtain this information from your System Administrator.

Note: This information is stored in your user profile. You will not have to re-enter it every time you use ITS.

Set Padding command

To give the print head (on hardcopy terminals) enough time to reposition itself before printing the next line:

1. Examine the printout from your terminal to see if the print head starts printing the next line before it completes a carriage return. If it does, you need to reset the padding command.
2. Locate the > prompt.
3. Type **Set Padding** and press <RETURN>.
4. Type a number in the range of 1 through 100 and press <RETURN>. You will probably have to experiment to discover the right number. Try 15 first.

Note: Typing "15" inserts 15 non-printing characters between the lines of text. On a device with a line speed of 1200 bps, this results in a delay of about 0.10 second.

On a device with a line speed of 300 bps, the delay is about 0.4 second. The default value is 0. That means the next line of text is displayed or printed immediately.

Correcting typing mistakes

Before you begin to mail, file, or print, practice correcting typing mistakes with ITS.

1. Type **lig**. This means nothing to ITS. You will have to correct it.
2. Press <BACKSPACE>. If your terminal does not have a backspace key, press <CTRL> and <H>. You should see the following on your screen: ">lig\g."

The slash (\) means that something has been deleted. What has been deleted appears to the right of the slash. In this case, it is "g."

3. Press <BACKSPACE> or <CTRL> and <H> again. You should see: ">lig\g\i."
This means the "i" has been deleted.
4. Press <BACKSPACE> or <CTRL> and <H> again. You should see: ">lig\g\i\l." The "l" has now been deleted.

The whole entry has been deleted. Now you can correctly type in your entry .

5. Here is another method for correcting typing mistakes:

Type **lig**. Press <CTRL> and <W>.
You should see: ">lig(lig)."
The deleted word is enclosed in parentheses.

Note: This editing procedure follows normal teletypewriter conventions so that you can read and send electronic mail and store it on the File Service through ITS from most teletypewriter-like terminals.

Logging on

Now it's time to start using ITS.

1. Notice the prompt: `>`.

This means ITS is waiting for you to tell it what to do. You are going to practice logging on to the electronic mail service.

2. Type `logon`.
3. Press `<RETURN>`. You should see the "Your name please:" prompt.

ITS is asking you to identify yourself.

4. Type your user-name:domain:organization. Spell everything exactly as it is registered.

Note: You will not have to enter domain:organization if you are connecting to your own network.

5. Press `<RETURN>`. You should see the "Your password:" prompt.

ITS is asking you to enter your password.

6. Type your password. You should see asterisks appear as you enter your password.

7. Press `<RETURN>`. You should see:

"Retrieving user information for (your name:domain:organization)
Checking your mail box. Your mail box is empty."

If you have already sent or received mail, you may see another message, along with a list of the messages in your electronic mail folder. You'll learn how to read this mail later. If the user profile has been set up and some printer has been set, you will also receive a message telling what the current filing directory and the Print Service have been set to.

You have just logged on to ITS.

Logging off

You can end your ITS session in one of two ways: by typing **Logoff** or **Quit**. If you type **logoff**, you are still connected to ITS; if you wish to log back on, you can type **logon** at that point. **Quit**, however, disconnects you from ITS. You must dial the ITS phone number again to make a connection.

1. Type **Quit**. This tells ITS you want to disconnect from the system for now.
2. Press <RETURN>. You should see the message:

“Storing user information
Good-bye.”

If you are connected to ITS through the Greeter, you are asked to type **Quit** to disconnect from the Greeter.

3. Hang up your telephone if you have a telephone connection to ITS.

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Messages sent or received through the network are referred to as "mail." Mailing is a very useful function because it allows you to communicate with every other network user.

Creating, sending, forwarding, receiving, and answering messages with ITS is easy. This chapter details the following procedures:

- Creating and sending messages
- Listing mailbox contents
- Displaying messages
- Deleting messages
- Undeleting messages
- Answering messages
- Editing messages
- Forwarding messages

Creating and sending messages

Once you have created a message, sending it with ITS is as simple as pressing a button. The following is a step-by-step guide to performing these operations.

Note: It is recommended that the communications package that you use with your terminal to send messages to ITS supports the XModem protocol. The use of ASCOM protocol is not completely reliable.

Before you can create and send a message, you must first log on. If you have not logged on, do so before you try to use ITS mail.

Procedure

1. Type **Create Message**. This tells ITS you want to prepare a message.

2. Press <RETURN>. You should see the prompt "To :."

ITS is asking you to whom you want to send the message. For this example, send it to yourself, so you'll have a message waiting later.

3. Type your user name:domain:organization.

Note: If the recipient is in the same domain and organization as yours, you need only type his or her name.

4. Press <RETURN>. This tells ITS you have finished entering the name of the recipient. Later you'll learn how to send a message to more than one recipient. Now you should see the "Copies:" prompt.

ITS is asking you who should get copies of this message. For now, do not send any copies.

5. Press <RETURN>. This tells ITS you don't want to send any copies. You should see: "Subject:."

ITS is asking you what the message will be about.

6. Type **Electronic mail** and press <RETURN>. When you press the <RETURN> key at this point you are telling ITS you have finished entering the subject of the message. You should see: "Text (press ESC to terminate)."

Note: An entry must be made in response to the "Subject:" prompt. ITS will not process the <RETURN> unless a subject has been entered.

ITS is asking you to type your message.

7. Type this message:
Dear ITS User,
Electronic mail helps improve your productivity.

8. Press <ESC>. This tells ITS you have finished entering the text of the message. You should see:
“(Display, Append, Edit, Help, or RETURN to Deliver):.”

ITS is asking if you want your message delivered.

9. Press <RETURN> to send your message. You should see:
“Send as (Xerox 860, Mail Note, Text): Text.”

Generally, you need to type **Xerox 860** only if your message is being sent to one or more persons displaying mail at a Xerox 860 or 850 workstation. If your message is more than 8000 characters long, you may type **text** or **Xerox 860**. If you're not certain where people will be displaying this message, type **Xerox 860**.

If you elect to send your mail as an 860 document, the ITS does a conversion from internal format to 860 document format. Set the language set to 11 (US English) and the pitch set to 10.

10. Press <RETURN>. In a moment you should see:
“Parsing. . . sending. . .message sent.”

Note: If you have misspelled the name of a recipient, you will probably see a message telling you that you are sending the message to an invalid name. You will be given the option to send the message anyway. For this exercise, send the message and then redo the exercise using the correct spelling of the name. Later in this book, you will learn how to correct such a mistake by editing a message already created.

Note: Messages accepted by ITS may still be returned later as undelivered mail. There is no positive indication to you that that has happened. The only indication will be if your name is not in either the “To:” or “Copy:” fields.

If you see any other message, see the “Messages” chapter.

In a few seconds, you will have new mail. You have just used ITS to prepare and send a message.

Terminating and restarting a session

Before you learn how to edit messages and display messages you've received, you should know how to:

- Get out of ITS.
- Get back into ITS and begin other operations.

Logging off

1. Type **Quit**. This tells ITS you want to log off from the system for now.

2. Press <RETURN>.
You should see the message: "Good-bye."

Note: If you are connected to ITS through the Greeter, you are asked to type **Quit** again to disconnect. Then a few random symbols may appear on your terminal.

3. Hang up your telephone if you have a telephone connection to ITS.

The message you created has been sent, and you have now logged off from ITS. When you log on again, your message will be waiting for you.

Logging back on to ITS

1. If you are connecting to ITS by telephone: dial the ITS telephone access number, wait for the high-pitched tone, then couple the telephone to the modem.

Now that you are connected, the following message appears on your screen:

"Services 8.0 Greeter. Type CR to begin.
Interactive Terminal Service 10.0."

This message may not appear on a remote terminal that is connected via modem to an ECS managing an 873 Communication Interface Unit (CIU). If this message does not display 5 seconds after dialing up auto-dialing, type <RETURN> to get to normal operation. Or you can wait until the Data Receive indicator on your modem is on before trying <RETURN>.

If the CIU port is not configured to automatically connect to the ITS, and you do not type <RETURN> within 30 seconds after establishing a connection, the connection will be dropped.

2. Type "?" and press <RETURN> to see the list of available commands.

Note: If your ITS is connected to a Greeter, you must enter the name of an ITS. Press > to get a list of the ITS names.

If you have forgotten how to do this, see the section titled "Preliminary steps."

3. Type **Logon** and press <RETURN>. You should see the message: "Your name please:."
4. Type your user name:domain:organization.

Note: You will not have to enter domain:organization if you are connecting to your own network.

5. Press <RETURN>. You should see the message: "Your password:."
6. Type your password and press <RETURN>. You should see:
"Retrieving user information for (Your name:Domain:"

Organization)...done
 Current filing directory set to: (File Service:) Directory
 Current printer set to:Print Service:Domain:Organization
 Checking your mail box You have new mail."

You should then see the message listed as follows:
 "1 * (date & time message sent) (your name) Electronic
 Mail (63)."

Note: If there is no printer defined in your user profile, or if the Print Service is not available when logging on, the printer status information will not be displayed.

Note: The number displayed after the Mail message is the number of characters in the message. If you have received other messages, they will appear on the list.

Note: If your mailbox has more than 200 messages, ITS will not provide access to any of those messages past the 200 limit. To access those messages will require you to delete some of the messages you can access in the 200 and under range, log off, and then log back on again.

You are ready to start using ITS again, and your message is waiting for you.

More about creating messages

Before you display your incoming message, create and send two more messages. Then you'll be able to practice listing the messages you've received and decide which one to display first. You'll also learn more about preparing and sending messages with ITS.

1. Type **Create Message** and press <RETURN>. You should see the message: "To:."
2. Type your user name. Remember to spell your name the way you are registered.

Note: If you have an alias registered name you are also allowed to used that if you want.

3. Press <RETURN>. You should see: "Copies:."

You are going to send a copy of this message to your System Administrator.

4. Type the name:domain:organization of your System Administrator. Press <RETURN>. You should see: "Subject:."
5. Type **ITS Practice** and press <RETURN>. You should see:
 "Text (press ESC to terminate):."
6. Type the following message:
IMPORTANT NOTE:
ITS lets you do your work from remote locations.

7. Press <ESC>. This ends your second message. You should see:
“(Display, Append, Edit, Help, or RETURN to deliver):.”
8. Press <RETURN>. You should see:
“Send as (Xerox 860, Mail Note, Text): Text.”
9. Type **Xerox 860** to this prompt. This message could now be received and displayed at an 860, 6085, or 8010 workstation.
10. Press <RETURN>. You should see:
“Parsing. . .sending. . . message sent.”

In a moment, you may also see the message:
“You have new mail.”

If you see any other message, refer to the “Messages” chapter.

Now you are going to create and send a third message.

1. Type **Create Message** and press <RETURN>. You should see: “To:.”
2. Type your name:domain:organization. Don't press <RETURN> right away. You are also going to send an original of this message to your System Administrator.
3. Type “,” (comma) then the name:domain:organization of your System Administrator.
4. Press <RETURN>. You should see the message:
“Copies:.”
5. Press <RETURN>. This tells ITS not to send anyone copies of this memo. You should see: “Subject:.”
6. Type **ITS Benefits**.
7. Press <RETURN>. You should see the message:
“Text (press ESC to terminate):.”
8. Type this message, without worrying about typing mistakes.
Attention: ITS User
The Xerox Interactive Terminal Service is easy to use.
9. Press <ESC>. This ends your third message. You should see the message:
“(Display, Append, Edit, Help, or RETURN to deliver):.”
10. Press <RETURN>. You should see the message:
“Send as (Xerox 860, Mail Note, Text): Text.”
11. Press <RETURN>. You should see:
“Parsing. . . sending . . . message sent.”

In a few moments you may also see the message:
“You have new mail.”

If you see any other message, refer to the “Messages” chapter.

Listing mailbox contents

Soon, many people in your organization will be using ITS and you will have received many messages. When that happens, you'll want to review your messages quickly to select which ones you want to display first. It's easy to do this with ITS.

Procedure

1. Notice the prompt: >.

This means ITS is waiting for you to tell it to do something.

2. Type **List Mailbox**. This tells ITS you want to review a list of the messages in your mail folder.

Note: If your mailbox has more than 200 messages, ITS will not provide access to any of those messages past the 200 limit. To access those messages will require you to delete some of the messages you can access in the 200 and under range, log off, and then log back on again.

3. Press <RETURN>. You should see:
"Enter message number(s):."

ITS is asking if there are some specific messages you want to list. Let's have ITS list all of them.

4. Type **all**. This tells ITS to list all the messages you have received.

5. Press <RETURN>. You should see:

"1 * (date & time message sent) To: (your name)
Electronic Mail (63)

2 * (date & time message sent) To: (your name) ITS
Practice (163)

3 * (date & time message sent) To: (your name) ITS
Benefits (76)"

Note: The asterisk (*) after the message number means that you have not displayed the message yet.

Note: The number in parentheses after the subject (63) indicates how many characters are in each message.

Messages you send will look somewhat different from messages sent by others. This listing can include two pieces of information. "Sender" indicates the name of the person who actually sent the message. "From" indicates the name of the person (or group) who originated the message.

Note: When ITS can't locate the person you sent a message to, ITS will return the original message to you as undelivered mail. There is no positive indication to you that that has happened. The only indication will be if your name is not in either the "To:" or "Copy:" fields.

Sometimes it takes a little while for your mail to reach you, so the third message may not be listed yet. If so:

1. Wait until you see the message: "You have new mail."
2. Type **List Mailbox** again and press <RETURN>.
3. If you have sent or received other messages in addition to the ones you prepared with this handbook, you may see other messages on the list, and the message numbers may be different. If this is the case, write down the correct numbers of the three messages you've just created.

Displaying messages

Since you already know that some messages are waiting for you to read, we will now go through the steps of displaying them.

Procedure

1. Notice the prompt: >.

This means ITS is waiting for you to tell it to do something.

2. Type **Display Message**. This tells ITS that you want to display the messages you've received.

3. Press <RETURN>. You should see:
"Enter message number(s):."

ITS is asking you to type the number of the message you want to display.

Refer to the messages that you have already listed, look up "ITS Benefits." It should be number 3, unless you already sent or received other messages.

4. Type that message number.

5. Press <RETURN>. You should see:

"Message 3:
Date: (date and time message was sent)
To: (you, your System Administrator)
Sender: (your name)
From: (your name)
Subject: ITS Benefits
Answer to: (your name)
Content:
Attention: ITS User
The Xerox Interactive Terminal Service is easy to use."

Now you are going to display the first two messages at the same time.

6. Type **Display Message** and press <RETURN>. You should see: "Enter message number(s):."

7. Type **1to2** (or the correct numbers of the first two messages you created). Typing "to" between two numbers tells ITS to show you all the messages in the range between the numbers. You cannot have any spaces before or after the word "to." If you had more messages, you could specify a larger range, such as 2to5.

8. Press <RETURN>. You should see:
- "Message 1:
Date: (date & time message sent)
To: (your name)
Sender: (Your name)
From: (your name)
Subject: Electronic Mail
Answer to: (your name)
Note:
Dear ITS User,
Electronic mail helps improve your productivity.

Message 2:
Date: (date & time message sent)
To: (your name)
Copies: (your System Administrator)
From: (your name)
Subject: ITS Practice
Answer to: (your name)
Content:
IMPORTANT NOTE:"

Using ITS lets you do you work from remote locations."

You may see the prompt:
"More text? (Y/N):."

9. If you want more, type Y and press <RETURN>.

Notice that the message you sent as an 860 document, instead of text, uses the line "Content:" (instead of "Note:") when the message is displayed.

Note: When mail is received from Xerox 6085/8010 workstations, and that mail includes "new paragraph codes," the caret and right-square-brace characters will be displayed. To avoid this odd display of characters you may ask those users of 6085/8010 workstations to use a "new line" (<SHIFT> <RETURN>) instead of a "new paragraph" when sending mail to you.

Note: When displayed mail includes tabs from other types of workstations, the display text may not be aligned properly. To avoid this odd display, you may ask those users of 6085/8010 workstations to use the regular tab key.

Deleting messages

ITS will save the messages you receive unless you tell it to delete them. Here's how to tell ITS to delete messages.

Procedure

1. Notice the prompt: `>`.

This means ITS is waiting for you to tell it to do something.

2. Type **List Mailbox** and press `<RETURN>`. You should see:
"Enter message number(s):"

3. Type **all** and press `<RETURN>`. You should see a list of the messages in your mail folder.

4. Type **Delete Message** and press `<RETURN>`. You should see: "Enter message number(s): 2."

ITS is asking you what messages you want to delete. For your convenience, ITS has automatically entered the number of the last message you just displayed in case you want to delete it. Now tell ITS to delete messages 1 and 3.

5. Type **1** (or the correct number of the first message you created). You should see:
"Enter message number(s): 2 _ 1."

The lowered dash (`_`) means that the number ITS automatically supplied has been erased. The number after the dash is the one you entered. The message with this number is marked for deletion after you press `<RETURN>`.

Note: On some terminals, a character appears instead of a lowered dash.

6. Check your message list to be sure that you have entered the number of a message you want to delete.
7. Type **,3** (comma 3). You should see:
"Enter message number(s): 2 _ 1,3."

This causes ITS to mark for deletion messages 1 and 3 after you press `<RETURN>`. (The messages will not actually be deleted until you log off.)

8. Check your message list again to make sure you have entered the number of a message you want to delete.
9. Press `<RETURN>`. You should see:
"2 messages marked for deletion: 1, 3."

Now that you've marked messages 1 and 3 for deletion, they will be eliminated from your mail folder when you log off from ITS. All that will be left when you log back on will be message

2, unless you send and receive other messages first. (The messages will be renumbered at the start of your next session.)

Undeleting messages

Before you log off, you may change your mind and decide that you don't want to delete a message. You are going to restore a message by using the **Undelete Message** command.

Procedure

1. Notice the prompt: >.

This means ITS is waiting for you to tell it to do something.

2. Type **List Mailbox** and press <RETURN>. You should see:
"Enter message number(s):"

3. Type **all** and press <RETURN>. You should see a list of the messages in your mail folder that looks like this:

"1 - (date & time message sent) To: (your name)
Electronic Mail (63)
2 (date & time message sent) To: (your name) ITS Practice
(163)
3 - (date & time message sent) To: (your name) ITS
Benefits (76)"

The dashes (-) after the numbers indicate the messages you've told ITS to delete when you log off.

4. Type **Undelete Message** and press <RETURN>. You should see: "Enter message number(s): 3."

ITS is asking you what messages you want to keep. It has automatically filled in the number of the last message you worked on. You are going to undelete message 1.

5. Type **1**. You should see: "Enter message number(s):3 - 1."

6. Press <RETURN>. You should see:
"Message 1 no longer marked for deletion."

When you log off, ITS will not delete message 1. Only message 3 will be removed from your mail folder.

Answering messages

Often you may need to reply to messages that you've received. ITS can help you answer these messages quickly.

Procedure

1. Notice the prompt: >.

This means ITS is waiting for you to tell it to do something.

2. Type **Answer**. This tells ITS you want to answer messages.

3. Press <RETURN>. You should see:
"Enter message number(s): 1."

ITS is asking you which message(s) you want to reply to. It has automatically listed the number of the last message you worked on. You are going to answer the second message.

4. Type **2**. You should see:
"Enter message number(s): 1 _ 2."

5. Press <RETURN>. This selects the second message. You should see:
"(message number) (message state symbol) (time message originally sent) (sender's name) (subject) (length)
Copies: (your name)."

ITS is now waiting for you to type the names of any additional people you want to receive your answer. ITS automatically fills in your name. You can add additional names if you wish.

6. Press <RETURN>. You should see:
"Enter message text (press ESC to terminate):"

Now you can type your response.

7. Type the following reply:
You are right. I receive messages soon after they are sent and I can reply to them in minutes.

8. Press <ESC>. You should see:
"(Display, Append, Edit, Help, or RETURN to Deliver):"

ITS is asking if you want to send your reply. Instead of sending it now, let's select an option that will allow you to edit the reply first.

Editing messages

To make changes to a message, you must still be in the create, forward, or answer mode.

Procedure

1. Notice the prompt:
“(Display, Append, Edit, Help, or RETURN to Deliver):.”

This means you can still edit your message before telling ITS to deliver it.
2. Type **Edit**. This is the way to tell ITS you want to edit your answer.
3. Press <RETURN>. You should see:
“Field (All, Subject, To, From, Copies, Answer to, Text, Help):.”

In order to edit, you need to indicate what portion of your message you want to edit. The following fields can be edited:

- Subject
- To
- From
- Copies
- Answer to
- Text

Or you can type **All** to edit all fields.

Note: Each field in a message has a limit on the number of characters it may contain. Refer to Appendix B, Maximum length of fields, for a complete list of limits.

4. Type **text**. Press <RETURN>. You should see:
“Text (press ESC to terminate):.”

Searching in the field mode

When you are in the edit mode, you are automatically positioned at the beginning of the field you are about to edit. To make changes in the text, you may need to locate a particular word or string of words.

1. Press <CTRL> and <F>. The “F” stands for “find.” ITS is now waiting for you to tell it to find something.

Note: ITS will sometimes fail when searching for accented characters.

2. Press the <spacebar>. This tells ITS to position you in front of the first space in the text line. You should see:
“You.”

Now try another instance of find.

3. Press <CTRL> and <F>. ITS is again waiting for you to tell it what you want to find.
4. Type **i**. You should see:
"Pattern (press ESC to terminate): **i**."
5. Press <ESC>. This moves you to a point immediately following the "i" in "right." Your terminal shows you where you are by displaying: "are ri."

Now move to the end of the line.

6. Press and hold down <CTRL> as you type <F>.
7. Press <RETURN>. This moves you to the space preceding the carriage return at the end of the line. Your terminal shows you where you are by displaying:
"are ri (. . .) to them in minutes."

Now you are going to edit the text of your message.

8. Press <ESC>. You should see:
"Continue editing? (Y/N):."
9. Type **Y** and press <RETURN>. You should see:
"Field (All, Subject, To, From, Copies, Answer to, Text, Help):."
10. Type **text** and press <RETURN>. You should see:
"Text (press ESC to terminate):."

Inserting and deleting text

There are two basic ITS editing functions:

- Delete - This operation helps you remove letters and words from text you have already typed.
- Insert - This operation allows you to add letters, spaces, words, lines, and even paragraphs to your text.

Delete

First, practice using the delete operation.

1. Press <CTRL> and <F>. Then type . (period). This moves your position to just before the first period in the text. You should see on your terminal: "You are right."

Now delete this sentence, word by word.

2. Press <CTRL> and <W> at the same time. "W" stands for "word." Pressing <CTRL> and <W> at the same time deletes the word immediately before your position in the text. You should see: "You are right(right)."

The parentheses () indicate that you have deleted something from the text. What has been deleted appears in the parentheses.

3. Press <CTRL> and <W>. You should see:
"You are right(right)(are)."

The word "are " has been deleted.

4. Press <CTRL> and <W>. You should see:
"You are right(right)(are)(You)."

The word "You" has been deleted.

Insert

Now insert something in place of the sentence you've just deleted.

1. Type **I agree**. Now you should see on your terminal:
"You are right(right)(are)(You)I agree."

When you type something, while you are editing, whatever you type is automatically inserted wherever you are. "I agree" has just been inserted at the very beginning of the text.

Redisplaying edited text

You are going to display a clean version of what you've just edited.

1. Press <CTRL> and <R>. This tells ITS to "redisplay" what you've just edited. You should see: "I agree."

You've finished editing the message. Later you can practice editing messages.

2. Press <ESC>. You should see:
"Continue editing? (Y/N):."

3. Type **N**. You should see:
"(Display, Append, Edit, Help, or RETURN to Deliver):."

Adding to messages

Sometimes you may need to add something to a message that you have already composed. Here is the procedure.

1. Notice the prompt still on the screen:
"(Display, Append, Edit, Help, or RETURN to Deliver):."

This means ITS is still waiting to send your reply, but you can also choose to do something else.

2. Type **Append**. This tells ITS you want to add more material at the end of the message. You should see:
"Text (press ESC to terminate):."

ITS is telling you that you can now add more material to the text.

3. Press <RETURN> twice. This ensures that there is a blank line between the original text of the message and the material you are about to add.
4. Type:
I am learning how to modify messages.

You will see the sentence appear under the prompt as you type it.
5. Press <ESC>. This ends your addition to the text. You should see:
“(Display, Append, Edit, Help, or RETURN to Deliver):.”

You have just added new material at the end of a message.

Reviewing a message before you send it

It is often important to review a message before it is sent. To review a message:

1. Notice the prompt:
“(Display, Append, Edit, Help, or RETURN to Deliver):.”
2. Type **Display**. This tells ITS you want to see your message as it will appear to the recipient(s).
3. Press <RETURN>. You should now see the text of your message. You should also see:
“(Display, Append, Edit, Help, or RETURN to Deliver):.”

Now send a reply.

4. Press <RETURN>. You should see:
“Send as (Xerox 860, Mail Note, Text): Text.”
5. Press <RETURN>. In a few moments you should see:
“Parsing. . . sending. . . message sent.”

Forwarding messages

Sometimes you may want to forward a message you've received to someone else in your organization. You can even add a comment in front of the message before you forward it.

Procedure

1. Notice the prompt: >.

This means that ITS is waiting for you to tell it what you want to do. First, review your list of messages.

2. Type **List Mailbox** and press <RETURN>. You should see:
"Message number(s):"

3. Type **all** and press <RETURN>. You should see:

"1 (date & time message sent) To: (your name) Electronic Mail (63)

2 (date & time message sent) To: (your name) ITS Practice (173)

3 - (date & time message sent) To: (your name) ITS Benefits (76)

4* (date & time message sent) To: (your name) Re: ITS Practice (338)"

Let's pick one of these messages, add a comment to it, and forward it to your System Administrator.

4. Type **Forward**. This tells ITS you want to send one or more messages you've received to someone else.

5. Press <RETURN>. You should see:
"Message number(s): 4."

ITS is asking you which message(s) you want to use. It has automatically supplied the number of the last message you worked on. Instead let's forward message 3.

6. Type **3** and press <RETURN>. You should see:
"3 - (date, time message sent) (user's name); ITS Benefits (76) To:."

Now forward the message to your System Administrator.

7. Type the name:domain:organization of your System Administrator. Remember, you must spell everything exactly the way ITS knows it. Check with your System Administrator if you need to.

Note: If your System Administrator's domain and organization name are the same as yours, you do not need to retype the domain and organization names.

8. Press <RETURN>. You should see: "Copies:."

9. Type your name as a person to receive a copy and then press <RETURN>. You should see:
"Text (press ESC to terminate):"

ITS is asking you if you want to add a comment to the message before forwarding it.

10. Type the following:
I have finished learning how to use the basic ITS commands.

11. Press <ESC>. You should see:
"(Display, Append, Edit, Help, or RETURN to Deliver):"

12. Press <RETURN>. You should see:
"Send as (Xerox 860, Mail Note, Text): Text."

13. Type **text** and press <RETURN>.

In a few moments you will see:
"Parsing. . .sending. . .message sent."

The message, along with your comment, is on its way.

ITS Filing lets anyone who is a registered user of the internetwork access File Services from a remote location.

You can copy, move, delete, and display directories and files. You can also list a file's attributes (characteristics). Additionally, you can store files on your computer, edit them, and then send them to the File Service.

Electronic filing is very similar to filing in an office. To retrieve or store files, you need to know where filing cabinets are located, the name of the file drawer that holds the folder you want, the title of the folder, and the title of the document. ITS electronic filing refers to this information as full pathnames or partial pathnames. Full pathnames are needed to specify a File Service and one or more directories (file drawers, folders, and sub-folders). See the illustration on the next page. Only a partial pathname is needed once the current directory has been set.

The terminology differences are:

<u>Filing in an Office</u>	<u>Electronic Filing</u>
Filing Cabinets	File Service
Location	Domain
Organization	Organization
File Drawer	File Drawer/Directory
Folder	Directory
Document	File

In electronic filing, the File Service, domain, and organization names are enclosed in parentheses; and directories and files are separated by slashes. File drawers and folders are referred to as directories. Folders can have other folders within them (subdirectories within directories).

For example, you might have a directory titled "Personnel," and within that directory you could have a subdirectory titled "Salary Information." "Salary Information," in turn, could contain two subdirectories titled "Exempt" and "Non-Exempt."

A full pathname to get to these directories would look like this:

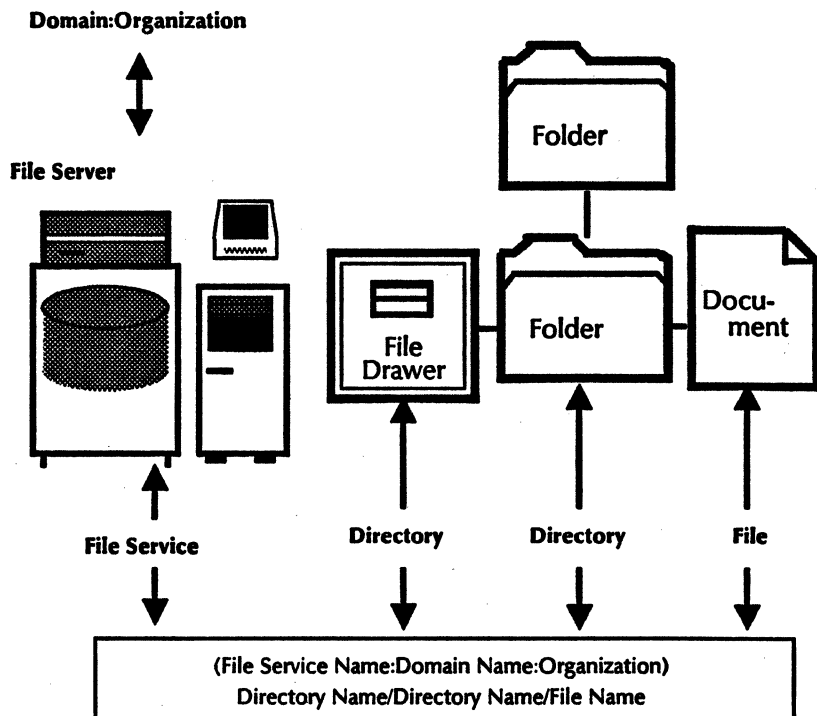


Figure 1. Description of a full pathname

(file service name:domainname:organization name)
 file drawer/Personnel/Salary
 Information/Exempt and Non-Exempt

If you set your directory to the following:

(file service name:domain name:organization name)
 file drawer/Personnel

Then a partial pathname would look like this:

Salary Information/Exempt and Non-Exempt

File versions

After you have set your directory, you can perform filing operations such as creating files, editing files, and storing these files at the File Service. When a file is stored, an exclamation point (!) and a version number are automatically appended to the file name. The first version of a file would have a !1 appended to its file name, the second would have !2, and so on. Duplicate versions or copies of the file are automatically created when you edit a file that has been stored.

File versions affect filing operations, such as editing and deleting files. When you delete a file the lowest numbered version is deleted, unless the version number is added to the file name. All other operations, such as editing or moving, are performed on the highest-numbered version. To avoid performing operations on a wrong version, specify the version number when editing and deleting files.

Filing operations

First you must ask your System Administrator to create a file drawer for you. ITS filing operations require you to specify files by name, location (domain name), and organization in a specific File Service hierarchy. To do this you need to use the correct pathname. The following paragraphs describe the filing commands you can use, along with correct pathname specifications for each type of command.

Setting current directory

You can set a different directory at any time using the set current directory command.

1. Type **Set Current Directory** and press <RETURN>. You should see: "Directory Name:."
2. Type (File Service Name:domain:organization) file drawer name/directory.
3. Press <RETURN>. The following is an example of what you should see:
"Current Directory set to:
(Franklin:West:Greatco)Publications!1/Guide to Usage!1."

Note: ITS stores your set current directory information in the user profile. Thus, you do not have to set the directory each time you log on.

Creating files

If you wish to add a new file to a directory, you should:

1. Type **Create File** and press <RETURN>. You should see: "File Name:."
2. Type **Friday Report** and press <RETURN>. You should see: "Note (press ESC to terminate):."
3. Enter a description of your file. Press <RETURN> at the end of each line.

Note: The description field can be left blank, or a maximum of 8000 characters can be entered in it.

4. Press <ESC>. You should see: "Content (press ESC to terminate):."
5. Type in the message. Press <RETURN> at the end of each line.
6. Press <ESC>. You should see: "(Display, Append, Edit, Store): Store."

If you wish to edit your document

1. Type **Edit**. You should see:
“(Display, Append, Edit, Store): Store edit.”
2. Press <RETURN>. You should see:
“Field (All, Name, Note, Content, Help):.”
3. Type in the appropriate field: (for example, name). You should see:
“File Name (press ESC to terminate):.

(Display, Append, Edit, Store): Store.”

Note: Editing in filing operations is the same as editing in mailing operations.

To store your file

1. Press <RETURN>. You should see:
“Store file as a (text, Xerox 860) file:text.”
2. Press <RETURN>. You should see:
“Friday Report has been created.”

Copying files

The **Copy File** command allows you to copy existing files within directories or from one File Service to another.

1. Type **Copy File** and press <RETURN>. You should see:
“From File:.”
2. Type **Friday Report** and press <RETURN>. You should see: “To File:.”
3. Type **Weekly Report** and press <RETURN>. You should see: “Friday Report has been copied to Weekly Report.”

Note: Remember to specify a complete directory path if the destination is to be different from the currently specified path.

Deleting files

The **Delete File** command allows you to delete files in a directory. Once a file has been deleted, it cannot be restored. If multiple versions of a file exist, the lowest version number of the file will be deleted unless the exclamation point and version number are appended to the file name.

1. Type **Delete File**. You should see: “File Name:.”
2. Type **Friday Report** and press <RETURN>. You should see: “Friday Report has been deleted.”

Listing file attributes

File attributes are characteristics of a file that are not seen. These attributes are the file name, file type (Xerox 860, Xerox 6085 or 8010 file note, text, or unspecified), content size (in bytes), creation date, and modification date.

1. Type **List File Attributes** and press <RETURN>. You should see: "File Name:."
2. Type **Weekly Report** and press <RETURN>. You should see:
"File Name: Weekly Report!1
File Type: Xerox 860
Content Size: 110 Bytes
Creation Date: 23-May-84 13:03:36 PDT
Modification Date: 23-May-84 13:03:56 PDT."

Note: The dates and times will not be the same.

Displaying files

You can display some, but not all, of the file types stored in a directory. In general, you can display all 860 files. You can display the cover sheet of a 6085 or 8010 document, but not the body. Unspecified files, such as a spreadsheet, cannot be displayed. Displaying files is similar to displaying messages.

1. Type **Display File** and press <RETURN>. You should see:
"File Name:."
2. Type **Weekly Report** and press <RETURN>. ITS displays the contents of the file.

Editing files

The **Edit File** command allows you to do simple editing of a text file from a line-oriented terminal. The file can include a file note (equivalent to a mail note) and a body of text stored in Xerox 860 format.

1. Type **Edit File** and press <RETURN>. You should see:
"File Name:."
2. Type **Weekly Report** and press <RETURN>. You should see: "(Display, Append, Edit, Store):."

Before you begin editing, view the existing contents of the file:

1. Type **Display** and press <RETURN>.
2. After determining the field(s) you wish to edit, type **edit** and press <RETURN>.
3. Follow the prompts to edit and store the file.

Moving files

The **Move File** command allows you to move files from one directory to another or from one File Service to another. Once you have moved the file from one directory to another, it no longer resides in the original directory. In the process of moving a file, you can also rename it.

1. Type **Move File** and press <RETURN>. You should see: "From File:."
2. Type **Weekly Report** and press <RETURN>. You should see: "To File:."
3. Type **Activity Report** and press <RETURN>. You should see: "Weekly Report has been moved to Activity Report."

Note: This command is also used to rename a file. To rename a file, enter the new file name in the "To File" field. When you press <RETURN>, the contents of the file will be moved to the new file, and the old file will no longer exist.

Creating directories

1. Type **Create Directory**. You should see: "Directory Name:."
2. Type **Sales** and press <RETURN>. You should see: "Sales has been created."

Copying directories

ITS allows you to create new directories one at a time. You can make a copy of an existing directory and copy it from one File Service to another File Service.

1. Type **Copy Directory**. You should see: "From Directory:."
2. Type (File Service name:domain:organization)File Drawer name/Sales and press <RETURN>. You should see: "To Directory:."
3. Type (File Service name:domain) File Drawer name/Region1 and press <RETURN>. You should see: "(File Service name:domain)File Drawer name/Sales has been copied to (File Service name:domain) File Drawer name/Region1."

Deleting directories

Be very cautious when you use the **Delete Directory** command. Once you have deleted a directory, the directory and all of its contents are deleted. It cannot be restored.

1. Type **Delete Directory**. You should see: "Directory Name:."

2. Type **Sales** and press <RETURN>. You should see:
"Sales has been deleted."

Note: ITS allows you to delete one directory at a time. If the directory has contents, the message "Directory is not empty. Proceed anyway?" appears. You need to confirm that you want to delete the directory.

Listing directories

ITS lets you list a directory and all its contents.

1. Type **List Directory**. You should see:

"Directory Name: (File Service name:domain:)File Drawer name/Directory name."

Note: ITS automatically fills in the directory name with the currently set directory. You can list other directories by changing the pathnames.

2. Press <RETURN>. You should see:

"Directories:
Region1

Files:
Weekly Reports!1
Activity Reports!1"

Moving directories

The **Move Directory** command lets you rename a directory and move it to another directory or File Service. When you use this command, the directory and all of its contents no longer reside on the directory or File Service from which you have moved them. They now reside on the directory or File Service to which you have moved them. Also, similarly to the **Move File** command, this command can be used to rename directories.

1. Type **Move Directory**. You should see:
"From Directory:."
2. Type (File Service name:domain:) File Drawer name/Region1 and press <RETURN>. You should see:
"To Directory:."
3. Type (File Service name:domain:) File Drawer name/Western Region and press <RETURN>. You should see:
"(File Service name:domain:)File Drawer name/Region1 has been moved to (File Service name:domain:)File Drawer name/Western Region."

ITS creates a new directory, moves all files and directories in the source directory to the new directory, and deletes the source directory.

Note: This command can also be used to rename a directory. To rename a directory, enter the new directory name in the "To Directory" field. When you press <RETURN>, the contents of

the directory are moved to the new directory, effectively renaming it.

Setting XModem options

ITS supports the transfer of files between your personal computer and ITS. To transfer files successfully, you must select the correct transfer parameters. The **Set XModem Option** command allows you to set the method that will be used to check individual packets for validity, and to set the final disposition of files that get cut off (truncated) due to transmission failures. ITS stores this data, along with other parameters you have set, in the user profile so that you do not have to re-enter it each time you log on.

1. Type **Set XModem Options**. You should see:
“(CRC or Checksum): Checksum.”

Note: Approve the checksum default if your communication package applies the checksum method to detect errors. Most communication packages used with personal computers use the checksum method. Consult the manual accompanying your communication package to determine which method it employs. If your communication package has the CRC option, select CRC because it is more reliable than checksum.

2. Press <RETURN>. You should see:
“Delete incomplete files on end of transmission (Y/N):.”

Note: Transmission errors can prevent ITS from receiving complete files. ITS can delete incomplete files rather than directing them to the File Service.

3. Type **Y**.

If you type **N**, ITS will not delete incomplete files. Rather, ITS will direct them to your specified destination.

4. Press <RETURN>.

Note: The defaults for ITS are checksum and the deletion of incomplete files.

Retrieving files

The **Retrieve File** and **Store File** commands are for use with personal computers that have communication packages with the XModem protocol for file transfer. Refer to your communication package manual for a description of how to use this protocol on your personal computer. If your personal computer has XModem protocol and you wish to retrieve a file from a File Service:

1. Type **Retrieve File**. You should see: “From File:.”
2. Type the name of the file.

Note: Enter a file name, a partial pathname, or a complete pathname.

3. Press <RETURN>. You should see:
"This document is in Xerox 860 format. Do you want it converted to plain text (Y/N)?"

Note: If the file you specify for retrieval is in Xerox 860 word processing format, ITS prompts with: "This document is in Xerox 860 format. Do you want it converted to plain text (Y/N)?" If you wish to retain the 860 format for later conversion, type **N**. Normally, you should type **Y** to this option.

4. Type **Y** and press <RETURN>. At this point there is usually a 2- to 15-second wait. Do nothing until you see the message: "Ready to retrieve file, start receiver."
5. Press <RETURN> when file transfer is completed.

Note: Enter the file transfer mode of your personal communication package. Refer to the manual accompanying the communication package for further instructions.

6. Press <RETURN>. This brings you back to ITS. You should see: "File transferred."

Storing files

You can transfer files from your computer and store them in the File Service directory that you specify. To accomplish this:

1. Type **Store File** and press <RETURN>. You should see:
"To File:."
2. Type the name of the file. Enter a file name, a partial directory path, or a complete directory path.
3. Press <RETURN>. You should see:
"File Type (Interpress,Xerox 860, Memorywriter, Mail Note, Text, Unspecified): Unspecified."

At this point you must enter a file type. The file type you select determines the type of conversion that occurs and the type of workstation on which your file can be read. Interpress documents can be created by all network workstations that support the Xerox printing protocol. Interpress documents can be sent to the Print Service without further conversion.

If you type **Xerox 860**, ITS converts ASCII character files to 860 format. It can then be read by a Xerox 6085/8010, 820-II, or 860. Memorywriter-type documents are created by Xerox Memorywriters, and ITS can convert them to Interpress. Refer to Appendix A, Character conversion, for details on how ITS handles ASCII and 860 conversions.

If you type **Mail Note**, your file can be read only at the 6085/8010 workstation and has a size limit of 8000 characters. The advantage of using the mail note is that it does not require conversion to be stored and displayed at an 6085 or 8010 workstation. Documents of the text type

can be created only by personal computers directly connected to a Xerox network.

If you type **unspecified**, non-text files, such as data files, spreadsheets, and executable files may be filed. Regardless of which file type you select, you are able to retrieve your file at a remote workstation by using ITS.

Note: You can facilitate the 860 conversion process by not using any of the formatting options on your personal computer and by pressing <RETURN> only at the end of paragraphs (not at line breaks).

4. Type **Xerox 860** and press <RETURN>. You should see:
"Do you wish to convert this file from plain text to Xerox 860 format (Y/N)?"
5. Type **N** and press <RETURN>. You should see:
"Ready to store file, start sender."
6. Press RETURN when file transfer is completed.

Note: To send a file from your personal computer, you should enter the proper commands to your communication package's interface at this point. Refer to the manual that accompanies your communication package for further instructions.

7. Press <RETURN>. This brings you back to ITS. You should see:
"File transferred."

ITS printing, using XModem protocol, allows you to print a file that resides on a Xerox Network File Service at a network printer. It also allows you to print files stored on your personal computer at a network printer. The file you print can be in one of three formats: Interpress, text, or Memorywriter. A list of font names, codes, and characteristics is provided in Appendix C, Printing fonts.

Before you begin this chapter, write down the name and location of the Print Service you will be using. You can get this information from your System Administrator.

If you have not logged on to your terminal, do so before you try to perform the following ITS printing operations.

Setting printing options

If you have never printed a document using ITS before, you must set the printing options. These options include:

- The name of the Print Service that will be used for printing
- Any message you wish to appear on the banner page of the printed document
- Page numbers to be printed
- Number of copies to be printed
- Paper size
- Stapling
- If two-sided copying is required

Once these options are set, you do not have to reset them because ITS stores them in the user profile. The options remain in the file drawer until you reset them by re-entering the **Set Printing Options** command. To set the printing options, follow these steps:

Procedure

1. Notice the prompt: `>`.

This means that ITS is waiting for you to tell it to do something.

2. Type **Set Printing Options** and press `<RETURN>`. You should see: "Printer Name:."
3. Type the name of the Print Service that is to receive and process the file. You can specify any Print Service on your network. Enter the complete name, domain, and organization name, if the domain and organization names of the Print Service are different from your own. Otherwise, enter the name only and ITS will automatically apply your domain and organization name.
4. Press `<RETURN>`. You should see: "Message:."

ITS is waiting for you to type the message that should appear on the cover sheet of your document. Your user name will automatically appear on the cover sheet, so you can type a message for the person who will be sorting and distributing the documents at the printer. If you do not enter a message, none will appear on the cover sheet.

If you wish to send a file to a telecopier printer, this field can be used to enter the phone number of the telecopier. The delimiter `//` (two slashes) must start and end the telecopier phone number list. The letter "L" typed after the slashes tells ITS that you want a copy printed at the local telecopier. A comma follows the "L" to separate it

from the local telecopier phone number. A second telephone number can be listed after the first, if you wish to have a copy printed at a remote telecopier. If you wish to have a message appear on the cover sheet in addition to the telecopier phone number, the message can be typed after the ending delimiter.

The maximum field length for the telecopier number is 34 (including spaces, parentheses, commas, and dashes, which are allowed for readability but are ignored by the software). Legal characters accepted within the slashes are 0,1,2,3,4,5,6,7,8,9,P,*,# (commas not included).

An example of a telecopier phone number list is:

```
//L,(222)333-4444,666-7777//
```

In this example, two telecopier numbers will be dialed: a local telecopier number, (222) 333-4444, and a remote telecopier number, 666-7777. This results in a copy being printed locally and a copy being printed at a remote telecopier.

5. Type **This is a test for ITS printing** and press <RETURN>. You should see:
"Pages to be Printed: (Specified, All): All."

ITS is asking if you want to print specific pages in your document or all pages. If you type **Specified**, ITS will ask you to enter the specified page numbers. For this example, print all of the pages of your document. Since **all** has been entered in the space after "Pages to be printed," you do not need to retype it.

6. Press <RETURN>. You should see:
"Copies to be printed: 1."

Since 1 has been entered in the space after "Copies to be printed," you do not need to retype it.

7. Press <RETURN>. You should see:
"Paper Size set to: usLetter."

ITS is telling you that the current paper size has been set to U. S. letter size.

Note: If the printer you are using supports more than one paper size, you will be asked to select the paper size from a list of sizes. If the printer supports stapling and two-sided copying, you will also be asked to specify whether you want stapled or two-sided copies.

Setting format options

You need to set format options only if the file you wish to print is in Memorywriter or text format, or if the default options are not appropriate for your job. The **Set Formatting Options** command allows you to print documents vertically (portrait) or horizontally (landscape).

The **Set Formatting Options** command also allows you to specify the type of line formatting and font you prefer.

- The line formatting field lets you specify how the lines of text are to be broken.
- **Justify** will cause left- and right-flush text.
- **Auto carriage return** will cause text to be broken at the closest word break to the maximum length.
- **None** will cause the text to be broken by line-delimiting characters in the text.

Procedure

1. Notice the prompt: `>`.
2. Type **Set Formatting Options** and press `<RETURN>`. You should see:
"Paper Orientation (Vertical, Horizontal): vertical."

Since vertical is the default setting, you do not need to retype it.

3. Press `<RETURN>`. You should see:
"Line Formatting (Justify, Auto Carriage Return, None): None."

If you type **None**, ITS will print lines exactly as they appear in the file.

If you type **Auto Carriage Return**, ITS will break each line automatically at, or close to, the maximum character length for the line.

If you type **Justify**, ITS will fill out the lines to the maximum number of characters and justify lines to form a straight right edge. **Justify** and **auto carriage return** will always break lines between words.

4. Press `<RETURN>`. You should see:
"Font (Terminal15, Elite12, LetterGothic12, Pica10, BoldfacePS): Elite12."

Note: For a table of the standard font names, point sizes, and pitch, see Appendix C, Printing fonts.

5. Press `<RETURN>`.

Note: Once you have set the formatting options, ITS will retain them in the user profile and use them for each job you print. You can change these options at any time by re-entering the **Set Formatting Options** command.

Printing files

With ITS printing, you can print files in two ways: You can print files stored on a Xerox Network File Service, or you can print files stored locally on your personal computer. Files printed with ITS must be in Memorywriter, Interpress, or ASCII text format. ITS cannot print files in 6085/8010, or 860 format.

The **Print File** command is used to print files stored on a File Service. The **Print Local File** command is used to print files stored on your personal computer.

Printing files from the File Service

To print a file stored on a File Service, you must enter the full pathname of the File Service or the pathname relative to the currently set directory. (See the chapter titled "Filing" in this booklet for a full explanation of pathnames.) Once the pathname has been entered, the file is sent to the printer.

If your directory has not been set, write down the full pathname (File Service name, domain, organization, directory, and file name) for the file before you try to print a file stored on a File Service. If you do not know the name of the File Service on which your files are stored, ask your System Administrator. Also write down the name of the file you wish to print. If your directory has already been set, check the file name with the **List Directory** command.

Procedure

1. Notice the prompt: `>`.
2. Type **Print File** and press `<RETURN>`. You should see: "From File:."

ITS is waiting for you to enter the name of the file you wish to print. If your currently set directory is the directory that contains the file you wish to print, you need only enter the file name. Otherwise you need to enter the complete pathname of the file. Remember to type the parentheses around the File Service name, domain, and organization and the slash after the directory name.

3. Type the (File Service name:domain:organization)directory/file name and press `<RETURN>`.

If the file is already in Interpress format, you will also see the message, "File is in interpress format.sending to the printer...sent." If it is not in Interpress format, you will see the message, "File is being converted to Interpress format...sending to printer...sent."

Printing files stored at your local terminal

The **Print Local File** command is used to print a file that resides on your local terminal. This command uses the XModem protocol to retrieve the file from your terminal. To print a local file, you will need to refer to the manual that comes with your communication package for special commands unique to your terminal. Be sure to have your manual available before trying to print local files.

Note: The resulting hardcopy printout of a document may deviate slightly when printed on different types of printers. For example, the centering of a word or phrase when printed on a Memorywriter may not appear exactly the same when printed on other types of printers. Generally the difference is just one character deviation or less.

Procedure

1. Type **Print Local File** and press <RETURN>. You should see: "File Type (Interpress, Memorywriter, Text):."

ITS is asking you to enter the type of file you wish to print. If the file you wish to print is in Interpress format, type **Interpress**.

If it is in Memorywriter format, type **Memorywriter**.

If the file you wish to print is in ASCII Text format, type **text**.

2. Type the file type of the document you are sending and press <RETURN>. You should see:
"Ready to store file. Start sender.
Press RETURN when file transfer is complete."

Note: To send a file from your terminal, you should enter the proper commands to your communication package's interface at this point. Refer to the manual that accompanies your communication package for instructions.

3. Press <RETURN> when the file transfer is complete. You should see: "File transferred."

When this message is displayed, your document has been sent to the printer.

Note: If the file is already in Interpress format, you will also see the message, "File is in Interpress format...sending to the printer...sent." If it is not in Interpress format, you will see the message, "File is being converted to Interpress format...sending to printer...sent."

Note: If you don't have an XModem-compatible file transfer capability at your local terminal, you can still print a file that has been created at your terminal. First you must use the ITS **Create File** command. You must enter text as the file type of the file you are storing. (See the "Filing" chapter of this manual for details on this command.) When you have completed the create file

operation, a file will have been created and stored on the File Service you specified. You can then print the file by using the **Print File** command.

By now, you have probably learned to use all the basic ITS operations you will ever need. You do not need to memorize the ITS commands; ITS can provide help when you need it.

Procedure

1. Notice the prompt: `>`.

ITS is waiting for you to tell it what to do.

2. Press `<?>`. This tells ITS to show you a list of all the commands at your disposal. You can type `<?>` any time you see the prompt: `>`.

3. Press `<RETURN>`. You should see:
"Possible commands are: help, logoff, quit, set height, set width, set padding, set terminal, set flow control, list mailbox, display message, delete message, undelete message, create message, answer, forward, set current directory, create directory, delete directory, copy directory, move directory, list directory, create file, edit file, delete file, copy file, move file, display file, retrieve file, list file attributes, set XModem options, store file, set printing options, print file, print local file, set formatting options."

4. Type **Help**. This tells ITS you want an explanation of some operation.

5. Press `<RETURN>`. You should see:
"Available help options are:
 - 1 General information on dealing with ITS
 - 2 How messages are organized
 - 3 Logon, Logoff, and Quit commands
 - 4 Set Height, Set Width, Set Padding, and Set Terminal commands
 - 5 Check your mail: List Mailbox and Display Message commands
 - 6 Deleting and undeleting messages
 - 7 Creating messages to send: Create Message, Answer, and Forward commands
 - 8 Editing, displaying, or appending to a message before delivery
 - 9 Basics about files and directories
 - 10 Creating, editing, displaying, and copying files
 - 11 Creating, copying, and listing directories
 - 12 Transfer file from terminal
 - 13 Basics about printing
 - 14 Printing files
 - 15 Printing files from your personal computer

Enter choice number (or enter 0 to exit):"

ITS is asking which topic you would like more information about.

6. Type **1** and press <RETURN>. You should see general information about using ITS.
7. Read the information on your terminal. You'll learn more about using ITS. You may see the prompt:
"More text? (Y/N):."

ITS is asking you if you want to read on.

8. Type **Y** and press <RETURN>. More information appears on your terminal. You may again see the prompt:
"More text? (Y/N)."
9. Type **Y** and press <RETURN>. You should see:
"Enter choice number (or enter 0 to exit):."

When you have finished, you may wish to review some of the other areas. To do this:

10. Type a number in the range 1 to 15 and press <RETURN>. This will call up more information on your terminal.

When you're done...

11. Type **0** and press <RETURN>. You should see: >.

Ending your practice session

Now you should delete all of the messages created as you learned to use ITS.

1. Type **Delete Message** and press <RETURN>. You should see: "Enter message number(s):."
2. Type **1to5** and press <RETURN>. You should see: "4 messages marked for deletion: 1, 2, 4, 5."

Note: Message 3 was marked for deletion earlier, so it is not marked again.

Now you can log off.

3. Type **Quit** and press <RETURN>. You should see :
"Storing user information.
Good-bye."

Note: If your ITS is connected to the Greeter, you are asked to type **Quit** again to disconnect.

4. Hang up the telephone if you have a telephone connection with ITS.

Any time you want to learn more about ITS, you can use the **Help** command.

After a few weeks of using ITS for electronic mailing, filing, and printing, you should read through all of the sections again. By doing so, you can be certain that you are aware of all of the features available to you as a registered member of the electronic mailing, filing, and printing community.

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This section contains error or informational messages that you might come across during the operation of your service. They are listed in alphabetical order. If the probable cause is not obvious, it is given below the message next to the heading: *Probable cause*. If the message is such that action can be taken to resolve the situation, the action is listed next to the heading: *Action*.

You may find that ITS stops working without giving you an error message. This may mean that your telephone connection has been broken. If this happens, try calling into ITS again. If this fails to work, contact your System Administrator.

Note: At times ITS receives characters that it does not know how to display correctly; in that case, it converts such characters to a vertical error message: |. Sometimes, ITS receives characters with a parity error; such bad characters are displayed with a tilde: ~.

Ambiguous.

Possible commands or options are: (command names).

Action: Retype your command. Make sure you spell it as it is spelled in the prompt.

**Attribute type error.
Attribute value error.**

These messages should not be encountered in normal ITS operation.

Action: Retry the operation. If the error occurs again, contact your System Administrator.

**Authentication Service error.
Authentication Service problem.**

Probable cause: An authentication problem has occurred.

Action: If the problem persists, contact your System Administrator.

**Cancel command without delivering message? (Y/N):
Cancel Forward command? (Y/N):**

These messages give you the opportunity to change your mind about sending a message.

Cannot establish connection to file service.

Probable cause: This File Service exists, but no internetwork connection can be made to it.

Action: Contact your System Administrator if the problem persists.

Cannot verify access rights.

Probable cause: Access rights cannot be determined for the particular action because the File Service may not be able to contact the Clearinghouse Service to determine your access rights.

Action: Try again later.

Clearinghouse problem.

Probable cause: The Clearinghouse Service is unavailable.

Action: Try again later.

**Command failed: insufficient space on system volume.
Command failed: internal heap error.**

Probable cause: The server running ITS has exhausted its physical resources.

Action: Contact your System Administrator.

Command timed out. Type any character to maintain connection.

Probable cause: ITS is warning you that too much time has passed since your last action. It will automatically log you off unless you type a character.

Action: If this happens, any message marked for deletion will be undeleted.

Communication problem.

Probable cause: Communication with the remote system element has been suspended during some filing operation.

Action: Try again later.

Connection terminated by operator.

Probable cause: This message may appear if your System Administrator disconnected active users when he or she stopped ITS.

Action: You will not be able to start another ITS session until your System Administrator restarts ITS.

Directory name required.

Probable cause: This operation is on a directory, so a directory name must be used.

Action: Enter a directory name.

Directory problem. File or directory cannot be accommodated.

Probable cause: The directory structure is so dense that the directory cannot accommodate a file or directory.

Action: The file or directory should be moved to another location.

Directory structure has changed.

Probable cause: During an operation, such as listing a directory, the underlying directory structure has changed in a way that this action can no longer continue.

Action: Try this command again.

**Failed: Cannot do deletion.
Failed: Cannot log you off at this time.
End your session anyway?**

Probable cause: The Mail Service may have been temporarily overloaded when you tried to log off. If you hang up now, messages marked for deletion will not be deleted.

Action: If the problem persists, contact your System Administrator.

Failed: Clearinghouse Service error. Retrying...

Informative message. Be patient. In a few moments, ITS will automatically try again to complete your command.

Failed: Clearinghouse Service unavailable. Try later.

Probable cause: There is a mail problem.

Action: Be patient. In a few moments, try again to complete your command. If this doesn't work, contact your System Administrator.

Failed: Could not find a mail service. Try later.

Probable cause: The Mail Service may be temporarily overloaded or may have failed.

Action: If the problem persists, contact your System Administrator.

Failed: Could not find your mailbox.

Informative message.

Action: Check to see if your System Administrator has created a mailbox for you.

Failed: Could not find your user name.

Informative message.

Action: Type your name again, making sure to spell it exactly as it is registered in the Clearinghouse Service. If this doesn't work, contact your System Administrator.

Failed: Could not identify your mailbox.

Failed: Indeterminate access rights to this mailbox.

Failed: Insufficient access rights to this mailbox.

Informative message.

Action: Contact your System Administrator. He or she should check the information registered for you in the Mail Service.

Failed: Current directory not set.

Probable cause: The filing operation being executed requires that the current directory be set.

Action: Enter the desired directory name.

Failed: Mail Service busy. Retrying...

Probable cause: The Mail Service is temporarily overloaded.

Action: If the problem persists, contact your System Administrator.

Failed: Mail Service communication failed (cannot get to server from ITS).

Failed: Mail Service communication failed (fatal software error).

Failed: Mail Service communication failed (server not responding).

Informative messages.

Action: Contact your System Administrator.

Failed: Mail Service communication problem (Mail Service busy). Try later.

Probable cause: The Mail Service is temporarily overloaded.

Action: If the problem persists, contact your System Administrator.

Failed: Mail Service communication problem (too many connections). Retrying . . .
Failed: Mail Service communication problem (transmission timed out). Retrying . . .
Persistent error. Try later.

Probable cause: The Mail Service is temporarily overloaded.

Action: Wait and try at a later time. If the problem persists, contact your System Administrator.

Failed: Mail Service transmission medium hardware problem. Try later.
Failed: Mail Service transmission medium not ready. Try later.
Failed: Mail Service transmission medium problem (no answer or busy). Try later.
Failed: Mail Service transmission medium unavailable. Try later.

Probable cause: The Mail Service, or the network between ITS and the Mail Service, may be temporarily overloaded.

Action: If the problem persists, contact your System Administrator.

Failed: Mail Service unavailable. Try later.
Failed: Mail Service unavailable from server (server does not implement that operation).
Failed: Mail Service unavailable from server (server is not running Courier).
Failed: Mail Service unavailable from server (server is not running that service).
Failed: Mail Service unavailable from server (server is running an incompatible protocol).

Informative messages.

Action: Contact your System Administrator.

Failed: Name given is not a directory.

Informative message indicating that you are trying to do a directory operation on an object that is not a directory.

Failed: Name given is not a file.

Informative message indicating that you are trying to do a file operation on an object that is not a file.

Failed: n: ITS cannot process the attributes of this message.
Failed: ITS encountered unusual mail error.
Failed: ITS space error. Retrying...

Probable cause: The server running ITS has exhausted its physical resources.

Action: Contact your System Administrator.

Failed: n: message number reference invalid.
Failed: n: message out of range.

Informative messages.

Action: Check that the number "n" in the error message is the number you want to enter. Scan your message list again to make sure you are using the correct message number. Enter the correct number.

If you are specifying a range, choose another number to begin or end the range.

Failed: No Mail Service up. Try later.

Probable cause: The Mail Service may be temporarily overloaded.

Action: If the problem persists, contact your System Administrator.

Failed: No room in Mail Service for your message.

Probable cause: The Mail Service may be temporarily overloaded.

Action: Make sure you have marked for deletion all messages in your mailbox that you no longer want to keep. You will need to log off to make these deletions take effect. If the problem persists, contact your System Administrator.

Failed: You have no mail folder.

Probable cause: Your Clearinghouse Service entry does not contain the name of a Mail Service.

Action: Have your System Administrator create a mailbox for you, and update your Clearinghouse Service entry.

Failed: Your mailbox is in use. Retrying...

Informative message.

Action: In a few moments, try again to complete your command. Report this condition to your System Administrator if you suspect that unauthorized persons are gaining access to your mailbox.

File already in use.

Probable cause: File is in use by some other filing user.

Action: Try again later.

File format problem.

Probable cause: A transmission error has occurred in the transmission of a file.

Action: Try again later.

File handle problem.

Probable cause: The filing session has reached an abnormal termination.

Action: Try again to restart the session.

File has become too large.

You may truncate the current edit or abort to retain the previous edit.

Enter "Y" to truncate, "N" or Control-C to abort edit.

Truncate text? (Y/N):

Partial save of edit...

<number> characters truncated.

Probable cause: As a result of your edits, the message or document has become too long for ITS to handle.

Action: Typing Y to this prompt will cut off the excess text; typing N will cancel the entire edit.

File in use by another user.

Probable cause: Another user has this file open.

Action: Try again later.

File note is too large.

Informative message indicating that the note portion of this document is too large to be processed by ITS.

File or directory already exists.

Probable cause: The current filing action is creating a file or directory with the same name as one that already exists.

Action: Try again with a different file or directory name.

File service busy, try again later.

Probable cause: The File Service connection was rejected.

Action: Try again later.

File service control problem.

File service scoping problem.

File service problem.

Probable cause: The File Service is not functioning correctly.

Action: Contact your System Administrator.

File service not responding.

Probable cause: This message should not be encountered in normal ITS operation.

Action: Try again later.

File service problem. Try again later.

Probable cause: This message should not be encountered in normal ITS operation.

Action: Try again later.

File service unavailable. Try again later.

Informative message.

Action: Try again later.

File service has run out of storage.

Probable cause: The File service is full.

Action: Contact your System Administrator.

File space allocation has been exceeded.

Probable cause: The space allocated for you on the File Service has been exceeded.

Action: You can either delete some of your files or get more space on the File Service by contacting your System Administrator.

File transfer aborted, <error message>.

Probable cause: For the reason given in the error message, the file could not be stored at the end of the XModem transmission.

Action: See the error message entry for that error message for a recovery action.

File transfer aborted, XModem transmission failure.

Probable cause: During XModem transmission, some error occurred that did not allow the operation to continue.

Action: Try the operation again. If the operation fails the second time, the phone line, modem, or communication hardware may not be working properly.

Filing session error.

Probable cause: This message should not be encountered in normal ITS operation.

Action: Try the operation again. If the error occurs again, contact your System Administrator.

Inactive too long. Logging you off.

Informative message.

Action: Log back on if you want to continue using ITS.

**Incorrect domain name.
Incorrect file service name.
Incorrect organization.**

Probable cause: You have made a syntax error in the name.

Action: Retype the name correctly and try again.

Incorrect file type.

This message should not be encountered in normal ITS operation.

Action: This message should not be encountered in normal ITS operation. Try again.

Insufficient access rights.

Probable cause: You are not on the access list for that operation.

Invalid file note.

Probable cause: The note portion of the file has invalid characters in it.

Invalid name or password.

Probable cause: The name or password typed is incorrect.

Action: Try to log on once again.

**Invalid option.
Type "Y", "N", "?" (for help), or Control-C to cancel command.**

Informative message.

Action: Select one of the options listed in the error message.

Invalid parameter. Number expected.

Informative message.

Action: Retype the correct number. Make sure all your characters are numbers.

**Invalid recipient(s) found.
Deliver anyway? (Y/N):**

Informative message.

Action: Examine the spelling of the name(s) that appear in the error message. When ITS tried to send the message, these names were not accepted as registered users. Decide whether you want to send the message to the other recipients or edit the invalid name(s) first. Type **Y** if you want to send it to the other recipients, or type **N** if you want to edit the names before sending.

**Invalid recipient(s) found. Could not find mailboxes for these name(s): <list of names>.
Deliver anyway? (Y/N):**

Informative message.

Action: Decide whether you want to send the message to the other recipients or edit the invalid name(s) first. Type **Y** if you want to send it to the other recipients, or type **N** if you want to edit the names before sending it. Have your System Administrator verify that the desired recipients do have mailboxes on the same Mail Service on which your mailbox resides.

ITS busy, try again later.

Probable cause: The ITS server cannot support any additional connections to remote system elements.

Action: Try again later.

Maximum file size has been reached.

Informative message indicating that the maximum size of this object has been reached.

**<message numbers> is an ambiguous message set.
<message numbers> is an invalid message set.**

Informative message.

Action: Make sure the message numbers you enter are sequential and start with the smallest number. Also make sure you have left no spaces when typing the set (for example, 1to5). If you still receive this message, pressing **<CTRL>** and **C** will cancel the command.

**Message n was already marked for deletion.
Message n was not marked for deletion.**

Informative message.

Action: Check that the number "n" in the error message is the number you wanted to enter. If not, enter the correct number.

**Message is <number> characters too long to send as a mail note.
You may send it as a Xerox 860 document or edit it to make it shorter.
Send as a Xerox 860 Document? (Y/N):**

Probable cause: A mail note is limited to 8000 characters.

Action: If you type **Y**, the text will be sent as a Xerox 860 word processing document. If you type **N**, a prompt appears that allows you to specify the edit option in order to shorten the message.

No Clearinghouse could be located, try again later.

Probable cause: The Clearinghouse Service could not be reached to complete the operation.

Action: Try again later.

No message specified.

Informative message.

Action: Make sure you enter a message number or message set before pressing <RETURN>.

**No messages to be forwarded.
No messages were marked for deletion.
No messages were undeleted.**

Informative message.

Action: Scan your message list again to make sure you are using the correct message number. Type the correct number.

**No recipients specified, cannot deliver.
Please edit or type Control-C to cancel.**

Probable cause: At least one recipient must be specified.

Action: Edit the list of recipients. Make sure you spell their names correctly; include their domains and organizations if they are different from yours.

No such domain.

Probable cause: The specified domain does not exist in the organization.

Action: Specify the correct domain.

No such file or directory.

Probable cause: The file or directory does not exist in the current context.

Action: Try specifying a file or directory that exists in your current context, or change your context.

No such file service.

Probable cause: The specified File Service does not exist in the domain.

Action: Specify a correct domain.

No such organization.

Probable cause: The specified organization does not exist.

Action: Specify a correct organization.

**No subject specified, cannot deliver.
Please edit or type Control-C to cancel.**

Probable cause: A subject must be specified.

Action: Edit the subject field.

Number out of range.

Informative message indicating that the number typed is out of the range of the expected values.

Out of space on local file system. Contact your System Administrator.

Probable cause: The space on the local filing volume has been exhausted.

Action: Contact your System Administrator.

Pattern not found.

Probable cause: ITS was not able to locate the pattern in the text.

Action: Make sure the pattern was typed exactly as it should appear in the text. Try a shorter pattern. If it still persists, use the type option to verify pattern's existence in the text.

Press <RETURN> to execute command.

Informative message.

Action: Press <RETURN> for the command to start executing.

Print call made with inconsistent options.

Informative message indicates that some of the printing options could not be interpreted properly by the printer.

Print Service connection error, contact your System Administrator.

This problem should never occur during normal operation.

Print Service error, contact your System Administrator.

Probable cause: The server running the Print Service is in some inconsistent state and should be checked.

Action: Contact your System Administrator.

Print Service not responding.

Informative message indicating that the Print Service is not responding to connection attempts.

Action: Try again later. If the message is displayed again, contact your System Administrator.

Print Service transfer error, contact your System Administrator.

This problem should never occur during normal operation.

Procedure call never returned. The Clearinghouse is too busy, try again later.

Probable cause: The Clearinghouse Service rejected the connection attempt from ITS.

Action: Try again later.

**The amount of text being forwarded already meets the maximum length for a document in ITS.
You may not enter commentary text.**

Probable cause: The text in the forwarded messages reached the limit of 12,000 characters.

Action: Send it as is or edit the forwarded text as desired.

The contents of the field will be truncated. The maximum length for this field has been reached.

Probable cause: The most recently typed text, which exceeds the length of that field, will be truncated.

Action: Edit the field if this is not desired.

The document is too large to be processed by the printer.

Probable cause: The document is too large to be spooled by the printer. The printer does not have enough space to contain the document.

Action: Either send smaller sections to the printer or wait until the printer has more free space.

The paper size specified is not available on the printer, please correct the paper size and try again.

Informative message indicating that you specified a paper size that is not supported by the printer.

The Print Service cannot accommodate an additional request, try again later.

Informative message indicating that the Print Service is processing too many requests to accommodate an additional one.

The Print Service cannot spool your request, try again later.

Informative message indicating that the print spooler cannot accommodate the document being sent to the printer.

The Print Service did not respond.

Probable cause: The Print Service failed to respond to the print request.

Action: Try again later. If the error persists, contact your System Administrator.

The Print Service is in an inconsistent state, contact your System Administrator.

Probable cause: There is an error in the Print Service.

Action: Contact your System Administrator.

The Print Service is not responding, try again later.

Informative message indicating that the Print Service is too busy to respond to your request.

The Print Service is not spooling requests, try again later (spooling disabled).

Informative message indicating that the Print Service has discontinued the spooling of print requests.

The Print Service is too busy to receive your document.

Probable cause: The Print Service has too many remote connections to accommodate this additional one.

Action: Try again later.

The Print Service is unavailable (service unavailable).

Probable cause: The Print Service is unavailable at this time to process any print requests.

Action: Contact your System Administrator to find out when it will be available.

The Print Service specified cannot be reached at this time.

Informative message indicating that there is no route on the internet to that printer.

The Print Service spooler cannot queue your request, try again later.

Probable cause: The spooling queue is full.

Action: Try again later.

The printer name specified could not be verified.

Probable cause: The Clearinghouse Service could not verify the name of the printer specified.

Action: Contact your System Administrator to verify that the name is correct.

The source directory is the same as, or a descendant of, the file or directory being moved or copied.

Probable cause: Your action is forcing a filing object (directory) to be moved or copied to itself or causing a directory to move into one of its sub-directories. For example:

Move directory

From: (ALT) ITS/Filing/ErrorMessage

To: (Alt) ITS/Filing/ErrorMessage/Filing

This action causes the directory ErrorMessage to be moved to its sub-directory Filing. Because ErrorMessage also contains Filing, the command action wraps upon itself. The contents of a directory cannot be copied or moved into one of its sub-directories.

**These name(s) could not be validated: <list of names>.
The specified service is not a file service.**

Informative message indicating that the system element specified is a valid network member, but it is not registered as a File Service.

The specified service is not a Print Service.

Probable cause: The service being accessed is not a Print Service.

Action: Contact your System Administrator to obtain the correct name.

This message cannot be forwarded because of its content type.

Probable cause: The message probably contained graphics and could not be forwarded by your terminal.

Action: Use the **Create Message** command to prepare and send a message in place of the one you wanted to forward.

The content portion of this message cannot be printed at your terminal.

Probable cause: The message is not in a format that can be read at your terminal.

Action: Go to a 6085/8010 workstation or another terminal and try to read your message there. If this doesn't work, contact your System Administrator.

Too many message sets, only 20 allowed.

Informative message.

Action: Enter a smaller number of message numbers.

**Too many separators in this name: <name >
OK to skip this name? (Y/N):**

Informative messages.

Action: Examine the spelling of the name that appears in the error message. Probably a comma is missing between names. Type **Y** if you want to send it to the other recipients, or type **N** if you want to edit the names before sending it. Be sure to retype the name correctly.

**Inactive too long.
Type any character to maintain session.**

Probable cause: ITS is warning you that it will automatically log you off unless you type a character.

Action: If this happens, any message marked for deletion will be undeleted. Type any character.

Version out of range.

Informative message indicating that the version number of the file being created or accessed exceeds the highest version number supported.

You have insufficient access rights to use the Clearinghouse.

Probable cause: You cannot access the Clearinghouse Service to determine the address of the Print Service because you have insufficient access rights.

Action: Check with your System Administrator to obtain the proper access rights.

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American Standard Code for Information Interchange

(ASCII) A digital code set which represents each character of the standard typewriter keyboard as a 7-bit digital code. It is used for information interchange among data processing systems, data communication systems, and associated equipment.

Domain

A logical grouping (usually geographical) of registered objects in the Clearinghouse database. Domains serve as units of name, scope, administrative responsibility, and replicated database configuration. The data maintained for a particular domain includes the list of administrators of that domain, plus the names and relevant information about all objects that are registered in the domain.

External Communication Service

(ECS) Maintains and initiates emulation sessions between network workstations and various terminals. The ECS emulates three kinds of terminals: 3270 BSC and 3270 SNA synchronous terminals, and standard asynchronous-type terminals. The servers and workstations are enabled by having the different emulation software installed on them.

Font

Typographical design applied to a collection of letters and graphic symbols that share certain characteristics such as style, weight, and stress.

Logoff

The process of stopping a session on a computer system.

Logon

The process of starting a session on a computer system.

Mail Service

(MS) The Mail Service is directly accessible to all networked workstations, and to any non-networked device that can dial-up the appropriate compatibility service. There are two compatibility services: 850/860 Gateway and the Interactive Terminal Service. The Clearinghouse provides address information and distribution lists for mail delivery. The Internetwork Routing Service (IRS) routes messages to other networks.

Mailbox

The repository in which mail resides while awaiting delivery to a client.

Modem

A device which converts digital information to an analog signal suitable for sending over analog phone lines. Also converts the analog signal from phone lines into digital information.

Password

A required code in addition to a user's name or number that allows logon.

Pathnames

The means for specifying the route to objects that are nested within other objects.

Profile File The mechanism used to record configuration information. It is in fact the server profile file, but information specific to the Remote Batch Service may only be manipulated by Remote Batch Service commands.

Transmission The sending of data to one or more locations or recipients.

XModem protocol An asynchronous communication protocol developed to facilitate file transfers between personal computers. It has been implemented for use in a variety of personal computers as well as mainframe computers. The XModem protocol demands eight data bits, no parity, and one stop bit.

A. Character conversion

Electronic mail is designed to allow many different types of workstations to be part of an electronic mail community. Since different terminals employ different character sets, ITS sometimes has to perform character conversions. In particular, ITS must convert between the ASCII character set employed by ITS terminals and the Xerox 860 character set employed by 860 workstations, and it must convert between the ASCII character set and the Xerox Network System (XNS) Character Code Standard.

How the Interactive Terminal Service handles ASCII characters

When ITS receives ASCII characters from a user terminal, it converts them to the correct Xerox Character Code Standard (NS) Character Set 0 values. When ITS receives NS characters to send to the user which do not have exact representations in ASCII, ITS converts these characters to vertical bars (|). Accented characters (represented in the NS character set as an accent character, followed by a base character) will be displayed by ITS as | (representing the unconvertible accent), followed by the base character (which will also be converted to | if there is no match in ASCII). For example, "ã" would print as "|a."

The Xerox 860 character set differs from the ASCII set in two places: The upward arrow in ASCII is an arrowhead in 860, and the high reverse solidus in ASCII is a cent sign in 860.

How the Interactive Terminal Service handles ASCII to 860 conversion

When ITS converts a message to 860 document format, the following ASCII characters are converted to the following 860 characters:

<u>Character Name/Symbol</u>	
(ASCII)	(860)
NUL	= EOS
BS	= preceded backspace
TAB	= tab
LF	= linefeed
CR 'normal' ASCII	= preceded carrier return 'normal' ASCII

How the Interactive Terminal Service handles 860 to ASCII conversion

ITS converts the text portions of a Xerox 860 document in the following manner. Non-text portions are skipped over (nullPad, begin/end overstrike/bold/underscore, column underscore, revision mark, comment, reference, alt reference, format, command). Anything not listed below goes to "?."

Character Name/Symbol

(860)	(ASCII)
EOS	= NUL
tab	= TAB
CR	= CR
'normal' ASCII	= 'normal' ASCII
pageNumber code CR	= CR
precedented CR	= CR
CR (no vertical movement)	= CR
tab	= TAB
precedented tab	= TAB
linefeed	= LF
half-unit backspace	= BS
precedented backspace	= BS
precedented space	= SP
temporary hyphen	= -
super2 (2)	= 2
super3 (3)	= 3
expanded left parenthesis	= (
expanded right parenthesis	=)
expanded space	= SP
expanded comma	= ,
expanded hyphen	= -
expanded period	= .
abbreviated period (= .
division mark ÷	= /
registered symbol ®	= r
dot	= .
trademark symbol	= T
copyright symbol ©	= c
not equal ≠	= #
graphic intersection	= +
graphic horizontal line	= -
bold graphic intersection	= +
bold graphic horizontal line	= -

<u>Character Name/Symbol</u>	
(860)	(ASCII)
uppercase Æ	= A
lowercase æ	= a
uppercase phi	= O
lowercase phi	= o
lind	= 1
œ	= o
ij	= i
apostrophe n 'n	= n
cruz (money)	= C
pesetas (money)	= P
florin (money) f	= f
pounds (money) £	= L
yen (money)	= Y
inverted excl ¡	= !
inverted question mark ¿	= ?
German ss (looks like beta) ß	= B
litre	= l
o underlined	= o
a underlined	= a
uppercase A with a circle Å	= A
lowercase a with a circle å	= a
umlaut	= "
acute accent	= ' (acute)
grave accent	= ' (grave)

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B. Maximum length of fields

Each field in a message has a limit on the number of characters it may contain. If you exceed that limit, ITS will give you the option of either editing the field to be shorter, or letting the system cut off any characters that exceed the limit.

The following limits apply:

- Subject 100 characters
- To 2500 characters
- From 500 characters
- Copies 2500 characters
- Answer to 500 characters
- Note 8000 characters
- Document 12,000 characters

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C.

Printing fonts

The following font table provides a listing of font names, codes, and characteristics.

ITS FONT NAME	XEROX CHARACTER CODE	MEMORYWRITER PRINTWHEEL	PITCH	PT. SIZE	FONT SAMPLE
Terminal	Xerox XC1-1-1 Terminal	N/A	15	8	ABC
Elite12	Xerox XC1-1-1 Elite Printwheel	Elite 12	12	10	ABC
Letter-Gothic 12	Xerox XC1-1-1 Letter-Gothic-Printwheel	Letter-Gothic 12	12	10	ABC
Pica10	Xerox XC1-1-1 Pica Printwheel	Pica 10	10	12	ABC
BoldfacePS	Xerox XC1-1-1 BoldPS-Printwheel	Boldface PS	Proportional	10	ABC

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