

AS/400e



Facsimile Support for AS/400 Installation Guide

Version 4

AS/400e



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Note

Before using this information and the product it supports, be sure to read the information in "Notices" on page ix.

| **Second Edition (May 1999)**

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About Facsimile Support for OS/400 Installation Guide (SC41-0654)

This book provides information on installing the Facsimile Support for AS/400 product. The Facsimile Support for AS/400 product allows you to use industry-standard Group 3 fax node services to send or receive faxes to or from an AS/400 system.

The Facsimile Support for AS/400 product requires a **fax controller**. The fax controller can be any of the following:

- An **external fax controller**, typically a personal computer that is attached to the AS/400 system.

Personal computers that are attached to the AS/400 system control the telephone lines you use to send and receive faxes. Each personal computer operates as a dedicated fax controller supporting up to six fax telephone lines. (The number of slots available determines the number of lines a personal computer can support.)

The Facsimile Support for AS/400 product supports most 80386, 80486, and Integrated PC Server microchannel or non-microchannel personal computers as external fax controllers. Personal computers you can use are those that support the following:

- Operating System/2 operating system
- Communications Manager/2 and Communications Manager/400 communications software
- GammaLink** programmable fax adapters
- An **internal fax controller** in the AS/400 system. The Integrated Fax Adapter (feature 2664) that is installed in the AS/400 system is an internal fax controller.
- A 7852-400 modem that is asynchronously attached to the AS/400 system. Unless otherwise indicated, information that applies to the internal fax controller also applies to the 7852-400 modem.
- One of the controllers defined on the PCI based integrated remote access adapter
 - 8 port Analog (feature 2761)
 - 4 port Remote Access Basic rate (ISDN) (feature 2750 and feature 2751)

Throughout this guide, the term *fax controller* applies to either the internal or external fax controller.

How this book is organized

Chapter 1 of this book provides an overview of all of the steps that are required for installing and customizing the Facsimile Support for AS/400 product. The installation process requires two primary steps:

1. Installing the Facsimile Support for AS/400 product on the AS/400 system. For instructions, see “Chapter 2. Installing and Managing the Facsimile Support for AS/400 Product on the AS/400 System” on page 3.
2. Installing the Facsimile Support for AS/400 product on an external fax controller, if you are using one. For instructions, see “Chapter 3. Installing and Configuring the Facsimile Support for AS/400 Product on an External Fax Controller” on page 17.

Chapters 2 and 3 of this book provide the information you need to perform these primary steps. The remaining chapters in this book provide information to help you customize the Facsimile Support for AS/400 product to meet the needs of your business.

Who should read this book

The AS/400 operator or administrator who is responsible for installing and customizing the Facsimile Support for AS/400 product should use this guide.

Conventions and terminology used in this book

This guide generally uses the following terms:

- *Fax support* is frequently used to refer to the Facsimile Support for AS/400 product or functions of this product.
- *Fax controller* applies to either the internal or external fax controller.
- *Personal computer* refers to any of the personal systems, or the ValuePoint personal computer, that the Facsimile Support for AS/400 product supports as external fax controllers.
- *Fax* indicates both of the following:
 - The unit that converts images to signals over a telephone system
 - The transmitted image that is duplicated on paper

The fax process involves scanning the image at the transmitter, reconstructing the image at the receiving station, and duplicating the image on paper.

Prerequisite and related information

Before installing the Facsimile Support for AS/400 product, you should have some knowledge of the AS/400 system and the AS/400 control language (CL) commands.

The following list describes other information you may need to be familiar with, depending on how you intend to use the Facsimile Support for AS/400 product.

- To set up a fax controller, you need an understanding of your personal computer and the OS/2 operating system.
- To send faxes from the AS/400 system, you should be familiar with how your system creates printed output and places it on output queues.
- To receive and print faxes, you need a general understanding of the functions provided by the advanced function printing support that is available on the AS/400 system.
- To receive and file faxes, you need an understanding of the document processing functions that are provided by the OfficeVision for AS/400 product.

Use this guide with the following publications:

- *Facsimile Support for AS/400 User's Guide*, which provides information for using the Facsimile Support for AS/400 product
- *Facsimile Support for AS/400 Programmer's Guide and Reference*, which provides detailed technical information about the Facsimile Support for AS/400 product for programmers and experienced AS/400 users

For information about Advanced 36 publications, see the *Advanced 36 Information Directory*, SC21-8292-01 , in the AS/400 Softcopy Library.

For a list of related publications, see the “Bibliography” on page 115.

Use the AS/400 Information Center as your starting point for looking up AS/400 technical information. You can access the Information Center from the AS/400e Information Center CD-ROM (English version: *SK3T-2027*) or from one of these Web sites:

<http://www.as400.ibm.com/infocenter>
<http://publib.boulder.ibm.com/pubs/html/as400/infocenter.htm>

The AS/400 Information Center contains important topics such as logical partitioning, clustering, Java, TCP/IP, Web serving, and secured networks. It also contains Internet links to Web sites such as the AS/400 Online Library and the AS/400 Technical Studio. Included in the Information Center is a link that describes at a high level the differences in information between the Information Center and the Online Library.

For a list of related publications, see the “Bibliography” on page 115.

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Chapter 1. Facsimile Support for AS/400 Installation Checklist

Before using the Facsimile Support for AS/400 product, you must install, configure, and customize the product to meet the needs of your business. The following checklist provides the steps for installing and preparing the Facsimile Support for AS/400 product for use. The remaining chapters of this book provide details you will need to perform each of these steps.

1. Install the Facsimile Support for AS/400 product (5798-TBY) in the AS/400 system. For instructions, see Chapter 2. Installing and Managing the Facsimile Support for AS/400 Product on the AS/400 System.
2. Define each fax controller to the AS/400 system. To do so, you must complete the following steps:
 - a. Use the Create Fax Description (CRTFAXD) command to create a fax description. This description identifies the fax controller on the AS/400 system. You must specify the LINKTYPE parameter (*LAN, *TDLC, *FAX, *ASYNC, *IMANALOG, or *IMISDN). For details on this command, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.
 - b. Use the Add Fax Card (ADDFAXCRD) command to separately declare each telephone line that is attached to the controller.

External fax controllers: You must provide information that defines the fax controller and each fax card that is located in the controller. (See Chapter 3. Installing and Configuring the Facsimile Support for AS/400 Product on an External Fax Controller for instructions.)

Internal fax controllers: You must provide information that defines the controller and the ports that are associated with the controller. This includes the 7852-400 modem and PCI Based Integrated Remote Access hardware. (See "Configuring the Facsimile Support for AS/400 Product" on page 9 for instructions.)

For details on this command, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

3. Install the necessary hardware and programs for your particular needs.
 - If you plan to use a 7852-400 modem, see "Installing the 7852-400 Modem" on page 46 for instructions.
 - If you plan to use an external fax controller, install the following hardware and programs. See Chapter 3. Installing and Configuring the Facsimile Support for AS/400 Product on an External Fax Controller for details.

Note: This step applies to **external fax controllers** only. If you are not using an external fax controller, skip this step and continue with step 4.

Hardware:

- Communications adapter (token-ring, Ethernet, twinaxial)
- Group 3 facsimile adapters

Software:

- IBM Operating System/2 (OS/2).
- Facsimile Support for AS/400 Work Station Feature (feature 5805).
- Communications Manager/2 or Communications Manager/400 Fax Feature Version 4 Release 2.
- FaxConcentrator Utilities or GammaLink Software for OS/2.

- Local Area Network Adapter and Protocol Software (LAPS) for a token-ring or Ethernet network. If you are using OS/2 Warp 4.0, you do not need to install LAPS.

Note: The installation process for the Facsimile Support for AS/400 Work Station Feature helps you install and configure the Communications Manager and either the FaxConcentrator Adapter/A or GammaLink Software.

4. Use the Create Fax Profile (CRTFAXPRF) command to create the necessary fax profiles for AS/400 users who will be using the Facsimile Support for AS/400 product. For details on this command, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.
5. Use the Configure Fax Services (CFGFAXSRV) command to configure the Enhanced Services portion of the Facsimile Support for AS/400 product. The Enhanced Services allows you to customize your fax operating environment. See "Configuring Enhanced Services" on page 51 for instructions. (See the *Facsimile Support for AS/400 User's Guide* for information about Enhanced Services and fax profiles.)
6. Use the Start Fax Support (STRFAXSPT) command to start the Facsimile Support for AS/400 product.
7. Use the Create Fax Master List Entry (CRTFAXMLE) command to add entries in the fax master list. This list should include all of the destinations you plan to routinely send faxes to or receive faxes from. For details on this command, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.
8. Create fax distribution lists. Fax distribution lists contain entries from the fax master list, and allow you to send faxes to specific groups of users. The Create Fax Distribution List (CRTFAXDST) allows you to create a fax distribution list. For details on this command, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

Chapter 2. Installing and Managing the Facsimile Support for AS/400 Product on the AS/400 System

This chapter describes the following:

- The AS/400 system hardware and program requirements needed to install and use the Facsimile Support for AS/400 product
- The language support that is provided with the Facsimile Support for AS/400 product
- How to install, upgrade, configure, save, delete, and check the Facsimile Support for AS/400 product on the AS/400 system

Before you can use the Facsimile Support for AS/400 product, you must complete the steps in this chapter for installing the product on the AS/400 system. Chapter 1. Facsimile Support for AS/400 Installation Checklist, outlines the steps for installing this product. Use the installation checklist with the information in this chapter.

Hardware Requirements

The Facsimile Support for AS/400 product runs on all models of the AS/400 system. The AS/400 system must have 20 megabytes (one megabyte equals 1 048 576 bytes) of auxiliary storage to install the product.

Using an external fax controller requires one of the following features:

- A base twinaxial workstation feature or optional enhanced twinaxial workstation controller
- Any of the IBM Token-Ring Network subsystems or adapter features
- Any of the IBM Ethernet Network controller features

If you plan to print incoming faxes, you can use any Advanced Function Printing (AFP) printer that supports the Image Object Content Architecture (IOCA) function set 10. This includes printing faxes using the Print Fax (PRTFAX) command as well as printing documents that the File Fax (FILFAX) command creates.

To display incoming faxes, you can use either of the following products:

- An InfoWindow II 3489 display
- A workstation that supports Revisable-Form:Document Content Architecture or Mixed Object:Document Content Architecture documents, which contain the IOCA function set 10 bi-level images
- Network Station running Release 3.0 or greater

Programming Requirements

The Facsimile Support for AS/400 product, Version 4 Release 4 Modification 0, operates with Version 4 Release 4 Modification 0 of the IBM Operating System/400 (OS/400) licensed program (5769-SS1). You can directly install Version 4 Release 4 Modification 0 of the Facsimile Support for AS/400 product (5798-TBY) over Version 3 Release 6 or later versions of the product.

To send faxes (spooled files), the Facsimile Support for AS/400 product operates as an IPDS AFP system printer. The external fax controller, Integrated Fax Adapter, and 7852-400 modem (through Host Print Transform) provide the printer function,

as do other IBM printers. (Examples are the IBM 382x, 3835, and 3900 printers.) No resident fonts are available on the personal computer, Integrated Fax Adapter, or 7852-400 modem; the send process downloads these fonts.

The following section, Printer Fonts, lists several sources of fonts that you can use. Font requirements depend on the fonts that are called out in the spooled file. If you are unsure of your font requirements, install the AFP Compatibility Fonts that are supplied with OS/400. Your font requirements may be greater than those the AFP Compatibility Fonts provide. If so, you must install one of the extended font packages that are listed or provide your own custom fonts.

Spooled files that contain double-byte character set (DBCS) fonts require a font product such as the Advanced Function Printing DBCS Fonts for OS/400 (5769-FN2). If you use a font-global identifier (FGID) to refer to fonts, you need to determine which fonts to use. Refer to the mapping information for character sets in the *OS/400 Printer Device Programming* manual. This information applies to the Facsimile Support for AS/400 product as well as other AFP printers, such as 382x and 3900.

Sending faxes requires the Print Services Facility/400 feature of OS/400. When you use the Integrated Fax Adapter or external fax controller, this feature provides advanced function printing support on OS/400. Printing fax documents also requires this feature. The 7852-400 modem and the PCI Integrated Remote Access hardware uses the Host Print Transform; the Print Services Facility/400 feature is not required.

Note: Regardless of the type of fax controller you are using, you should always install the AFP compatibility fonts that are supplied with OS/400.

To print incoming faxes or AFP documents on an Intelligent Printer Data Stream (IPDS) printer, you need a Print Services Facility/400 feature. The feature you need depends on the speed of your printer.

The following IBM image products support documents in Revisable-Form:Document Content Architecture or Mixed Object:Document Content Architecture formats:

- IBM AS/400 Workfolder Application Facility (5733-055)
- AFP Workbench for Windows** (5622-416)

Printer Fonts

For the Integrated Fax Adapter or the external fax controller, the Facsimile Support for AS/400 product requires a 240-pel font. Sending a 300-pel font causes errors to occur. If you are using your own custom fonts, you must provide a 240-pel version to use with fax support. This applies even if you are using a 240-pel printer, such as the 3816 or 3812 printers.

You can use the following fonts with the Facsimile Support for AS/400 product:

- The following IBM fonts that are available for the AS/400 system:
 - IBM Compatibility Fonts (5769-SS1). The OS/400 program provides these fonts, and they are sufficient for most fax applications.
 - Advanced Function Printing Fonts for OS/400 (5769-FNT). You may prefer these fonts if you plan to use overlays or want to enhance your fax applications.

- Advanced Function Printing DBCS Fonts for OS/400 (5769-FN1). For complete compatibility with typographical fonts on 3812, 3816, or 3930 printers, you should consider using these fonts.
- IBM AFP Font Collection for IBM Operating Systems (5648-113).
- User-supplied 240-pel fonts.
- Adobe** Type fonts. Use the Type Transformer, which is part of the AFP Font Collection, to convert these fonts to 240-pel raster fonts. Then, upload them to the AS/400 system.

A font must be in the library list for the job when the Facsimile Support for AS/400 product creates or receives the spooled file from another system. For more information about library list construction, see the *Printer Device Programming* book. The *IBM AS/400 Printing III*, GG24-4028, and the *IBM AS/400 Printing IV*, GG24-4389 provide additional information.

Authority Requirements

Before you can use the Facsimile Support for AS/400 product, you must have at least *USE level authority to the QUSRSYS library on the AS/400 system. This applies to all fax administrators and users. The QUSRSYS library is shipped with a default authority of PUBLIC *USE.

National Language Support (NLS)

The Facsimile Support for AS/400 product can send spooled files that contain single-byte or double-byte characters from any language that the AS/400 system supports. Faxes that are received through the Facsimile Support for AS/400 product are in image format and are not language-dependent.

Installing or Upgrading the Facsimile Support for AS/400 Product

If you are upgrading from a CISC AS/400 to a RISC AS/400, you should do a Delete Licensed Program (DLTLICPGM) command to delete the 5798-RZT version of Facsimile Support for AS/400 BEFORE you install any new version of Facsimile Support for AS/400.

If you are doing ANY KIND of upgrade and you are an Enhanced Services user, you should verify that the following files are in the QUSRSYS library:

QAFQDE	QAFQRLG	QAFQTE
QAFQDL	QAFQRTG	QAFQTM
QAFQML	QAFQSD	QAFQTP
QAFQPRF	QAFQSND	QAFQTT
QAFQRCV		

These files contain your fax profiles, fax master lists, fax distribution lists, and so on. If the above files are not found in the QUSRSYS library, you should make sure you get them restored there BEFORE you install any new version of Facsimile Support for AS/400.

To install or upgrade the Facsimile Support for AS/400 product, use the Restore Licensed Program (RSTLICPGM) command as follows:

1. Sign on to the AS/400 system as the security officer (QSECOFR).

2. If you have already installed the Facsimile Support for AS/400 product on your system, use the End Fax Support (ENDFAXSPT) command to end all fax functions.

Note: If you have already installed the Facsimile Support for AS/400 product, be sure to apply any available Facsimile Support for AS/400 PTFs to your AS/400 system.

3. Use the Display Library List (DSPLIBL) command to verify that QTEMP is in your library list. If not, use the Add Library List Entry (ADDLIBL) command to add QTEMP to your library list.
4. Use the RSTLICPGM command to install the Facsimile Support for AS/400 product. Specify the following options on the RSTLICPGM command:
 - **LICPGM(5798TBY):** The product number.
 - **DEV(name):** The name of the device on which the distribution tape or CD is loaded.
 - **LNG(nnnn):** The four-digit language code for the language you are installing. The Facsimile Support for AS/400 product can only support one language on bilingual systems at one time.

Note: You may be installing Facsimile Support for AS/400 product as a secondary language version. If so, use the Change Subsystem Description (CHGSBSD) command for subsystem QFAXSBS in library QFAX to specify the language library (in which you are installing the Facsimile Support for AS/400 product) in the subsystem library parameter. For example:

```
CHGSBSD SBSD(QFAX/QFAXSBS) SYSLIBL(QSYSnnnn)
CHGSBSD SBSD(QFAX/QFQSB) SYSLIBL(QSYSnnnn)
```

When you install the Facsimile Support for AS/400 product, the following occurs:

- The QFAX product library is installed on the AS/400 system.
 - The Facsimile Support for AS/400 commands are copied to the QSYS library.
 - The QFAXOPR message queue is created in the QUSRSYS library.
 - The QFAXMODE mode description is created on the AS/400 system.
5. Sign off the AS/400 system.

Note: Creating your own logical files over any of the fax physical files results in problems when installing the Facsimile Support for AS/400 product. To avoid problems, delete your logical files prior to installing the Facsimile Support for AS/400 product.

Saving the Facsimile Support for AS/400 Product

To save the 5798-TBY product, you must first use the End Fax Support (ENDFAXSPT) command to end the product. Then, use the Save Licensed Program (SAVLICPGM) command as follows:

1. Sign on to the AS/400 system as the security officer (QSECOFR).
2. Use the Initialize Tape (INZTAP) command to initialize a tape to hold the saved version of the Facsimile Support for AS/400 product.
3. Use the SAVLICPGM command to save the Facsimile Support for AS/400 product. Specify the following options on the SAVLICPGM command:
 - **LICPGM(5798TBY):** The product number.

- **DEV(name):** The name of the tape device that contains the initialized save tape.
- **LNG(nnnn):** The four-digit language code. Specify a language code only if the primary language on the AS/400 system is not the same as the language type of the Facsimile Support for AS/400 product that you are saving.

When you save the Facsimile Support for AS/400 product, you save the QFAX product library and its contents. However, fax support also uses some objects that reside in the QUSRSYS library or a user-specified library. These objects are not saved when you save the Facsimile Support for AS/400 product:

- Fax descriptions and the controller and device descriptions that are associated with each fax description. These objects are created when you create a fax description and add fax card descriptions.
- Receive fax database files and data queues. You specify these files and queues for the receive function when you add fax card descriptions.
- Send fax database file and user queue. This file and queue store the destination information for send fax requests while they are waiting on the output queue to be sent.
- Send fax data queues. You specify these queues for completion messages from a send fax request.
- The fax transaction log database file. This is the file that contains the transaction log data.
- Fax profiles. These profiles contain information for processing inbound and outbound fax requests.
- Fax master list and authority files that are specific to the master list. These files contain the information for sending faxes to predefined destinations.
- Distribution lists and associated authority files. These files contain predefined groupings of master list entries.
- Routing files. These files include entries for the following:
 - Sending a fax as a document
 - Filing a fax
 - Sending a message
 - Running a receive program
 - Printing a fax according to the TSI information for the received fax
- Outbound and received fax status, authority, and log entries.
- The data queue and output queue for faxing personal computer documents.

You should establish your own procedure for saving these objects. The OS/400 operating system does not provide support for saving the contents of message queues and output queues. Therefore, you cannot save the contents of the QFAXOPR message queue, send fax message queues, and send fax output queues.

4. Sign off the AS/400 system.

Deleting the Facsimile Support for AS/400 Product

To delete the Facsimile Support for AS/400 product from the AS/400 system, use the Delete Licensed Program (DLTLICPGM) command as follows:

1. Sign on to the AS/400 system as the security officer (QSECOFR).
2. Use the ENDFAXSPT command to end all fax functions.

3. Use the Delete Fax Description (DLTFAXD) command to delete all of your fax descriptions if you are permanently removing fax support. If you are upgrading from a previous release or plan to reinstall fax support, do not delete any of your fax descriptions.
4. Use the DLTLICPGM command to delete the Facsimile Support for AS/400 product. Specify the following options on the DLTLICPGM command:
 - **LICPGM(5798TBY)**: The product number.
 - **OPTION(*ALL)**: Delete all of the Facsimile Support for AS/400 product.

When you delete the Facsimile Support for AS/400 product, the following occurs:

- The QFAX product library and its contents are deleted from the AS/400 system.
- The Facsimile Support for AS/400 commands are deleted from the QSYS library.

Facsimile support also uses objects that do not reside in the QFAX library. When you delete the Facsimile Support for AS/400 product, these objects remain on the system:

- The QFAXMODE fax mode description. Use the Delete Mode Description (DLTMOOD) command to delete this mode description.
- The QFAXOPR message queue. Use the Delete Message Queue (DLTMSGQ) command to delete this message queue.
- The fax descriptions and the controller and device descriptions that are associated with each fax description. Fax support creates these objects when you create a fax description and add fax card descriptions. Use the DLTFAXD command to delete the fax descriptions and the associated controller and device descriptions.
- Receive fax database files and data queues. You specify these files and queues for the receive function when you add fax card descriptions. Use the Delete File (DLTF) command and the Delete Data Queue (DLTDTAQ) command to delete these files and queues.
- Send fax database file and user queue. This file and queue store the destination information for send fax requests while they are waiting for the output queue to be sent. Use the DLTF command and the Delete User Queue (DLTUSRQ) command to delete this file and queue.
- Send fax message and data queues. These queues contain completion messages from a send fax request. Use the DLTMSGQ command and the DLTDTAQ command to delete these queues.
- The fax transaction log database file. This is the file that contains the transaction log data. Use the DLTF command to delete this file.
- Enhanced Services files, which include the following:
 - Master list
 - Distribution list
 - Routing entries
 - Outbound status
 - Receive status

Use the Delete File (DLTF) command to delete all files that begin with QAFQ in library QUSRSYS.

- Enhanced Services data areas, including the configuration data area. To delete the data areas, use the Delete Data Area (DLTDTAARA) command to delete all data areas in the QUSRSYS library with names that begin with QFQ.
 - Enhanced Services data queues for sending faxes and personal computer documents. Use the Delete Data Queue (DLTDTAQ) command to delete all data queues in the QUSRSYS library with names that begin with QFQ.
 - Enhanced Services output queues for holding spooled files that are waiting to be faxed. Use the Delete Output Queue (DLTOUTQ) command to delete output queues in the QUSRSYS library with names that begin with QFQ.
5. Sign off the AS/400 system.

Checking the Facsimile Support for AS/400 Product

To verify that the Facsimile Support for AS/400 product installed correctly, use the Check Product Option (CHKPRDOPT) command as follows:

1. Sign on to the AS/400 system.
2. Use the CHKPRDOPT command to check the Facsimile Support for AS/400 product. Specify the following options on the CHKPRDOPT command:
 - **PRDID(5798TBY)**: The product identifier.
 - **OPTION(*BASE)**: The product option.
 - **LODID(XXXX)**: Specify the product load ID being checked (where XXXX is the product load ID).

When you check the Facsimile Support for AS/400 product, the following occurs:

- Fax support checks to make sure that it is installed correctly. Fax support does this by verifying that all objects originally shipped with the product exist the QFAX product library.
 - The product identifies the most recent version that is installed on the system.
3. Sign off the AS/400 system.

If you receive error messages and the Facsimile Support for AS/400 product does not install successfully, use the RSTLICPGM command to reinstall the product. If the problem persists, contact your service representative.

Configuring the Facsimile Support for AS/400 Product

You must describe to the AS/400 system each fax controller you attach, as follows:

- For an external fax controller, the description includes information that defines the controller and the fax cards that are located in that controller. (See “Chapter 3. Installing and Configuring the Facsimile Support for AS/400 Product on an External Fax Controller” on page 17, for information about using an external fax controller.)
- For an internal fax controller, you must provide a description for each Integrated Fax Adapter you install, using information that defines the adapter and its associated ports.
- For a 7852-400 modem, you must provide a description of the modem and its associated port.

Fax Descriptions for the Integrated Fax Adapter and External Fax Controller

The Create Fax Description (CRTFAXD) command allows you to create a fax description. When you do so, you describe the configuration of your internal or external fax controller. For details on the CRTFAXD command, see the *Facsimile Support for AS/400 Programmer's Guide and Reference* manual.

Integrated Fax Adapter or External Fax Controller Fax Description

When you create a fax description for an Integrated Fax Adapter or an external fax controller, the following occurs:

- You add a member to the QAFFCFG fax configuration database file in the QUSRSYS library. The name of this member is the fax description name you specified in the FAXD parameter on the CRTFAXD command. Fax support creates this file the first time you create a fax description. The file has a public authority of *ALL.
- An advanced program-to-program communications (APPC) controller description is created. This controller description has the same name as the fax description.
- Three APPC device descriptions are created for APPC devices that are associated with the fax APPC controller description. The device descriptions include the following:
 - Fax control device (FAXCTLDEV)
 - Fax send device (FAXSNDDEV)
 - Fax receive device (FAXRCVDEV)

The fax control device and the fax receive device use the QFAXMODE mode description. The fax send device uses the QSPWTR mode description. The fax send device name is made by adding a C to the end of the name that is specified in the FAXSNDDEV parameter on the CRTFAXD command.

- A printer device description is created. A remote location name associates this printer device with the fax APPC send device description. The printer device description uses the QSPWTR mode description, which is part of the OS/400 operating system spool support. The printer device name is made by adding a P to the end of the name that is specified in the FAXSNDDEV parameter on the CRTFAXD command.
- If the external fax controller is attached by twinaxial data link control (TDLC), three entries are added to the Advanced Peer-to-Peer Networking (APPN) remote configuration list. These entries describe the three APPC devices that are associated with the fax APPC controller description. If the APPN remote configuration list does not exist, fax support creates it.

Note: The CRTFAXD command automatically performs the functions of the Create Line Description (Fax) (CRTLINFAX) and Create Controller Description (APPC) (CRTCTLAPPC) commands. You do not need to run these commands.

Recommended Parameters for the Integrated Fax Adapter

For an Integrated Fax Adapter, we recommend that you do not change the settings for parameters in mode descriptions QFAXMODE and QSPWTR. A mismatch of parameters between the Integrated Fax Adapter and QSPWTR mode can cause errors. The following table shows the recommended settings. To verify your settings,

use the Display Mode Description (DSPMODD) command.

Parameter	QFAXMODE	QSPWTR
Class-of-service	#CONNECT	#CONNECT
Maximum sessions	8	8
Maximum conversations	8	8
Locally controlled sessions	0	4
Pre-established sessions	0	0
Inbound pacing value	3	63
Outbound pacing value	7	63
Maximum length of request unit	*CALC	*CALC
Data compression	*NETATR	*NETATR
Inbound data compression	*RLE	*RLE
Outbound data compression	*RLE	*RLE

Integrated Fax Adapter

Before you create a fax description for the Integrated Fax Adapter, you need to know the resource name(s). These names can be found by typing WRKHDWRSC *CMN and pressing the Enter key. Using the Type column, locate 2664. You will need the resource names for each of the resources with the text of 'Fax Port'. In our example, we will use the resource names CMN02 and CMN03. Also, on the CRTFAXD command, use a UNIQUE Line Description name.

The command that follows creates a fax description that is named FAXD02. The Integrated Fax Adapter being configured by this command has a link type of *FAX and is attached to the fax line description FAXLINE2. The command specifies that a TSI Banner should be placed on each fax page and that the banner should overlay any data on that line of the page:

```
CRTFAXD LINKTYPE(*FAX) LIND(FAXLINE2) RSRNAME(CMN02 CMN03)
FAXD(FAXD02 FAXCTLDEV(FAXCTL02) FAXSNDDEV(FAXSND02) FAXRCVDEV(FAXRCV02)
TSIBNR(*YES) TSIPOS(*OVERLAY)
```

Note: Be sure to do an ADDFAXCRD command now for each of the ports on the Integrated Fax Adapter you plan on using.

7852-400 Modem Fax Description

When you create a fax description for the 7852-400 modem, the following occurs:

- A member is added to the QAFFCFG fax configuration database file in the QUSRSYS library. The name of this member is the fax description name you specified in the FAXD parameter on the CRTFAXD command. Fax support creates this file the first time you create a fax description. The file has a public authority of *ALL.
- An asynchronous (ASYNC) communications line description is created. You specify the name of the line description on the LIND parameter of the CRTFAXD command.
- An asynchronous communications (ASYNC) controller description is created. This controller description has the same name as the fax description.
- One ASYNC device description is created for an ASYNC device that are associated with the fax ASYNC controller description. The device description is the fax ASYNC device (FAXASCDEV).

Note: The CRTFAXD command automatically performs the functions of the Create Line Description (ASYNC) (CRTLINASC) and Create Controller Description (ASYNC) (CRTCTLASC) commands. You do not need to run these commands.

7852-400 Example

Before you create a fax description for the 7852-400 modem, you need to know the resource name. The resource name can be found by typing WRKHDWRSC *CMN and pressing the Enter key. You then need to know the communications adapter for async on your system. In our example, we will use the resource name CMN01. Also, on the CRTFAXD command, use a UNIQUE Line Description name.

The command that follows creates a fax description that is named FAXD03. The 7852-400 modem being configured by this command has a link type of *ASYNC and is attached to the fax line description FAXLINE3:

```
CRTFAXD LINKTYPE(*ASYNC) LIND(FAXLINE3) RSRNAME(CMN01) FAXD(FAXD03)
      FAXASCDEV(FAXASC03)
```

Note: Be sure to do an ADDFAXCRD command for this fax description.

Remote Access Hardware Description

PCI Based Integrated Remote Access Analog Fax Description

When you create a fax description for the PCI Based Integrated Remote Access Analog adapter, the following occurs:

- A member is added to the QAFFCFG fax configuration database file in the QUSRSYS library. The name of this member is the fax description name you specified in the FAXD parameter on the CRTFAXD command. Fax Support creates this file the first time you create a fax description. The file has a public authority of *ALL.
- An asynchronous (ASYNC) communications line description is created. You specify the name of the line description on the LIND parameter of the CRTFAXD command.
- An asynchronous communications (ASYNC) controller description is created. This controller description has the same name as the fax description.
- One ASYNC device description is created for the ASYNC device that is associated with the fax ASYNC controller description. The device description is the fax integrated modem device name (FAXIMDEV).

Note: The CRTFAXD command automatically performs the functions of the Create Line Description (ASYNC) (CRTLINASC) and Create Controller Description (ASYNC) (CRTCTLASC) commands. You do not need to run these commands.

Before you create a fax description for the PCI Based Integrated Remote Access analog adapter, you need to know the resource name. For the PCI Based Integrated Remote Access Analog hardware (Type 2761), you will have eight resource names. You need to do a CRTFAXD command for each resource that you want to be a fax controller. For example, if you want to use all eight for faxing, you must do eight CRTFAXD commands. The resource names can be found by typing WRKHDWRSC *CMN and pressing the Enter key. Using the Type column, locate 2761. You need to use the resource name of the port configuring as a fax

description. In our example, we will use the resource name CMN04. On the CRTFAXD command, use a UNIQUE Line Description name.

The command that follows creates a fax description that is named FAXD04. The PCI Based Integrated Remote Access Analog adapter has a link type of *IMANALOG and is attached to the fax line description FAXLINE4. The command specifies that a TSI Banner should be placed on each fax page and that the TSI Banner should be inserted at the top of each fax page:

```
CRTFAXD LINKTYPE(*IMANALOG) LIND(FAXLINE4) RSRNAME(CMN04)
FAX(FAXD04) FAXIMDEV(FAXIM04) TSIBNR(*YES)
```

Note: If you already have other PCI Based Integrated Remote Access Analog adapters (Linktype of *IMANALOG) configured and started as fax controllers, those fax controllers must be ended before any new *IMANALOG controllers are created.

Note: Be sure to do an ADDFAXCRD command for this fax description.

PCI Based Integrated Remote Access ISDN Fax Description

When you create a fax description for the PCI Based Integrated Remote Access ISDN adapter, the following occurs:

- A member is added to the QAFFCFG fax configuration database file in the QUSRSYS library. The name of this member is the fax description name you specified in the FAXD parameter on the CRTFAXD command. Fax Support creates this file the first time you create a fax description. The file has a public authority of *ALL.

Note: Before you issue the CRTFAXD command for a PCI Based Integrated Remote Access ISDN Fax description, you need to have the following created:

- A connection list and a connection list entry. Use the CRTCNL and ADDCNLE commands to create the connection list and add the connection list entry.

Note: Each connection list entry must have *LIND for the modem initialization command string (MDMINZCMD) parameter.

- A Network Interface Description (NWI). Use the CRTNWIISDN command to create the Network Interface Description.
- A point-to-point protocol (PPP) line description. Use the CRTLINPPP command to create the line description.

For more information about these commands (and examples), refer to the ISDN on the AS/400 publication.

The command that follows creates a fax description that is named FAXD05. The PCI Based Integrated Remote Access ISDN adapter has a link type of *IMISDN and is attached to the point-to-point protocol line description FAXLINE5 (created in advance). The command specifies that a TSI Banner should be placed on each fax page and that the TSI Banner should be inserted at the top of each fax page:

```
CRTFAXD LINKTYPE(*IMISDN) LIND(FAXLINE5) FAXD(FAXD05)
FAXIMDEV(FAXIM05) TSIBNR(*YES)
```

Note: Be sure to do an ADDFAXCRD command for this fax description.

Creating a Fax Description

Use the fax description configuration work sheet (“Fax Description Configuration Work Sheet” on page 101) to help you create a fax description. Before you create a fax description, you should determine the following:

- The type of line to which the fax controller is attached. Specify the line type in the LINKTYPE parameter on the CRTFAXD command.
- The name of the token-ring, Ethernet, TDLC, ASYNC, or fax line description. The line description must exist before the fax description is created for token-ring, Ethernet, or TDLC. Specify the line description name in the LIND parameter on the CRTFAXD command. For an internal fax adapter or an ASYNC modem, use a unique line description name. *Do not* use an existing name, such as a Token-Ring line name.
- If you plan to create a fax line or ASYNC line, the resource names that describe the fax ports. Specify the two resource names for a fax line or one resource name for an ASYNC line in the RSRCTYPE parameter on the CRTFAXD command remote access. To determine the resource name, use the *CMN parameter on the Work with Hardware Resources (WRKHWRSC) command.
- If you are using a local area network (LAN) line, the adapter address of the token-ring, or Ethernet card in the external fax controller. The address is a 12-digit hexadecimal value. Specify the adapter address in the ADPTADR parameter on the CRTFAXD command.
- If you are using a TDLC line, the twinaxial port number, and the switch setting of the twinaxial card. Specify the port number in the PORT parameter and the switch setting in the SWTSET parameter on the CRTFAXD command.
- The names for the following:
 - Fax description (this is also the name that is used for the APPC controller or ASYNC controller description). Specify this name in the FAXD parameter on the CRTFAXD command.
 - Fax control device. Specify this name in the FAXCTLDEV parameter on the CRTFAXD command. (This does not apply for an ASYNC and remote access modem.)
 - Fax send device. Specify this name in the FAXSNDDEV parameter on the CRTFAXD command. (This does not apply for an ASYNC and remote access modem.)
 - Fax receive device. Specify this name in the FAXRCVDEV parameter on the CRTFAXD command. (This does not apply for an ASYNC and remote access modem.)
 - Fax ASYNC device. Specify this name in the FAXASCDEV parameter on the CRTFAXD command. (This applies only to an ASYNC modem.)
 - Fax integrated modem device. Specify this name in the FAXIMDEV parameter on the CRTFAXD command. (This applies only to the PCI Based Integrated Remote Access Analog hardware.)
 - Whether you plan to have the TSI banner information printed on each page of the fax. Use the TSIBNR parameter on the CRTFAXD command. The 7852-400 modem does not support the TSI banner.

Note: For simplicity, use the default names from the CRTFAXD command for the first fax controller. Change only the numeric portion of the default names for each additional controller. For example, use the names FAXD01, FAXCTL01, FAXSND01, and FAXRCV01 for the first fax controller,

FAXD02, FAXCTL02, FAXSND02, and FAXRCV02 for the second fax controller, and so on. The names you use cannot already be in use as controller or device names.

If your situation meets the following criteria, you need to manually create a local workstation device description for each external fax controller:

- You plan to use a TDLC line
- The QAUTOCFG system value equals 0 (OFF) on your AS/400 system

The following Create Device Description (Display) (CRTDEV DSP) command shows you how to create the required local workstation device description. The values you specify for the DEVCLS, TYPE, MODEL, and ONLINE parameters must match the values you specify in the following command. The values for the port and switch setting must match the values of the twinaxial port number and switch setting of the twinaxial card in your external fax controller. The name of the attached controller must match the name of the workstation controller to which your TDLC line is attached.

```
CRTDEV DSP DEV(FAX01) DEVCLS(*LCL) TYPE(5150) MODEL(2) PORT(1) SWTSET(3)
ONLINE(*YES) CTL(CTL01)
```

Adding a Fax Card

You must add each fax card in an external fax controller or each fax port on an internal fax adapter (Integrated Fax Adapter, 7852-400 modem, or PCI Based Integrated Remote Access hardware) to the description of a controller. To do so, use the Add Fax Card (ADDFAXCRD) command. When you add a card or port to a fax controller description, fax support writes its attributes to the fax configuration database file member for that fax description.

Use the “Fax Card Configuration Work Sheet” on page 102 to help you describe a fax card or port. Before you add the description of a fax card or port to a fax description, you should determine the following:

- Whether the fax description, to which the fax card or port is being added, is in use. If the description is in use, you cannot add the card or port.
- The name of the fax description to which the fax card or port is being added. Specify this name in the FAXD parameter on the ADDFAXCRD command.
- The number of the card slot on the external fax controller where the fax card resides, or the number of the port on the Integrated Fax Adapter, 7852-400 modem, or PCI Based Integrated Remote Access hardware. Specify this number as part of the fax card name in the FAXCRD parameter on the ADDFAXCRD command.
- The type of fax function (send, receive, or both send and receive) that the card or port must support. Specify the type of fax function support in the FAXTYPE parameter on the ADDFAXCRD command. The PCI Based Integrated Remote Access ISDN controller cannot have a fax card function of *BOTH.
- If the card or port supports incoming faxes, the name of the database file used to receive the faxes. Specify the name of the database file in the FAXFILE parameter on the ADDFAXCRD command.
- If the card or port supports incoming faxes, whether a message should be sent to a data queue. If a message should be sent, identify the name of the data queue. Specify the name of the data queue in the FAXRCVDQ parameter on the ADDFAXCRD command.

- The transmitting subscriber identification (TSI) for this fax card or port. Specify the transmitting subscriber identification in the TSI parameter on the ADDFAXCRD command.

Note: It is recommended that you use a TSI value.

- The type of dialing that is supported by the telephone line to which the fax card or port is connected. Specify the type of telephone dialing in the DIAL parameter on the ADDFAXCRD command. If you are not sure of the type of dialing that is supported by your telephone line, contact your telephone company.
- The number of dial attempts to be made before the outgoing call is considered unsuccessful. Specify the number of dial attempts in the DIALRTY parameter on the ADDFAXCRD command.
- How long to wait before re-dialing after an unsuccessful call attempt for this card or port. Specify the time between dial attempts in the REDIALDLY parameter on the ADDFAXCRD command.
- Whether International Telecommunication Union-Telecommunication (ITU-T) fax error-correction mode (ECM) is to be used for this card or port. Turn ECM on or off using the ECM parameter on the ADDFAXCRD command. The 7852-400 modem controller does not support this function.
- The type of telephone switch to which this card or port is directly connected. The 7852-400 modem ignores this value. Specify the type of switch in the DIRCONTYP parameter on the ADDFAXCRD command. The DIRCONTYP parameter is ignored for fax descriptions of *IMISDN.
- A telephone number prefix to be used for outbound faxing. Specify the prefix in the PREFIX parameter on the ADDFAXCRD command.
- Whether the remote fax machine supports a return negative response. Specify the value in the RTNNEGRSP parameter on the ADDFAXCRD command. This does not apply to the 7852-400 modem.

Chapter 3. Installing and Configuring the Facsimile Support for AS/400 Product on an External Fax Controller

If you plan to use an external fax controller, follow the instructions in this chapter for installing the Facsimile Support for AS/400 product. If you are not using an external fax controller, you can skip this chapter and go on to “Chapter 4. Customizing the Facsimile Support for AS/400 Product” on page 47.

This chapter describes the following:

- The external fax controller hardware and programming requirements for installing and using the Facsimile Support for AS/400 product.
- How to install and configure the Facsimile Support for AS/400 product on an external fax controller.
- How to install the required programs.
- How to shut down an external fax controller.
- Things to consider before starting the Facsimile Support for AS/400 product.

Note: If you are using a GammaLink** GammaFax** programmable fax adapter, see the publications shipped with that adapter.

Hardware Requirements

The Facsimile Support for AS/400 product supports most 80386, 80486, and Integrated PC Server MicroChannel or non-MicroChannel personal computers as external fax controllers. Personal computers you can use are those that support the following:

- Operating System/2 operating system
- Communications Manager/2 and Communications Manager/400 communications software
- GammaLink programmable fax adapters

The external fax controller operates as a dedicated controller for the Facsimile Support for AS/400 product. To function as a fax controller, your workstation requires the storage capacities and features that are listed below:

- Main storage
 - 8 megabytes or more are required
 - To send spooled files that contain DBCS fonts, 16 megabytes are recommended; 12 megabytes or more are required
- 1.44-megabyte diskette drive
- Disk storage

Although it may be possible to run the Facsimile Support for AS/400 product on a smaller system, we recommend 70 megabytes of permanent disk storage for single-byte character set (SBCS) systems. For double-byte character set (DBCS) systems, we recommend 120 megabytes of permanent disk storage. Depending on the size of the fax documents you plan to send and receive, you may need more permanent disk storage.

- One of the following Group 3 facsimile adapters:

Adapter	Type	Rate
IBM Personal System/2 FaxConcentrator Adapter/A	Micro Channel PS/2	9600Kbps
GammaLink CPiMC	Micro Channel PS/2	14.4Kbps
GammaLink CPi	ValuePoint PC	14.4Kbps
GammaLink CPMC	Micro Channel PS/2	9600bps
GammaLink CP	ValuePoint PC	9600bps
GammaLink CP4LSi	ValuePoint PC	14.4Kbps
GammaLink CPi/100	ValuePoint PC, Micro Channel	14.4Kbps
GammaLink CPi/200	ValuePoint PC	14.4Kbps
GammaLink CP6/SC	ValuePoint PC	14.4Kbps
GammaLink CPD/220 ¹	ValuePoint PC	

Notes:

1. This card is a direct inward dial (DID) receive-only card.
- One of the following communications adapters:
 - IBM System 36/38 Workstation Emulation Adapter/A
 - IBM 5250 Emulation Adapter/A
 - IBM Token-Ring Network Adapter/A
 - IBM Token-Ring 16/4 Adapter/A
 - Ethernet adapters:
 - 3Com** 3C523 Etherlink**/MC
 - Ungermann-Bass NIUps Micro Channel
 - Western Digital** EtherCard PLUS** Micro Channel
 - IBM PS/2 Adapter for Ethernet Networks
 - Standard Microsystems Ethernet
 - Any supported industry-standard architecture (ISA) adapter. You can use any ISA adapter that the LAN Adapter and Protocol Support (LAPS) product can configure.

Note: You can use other LAN adapters with the Facsimile Support for AS/400 product. Follow the directions that are supplied with your LAN adapter to install LAN Adapter and Protocol Support (LAPS) before you install the Facsimile Support for AS/400 product.

Programming Requirements

Following are the programming requirements for installing and using the Facsimile Support for AS/400 product on an external fax controller.

Operating System

The workstation feature of the Facsimile Support for AS/400 product requires one of the following OS/2 operating systems:

- OS/2 Warp 3.0
- OS/2 Warp 4.0

Note: If you plan to use a GammaLink programmable fax adapter, you must also install DOS support. For instructions, see “Installing OS/2 DOS Support” on page 44.

Communications Software

External fax controllers communicate with the AS/400 system. To do so, they use the advanced program-to-program communications (APPC) support provided by the Communications Manager/2 (CM/2) Version 1.1 or later product or the CM/400 Fax Feature Version 4 Release 2. The CM/400 Fax Feature is a subset of the CM/2 Version 1.1 or later product. It provides all of the communications capabilities the Facsimile Support for AS/400 product requires.

The CM/400 Fax Feature can be ordered as a feature of the Facsimile Support for AS/400 product. The CM/2 Version 1.1 or later product must be ordered separately.

Note: The Facsimile Support for AS/400 product does not support Extended Services. See “Appendix C. Removing Extended Services from the External Fax Controller” on page 107, for details on how to remove Extended Services from your external fax controller.

External fax controllers connect to the AS/400 system through one of the following connection types:

- Local twinaxial connection
- Token-ring local area network (LAN)
- Ethernet LAN

Use the “Fax Controller Configuration Work Sheet” on page 103 to help you configure an external fax controller.

Facsimile Adapter Software

The Facsimile Support for AS/400 product requires you to install the software that is supplied with the Group 3 facsimile adapter. Follow the instructions that are supplied with the facsimile adapter.

External fax controllers that use one or more GammaFax adapters require you to install the GammaFax Communications Software for OS/2 that GammaLink supplies.

Note: You must install the GammaFax Communications Software for OS/2 in the C:\FAX directory in order for it to work correctly with the Facsimile Support for AS/400 product.

Fax controllers that use one or more FaxConcentrator Adapter/A adapters require you to install the FaxConcentrator utility. Refer to “Chapter 7. Checking the FaxConcentrator Program and Hardware Levels” on page 87 to verify that the FaxConcentrator Adapter/A card and FaxConcentrator utility are at the proper level.

GammaLink Software for OS/2

If you plan to use a GammaLink programmable fax adapter, the Facsimile Support for AS/400 product requires GammaLink Communications Software for OS/2. You

may not have received this GammaLink software with the adapter. If not, you must order it separately from a GammaLink distributor.

You must install the GammaLink software for OS/2 in the directory C:\FAX before it can work successfully with the Facsimile Support for AS/400 product. If you are using GammaLink Software for OS/2, you must also install *OS/2 DOS Support* when installing OS/2.

Installing the Facsimile Support for AS/400 Product on the External Fax Controller

This section explains the installation and configuration of an external fax controller. It is important to complete the steps that are described in “Chapter 2. Installing and Managing the Facsimile Support for AS/400 Product on the AS/400 System” on page 3, before beginning this section.

Note: In this section, Facsimile Support for AS/400 workstation feature refers to the software that is installed on the external fax controller.

Installation instructions accompany each of the hardware and software components that the external fax controller requires. You may have already installed these components. If so, review the installation steps for each component to ensure that you have installed it correctly for use with the Facsimile Support for AS/400 product.

Figure 1 on page 21, provides an overview for installing the hardware and software that the Facsimile Support for AS/400 product requires on the external fax controller.

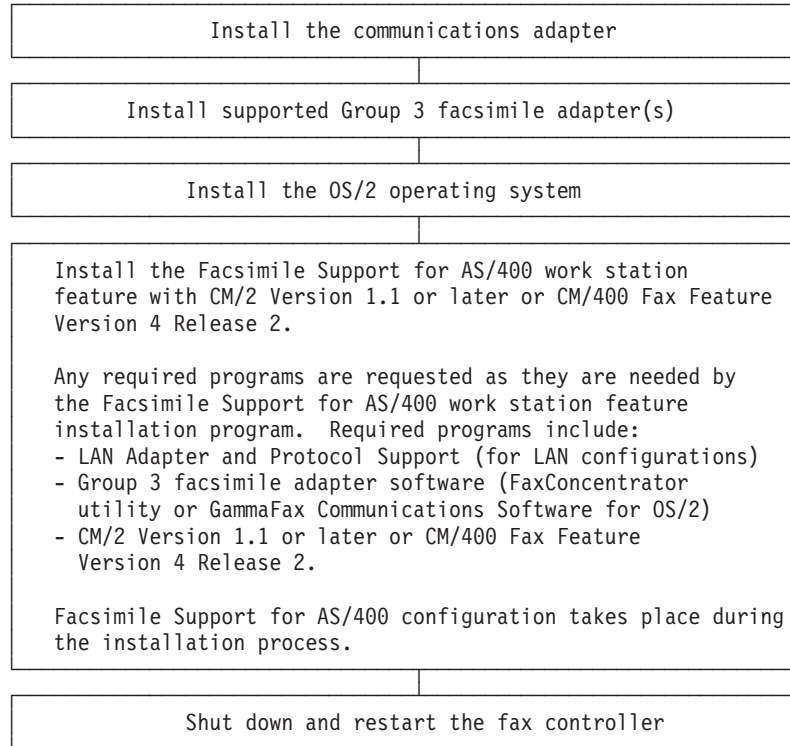


Figure 1. External Fax Controller Installation Overview

Instructions for installing and configuring the Facsimile Support for AS/400 product on the external fax controller follow:

1. Install the communications adapter. Follow the installation instructions that are supplied with the communications adapter.
2. Install one or more of the supported Group 3 facsimile adapters. Follow the installation instructions that are supplied with each adapter. If you are installing GammaLink programmable fax adapters, install the adapters in the lowest numbered slots in the PS/2.
3. Install the OS/2 operating system. See the installation instructions in your *OS/2 Installation Guide*.

If the OS/2 operating system was pre-installed, type `INSTALL` at an OS/2 command prompt. This allows you to verify that your installation includes all of the features that the Facsimile Support for AS/400 product requires. On some systems, you may need to install the OS/2 system again to ensure that you have all of the required features.

Note: You can install either the high-performance file system (HPFS) or the file allocation table (FAT) based file system with the OS/2 operating system. For faster performance, we recommend the HPFS file system.

During the installation process, you can select one of the following options:

- *Install preselected features*
- *Install all features*
- *Select features and install*

If disk space is not a limitation, select either the *Install preselected features* option or the *Install all features* option. If you choose the *Select features and install* option, you must install the following features:

- Optional System Utilities:
 - Back up hard disk
 - Change file attributes
 - Manage partitions
 - Restore backed-up files
 - Installation aid (OS/2 2.0) or Installation Utilities (OS/2 2.1)
- REstructured eXtended eXecutor (REXX) language
- DOS Support for OS/2 (for GammaLink fax adapters)

If you plan to use OS/2 Warp 4.0, install Multiple Protocol Transport Services (MPTS).

4. Install the Facsimile Support for AS/400 workstation feature:
 - a. Open the OS/2 System icon and select the Command Prompts folder. After the Command Prompts folder is open, select the *OS/2 Full Screen* option to open an OS/2 full screen session.
 - b. Insert the Facsimile Support for AS/400 workstation feature diskette into the A: drive.
 - c. Type A:INSTALL and press the Enter key.

A display prompts you to enter the letter of the drive where you want to install the Facsimile Support for AS/400 workstation feature.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER INSTALLATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE LETTER OF THE DRIVE ON WHICH THE
FACSIMILE SUPPORT FOR AS/400 WORK STATION FEATURE
SHOULD BE INSTALLED.
```

```
DRIVE: [C]
```

- d. Type the letter of the drive where you want to install the Facsimile Support for AS/400 workstation feature and press the Enter key.

Note: You can use the default value of each input field by pressing the Enter key. This allows you to use previously entered values without typing them again.

A status display lists the files that are being copied.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER INSTALLATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
C:\FS_400\CONFIGFS.CMD
C:\FS_400\FS4MSGFS.MSG
C:\FS_400\CHECKDLL.EXE
C:\FS_400\LOADERFS.EXE
C:\FS_400\RUNCOPYFS.CMD
C:\FS_400\SYSLEVEL.FS4
C:\FS_400\FS4XDEFS.EXE
C:\FS_400\CM2RSPFS.EXE
C:\FS_400\NTSRSPFS.EXE
C:\STRFS4FS.EXE
```

- e. Before continuing, it is important to verify that the AS/400 system is configured. Before you continue configuring the external fax controller, the Facsimile Support for AS/400 product installation program prompts you to verify that the AS/400 system is configured. For information about AS/400 system configuration, see “Chapter 2. Installing and Managing the Facsimile Support for AS/400 Product on the AS/400 System” on page 3.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER INSTALLATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
VERIFY THE AS/400 IS CONFIGURED AS DESCRIBED IN THE
FACSIMILE SUPPORT FOR AS/400 INSTALLATION GUIDE
BEFORE CONTINUING TO CONFIGURE THE FAX CONTROLLER.
```

```
PRESS THE ENTER KEY WHEN THE AS/400 SYSTEM HAS BEEN CONFIGURED FOR
FAX AND YOU ARE READY TO CONTINUE CONFIGURING THE FAX CONTROLLER:
```

- f. When you have configured the AS/400 system for fax, press the Enter key to continue configuring the external fax controller.

A status display appears. Reading the system defaults might take several minutes to complete.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
READING SYSTEM DEFAULTS
```

The configuration program reads the current configuration defaults.

Note: The Facsimile Support for AS/400 product does not support Extended Services. You can use CM/2 Version 1.1 or later or CM/400 Fax Feature Version 4 Release 2 product for communications support. If the following display appears, the external fax controller is configured to use Extended Services. See “Appendix C. Removing Extended Services from the External Fax Controller” on page 107 for instructions on removing Extended Services, then begin the installation process again.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
EXTENDED SERVICES IS NOT SUPPORTED BY FACSIMILE SUPPORT FOR AS/400.
```

```
REMOVE EXTENDED SERVICES USING THE INSTRUCTIONS FOUND IN THE
FACSIMILE SUPPORT FOR AS/400 INSTALLATION GUIDE.
```

```
COMMUNICATIONS MANAGER/2 AND CM/400 FAX FEATURE ARE THE
SUPPORTED COMMUNICATIONS PROGRAMS IN THIS RELEASE OF
THE FACSIMILE SUPPORT FOR AS/400 PRODUCT.
```

```
FACSIMILE SUPPORT FOR AS/400 CONFIGURATION FAILED.
```

```
[C:\]
```

- g. A display prompts you to enter the connection type that the external fax controller is to use.


```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

1. ETHERNET FAXPCETH - ETHERNET CONFIGURATION
2. TOKENRING FAXPCTR - TOKEN-RING CONFIGURATION
3. TWINAXIAL FAXPCTWX - TWINAXIAL CONFIGURATION
4. OTHER LAN CONFIGURATION

```
WHICH CONFIGURATION SHOULD BE USED?
ENTER A NUMBER FROM 1 TO 4: [2]
```

- h. Type the number of the configuration that matches the adapter that is installed in the external fax controller and press the Enter key.
- 1) If you have a communications adapter that is supported by the Facsimile Support for AS/400 product that does not appear in the list, select option 4 and press the Enter key. Continue with “Configuring an Unlisted LAN Adapter” on page 36.
 - 2) If you are configuring a twinaxial fax controller, skip this step and continue with step 4.h.5 on page 26.
 - 3) For LAN configurations, a display prompts you for the AS/400 local adapter address.
To get the AS/400 local adapter address, use the AS/400 Display Line Description (DSPLIND) command. For this command, specify the line description (LIND) that was used to create the fax description. Refer to your “Fax Description Configuration Work Sheet” on page 101 for the LIND parameter value you used.
- Note:** If you are configuring an Ethernet connection, you may need to reverse the adapter address format. See “Appendix B. Bit-Reversal for Ethernet Adapter Address” on page 105, for more information.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE AS/400 LOCAL ADAPTER ADDRESS. TO GET THIS
VALUE, USE THE AS/400 DISPLAY LINE DESCRIPTION
(DSPLIND) COMMAND AND SPECIFY THE SAME LINE
DESCRIPTION (LIND) USED TO CREATE THE FAX DESCRIPTION.
```

```
AS/400 LOCAL ADAPTER ADDRESS: [000000000000]
```

- 4) Type the AS/400 local adapter address and press the Enter key.
A display prompts you for the AS/400 local network ID. To get the AS/400 local network ID, use the AS/400 Display Network Attributes (DSPNETA) command, or refer to your "Fax Controller Configuration Work Sheet" on page 103.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE AS/400 LOCAL NETWORK ID. TO GET
THIS VALUE, USE THE AS/400 DISPLAY NETWORK
ATTRIBUTES (DSPNETA) COMMAND.
```

```
AS/400 LOCAL NETWORK ID: [APPN]
```

- 5) Type the AS/400 local network ID and press the Enter key.
A display prompts you for the AS/400 default local location. To get the AS/400 default local location, use the AS/400 Display Network Attributes (DSPNETA) command or refer to your "Fax Controller Configuration Work Sheet" on page 103.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE AS/400 DEFAULT LOCAL LOCATION.
TO GET THIS VALUE, USE THE AS/400 DISPLAY
NETWORK ATTRIBUTES (DSPNETA) COMMAND.
```

```
AS/400 DEFAULT LOCAL LOCATION:[VALUE2]
```

- 6) Type the AS/400 default local location and press the Enter key.

A display prompts you for name of the AS/400 fax description. This is the name you specified on the AS/400 Create Fax Description (CRTFAXD) command for this fax controller. Refer to your "Fax Controller Configuration Work Sheet" on page 103 for this information.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE NAME OF THE FAX DESCRIPTION THAT WAS SPECIFIED
DURING THE AS/400 CREATE FAX DESCRIPTION (CRTFAXD) COMMAND.
```

```
FOR FAX DESCRIPTIONS THAT ALREADY EXIST ON THE AS/400, THE
AS/400 WORK WITH CONFIGURATION STATUS (WRKCFGSTS) COMMAND
CAN BE USED TO DISPLAY THIS VALUE.
```

```
FAX DESCRIPTION: [FAXD01]
```

- 7) Type the name of the fax description and press the Enter key.

A display prompts you for the AS/400 fax control device name (FAXCTLDEV). This must be the same value that you specified on the CRTFAXD command for this fax controller. Refer to your "Fax Controller Configuration Work Sheet" on page 103 for this information.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE FAX CONTROL DEVICE NAME (FAXCTLDEV) THAT WAS SPECIFIED
DURING THE AS/400 CREATE FAX DESCRIPTION (CRTFAXD) COMMAND
FOR FAX DESCRIPTION [FAXD01].
```

```
FOR FAX DESCRIPTIONS THAT ALREADY EXIST ON THE AS/400 SYSTEM, THE
AS/400 WORK WITH CONFIGURATION STATUS (WRKCFGSTS) COMMAND
CAN BE USED TO DISPLAY THIS VALUE.
```

```
FAX CONTROL DEVICE NAME: [FAXCTL01]
```

- 8) Type the fax control device name and press the Enter key.
A display prompts you for the AS/400 fax send device name (FAXSNDDEV). This must be the same value you specified on the CRTFAXD command for this fax controller. Refer to your "Fax Controller Configuration Work Sheet" on page 103 for this information.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE FAX SEND DEVICE NAME (FAXSNDDEV) THAT WAS SPECIFIED
DURING THE AS/400 CREATE FAX DESCRIPTION (CRTFAXD) COMMAND
FOR FAX DESCRIPTION [FAXD01].
```

```
FOR FAX DESCRIPTIONS THAT ALREADY EXIST ON THE AS/400 SYSTEM, THE
AS/400 WORK WITH CONFIGURATION STATUS (WRKCFGSTS) COMMAND
CAN BE USED TO DISPLAY THIS VALUE. IF YOU USE WRKCFGSTS
TO DISPLAY THE FAX SEND DEVICE NAME, DO NOT TYPE THE TRAILING "C",
WHICH FACSIMILE SUPPORT FOR AS/400 ADDS TO THE DEVICE NAME.
```

```
FAX SEND DEVICE NAME: [FAXSND01]
```

- 9) Type the fax send device name and press the Enter key.
A display prompts you for the AS/400 fax receive device name (FAXRCVDEV). This must be the same value you specified on the CRTFAXD command for this fax controller. Refer to your "Fax Controller Configuration Work Sheet" on page 103 for this information.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE FAX RECEIVE DEVICE NAME (FAXRCVDEV) THAT WAS SPECIFIED
DURING THE AS/400 CREATE FAX DESCRIPTION (CRTFAXD) COMMAND
FOR FAX DESCRIPTION [FAXD01].
```

```
FOR FAX DESCRIPTIONS THAT ALREADY EXIST ON THE AS/400 SYSTEM, THE
AS/400 WORK WITH CONFIGURATION STATUS (WRKCFGSTS) COMMAND
CAN BE USED TO DISPLAY THIS VALUE.
```

```
FAX RECEIVE DEVICE NAME: [FAXRCV01]
```

- 10) Type the fax receive device name and press the Enter key.

The next display provides information that is specific to the communications type and adapter you are using. Determine the type of communications adapter you are using, and do one of the following:

- If you have an Ethernet connection, continue with “Configuring an Ethernet Connection” on page 31.
- If you have a token-ring connection, continue with “Configuring a Token-Ring Connection”.
- If you have a twinaxial connection, continue with “Configuring a Twinaxial Connection” on page 34.
- If you have a communications adapter that does not appear in the list, continue with “Configuring an Unlisted LAN Adapter” on page 36.

Configuring a Token-Ring Connection

1. If you are using a token-ring adapter, follow these instructions. Indicate whether or not you want to use the universally administered token-ring adapter address for the external fax controller. The manufacturer assigns the universally administered adapter address to the adapter. You can use this address or assign a different adapter address for the fax controller.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

THE UNIVERSALLY ADMINISTERED ADAPTER ADDRESS IS A NUMBER THAT IS ASSIGNED BY THE HARDWARE MANUFACTURER TO THE ADAPTER. YOU CAN USE THIS ADDRESS OR YOU CAN ASSIGN AN ADAPTER ADDRESS FOR THE FAX CONTROLLER. THE CURRENT VALUE IS [UNIVERSAL].

USE THE UNIVERSALLY ADMINISTERED ADAPTER ADDRESS (Y/N):

2. If you respond Y (Yes) to the *Use the Universally Administered Adapter Address* prompt, continue with step 4 on page 31.

If you enter N (No) for the prompt, another display prompts you to enter the token-ring adapter address of the external fax controller. The address you enter must match the one you specified for the LAN remote adapter address parameter on the CRTFAXD command for this fax controller. Use the AS/400 Display Controller Description (DSPCTLD) command to display the address that was specified on the CRTFAXD command, or refer to your "Fax Controller Configuration Work Sheet" on page 103.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

TYPE THE TOKEN-RING ADAPTER ADDRESS THAT WAS SPECIFIED AS THE LAN REMOTE ADAPTER ADDRESS PARAMETER DURING THE AS/400 CREATE FAX DESCRIPTION (CRTFAXD) COMMAND FOR FAX DESCRIPTION [FAXD01].

FOR FAX DESCRIPTIONS THAT ALREADY EXIST ON THE AS/400, THE AS/400 WORK WITH CONFIGURATION STATUS (WRKCFGSTS) COMMAND CAN BE USED TO DISPLAY THIS VALUE.

TOKEN-RING ADAPTER ADDRESS: [000000000000]

3. Type the token-ring adapter address of the external fax controller. Be sure that the address you type has 12 digits. Press the Enter key.

A display presents the configuration information you have typed. This display varies, depending on the configuration type you selected during the installation of the Facsimile Support for AS/400 workstation feature.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
AS/400 LOCAL ADAPTER ADDRESS: [xxxxxxxxxxxx]
AS/400 LOCAL NETWORK ID: [xxxxxxx]
AS/400 DEFAULT LOCAL LOCATION: [xxxxxxxx]
FAX DESCRIPTION NAME: [FAXD01]
FAX CONTROL DEVICE NAME: [FAXCTL01]
FAX SEND DEVICE NAME: [FAXSND01]
FAX RECEIVE DEVICE NAME: [FAXRCV01]
CONFIGURATION ADAPTER TYPE: [TOKENRING]
LAN REMOTE ADAPTER ADDRESS: [xxxxxxxxxxxx]
IS THIS CORRECT? (Y/N)
```

Note: The *Configuration adapter type* and *LAN remote adapter address* will not appear on your display if you are using OS/2 Warp 4.0 or if you have previously installed LAPS.

4. Use the display to verify that you correctly typed the configuration information in each field. If you find no errors, respond Y (Yes) to the prompt and continue with "Installing Required Programs" on page 37.

If you find errors in the configuration information, respond N (No) to the prompt and return to step 4.h on page 25.

Configuring an Ethernet Connection

1. Follow these instructions if you are using an Ethernet adapter. A display prompts you to indicate which Ethernet communications adapter you want to use for the external fax controller.

Note: If you have previously installed LAPS or OS/2 Warp 4.0, the displays shown in this section will not appear. You must enter the information to complete the Ethernet installation in MPTS during the OS/2 Warp 4.0 installation process.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

1. - 3COM 3C523 ETHERLINK/MC ADAPTER
2. - UNGERMANN-BASS NIUPS MICROCHANNEL ADAPTER
3. - WESTERN DIGITAL ETHERCARD PLUS MICROCHANNEL ADAPTER
4. - IBM PS/2 ADAPTER FOR ETHERNET NETWORKS
5. - STANDARD MICROSYSTEMS ETHERNET ADAPTER
6. - OTHER ETHERNET ADAPTER

```
WHICH CONFIGURATION SHOULD BE USED?
ENTER A NUMBER FROM 1 TO 6: [1]
```

2. Type the number of the configuration that matches the adapter that is installed in the fax controller and press the Enter key.

Note: If you have a communications adapter that the Facsimile Support for AS/400 product supports but does not appear in the list, select option 6 and press the Enter key. Continue with “Configuring an Unlisted LAN Adapter” on page 36.

A display prompts you to indicate whether you want to use the universally administered Ethernet adapter address for the external fax controller. The manufacturer assigns the universally administered adapter address to the adapter. You can use this address or assign another adapter address for the fax controller.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
THE UNIVERSALLY ADMINISTERED ADAPTER ADDRESS IS A
NUMBER THAT IS ASSIGNED BY THE HARDWARE MANUFACTURER
TO THE ADAPTER. YOU CAN USE THIS ADDRESS OR YOU
CAN ASSIGN AN ADAPTER ADDRESS FOR THE FAX CONTROLLER.
THE CURRENT VALUE IS [UNIVERSAL].
```

```
USE THE UNIVERSALLY ADMINISTERED ADAPTER ADDRESS (Y/N):
```

3. If you respond Y (Yes) to the *Use the Universally Administered Adapter Address* prompt, continue with step 5 on page 34.

If you enter N (No) for the prompt, another display prompts you for the Ethernet adapter address of the external fax controller. This address must match the one you specified on the CRTFAXD command for this fax controller. You can use the AS/400 Display Controller Description (DSPCTLD) command to display the address that was specified on the CRTFAXD command, or refer to your "Fax Controller Configuration Work Sheet" on page 103.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE ETHERNET ADAPTER ADDRESS THAT WAS SPECIFIED
AS THE LAN REMOTE ADAPTER ADDRESS PARAMETER DURING THE
AS/400 CREATE FAX DESCRIPTION (CRTFAXD) COMMAND
FOR FAX DESCRIPTION [FAXD01].
```

```
FOR FAX DESCRIPTIONS THAT ALREADY EXIST ON THE AS/400, THE
AS/400 WORK WITH CONFIGURATION STATUS (WRKCFGSTS) COMMAND
CAN BE USED TO DISPLAY THIS VALUE.
```

```
NOTE: THE ADAPTER ADDRESS FORMAT MIGHT NEED TO BE REVERSED.
SEE THE OS/400 COMMUNICATIONS CONFIGURATION REFERENCE
FOR MORE INFORMATION ON ETHERNET ADDRESS FORMAT
CONSIDERATIONS.
```

```
ETHERNET ADAPTER ADDRESS: [000000000000]
```

Note: You might need to reverse the adapter address format. See "Appendix B. Bit-Reversal for Ethernet Adapter Address" on page 105, for more information.

4. Type the Ethernet adapter address of the fax controller and press the Enter key. A display presents the configuration information you have typed. This display varies, depending on the configuration type you selected during the installation of the Facsimile Support for AS/400 workstation feature.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1988. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
AS/400 LOCAL ADAPTER ADDRESS: [xxxxxxxxxxxx]
AS/400 LOCAL NETWORK ID: [xxxxxxx]
AS/400 DEFAULT LOCAL LOCATION: [xxxxxxxx]
FAX DESCRIPTION NAME: [FAXD01]
FAX CONTROL DEVICE NAME: [FAXCTL01]
FAX SEND DEVICE NAME: [FAXSND01]
FAX RECEIVE DEVICE NAME: [FAXRCV01]
CONFIGURATION ADAPTER TYPE: [ETHERNET]
LAN REMOTE ADAPTER ADDRESS: [xxxxxxxxxxxx]
IS THIS CORRECT? (Y/N)
```

Note: The *Configuration adapter type* and *LAN remote adapter address* will not appear on your display if you are using OS/2 Warp 4.0 or if you previously installed LAPS.

5. Use the display to verify that you correctly typed the configuration information in each field. If you find no errors, enter a Y (Yes) and continue with "Installing Required Programs" on page 37.

If you find errors in the configuration information, respond N (No) to the prompt and return to step 4.h on page 25 .

Configuring a Twinaxial Connection

1. Follow these instructions if you are using a twinaxial adapter.

A display prompts you to enter the twinaxial switch setting. This value must match the one you specified on the CRTFAXD command for this fax controller. Refer to your "Fax Controller Configuration Work Sheet" on page 103 for this information.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
TYPE THE TWINAXIAL SWITCH SETTING THAT WAS SPECIFIED
DURING THE AS/400 CREATE FAX DESCRIPTION (CRTFAXD) COMMAND
FOR FAX DESCRIPTION [FAXD01].
```

```
TWINAXIAL SWITCH SETTING (0 - 6): [0]
```

2. Type the twinaxial switch setting and press the Enter key.

Note: There is no simple way to view the twinaxial switch setting for a previously created fax description. To ensure you are using the correct switch setting, you may need to use the DLTFAXD command to delete the fax description. You must then use the CRTFAXD command to re-create the fax description.

A display prompts you to select the twinaxial adapter to configure.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
SELECT:
```

1. IBM SYSTEM/36, 38 WORKSTATION EMULATION ADAPTER/A
2. IBM 5250 EMULATION ADAPTER/A

```
WHICH CONFIGURATION SHOULD BE USED?
ENTER A NUMBER FROM 1 TO 2: [1]
```

3. Type the number of the configuration that matches the adapter you installed in the external fax controller and press the Enter key. If you are not using a Micro Channel personal computer, select option 1, IBM System 36/38 Workstation Emulation Adapter/A.

A display appears that presents the configuration information you have typed. The display varies, depending on the configuration type you selected during the installation of the Facsimile Support for AS/400 workstation feature.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
AS/400 LOCAL NETWORK ID:      [xxxxxxx]
AS/400 DEFAULT LOCAL LOCATION: [xxxxxxx]
```

```
FAX DESCRIPTION NAME:        [FAXD01]
FAX CONTROL DEVICE NAME:     [FAXCTL01]
FAX SEND DEVICE NAME:       [FAXSND01]
FAX RECEIVE DEVICE NAME:    [FAXRCV01]
```

```
CONFIGURATION ADAPTER TYPE:  [TWINAXIAL]
```

```
TWINAXIAL SWITCH SETTING:   [x]
```

```
IS THIS CORRECT? (Y/N)
```

4. Use the display to verify that you correctly typed the configuration information in each field. If you find no errors, enter a Y (Yes) and continue with "Installing Required Programs" on page 37.

If you find errors in the configuration information, respond N (No) to the prompt and return to step 4.h on page 25.

Configuring an Unlisted LAN Adapter

A display appears that presents the configuration information you have typed. The display varies, depending on the configuration type you selected during the installation of the Facsimile Support for AS/400 workstation feature.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
AS/400 LOCAL NETWORK ID:      [xxxxxxx]
AS/400 DEFAULT LOCAL LOCATION: [xxxxxxx]
```

```
FAX DESCRIPTION NAME:        [FAXD01]
FAX CONTROL DEVICE NAME:     [FAXCTL01]
FAX SEND DEVICE NAME:       [FAXSND01]
FAX RECEIVE DEVICE NAME:    [FAXRCV01]
```

```
CONFIGURATION ADAPTER TYPE:  [OTHER]
```

```
IS THIS CORRECT? (Y/N)
```

Use this display to verify that you correctly typed the configuration information in each field. If you find errors in the information, enter an N (No) to the prompt and return to step 4.h on page 25.

If you have chosen to install a LAN adapter that is not supported by the Facsimile Support for AS/400 product, the workstation feature installs LAN Adapter and Protocol Support (LAPS). You can then specify the values to use. Refer to LAPS installation and configuration information that is provided with the adapter you are installing. When the LAPS installation completes, continue with “Installing Required Programs”.

Installing Required Programs

If necessary, the Facsimile Support for AS/400 product prompts for the diskettes of other required features or programs. Continue with Installing LAN Adapter and Protocol Support (LAPS).

Installing LAN Adapter and Protocol Support (LAPS)

1. If you are not configuring a LAN adapter, if you are using OS/2 Warp 4.0, or if you have already installed LAPS, continue with “Installing Group 3 Facsimile Adapter Software” on page 38.
2. If you are configuring a LAN adapter and you have not installed LAPS on the external fax controller, the following display appears.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER INSTALLATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----

LAN ADAPTER AND PROTOCOL SUPPORT (LAPS) WAS NOT FOUND ON THE
FAX CONTROLLER. LAPS MUST BE INSTALLED TO USE A LAN
CONFIGURATION TYPE.

INSERT THE LAN ADAPTER & PROTOCOL SUPPORT
DISKETTE IN THE A: DRIVE.

LAN ADAPTER AND PROTOCOL SUPPORT WILL BE INSTALLED.
PRESS THE ENTER KEY TO CONTINUE.
```

Note: Be careful that you do not install LAPS over MPTS. If you do, you must reinstall OS/2 Warp 4.0.

3. Insert the LAN Adapter and Protocol Support diskette into the A: drive and press the Enter key.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER INSTALLATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
THE FACSIMILE SUPPORT FOR AS/400 PRODUCT IS READY TO RUN THE
COMMAND FROM THE [A] DRIVE. IF YOU ARE USING
AN INSTALLATION MECHANISM SUCH AS A CD-ROM DRIVE THAT
REQUIRES CHANGING THE DRIVE BEING USED, TYPE THE
LETTER OF THE DRIVE THAT FACSIMILE SUPPORT FOR AS/400 SHOULD USE.
```

```
DRIVE [A]
```

4. If you have a communications adapter that the Facsimile Support for AS/400 product does not support, LAPS prompts you for required values.
The Facsimile Support for AS/400 product requires the IBM IEEE 802.2 protocol to communicate with the AS/400 system.
Follow the directions that are supplied with the LAN adapter you are installing. Verify that you have installed the correct software to support the adapter and the IBM IEEE 802.2 protocol.
5. When the installation of the LAN Adapter and Protocol Support is complete, continue with "Installing Group 3 Facsimile Adapter Software".

Installing Group 3 Facsimile Adapter Software

The following display provides instructions for installing the group 3 facsimile adapter software.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
FAXCONCENTRATOR UTILITY OR GAMMALINK COMMUNICATIONS
SOFTWARE FOR OS/2 WILL BE INSTALLED ON THE FAX
CONTROLLER.
```

```
INSERT THE FIRST FAX CARD COMMUNICATIONS SOFTWARE
DISKETTE IN THE A: DRIVE.
```

```
IF YOU HAVE ALREADY INSTALLED THE FAXCONCENTRATOR UTILITY
OR GAMMALINK COMMUNICATIONS SOFTWARE FOR OS/2, PRESS THE
ESCAPE (ESC) KEY TO SKIP TO THE NEXT INSTALLATION STEP.
```

```
OTHERWISE
```

```
PRESS THE ENTER KEY TO CONTINUE
```

1. If you do not need to install additional fax card communications software (FaxConcentrator Utility, or GammaFax Communications Software for OS/2), press the Escape (ESC) key. Continue with "Installing Communications Manager" on page 40. Otherwise, insert the FaxConcentrator Utility diskette or the GammaLink GammaFax Communications Software for OS/2 diskette into the A: drive and press the Enter key. The installation process begins. Refer to "GammaLink GammaFax for OS/2 Installation" or "FaxConcentrator Utility Installation" on page 40 for additional information.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER INSTALLATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
THE FACSIMILE SUPPORT FOR AS/400 PRODUCT IS READY TO RUN THE
COMMAND FROM THE [A] DRIVE. IF YOU ARE USING
AN INSTALLATION MECHANISM SUCH AS A CD-ROM DRIVE THAT
REQUIRES CHANGING THE DRIVE BEING USED, TYPE THE
LETTER OF THE DRIVE THAT FACSIMILE SUPPORT FOR AS/400 SHOULD USE.
```

```
DRIVE [A]
```

2. When you have completed the installation of the fax card communications software, press the Escape (Esc) key and continue with "Installing Communications Manager" on page 40.

GammaLink GammaFax for OS/2 Installation

The Facsimile Support for AS/400 product requires GammaFax Communications Software for OS/2. For the Facsimile Support for AS/400 product to successfully

use this software, you must install it in the **C:\FAX** directory. The following command needs to be in both the AUTOEXEC.BAT and the CONFIG.SYS files.

```
SET GFAX=C:\FAX
```

Follow the directions that are provided with the GammaFax Communications Software for OS/2. However, *do not* restart your workstation.

FaxConcentrator Utility Installation

If you are installing FaxConcentrator utility, Version 1.10 or later, follow the instructions that appear on the installation displays. When the installation has completed, leave the diskette in the drive and select OK or press the Enter key.

Note: If you install the FaxConcentrator utility during the Facsimile Support for AS/400 workstation feature installation, *do not* restart the fax controller at this time.

Installing Communications Manager

If you already installed communications support (CM/400 Fax Feature or Communications Manager/2) on the system, continue with “Completing the Installation” on page 41. Otherwise, the following display appears.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
SELECT:
  1. INSTALL CM/400 FAX FEATURE
  2. INSTALL COMMUNICATIONS MANAGER/2
ENTER A NUMBER FROM 1 TO 2: [1]
```

Type the number of the communications program that the Facsimile Support for AS/400 product is to use.

- If you chose option 1, continue with the following section, Installing the Communications Manager/400 (CM/400) Fax Feature.
- If you chose option 2, continue with “Installing Communications Manager/2 (CM/2) Fax Feature” on page 41.

Installing the Communications Manager/400 (CM/400) Fax Feature

If this is a new installation and you chose to use the CM/400 Fax Feature, the following display appears.


```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER INSTALLATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
INSERT FACSIMILE SUPPORT FOR AS/400 CM/400 FAX FEATURE
DISKETTE #1 IN THE A: DRIVE.
```

```
PRESS THE ENTER KEY TO CONTINUE.
```

Follow the instructions that appear on the installation displays. When you reach the Communications Manager Completion display, select the Close button.

Note: If you are installing the CM/400 Fax Feature during the Facsimile Support for AS/400 workstation feature installation, *do not* restart the fax controller at this time.

Installing Communications Manager/2 (CM/2) Fax Feature

To install Communications Manager/2, follow the instructions that appear on your installation displays. When you reach the Communications Manager Completion display, leave the diskette in the drive and select the Close button.

Note: Before installing Communications Manager/2, you should have read and performed the steps in “Installing Communications Manager” on page 40.

Completing the Installation

1. After the configuration process is complete, the following instructions appear.

```
FACSIMILE SUPPORT FOR AS/400
FAX CONTROLLER CONFIGURATION
(C) COPYRIGHT IBM CORP. 1991, 1998. ALL RIGHTS RESERVED.
VERSION 4 RELEASE 2 MODIFICATION 0 LEVEL 00
-----
```

```
FACSIMILE SUPPORT FOR AS/400 CONFIGURATION COMPLETED SUCCESSFULLY.
```

```
REMOVE DISKETTE FROM THE A: DRIVE
```

```
SHUT DOWN THE OS/2 SYSTEM AND REBOOT THE FAX CONTROLLER.
```

```
FOR INSTRUCTIONS, REFER TO THE
FACSIMILE SUPPORT FOR AS/400 INSTALLATION GUIDE.
```

```
[C:\]
```

For the changes to take effect, you must shut down the OS/2 operating system. Follow the steps in “Shutting Down the External Fax Controller” to restart the external fax controller.

If the Installation Process Fails

If the installation process fails, delete all of the following PC directories:

- FS_400
- CMLIB
- IBMCOM
- OS2\INSTALL\CMLIB

Note: If you are using OS/2 Warp 4.0, *do not* delete the IBMCOM directory.

Edit the CONFIG.SYS file to remove all references to these directories. These directories are listed in the PATH statements. When you have finished editing the CONFIG.SYS file, reinstall the Facsimile Support for AS/400 product, beginning with the workstation feature.

Shutting Down the External Fax Controller

To prevent losing information, always shut down the OS/2 operating system before turning off the personal computer. Check all sessions for information you have not saved (such as documents you are editing) before you start to shut down the system.

- Mouse users:
 1. Display the Desktop pop-up menu. To do so, press mouse button 2 while the mouse pointer is on a blank area of the background away from all objects and windows.
 2. Select the *Shut down* option.
- OS/2 Version 2.0 keyboard users:

1. Press the Control-Escape (Ctrl-Esc) key combination to view the Window List menu.
2. Press the Alt-Shift-Tab key combination to select the Desktop menu.
3. Press the Ctrl-Backslash (\) key combination to deselect any selected objects.
4. Press the Shift-F10 key combination to display the Desktop pop-up menu.
5. Select the *Shut down* option and press the Enter key.

You may need to respond to pop-up windows after you select the *Shut down* option.

Things to Consider Before Starting the Facsimile Support for AS/400 Product

If you have just completed installing and configuring the Facsimile Support for AS/400 product and have installed and configured your external controller, restart your personal computer. From the AS/400 command line, enter the following command. Substitute your fax description for FAXD01 to verify that the external fax controller and AS/400 system are communicating.

```
WRKCFGSTS *CTL FAXD01
```

If all of the devices are ACTIVE, as shown in the following example, you should be able to successfully start the Facsimile Support for AS/400 product.

```
FAXD01      ACTIVE
FAXCTL01   ACTIVE
FAXSND01C  ACTIVE
FAXRCV01   ACTIVE
```

For the 7852-400 modem, the status should be:

```
FAXD02      VARY ON PENDING
FAXASC02    VARY ON PENDING
```

For the PCI Based Integrated Remote Access Analog, the status should be:

```
FAXD03      VARY ON PENDING
FAXIM03     VARY ON PENDING
```

For the PCI Based Integrated Remote Access ISDN, the status should be:

```
FAXD04      VARY ON PENDING
FAXIM04     VARY ON PENDING
```

Note: After an ENDFAXSPT command has been issued, the status for the controller and fax integrated modem device will be in VARIED OFF status for the PCI Based Integrated Remote Access Analog and the PCI Based Integrated Remote Access ISDN hardware.

If the status for these devices is not correct, see the *Facsimile Support for AS/400 Programmer's Guide and Reference* manual for problem analysis information.

GammaLink Fax Adapter Installation

When you install a GammaLink adapter in a Facsimile Support for AS/400 external controller, the following restrictions apply to the controller configuration:

- You *must* install all GammaLink fax adapters in the lowest numbered slots. For example, if you have one GammaLink fax adapter, install it in slot 1. If you have two GammaLink fax adapters, install them in slots 1 and 2. If you have previously configured fax adapters in the lowest numbered slots, you must move and reconfigure them.

In some cases, it may not be possible to install multiple adapters in consecutive slots. (There may be slots in which the fax adapter does not fit, or there may be slots that are designated for special use by your computer.) In such cases, you must install the GammaLink adapter in the next lowest numbered slot that is available.

For example, assume that you want to install six GammaLink adapters in a PS/2 that has a forced adapter assignment in slot 5. In this case, you must install the first four GammaLink adapters in slots 1 through 4. You would then install the last two GammaLink adapters in slots 6 and 7. On the AS/400 system, you would use the Add Fax Card (ADDFAXCRD) command to add fax ports FAX1 through FAX6 to the Facsimile Support for AS/400 configuration. Any Facsimile Support for AS/400 reference to slot or port 5 physically maps to the adapter in slot 6. Any reference to slot or port 6 physically maps to the adapter in slot 7.

- When you install and configure the GammaLink four-port adapter, use the ADDFAXCRD command to add each port to the Facsimile Support for AS/400 configuration.
- It is important to configure the physical channel and the I/O address of each GammaLink fax adapter. You should configure the GammaLink fax adapter that is installed in slot 1 with the lowest-numbered physical channel and I/O address. Configure any additional GammaLink fax adapter with a higher physical channel and I/O address.

For example, you should configure the GammaLink fax adapter installed in slot 1 as physical channel 0, I/O Address 350-353. Configure the GammaLink fax adapter that is installed in slot 2 as physical channel 1, I/O Address 360-363, and so on. Use the reference diskette with GammaLink options and the GammaLink program, GFSETUP, available on the GammaLink for OS/2 diskette.

Installing OS/2 DOS Support

You must install *OS/2 DOS Support* on the fax controller before installing the GammaLink Communications Software for OS/2, Version 5.1. To install *OS/2 DOS Support*, complete the following steps.

1. Type **INSTALL** at an OS/2 command prompt or select *Selective Install* in the *System Setup* folder of the *OS/2 System* folder.
2. From the System Configuration display, click on **OK** or press Enter.
3. On the Set-up and Installation display, select **OS/2 DOS Support**.
4. Click on **Install** or press Enter.
5. Insert diskette 3 from the OS/2 installation diskettes.
6. Choose **A:** as your source directory.
7. Insert any other OS/2 installation diskettes when you are prompted to do so.
8. When you are finished, shut down and then restart your fax controller before you install the GammaLink Communications Software for OS/2.

Installing GammaLink Software when Facsimile Support for AS/400 is Installed

If you have already installed the Facsimile Support for AS/400 product on the fax controller, insert the GammaLink software for OS/2 diskette in the A: drive and type:
A:INSTALL

The GammaLink software prompts for installation information for the GammaLink fax adapter. Follow the instructions that the GammaLink installation software presents. You must install the GammaLink software in the C:\FAX directory to work correctly with the Facsimile Support for AS/400 product.

Note: GammaLink also supports an INSTALL2.EXE installation program. Depending on your environment, running the INSTALL2 program might be more desirable.

Adding or Removing GammaLink Fax Adapters

When you add or remove a GammaLink fax adapter, you must run the GammaLink setup program, C:\FAX\GFSETUP, to change the GammaLink configuration. You must also use the Add Fax Card (ADDFAXCRD) or Remove Fax Card (RMVFAXCRD) command to make corresponding changes to the Facsimile Support for AS/400 configuration on the AS/400 system.

Verifying the GammaLink Installation

To verify that the installation was successful, do the following:

1. Start an OS/2 command processor.
2. Change the directory to the C:\FAX sub-directory.
3. Run the GFQM command to make sure that you have successfully installed the GammaLink software.

GammaLink Installation Problem Analysis

You may have questions or problems regarding installation or configuration of the GammaLink fax adapter or the GammaLink Communication Software for OS/2. If so, please contact GammaLink, as the documentation that accompanied your adapter suggests, for service and support.

GammaLink Distributors

For a complete list of international distributors, contact GammaLink headquarters at the following address:

GammaLink (Headquarters)
1314 Chesapeake Terrace
Sunnyvale, CA 94089
Voice: (408) 744-1400 (800) FAX-4-PCS
Fax: (408) 744-1900

Installing the 7852-400 Modem

You can use a 7852-400 modem as a fax controller instead of, or in addition to, an Integrated Fax Adapter or external fax controller. The 7852-400 modem attaches to your AS/400 system through an Enhanced EIA RS232 V.24 communications cable to your AS/400 communications port. The 7852-400 modem is preconfigured for use with the AS/400 system.

To install your 7852-400 modem, complete the following steps.

1. Attach the modem to an analog telephone line.
2. Using an Enhanced EIA RS232 V.24 communications cable, attach the modem to your AS/400 system. This cable comes with the communications adapter that is installed on your AS/400 system.
3. Attach the modem to the AC power transformer and plug the AC connector into a live AC outlet.
4. Power on the modem.

Note: You should be familiar with the information that is shipped with your 7852-400 modem prior to installing the modem.

For more information about the 7852-400 modem, see the *Facsimile Support for AS/400 User's Guide* and the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

Chapter 4. Customizing the Facsimile Support for AS/400 Product

This chapter describes the Facsimile Support for AS/400 administration functions. If you are defined as a fax administrator, you can use the fax administration functions to set up and customize the Facsimile Support for AS/400 product to the needs of your business.

The tasks of a fax administrator include:

- Creating additional fax profiles
- Editing, changing, viewing, or removing another user's fax profile
- Working with received faxes that are not automatically routed to a specific user
- Configuring Enhanced Services
- Starting or ending Enhanced Services
- Working with Enhanced Services jobs

If you are not an administrator, you may not be able to perform the tasks that are described in this chapter. You can find information on using the Facsimile Support for AS/400 product in the *Facsimile Support for AS/400 User's Guide*.

Becoming a Fax Administrator

To perform administration tasks, you must sign on the AS/400 system as a fax administrator. Your fax profile must identify you to the system as a fax administrator. The system security officer (QSECOFR) or another fax administrator can update your fax profile for you.

To identify a user as a fax administrator, sign on the AS/400 system as either the security officer or a fax administrator. Create or edit a fax profile and specify 1 (Yes) for the administrator parameter. Refer to the *Facsimile Support for AS/400 User's Guide* for information on creating and editing fax profiles.

Creating Additional Fax Profiles

Once you are a Fax Administrator, you can create additional fax profiles. You can do so in either of the following ways:

- For all user profiles on the system to which you are authorized. To do this, select option 2 (Create Fax Profile) on the Fax Profile menu. See the *Facsimile Support for AS/400 User's Guide* for details. For information on the Create Fax Profile (CRTFAXPRF) command parameters, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.
- For individual users. To do this, select option 1 (Work with Fax Profiles) on the Fax Profile menu, then use the F6 key to create a fax profile. See the *Facsimile Support for AS/400 User's Guide* for information on creating individual fax profiles.

Changing, Viewing, or Removing Another User's Fax Profile

Users with fax profiles can view and change only their own profiles. The fax administrator can not only change and view any user's fax profile, but can also delete fax profiles. A fax administrator can use option 1 (Work with Fax Profiles) on the Fax Profile menu to do this.

Working with Received Faxes Not Automatically Routed to a User

Sometimes received faxes are not automatically routed to a specific user. In this case, the fax administrator has the authority to work with those faxes and route them to the appropriate users. See the *Facsimile Support for AS/400 User's Guide* and the *Facsimile Support for AS/400 Programmer's Guide and Reference* for more information on the Work with Received Faxes (WRKRCVFAX) command.

Using the Administration Menu

The administration functions are available through the Facsimile Support for AS/400 Administration menus. To work with the administration menus, select option 1 (Administration) on the Facsimile Support for AS/400 main menu. The Administration menu appears.

This menu has two sections:

- Main Facsimile Support for AS/400 functions (options 1-9)
- Enhanced Services functions (options 21-26 and 40)

```
FAXADM                               Administration

Select one of the following:

    1. Create Fax Description
    2. Delete Fax Description
    3. Add Fax Card
    4. Remove Fax Card
    5. Print Fax Configuration
    6. Start Fax Support
    7. End Fax Support
    8. Fax Support Jobs
    9. Display Fax Operator Messages

Enhanced Services:
    21. OfficeVision for AS/400 Enablement
    22. Status Job

Selection or command
====>

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=System main menu

More...
```

Administration Options

The following administration options are available. For detailed information about the fax commands, see the *Facsimile Support for AS/400 Programmer's Guide and Reference* manual.

Create Fax Description

This option allows you to create a fax description. The fax description

provides information about the external fax controller, the Integrated Fax Adapter, the 7852-400 modem, or the PCI Based Integrated Remote Access hardware.

This option describes how the external fax controller, Integrated Fax Adapter, 7852-400 modem, or PCI Based Integrated Remote Access hardware is connected to the AS/400 system. Choosing this option is the same as entering the Create Fax Description (CRTFAXD) command.

Delete Fax Description

This option allows you to delete a fax description. Choosing this option is the same as entering the Delete Fax Description (DLTFAXD) command.

Add Fax Card

This option allows you to add the description of a fax card to a fax description. Choosing this option is the same as entering the Add Fax Card (ADDFAXCRD) command.

Remove Fax Card

This option allows you to remove the description of a fax card from a fax description. Choosing this option is the same as entering the Remove Fax Card (RMVFAXCRD) command.

Print Fax Configuration

This option creates a report that contains pertinent information from the fax configuration file (QAFFCFG). You can use this report to document the configuration of all fax descriptions on the system, as well as to help with problem analysis. Choosing this option is the same as entering the Print Fax Configuration (PRTFAXCFG) command.

Start Fax Support

This option starts the QFAXSBS subsystem, the Facsimile Support for AS/400 jobs, the jobs that are associated with each fax description name, and the Facsimile Support for AS/400 product in each fax controller. This option also starts the QFQSBS subsystem and all associated Enhanced Services jobs. Choosing this option is the same as entering the Start Fax Support (STRFAXSPT) command. You must be a fax administrator to start Enhanced Services.

End Fax Support

This option ends the jobs associated with each fax description name and ends the Facsimile Support for AS/400 product in each fax controller. This option ends the QFQSBS subsystem and all associated Enhanced Services jobs. Choosing this option is the same as entering the End Fax Support (ENDFAXSPT) command. You must be a fax administrator to end Enhanced Services.

Fax Support Jobs

This option allows you to review the statuses of the Facsimile Support for AS/400 jobs that are running in the QFAXSBS subsystem.

Display Fax Operator Messages

This option displays any messages that the QFAXOPR message queue receives.

OfficeVision Enablement

This option enables or disables the Facsimile Support for AS/400 product and OfficeVision integration. If you enabled the OfficeVision product, you can send a fax directly from OfficeVision functions, such as Send a Note or Send a Document. Choosing this option is the same as entering the Configure Fax Services (CFGFAXSRV) command with *ENABLEOV400

specified for the OPTION parameter. For more information about fax features within the OfficeVision product, see the *Facsimile Support for AS/400 User's Guide*.

Status Job

This option allows you to start the outbound status job. This option also allows you to specify a duplicate status data queue, which makes the status information available to user applications. Outbound faxes sent by the SBMFAX command require this status job to receive completion messages. Choosing this option is the same as entering *STSJOB for the OPTION parameter of the CFGFAXSRV command.

```
Administration

Select one of the following:
23. Automatic Outbound Fax Resend
24. Cleanup Job
25. Update Job
26. Inbound Options
40. Enhanced Services Jobs

Bottom

Selection or command
===>

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F16=System main menu
```

Automatic Outbound Fax Resend

This option allows fax support to automatically retry failed faxes. You can specify the type of failures to retry, the number of times to retry, and the delay interval between retries. Choosing this option is the same as specifying *RETRY for the OPTION parameter on the CFGFAXSRV command.

Cleanup Job

This option allows you to determine if the cleanup job should be started and, if so, when to start the cleanup job. When the specified retention period passes, the cleanup job removes outbound faxes, inbound faxes, and all associated log entries. Choosing this option is the same as entering *CLNUPJOB for the OPTION parameter on the CFGFAXSRV command.

Update Job

This option allows you to start a user update job at a specified time. You can use an update program to update other databases with fax information, or update fax databases with user information. Choosing this option is the same as entering the *UPDJOB value for the OPTION parameter on the CFGFAXSRV command.

Inbound Options

This option consists of a variety of parameters that determine how your incoming faxes are handled. It allows you to do the following tasks:

- Start a receive dispatcher job and place that information into a default or user-specified data queue. This job starts the other jobs required for functions such as TSI routing and configured receive functions.
- Automatically print a received fax to a predetermined print device or output queue.

- Automatically file a received fax as a document in a default or specified folder.
- Route incoming faxes. See the *Facsimile Support for AS/400 User's Guide* for more information on routing faxes.

Enhanced Services Jobs

This option allows you to view the status of the Enhanced Services jobs that are running in the QFQSBS subsystem.

As the administrator, you may also need to work with fax profiles, master lists, distribution lists, and inbound and outbound faxes. You can do so by selecting the appropriate options on the Facsimile Support for AS/400 main menu. See the *Facsimile Support for AS/400 User's Guide* for more information.

Configuring Enhanced Services

After you have installed the Facsimile Support for AS/400 product, you need to configure the Enhanced Services if you plan to use it. The Configure Fax Services (CFGFAXSRV) command allows you to customize the Enhanced Services to meet your needs. To use the CFGFAXSRV command, you must be a fax administrator. You can specify the *ALL option, or use the appropriate options on the fax Administration menu.

The first time you install the Enhanced Services, you **must** run the CFGFAXSRV command. This creates the data area (QFQCFG) that all of the Enhanced Service functions use. For options *ENABLEOV400 or *ALL, you must have *SECADM special authority.

The following sections show how to configure the Enhanced Services. For detailed information on any of the CFGFAXSRV parameters, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

Enabling OfficeVision

If you have OfficeVision installed on your system, you can use OfficeVision Enablement to integrate it with the Facsimile Support for AS/400. To do so, perform the following steps:

1. Select option 21 from the Administration menu. The following display appears:

```

                                Configure Fax Services (CFGFAXSRV)

Type choices, press Enter.

Configuration option . . . . . > *ENABLEOV400  *ALL, *ENABLEOV400...
Fax & OfficeVision/400 Enabled  *ENABLE      *ENABLE, *DISABLE, *NON
Document print device . . . . . FAXPRT      Name, *NONE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

2. Specify *ENABLE. This allows users to send and view faxes from the OfficeVision product. For more information about using fax features within the OfficeVision product, see the *Facsimile Support for AS/400 User's Guide*.

- Specify the printer device name to use when printing a document to be faxed. The document printer device must be of type *IPDS and capable of Advanced Function Printing.

Note: The specified printer device should not be an active device.

Because the device name overrides the printer that you specified in the document option, we recommend that you specify a printer. If you specify *NONE, fax support uses the printer specified by the document option. If the document option specifies an active printer, the document prints before it is faxed.

Starting a Status Job

You can specify whether the outbound fax status job should be started. To do so, select option 22 from the Administration menu. The Configure Fax Services display appears, as follows:

```

                                Configure Fax Services (CFGFAXSRV)

Type choices, press Enter.

Configuration option . . . . . > *STSJOB          *ALL, *ENABLEOV400...
Start outbound fax status job . *YES             *YES, *NO
Duplicate status data queue . . *NONE           Name, *NONE
Library . . . . .                      Name, *LIBL

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

From this display, you can start an outbound status job and specify a duplicate status data queue to update. The status job provides completion status information for outbound faxes. If you specify a duplicate data queue, it contains mirrored status information. User applications can use this duplicate data queue.

Note: You must start a status job if you plan to use the Check Fax Status (CHKFAXSTS) command to check status.

Automatically Resending Outbound Faxes

You can specify whether or not failed faxes should be automatically be resent. To do so, select option 23 from the Administration menu. The following display appears:

```

                                Configure Fax Services (CFGFAXSRV)

Type choices, press Enter.

Configuration option . . . . . > *RETRY          *ALL, *ENABLEOV400...
Retry failed fax send . . . . . *YES           *YES, *NO
Retry delay . . . . . *CURRENT             *CURRENT, 1 - 60 minutes
Maximum retries . . . . . 03                01-99
Retry message identifiers:
  Message ID . . . . . FAXC70E             FAXnnnn, Value

  Message ID . . . . . FAXC703             FAXnnnn, Value

  Message ID . . . . . FAXC702             FAXnnnn, Value
                                + for more values

```

From this display, you can specify the circumstances for which fax support should resend a fax. This function applies only to outbound faxes.

If you specify *YES for Retry failed fax send parameter, fax support tries to resend a failed fax. The remaining parameters on this display allow you to determine how the fax should be resent. Specify the following:

- The number of minutes to wait before attempting to resend the failed fax. If you select *CURRENT, the system tries to resend the fax immediately.
- The number of times (1 to 99) that fax support should try resending the fax before sending a final failure message.
- The Facsimile Support for AS/400 message identifiers that fax support is to monitor for in the Retry message identifier parameter. You can specify up to 50 message identifiers. Only FAXC7xx identifiers are valid. When a failed fax results in one of the message identifiers you specify, fax support tries to resend the fax.

The following list shows the message identifiers for problems that can occur during the send process. You can include some or all of these identifiers in your retry list:

- FAXC701**
Call Time-out/No Answer
- FAXC702**
Phone Number Busy
- FAXC703**
Answering Device Not a Fax Device
- FAXC705**
No Dial Tone
- FAXC708**
Line Error
- FAXC709**
Remote Fax Device Failed
- FAXC70E**
Number in Use by Another Fax Port

Cleanup Job

The cleanup job removes from your AS/400 system fax information that is no longer needed. It removes outbound faxes, inbound faxes, and all associated entries when the specified retention period has been exceeded.

Outbound cleanup deletes the status record in the QAFQSND file. If authorized, it also deletes from the spooled file entries with the following status when the number of days for retention are exceeded:

- Finished
- Errors occurred
- Error reset

Inbound cleanup removes the following:

- The member from the fax database file
- The entry from the QAFQRCV file
- Associated routing entries from the QAFQRLG file

Inbound cleanup does *not* delete the spooled files that are created when you print faxes or the documents that are created when you file faxes.

To specify whether to start the cleanup job, select option 24 on the Administration menu. The following display appears:

```
Configure Fax Services (CFGFAXSRV)

Type choices, press Enter.

Configuration option . . . . . > *CLNUPJOB      *ALL, *ENABLEOV400...
Start fax cleanup job . . . . . *YES          *YES, *NO
Log & fax retention days . . . . 010          1-999
Cleanup start time . . . . . 220000         Time

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

Specify *YES for the STRCLNJOB parameter to start the cleanup job. You must also specify the following:

- The number of days to keep inbound and outbound faxes and their associated logs
- The time of day that the cleanup job should begin

Update Job

This option allows you to start a user update job. You can use an update program to update other databases with fax information or update fax databases with user information. Specify the name and library of the program to run when fax support receives a fax.

Note: If Enhanced Services is already started when you select this option, you must end Enhanced Services and then restart it before the change can take effect. (Use the ENDFAXSPT and STRFAXSPT commands to end and start fax support.)

From the Administration menu, select option 25. The following display appears:

```

                                Configure Fax Services (CFGFAXSRV)

Type choices, press Enter.

Configuration option . . . . .> *UPDJOB          *ALL, *ENABLEOV400...
Start user update job . . . . . *YES            *NO, *YES
  Program . . . . . PGM1                Name, *NONE
    Library . . . . . TEST              Name, *LIBL
Update start time . . . . . 220000      Time

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Do the following:

- Specify *YES for the Start user update job parameter to start the update job.
- Specify the name of the program to perform updates on fax or user databases for the Program parameter.
- Specify the time of day when the update job should begin running for the Update start time parameter.

Inbound Options

You can determine how Enhanced Services handles inbound faxes. You can specify the following:

- The data queue to receive the notification of a received fax
- Whether the fax is automatically printed or filed as a document in a folder
- Whether routing should be attempted and, if so, what type of routing
- Whether to start a user receive program for handling received faxes
- Whether the user receive program should update any fax databases

Note: If Enhanced Services is already started when you select this option, you must end and then restart Enhanced Services for the change to take effect. (Use the ENDFAXSPT and STRFAXSPT commands.)

From the Administration menu, select option 26. The following display appears:

```

Configure Fax Services (CFGFAXSRV)

Type choices, press Enter.

Configuration option . . . . . > *INBOUND      *ALL, *ENABLEOV400...
Start inbound fax receive job . *YES      *YES, *NO
Receive data queue . . . . . QFFRCVDQ      Name, QFFRCVDQ
Library . . . . . *LIBL      Name, *LIBL
Duplicate receive data queue . *NONE     Name, *NONE
Library . . . . . *LIBL      Name, *LIBL
Print all received faxes . . . *NO       *YES, *NO
Fax print device . . . . . *JOB      Name, *JOB, *SYSVAL
Number of copies . . . . . 001          1 - 255
Start page . . . . . 00001          00001 - 99999
End page . . . . . *END          1 - 99999, *END
Paper size . . . . . *LETTER      *LETTER, *LEGAL, *A4, *
Mapping value . . . . . *POSITION  *POSITION, *CENTER, *SC
Delete fax after print . . . . *NO       *NO, *YES
File all received faxes . . . *YES      *YES, *NO
Document . . . . . *GENERATE    Name, *GENERATE
More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

```

Configure Fax Services (CFGFAXSRV)

Type choices, press Enter.

Folder . . . . . 'RCVFAX'

Document type . . . . . *RFTDCAFAX *RFTDCAFAX, *RFTDCA...
Paper size . . . . . *LETTER      *LETTER, *LEGAL, *A4, *
Mapping value . . . . . *POSITION  *POSITION, *CENTER, *SC
Delete after file . . . . . *NO       *NO, *YES
Start fax routing . . . . . *YES      *NO, *YES
Fax routing type . . . . . *BOTH     *TSI, *TONE, *BOTH
Start user receive program . . *NO       *NO, *YES
Program . . . . . *NONE      Name, *NONE
Library . . . . . *LIBL      Name, *LIBL

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

From this display, you can specify the following:

- Whether the receive dispatcher job is to be started
- The name of the data queue and the library that is to receive the status information

Note: Enhanced Services supports only one receive data queue. If you specify a different data queue for each card, Enhanced Services functions recognize only the faxes that are received from the card with this data queue name. You can specify the data queue name on the Add Fax Card (ADDFAXCRD) command.

- The name of the data queue and library that is to receive the duplicate information.

Note: When you start Enhanced Services, it monitors the default receive data queue, QFFRCVDQ. Information in that data queue is no longer available to other applications. If you enable Enhanced Services on your system,

you should use this parameter to create a duplicate receive data queue. Your application can then monitor the duplicate receive data queue to obtain the routing codes for DMTF routing.

- Whether to automatically print the received fax.
- The device to use for printing received faxes.
- The number of copies to print.
- The starting page number to be used when printing a fax.
- The page on which to end when printing a fax.
- The paper size to use when formatting the fax.

Note: The paper size determines the size of the output area for a printed or displayed fax. Due to the boundary areas printers require, the output area is slightly smaller than the specified paper size.

- Placement of the fax image in the output area.
- Whether or not the fax should be deleted from the database after it is printed.
- Whether a received fax is to be filed as a document in a folder.
- The document name for filing the received fax.
- The name of an existing folder in which to file the document.
- The document type to be used when filing the received fax.
- The paper size to use when formatting the fax.
- How the fax image is placed in the output area.
- Whether to delete the fax after filing it.
- Whether received faxes should be routed based on TSI, tone, or both
- Whether fax routing should be based on TSI, tone, or both
- Whether to start a user application program for handling the received fax.
- The name of the program to handle received faxes.

For more information on any of these parameters, see the CFGFAXSRV command in the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

Integrating the Facsimile Support for AS/400 Product with the AnyMail/400 Mail Server Framework

This section provides the information that is required to set up your system for integrating the Facsimile Support for AS/400 product with the AnyMail/400 Mail Server Framework product. For more information, see the *AnyMail/400 Mail Server Framework Developer Guide*, GC24-4449.

Prerequisite

Before using the AnyMail/400 Mail Server Framework product, you must add fields to the system directory attributes that are used by the AnyMail/400 Mail Server Framework product. Fax support requires these user-defined fields. Use the Change Fax System Directory Attributes (CHGFAXSDA) command to add these fields. For details on this command, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

Setting Up Your System Distribution Directory

The system distribution directory is similar to an address book. Electronic mail support uses the system distribution directory on the AS/400 system. If you are using the system distribution directory, you must add a directory entry for each fax recipient for whom you want to use this function. The system distribution directory entries associate the mail addresses with the fax telephone numbers, master list entries, or distribution lists. The user-defined fields in the directory entry should match fax master list or fax distribution list entries you already created using the Facsimile Support for AS/400 Enhanced Services. Each entry should have a unique User ID and address. For example, you might assign a User ID with an address of FAX to represent the person or company who uses the fax.

The displays in this section provide an example. They show how to add a system distribution directory entry for a fax machine in the Accounts Receivable department of ABC Office Furniture Company. The user to receive these faxes is Scott Jones, who works in the Accounts Receivable department. In this example, we want to use the information in the fax master list, so we do not specify a FAX telephone number.

The fax master list entry in our example is as follows:

Destination	Identifier	Entry
ABC Office Furniture Co	9876	Accounts Receivable

To add an entry, use the Work with Directory Entries (WRKDIRE) command. When you press Enter, the following display appears:

```
Work with Directory Entries

Type options, press Enter.
 1=Add      2=Change  4=Remove  5=Display details  6=Print details
 7=Rename  8=Assign different ID to description  9=Add another description

Opt  User ID  Address  Description
 1  ACCOUNTS  FAX      Scott Jones at ABC Accounts Receivable
    SMITH     S&G      Toni Smith at Smith and Gray Co.
    RECORDS   CHI      Records Department in Chicago Office
    FOGG      SYS15    June Fogg

More...

F3=Exit    F5=Refresh  F9=Work with nicknames  F11=Sort by description
F12=Cancel F13=Work with departments  F17=Position to  F24=More keys
```

Select option 1=Add on the Work with Directory Entries display. The Add Directory Entry display appears, as follows. You must complete the fields on the Add Directory Entry display as they are described in the remainder of this section. All of the fields for the Add Directory Entry display appear. You need to specify only the required fields, as they are described in this section. Depending on your own needs, you might also choose to enter the optional information.

```

                                Add Directory Entry

Type choices, press Enter.

User ID/Address . . . . ACCOUNTS FAX
Description . . . . . Scott Jones at ABC Accounts Receivable
System name/Group . . . FAX                F4 for list
User profile . . . . .                      F4 for list
Network user ID . . . .

Name:
  Last . . . . .
  First . . . . .
  Middle . . . . .
  Preferred . . . . .
  Full . . . . .

Department . . . . .
Job title . . . . .
Company . . . . .
                                More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F14=Add X.400 O/R name
F18=Display location details F19=Add name for SMTP F24=More keys

```

User ID/Address

Enter the User ID and address for this entry. In our example, the user ID is ACCOUNTS at address FAX. A fax machine resides at this address, for use by the Accounts Receivable department at ABC Office Furniture Company.

Description

Enter a description of the user for whom you are adding this entry. In our example, this is Scott Jones at ABC Accounts Receivable.

System name/Group

For a fax entry, you must not enter an actual system name. Instead, enter FAX as the system name. Do not use the Group field. When you press the Enter key, the following message appears:

System name and group not found. Press Enter to confirm.

This is not an error; ignore this message and press the Page Down key to continue.

```

                                Add Directory Entry

Type choices, press Enter.

Telephone numbers . . .

FAX telephone number 765-4321

Location . . . . . F4 for list

Building . . . . .
Office . . . . .

Mailing address . . . .

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F14=Add X.400 O/R name
F18=Display location details F19=Add name for SMTP F24=More keys

```

FAX telephone number

Enter the fax telephone number for the fax recipient. If you are using a fax distribution list or fax master list entry, you do not need to enter the FAX telephone number field. Instead, you must complete the information in the user-defined fields. In our example, we are using a fax master list entry, so we will leave the FAX telephone number field blank.

```

                                Add Directory Entry

Type choices, press Enter.

Indirect user . . . . N Y=Yes, N=No
  For choice Y=Yes:
    Print private mail N Y=Yes, N=No

Print cover page . . . = Y=Yes, N=No
Mail notification . . . = 1=Specific types of mail
                                     2=All mail
                                     3=No mail

  For choice 1=Specific types of mail:
    Priority, private,
      important mail = Y=Yes, N=No
    Messages . . . . = Y=Yes, N=No

Text . . . . .

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F14=Add X.400 O/R name
F18=Display location details F19=Add name for SMTP F24=More keys

```

To view more parameters, use the Page-down key.

```

                                Add Directory Entry

Type choices, press Enter.

Mail service level . . . 9                                1=User index
                                                            2=System message store
                                                            4=Lotus Domino
                                                            9=Other mail service

For choice 3=Other mail service:
Field name . . . . . QFAXSRVLVL QFAX                    F4 for list

Preferred address . . . . 9                                1=User ID/Address
                                                            2=O/R name
                                                            3=SMTP name
                                                            9=Other preferred name
                                                            F4 for list

Address type . . . . . FAXDESTA
For choice 4=Other preferred address:
Field name . . . . . QFAXDEST QFAX

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F14=Add X.400 O/R name
F18=Display location details F19=Add name for SMTP F24=More keys

```

Mail service level

Select option 9=Other mail service, then specify the field name for the mail service level, QFAXSRVLVL QFAX.

Preferred address

This is the address that represents the system distribution directory entry. Select option 9=Other preferred name, then enter the Field name. The Field name you specify must be consistent with the information you specify for the User-defined fields.

- Address type must be one of the following:
 - FAXTELNB for a fax telephone number
 - FAXDESTA for a fax master list entry
 - FAXDISTA for a fax distribution list
- Field name consists of two values: a field name and a product ID. Complete the Field name as follows:
 - For a fax telephone number, specify: FAXTELNBR *IBM
 - For a fax master list entry, specify: QFAXDEST QFAX
 - For a fax distribution list entry, specify: QFAXDIST QFAX

The Field name must match the Address type you specified, and must have a corresponding product ID. The following table shows the relationship between these values:

Preferred Address	Field name	Product ID
FAXTELNB	FAXTELNBR	*IBM
FAXDESTA	QFAXDEST	QFAX
FAXDISTA	QFAXDIST	QFAX

In our example, we specified FAXDESTA because we are using a fax master list entry.

User-defined fields

You must specify these fields if you are using a fax distribution list or fax master list entry. To enter the User-defined fields, press the F20 key. (You can use F24=More keys to display more function keys.) The following display appears:

Specify User-Defined Fields

Type choices, press Enter.

QFAXDEST QFAX ABC Office Furniture Co\9876\Accounts Receivable

QFAXDIST QFAX

More...

F3=Exit F5=Refresh F12=Cancel

The User-defined fields allow users to access entries in the fax master list and fax distribution lists you have already set up through the Facsimile Support for AS/400 product. This simplifies the task of finding the fax recipient when more than one person uses the fax machine. It also allows you to tie the entry to a Facsimile Support for AS/400 master list entry to allow for a customized cover page.

The information you specify for the User-defined fields must be consistent with the Field name and ID you previously specified for the Preferred address. If you specified a fax telephone number (FAXTELNB) for the preferred address, fax support does not use the User-defined fields.

Field name

The value you enter for the Field name depends on the information you specified for the Preferred address. The following values are valid for the Field name:

- To use a fax distribution list, specify QFAXDIST. You must also specify a Preferred address of FAXDISTA.
- To use a fax master list entry, specify QFAXDEST. You must also specify a Preferred address of FAXDESTA.

Product ID

Enter QFAX.

Value Use this field to specify the fax distribution list or master list entry. Enter the Value as it appears on the fax distribution list or fax master list, in the following format:

destination\identifier\entry

For example:

ABC Office Furniture Co\9876\Accounts Receivable

You must specify the Destination, ID, and Entry positionally. If you omit one of these values, you must specify the corresponding delimiter (/). For example, to omit the ID, you must specify the entry as follows:

ABC Office Furniture Co\\Accounts Receivable

To omit the ID and entry for a simple destination, you might specify the entry as follows:

ABC Office Furniture Co\\

Simple Mail Transfer Protocol and Post Office Protocol

If you are using the TCP/IP Simple Mail Transfer Protocol (SMTP) or Post Office Protocol (POP3), you must add the SMTP name. Do this after you have added the entries to the system distribution directory. To add the SMTP name, use the Work with Name for Simple Mail Transfer Protocol (WRKNAMSMTP) command or Work with Directory Entry (WRKDIRE) command.

In our example, we need to add an SMTP name for Accounts Receivable at ABC Office Furniture Co. We can do this by entering the WRKNAMSMTP command and selecting option 1. The Work with Names for SMTP display appears with a list from which we can select User IDs. When we select option 1=Add and press the Enter key, the Add Name for SMTP display appears:

```

                                     Add Name for SMTP
                                     System:  SYS01
Type choices, press Enter.
User ID . . . . . ACCOUNTS  Character value, *ANY, F4 for list
Address . . . . . ABC       Character value, F4 for list

SMTP user ID . . . . . ACCOUNTS
SMTP domain . . . . . SYS1.MYTOWN.MYCOMPANY.COM

SMTP route . . . . .
```

To use the WRKDIRE command, enter the command, select option 2 on the appropriate entry, then press the F19 key. In our example, we selected the ACCOUNTS ABC entry. The following display appears:

```

                                     Change Name for SMTP
                                     System:  SYS01
User ID/Address . . . . . : ACCOUNTS ABC

Type choices, press Enter.

SMTP user ID . . . . . ACCOUNTS
SMTP domain . . . . . SYS1.MYTOWN.MYCOMPANY.COM

SMTP route . . . . .
```

For more information about SMTP, see the *TCP/IP Configuration and Reference* book.

Examples of Mailing from a Post Office Protocol Client

The following examples show how to send mail from a Post Office Protocol (POP3) client. For more information about the POP3 Mail Server, see the *TCP/IP Configuration and Reference* book.

Example 1

In this example, the AS/400 system distribution directory contains the address. The entry defines the SMTP name.

```
Mail to accounts@SYS1.MYTOWN.MYCOMPANY.COM
```

Example 2

In this example, the AS/400 system distribution directory contains the address. The SMTP name is not defined.

```
Mail to accounts?abc@SYS1.MYTOWN.MYCOMPANY.COM
```

Example 3

You can use a client installation that supports AD HOC fax telephone numbers. CCMAIL V7.0, when Client Access Optimized for Windows 95 MAPI support is used, is an example. You do not need a system distribution directory entry. You need only type in the telephone number and press the Enter key.

Note: This function is supported only if you installed the Facsimile Support for AS/400 product on the same system that you have defined as your POP3 server.

Network Faxing

If you have more than one AS/400 system in a network, you can fax electronic mail from remote systems. For example, assume that SYSOH002 is a remote AS/400 system. Users of this system want to be able to use fax support on system SYSOH001 to send electronic mail as faxes. You may have configured your network to allow users to send files and mail between systems. If so, you might add the following entry to the system distribution directory on the remote AS/400 system:

```
ADDIRE USRID(ACCOUNTS ABC)
USRD('Scott Jones at accounts receivable of ABC CO.')
SYSNAME(RCHASXXX) LSTNAM(JONES)
FSTNAM(SCOTT) DEPT('ACCOUNTS R')
CMPNY('ABC OFFICE FURN CO')
```

USERID(ACCOUNTS ABC) must be a valid fax address in the system distribution directory on system SYSOH001.

Once you have correctly set up the directory entries, users can begin using the AnyMail/400 Mail Server Framework product to send electronic mail as faxes.

AnyMail/400 Mail Server Framework Installation

Facsimile Support for AS/400 integration with the AnyMail/400 Mail Server Framework product occurs when you install the Facsimile Support for AS/400 product. The installation process creates the following objects:

- QFAXMSF user profile. This profile owns the exit point programs and has access to the framework application program interfaces.
- QMSF user profile and fax profile. This profile owns all faxes that are submitted through the AnyMail/400 Mail Server Framework product.
- QUSRSYS/QFQMSFQ output queue. The QUSRSYS library contains this output queue. This output queue temporarily stores your electronic mail while fax support converts it to a faxable format. This output queue holds mail items until the Facsimile Support for AS/400 product processes them. In the event of an error, you may want to remove any unwanted files from this output queue.
- QFAX/QPFQMSF printer file. The Facsimile Support for AS/400 product uses this printer file when converting electronic mail to spooled files.
- QFAX/QPFQMSF1 printer file. This printer file supports portrait faxes. (See “Landscape and Portrait Style Faxes” on page 66 for a description.)
- QUSRSYS/QFQMSFDAQ data queue. The Facsimile Support for AS/400 product uses this data queue for reporting status.
- AnyMail/400 Mail Server Framework exit point programs that are requested for the following:

QFAX/QFQADRS

Address resolution

QFAX/QFQMSGF

Message forwarding

QFAX/QFQATTC

Attachment conversion

QFAX/QFQNOND

Non-delivery

You should include these objects in normal save and restore operations. If you save all spooled files, you may have to remove any unwanted spooled files from the QUSRSYS/QFQMSFQ output queue after a restore operation.

The following shows the registered AnyMail/400 Mail Server Framework address types:

- 01AE** Fax destination address type
- 01AF** Fax distribution address type
- 01A9** Fax telephone address type
- 02A9** Fax message type
- 04A9** Fax spooled file attachment type

Monitoring for Status

The AnyMail/400 Mail Server Framework checks whether a fax profile exists for the sending user ID. If a fax profile exists, AnyMail issues the Submit Fax (SBMFAX) command from that user ID. If no fax profile exists, AnyMail uses the default fax profile, QMSF, to submit the SBFAX command. This allows users to take advantage of the flexibility of fax profiles. Customized cover pages are an example. See the *Facsimile Support for AS/400 User's Guide* for information on monitoring the status of outbound faxes and for details on automatic notification of fax status.

Authority Considerations

From time to time, you might need to delete outbound faxes. As the administrator, you may want to change the authority to the QMSF fax profile to give the security officer (QSECOFR) or another user authority to delete QMSF outbound faxes. You can edit the authority of outbound faxes by selecting option 14=Authority from the Work with Fax Profiles display.

Landscape and Portrait Style Faxes

The Facsimile Support for AS/400 product supports landscape and portrait style faxes. The fax style is determined as follows:

- If you specify the Send Network Spooled File (SNDNETSPLF) command with a data format of *ALLDATA, the attribute of the original spooled file determines the fax style.
- If you specify the SNDNETSPLF command with a data format of *RCDDATA, the printer file QFAX/QPFQMSF determines the style. The width of the output on this printer file attribute is 132, which causes a landscape style fax.
- If OfficeVision sends the fax, the attributes of the printer file QFAX/QPFQMSF1 determine the fax style. The output width on this printer file attribute is 85, which results in a portrait style fax.

As the system administrator, you can change the attributes of printer files to change the fax style, if necessary.

Installation and Setup Procedures for Faxing Personal Computer Documents

This section tells you how to set up the Client Access AFP printer driver for faxing personal computer documents. The following steps tell you what values to use in configuring the Advanced Function Printing (AFP) driver. For information on configuring the AFP printer driver and the Client Access for Windows virtual print function or Client Access OS/2 network print function, see your Client Access documentation.

1. Install Client Access.
 - If you are using Windows 3.1, install Client Access for Windows (Version 3 Release 1 Modification 3 or later). (See "Setting Up Client Access for Windows 3.1" on page 67.)
 - If you are using IBM Operating System/2 (OS/2), install Client Access for OS/2 (Version 3 Release 1 Modification 1 or later). (See "Setting Up Client Access Optimized for OS/2 on OS/2 Warp" on page 69.)
 - If you are using Windows 95 or Windows NT, install Client Access for Windows 95 (Version 3 Release 1 Modification 0 or later). (See "Setting Up Windows 95 for faxing PC Documents" on page 71.)
2. Install the Facsimile Support for AS/400 product, Version 4 Release 4 Modification 0, on your AS/400 system. For instructions, see "Chapter 2. Installing and Managing the Facsimile Support for AS/400 Product on the AS/400 System" on page 3.
3. Use the Start Fax Support (STRFAXSPT) command to start the Facsimile Support for AS/400 product. This starts the Enhanced Services and creates the QFQFS4PRTD printer device. Faxing personal computer documents requires

this printer device. The QFQFAXSRV job runs in the QFQSBS subsystem, and processes the personal computer documents as the QFQFS4PRTD output queue receives them. See the *Facsimile Support for AS/400 Programmer's Guide and Reference* for more information on the STRFAXSPT command.

4. Configure a Client Access for OS/2 network printer port or a Client Access for Windows 3.1, Windows 95, or Windows NT virtual printer port. When you configure the port, specify the following values:
 - Select the local device name (LPTx, where x is any number from 3 through 9). (When using Windows 3.1, you should not select LPT1 or LPT2. You can use LPT1.DOS and LPT2.DOS.) You can choose any port value, as long as that port is not already in use.
 - Specify the name of the AS/400 system on which you installed the Facsimile Support for AS/400 product.
 - Specify QFQFS4PRTD for the printer device. The first time you start the Facsimile Support for AS/400 product, it creates the QFQFS4PRTD printer device for you.
 - Specify Advanced Function Printing data stream (AFPDS) for the printer data type.
5. Do the following to set up the AFP printer driver:
 - Install the AFP printer driver. When you install the driver, a list of supported printer devices appears on the display. Select the Facsimile Support/400 printer device.
 - Assign the driver to the port (LPT1-LPT9) you previously specified in step 67.

When you have completed these steps, you should be able to fax personal computer documents. See the *Facsimile Support for AS/400 User's Guide* for details.

The following sections provide detailed examples of how you might set up a Client Access AFP printer driver for faxing personal computer documents. Remember that these are examples, and that instructions for setting up your own particular software and equipment may vary.

Note: In the remainder of this chapter, the term *Client Access* refers to Version 3 Release 1 Modification 3 of the Client Access product.

Before you begin the setup procedures in the remainder of this chapter, you should determine the following:

- Your AS/400 system name
- Your AS/400 system address

The *Facsimile Support for AS/400 User's Guide* Provides details on how to fax documents from a personal computer application.

Setting Up Client Access for Windows 3.1

The following information shows how you can set up a printer driver for faxing PC documents. This section assumes that you have already installed and set up your Client Access product.

Configuring a Client Access Virtual Printer

1. To configure a Client Access virtual printer port from the Client Access for Windows window, double-click on the *Configuration* icon.

2. From the Client Access Configuration window, double-click on the *Virtual Printers* icon.
3. Click on *Add...* from the Virtual Printer Configuration window.
4. From the Add Printer Definition window, select an available *Local device name* (LPTx, where x is a number from 3 through 9). In this example, we used *LPT9*.
5. Specify the name of the system that has the latest version of the Facsimile Support for AS/400 product installed.
6. Click on *Select specific printer device* and specify *QFQFS4PRTD* for the printer device.
7. Click on the *Select specific printer file* box to remove the X.
8. Click on *Advanced options* to change the printer data type to *AFPDS*.
9. Click on the Down Arrow for *Printer data type* and choose *AFPDS data* from the list.
10. Click on *OK* from the following windows:
 - Advanced Virtual Printer Options
 - Add Printer Definition
 - Virtual Printers Configuration

Installing the AFP Printer Driver

This section provides instructions for installing your Advanced Function Printing (AFP) printer driver. If you plan to fax personal computer documents, you must install the AFP printer driver.

1. To install the AFP printer driver, double-click on *Printer Drivers* from the Client Access Configuration window.
2. From the Printer Drivers Configuration window, select *Display AFP Printer Drivers*.
3. From the list of device drivers, select *IBM AFP Facsimile Support/400* by clicking on that option.
4. From the list of printer ports, select the same port you previously selected (in this example, LPT9) and click on *Install*.
5. Once the following message appears at the bottom of the Printer Drivers Configuration window, click on *Close*:
 IBM AFP Facsimile Support/400 Installed Successfully
6. Close the Client Access Configuration window, saving the changes.
7. From the Program Manager, exit Windows and restart your personal computer.

Setting Your IBM AFP Facsimile Support for AS/400 Printer as the Default Printer

If no default printers exist, you may need to set the *IBM Facsimile Support/400 printer* as the default printer to print from some Windows applications.

1. From the Main window, double-click on the *Control Panel*.
2. Double-click on the *Printers* icon from the Control Panel window.
3. From the Printers window, highlight *IBM AFP Facsimile Support/400 - LPT9* and click on *Set As Default Printer*.
4. Click on *Close* from the Printers window.
5. From the Program Manager, double-click on the *Client Access for Windows* icon.

6. From the Client Access for Windows window, double-click on the *Client Access Startup* icon.
7. Sign on to the AS/400 using your user ID and password.
8. Click on *OK*.

You should now be able to fax output from any Windows application. To do so, select *Print* from the application and then select *Facsimile Support/400 printer* from the list of printers. For more information, see the instructions in the *Facsimile Support for AS/400 User's Guide* for sending a fax from your personal computer workstation.

Setting Up Client Access Optimized for OS/2 on OS/2 Warp

Following is an example of how you might install the Client Access Optimized for OS/2 product for a token-ring local area network (LAN) environment. This example also shows you how to set up a printer driver to fax personal computer documents. This example shows how to install the product from CD-ROM.

This installation and setup process includes the following tasks:

- Installing the Client Access Optimized for OS/2 product
- Installing the Facsimile Support/400 AFP printer driver
- Creating a network printer definition
- Creating a network printer
- Specifying an IBM Facsimile Support for AS/400 AFP printer type

All of these tasks must be completed before you can fax documents from a personal computer application.

Installing the Facsimile Support for AS/400 AFP Printer Driver

This section describes how to selectively install the Facsimile Support for AS/400 AFP printer driver for use in faxing personal computer documents.

1. From the OS/2 Desktop, double-click on the *AS/400 Workstation* icon.
2. From the AS/400 Workstation window, double-click on the *Software Products* icon.
If Client Access is not started, do the following:
 - a. From the Software Products window, double-click on the *Client Access* icon.
 - b. From the Client Access window, double-click on the *Start Client Access* icon.
 - c. From the AS/400 Logon window, type your user ID and password, then click on *OK*.
 - d. Close the Client Access window.
3. From the Software Products window, double-click on the *Client Access Products Registry* icon.
4. From the Client Access Products Registry window, use the right mouse button to select *Client Access Optimized for OS/2*.
5. From the list, click on *Selective install*.
6. From the Selective Install window, click on *Printer drivers*.
7. From the Printer Drivers window, ensure that the OS/2 AFP printer driver is selected, then click on the *Devices* button next to the OS/2 AFP printer driver.

8. Scroll through the list on the AFP Printer Driver - Devices window until you find *IBM Facsimile Support/400*. Click on this option, then click on *OK*.
9. From the following windows, click on *OK*:
 - Printer Drivers
 - Selective Install
 - Selective Install - Status
 - Components Installed window
10. Close the Products Registry window.

Creating a Network Printer Definition

This section describes the steps for creating a network printer definition for use in faxing personal computer documents.

1. From the Software Products window, double-click on the *Client Access* icon.
2. From the Client Access window, double-click on the *Client Access Templates* icon.
3. From the Client Access Templates window, use the right mouse button to click on the *Network Printer Definition* icon and drag it onto the OS/2 Desktop.
4. From the Network Printer Definition - Settings window, complete the *System name*.
5. Ensure that you selected *Printer* on the Network Printer Definition - Settings window, and click on *Find...*
6. From the AS/400 Printers - Find window, scroll through the list until you find *QFQFS4PRTD*. Highlight this option, then click on *OK*.
7. From the Network Printer Definition - Settings window, ensure that you selected *Shadow network printer to Desktop*.
8. Close the following windows:
 - Network Printer Definition - Settings
 - Client Access Templates
 - Client Access
 - Software Products
 - AS/400 Workstation

Creating a Network Printer

You must now create a network printer for use in faxing personal computer documents. To do so, double-click on the *QFQFS4PRTD printer definition* icon from the OS/2 Desktop. This creates a *printer* icon on your Desktop with the same name as the *printer definition* icon.

Specifying an IBM Facsimile Support for AS/400 AFP Printer Type

Perform the following steps to specify an Facsimile Support for AS/400 AFP Printer Type:

1. Using the right mouse button, click on the *QFQFS4PRTD network printer* icon from the OS/2 Desktop.
2. Click on *Settings* from the list.
3. From the QFQFS4PRTD - Settings window, click on *Printer driver*.
4. From the QFQFS4PRTD - Settings - Printer driver window, ensure that you set the *default printer driver* to *IBMAFP2.IBM Facsimile Support/400*.

Note: If you do not set the default printer driver to *IBMAFP2.IBM Facsimile Support/400*, click on *IBMAFP2.IBM Facsimile Support/400* from the list of printer drivers.

5. Close the QFQFS4PRTD - Settings window.

You should now be ready to fax directly from your personal computer applications. You can do this in one of the following ways:

- Select *Print* from your personal computer application.
- Drag your output to the *QFQFS4PRTD network printer* icon, then drop it.

For more information, see the instructions in the *Facsimile Support for AS/400 User's Guide*.

Setting Up Windows 95 for faxing PC Documents

This section provides steps for installing and setting up a PS/2 workstation with Client Access Optimized for Windows 95 so that you can fax PC documents. Before you begin this installation process, verify the following:

- You have successfully installed Windows 95 on the PS/2 workstation.
- You have successfully installed the Client Access product on the PS/2 workstation.
- You have established a session with the AS/400 system on the PS/2 workstation.
- You have installed the latest Service Pack for Client Access.
- Enhanced Services must be configured and started on the AS/400.

If you have not completed these items, you must do so before proceeding with the remainder of this section.

Setting Up Your PS/2 Workstation to Fax PC Documents

In this section you perform two tasks. You must first install the printer driver. You must then configure the workstation to fax PC documents. You need to install the printer driver for each PS/2 workstation from which you plan to fax PC documents. Use the instructions for configuring the workstation for as many AS/400 systems or printers as you have.

Installing the Printer Driver

Perform the following steps to install the printer driver.

1. From the Windows 95 Desktop, click on *Start*.
2. From the window that appears, click on *Programs*.
3. From the next window, click on *Client Access*.
4. From the Client Access window, double-click on the *ACCESSORIES* folder.
5. From the Accessories window, double-click on *Selective Setup*.
6. From the Selective Setup window, click on *Next*.
7. From the *Selective Setup Options* window, click on *Next*.
8. From the Component Selection window, put a check mark in the box for *Printer Drivers*. Click on the *Change* button.
9. From the Select Sub-components window, verify that the *AFP Printer Driver* has a check mark next to it. You can change any other options to meet your own requirements.
10. Click on *Continue*.

11. From the Component Selection window, click on *Next*.
12. From the Start Copying Files window, click on *Next*. This performs some copy operations.
13. From the Install Completed menu, check any options you prefer. Then, click on *Next*.
14. From the Setup Complete window, we recommend selecting the option to restart your personal computer. Click on *Finish*.

Configuring the PS/2 Workstation to Fax PC Documents

This section provides the steps you must perform to configure your PS/2 workstation for faxing PC documents.

- From the Windows 95 Desktop, click on *Start*.
- From the Start menu, click on *Settings*.
- From Settings, click on *Printers*.
- From the Printers window, double-click on *Add Printer*.
- From the Add Printer Wizard window, click on *Next*.
- Select *Network Printer* and click on *Next*.
- For the *Network Path or Queue Name*, click on *Browse*.
- From the list in the Browse for Printer window, double-click on the system name. This is the name of the AS/400 system on which the Facsimile Support for AS/400 product is installed.
- Scroll through the list of printer devices until you locate *QFQFS4PRTD*. Click on that option.
- Click on *OK*. This returns you to the Add Printer Wizard window with the path name you selected.
- You should see the following question:
Do you print from MS-DOS based programs?

If you want to fax only from Windows applications, select *No*. Otherwise, select *Yes*. Click on *Next* to continue.

- If you see the option *Capture Printer Port*, click on *Next* to continue. If not, continue with the next step.
- On the next window, do the following:
 - Scroll through Manufacturer list until you locate *IBM*. Highlight that option.
 - Scroll through the Printers list until you locate *IBM AFP Facsimile Support/400*. Highlight that option.

Click on *Next*.

- On the Add Printer Wizard window, the printer name should read as follows:
IBM AFP Facsimile Support/400

Click on *Next*.

- On the next window, the following prompt should appear: *Would you like to print a test page?* Select *No* and click on *Finish*.
- The Printers window should return, and you should see that the IBM AFP Facsimile Support/400 printer appears on the list. This may take a few minutes.
- Close the Printers window. You should now be able to fax PC documents from you PS/2 workstation.

Installing and Configuring the Windows NT Workstation to Fax PC Documents

This section provides the steps for installing and configuring a PS/2 workstation with Windows NT for faxing PC documents through the Facsimile Support for AS/400 product. Before continuing with this section, ensure that you have successfully performed the following tasks:

1. Installed Windows NT on your workstation
2. Installed Client Access/400 on your workstation and selected the printer driver to install
3. Established a session with the AS/400 system
4. Installed the latest Service Pack for Client Access/400
5. Enhanced Services must be configured and started on the AS/400.

You must complete these tasks before you continue with the remainder of this section.

Configuring the Workstation to Fax PC Output

To configure your PC workstation to fax PC output, perform the following steps:

1. From the Windows NT desktop, click on *Start Printers*.
2. From the Windows NT Workstation pop-up menu, click on *Settings*.
3. From the next pop-up menu, click on *Printers*.
4. On the Printers window, double-click on *Add Printer*.
5. On the Add Printer Wizard window, select Network Printer Server and click on *Next*.
6. On the Connect To Printer window, double-click on the name of the AS/400 system you want to connect. This displays a list of printers.
7. Double-click on *QFQFS4PRTD*.
8. If a message appears, click on *OK*. If no message appears, continue with the next step.
9. In the Printer window, you should see a name in the following format:
`\\xxx\qfqfs4prtd`
where *xxx* is the name of the AS/400 system to which you want to connect
10. The Add Printer Wizard window appears. Under Manufacturers, select *IBM*. Under Printers, select *IBM AFP FACSIMILE SUPPORT/400* and click on *NEXT*.
11. On the Add Printer Wizard window, click on *NEXT*.
12. The Printers window should appear, showing that the IBM AFP FACSIMILE SUPPORT/400 printer was added. This may take a few minutes.
13. Close this window. You should now be able to fax PC output from your workstation.

Problem Analysis

If problems arise while following the installation and setup instructions for the Client Access product, perform the following steps:

1. Verify all parameters for variables you specified.
2. Ensure the system connection is up and running.

3. Ensure that the virtual printer or network printer you selected is active.

Chapter 5. Facsimile Support for AS/400 Operating Environment

This chapter provides the system operator or programmer with a better understanding of the environment in which the Facsimile Support for AS/400 product and the Enhanced Services operate. This chapter describes the following:

- Objects that control the Facsimile Support for AS/400 operating environment
- The Facsimile Support for AS/400 operating environment
- The Enhanced Services operating environment
- What happens when the AS/400 system ends abnormally
- Alerts

Operating Environment Objects

The Facsimile Support for AS/400 product provides the following objects. These objects reside in the QFAX library.

Object Description

QFAXCLS

The class Facsimile Support for AS/400 jobs use. You can use the Work with Classes (WRKCLS) command to display the contents of the class.

QFAXJOB

The job description Facsimile Support for AS/400 jobs use. You can use the Work with Job Descriptions (WRKJOB) command to display the contents of the job description.

QFAXJOBQ

The job queue for the Facsimile Support for AS/400 subsystem.

QFAXMSG

The message file that contains the messages the Facsimile Support for AS/400 product uses. You can use the Display Message Description (DSPMSGD) command to display or print the following:

- Descriptions of specific messages
- A range of messages
- All messages in the file

QFQMSGF

The message file that contains the messages that Enhanced Services uses. You can use the Display Message Description (DSPMSGD) command to display or print the following:

- Descriptions of specific messages
- A range of messages
- All messages in the file.

QFAXOUTQ

The output queue that the Facsimile Support for AS/400 jobs use.

QFAXSBS

The Facsimile Support for AS/400 subsystem description. The jobs that provide the fax functions run in this subsystem. You can use the Work with Subsystem Descriptions (WRKSBSD) command to display the contents of the subsystem description.

QFQSBS

The Enhanced Services subsystem.

The Facsimile Support for AS/400 product creates the following objects and stores them in the QGPL or QUSRSYS library.

Object Description

QAFFCFG

This Facsimile Support for AS/400 configuration database file contains the fax description and configuration information for the fax card.

QAFFSNDF

This send fax database file contains destination information for send requests.

QAFFTLOG

This is the Facsimile Support for AS/400 transaction log database file.

QFAXOPR

This is the fax operator message queue. This message queue contains operator messages that relate to the Facsimile Support for AS/400 product and the devices the Facsimile Support for AS/400 product uses. The following situations generate messages in the fax operator message queue:

- Unsuccessful send requests
- Fax controller hardware problems
- Starting and ending Facsimile Support for AS/400 jobs (whether normal or abnormal)

Use the Display Message (DSPMSG) command to display and manage the messages on this queue.

QFFCDQ

This is the Facsimile Support for AS/400 control data queue.

QFFSNDERR

This output queue receives spooled files that contain faxes that were not successfully sent.

QFFSNDFAX

This output queue receives the spooled files that contain faxes to be sent.

CAUTION:

Do not place spooled files directly on the QFFSNDFAX output queue. Only the Facsimile Support for AS/400 product must place the spooled files on this output queue.

QFFSNDFAX

This send fax user queue contains destination information for send requests. This is a different object type, *USRQ, than the QFFSNDFAX output queue of type *OUTQ.

QFFSNDSAV

This output queue receives the spooled files that contain saved faxes that fax support has sent.

QFFTLOGDQ

This is the Facsimile Support for AS/400 transaction log data queue.

The Facsimile Support for AS/400 product creates the following directories in the integrated file system.

Note: Do not change these directories; these directories are for the Facsimile Support for AS/400 product use only.

Object Description

/QFFFAX

The working directory that the Facsimile Support for AS/400 product creates for *TRANSFORM support and the 7852-400 modem.

/QFFFAX/SNDFAX

The working directory that the Facsimile Support for AS/400 product creates for *TRANSFORM outbound support and the 7852-400 modem.

/QFFFAX/RCVFAX

The working directory that the Facsimile Support for AS/400 product creates for *TRANSFORM inbound support and the 7852-400 modem.

See the *Work Management* book for a description of subsystem descriptions, job queues, output queues, and job descriptions and classes. See the *Basic System Operation, Administration, and Problem Handling* book for a description on how to handle messages.

Operating Environment Description

The Facsimile Support for AS/400 subsystem (QFAXSBS) and the jobs running in that subsystem make up the environment in which fax operates. Use the STRFAXSPT command to start the QFAXSBS subsystem and the jobs that run in that subsystem. Use the ENDFAXSPT command to end the QFAXSBS subsystem and the jobs that are running in that subsystem. For details on these commands, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

The FAXD parameter on these commands specifies the fax descriptions for the fax controllers to start. When started, the fax controller varies on the controller and device descriptions that are associated with the specified fax descriptions. Facsimile Support for AS/400 jobs use these devices to control the fax operations, send outbound faxes, and receive inbound faxes.

The STRFAXSPT and ENDFAXSPT commands support starting and ending individual fax controllers. When the QFAXSBS subsystem is not active, the STRFAXSPT command starts the fax subsystem and fax controllers for the fax descriptions specified on the command. If the QFAXSBS subsystem is active, the STRFAXSPT command starts additional fax controllers.

When you specify fax description names on the ENDFAXSPT command, the fax controllers that are associated with the fax descriptions are ended. The QFAXSBS subsystem ends only when you specify *ALL for the fax description name on the ENDFAXSPT command.

The FAXD parameter on the STRFAXSPT and ENDFAXSPT commands allows you to specify up to 20 fax description names. You can start or end more than 20 fax controllers by issuing multiple commands.

Note: Do not start or end the QFAXSBS subsystem manually. Always use the STRFAXSPT and ENDFAXSPT commands to start and end the QFAXSBS subsystem.

You must start the Facsimile Support for AS/400 subsystem before you can send and receive faxes. However, you can process print (PRTFAX command), file (FILFAX command), and send (SNDFAX command) requests when Facsimile Support for AS/400 is not active. When no fax controllers are active, the system holds send requests (SNDFAX commands) in a queue until you start a fax controller.

The QFAXSBS subsystem description contains a job queue entry that selects jobs from the QFAXJOBQ job queue. The job queue entry specifies that there is no maximum limit on the number of jobs that can be started from the job queue. The subsystem description also contains a routing entry, which specifies that all routing requests call QSYS/QCMD as the initial program. All of the routing requests use class QFAXCLS.

The jobs FAXMSTCTL and FAXTRNLOG run in the fax subsystem independently of the fax controllers. Fax support starts up to six jobs for each fax controller being used. Four of these jobs run in the fax subsystem. The other two jobs run in the spool subsystem (QSPL) that is supplied with the AS/400 operating system. If the QSPL subsystem is not active, the Facsimile Support for AS/400 product starts this subsystem.

The jobs that run in the spool subsystem are the system-supplied printer writer programs. Associated with the printer writer programs for each fax controller is an output queue that is located in the QUSRSYS library. The names of this output queue and the jobs started in the QSPL subsystem are the same as the send device name specified on the Create Fax Description (CRTFAXD) command, followed by the character P. The Facsimile Support for AS/400 product uses this output queue to process outbound faxes.

When you use this output queue, *do not*:

- Place spooled files on this output queue
- Delete spooled files that arrive on this queue
- Change the status of the spooled files on this queue

Any of these actions may cause unpredictable results in outbound faxes, or the writer programs for this fax controller may abnormally end.

Note: To view what jobs are running in the fax subsystem, use the WRKACTJOB SBS(QFAXSBS) command.

Following are the jobs in the QFAXSBS subsystem:

Job	Description
------------	--------------------

Master control	
-----------------------	--

	FAXMSTCTL is the master control job. It manages all the other jobs in the fax subsystem and the Facsimile Support for AS/400 jobs in the spool subsystem.
--	---

Fax control	
--------------------	--

	There is one fax control job for each fax controller that you start. The name for this job is the control device name that is used to create the fax description. This job controls the overall processing that occurs between the AS/400 system and fax controller.
--	--

Receive control	
------------------------	--

	If you configured receive, fax support starts at least one receive job for
--	--

each fax controller. This job has the same name as the receive device you used to create the fax description. This job provides inbound fax support. Fax support starts this job if you configured the fax controller to support receiving inbound faxes. If you configured the Integrated Fax Adapter card to support receiving inbound faxes on both ports, fax support starts two receive jobs.

Send control

If you configured send, fax support starts one send control job for each fax controller. The name of this job is the send device name that is used to create the fax description. This job provides outbound fax support. Except for the 7852-400 modem and PCI Based Integrated Remote Access hardware, two additional jobs run in the spool subsystem. Fax support starts these jobs if you configured the fax controller to support sending outbound faxes.

Asynchronous control

If you configured a 7852-400 modem, fax support starts one fax asynchronous job. The name of this job is the same as the name of the fax description, with an A appended to the end of the name. This job controls the 7852-400 modem.

Transaction log

FAXTRNLOG is the job that manages the fax transaction log.

For jobs running in the fax subsystem, the system always sets the system portion of the library list to the library names that are specified in the QSYSLIBL system value. The Facsimile Support for AS/400 QFAXJOB job description determines the user portion of the library list.

The job description that is shipped with the product specifies the default user library list. The default user library list contains the library names that are specified in the QUSRLIBL system value. You can change the user portion of the library list for jobs running in the fax subsystem. To do so, you can change either of the following:

- The library names specified in the QUSRLIBL system value
- The initial library list specified in the QFAXJOB job description

Operations that the system performs when you start and end the Facsimile Support for AS/400 product may take time to complete. The required length of time depends on the number of fax controllers in use and the operations being performed. The system completes all send and receive operations currently in progress before ending the Facsimile Support for AS/400 product. After you issue ENDFAXSPT, the system starts no new send or receive operations for the specified fax controllers.

Enhanced Services Operating Environment

The Enhanced Services subsystem and associated jobs make up the Enhanced Services operating environment. You must start the Facsimile Support for AS/400 product before you can send or receive faxes. However, if you issue SBMFAX while the Facsimile Support for AS/400 product is not active, the system holds the requests in the submit fax job queue QFQSRJQ or QFQSTJQ.

Use STRFAXSPT to start the Enhanced Services subsystem (QFQSBS) and associated jobs. For details, see the *Facsimile Support for AS/400 Programmer's Guide and Reference*. The QFQSBS subsystem description contains eight job queue entries that perform specific functions, as follows:

Job Queue
Description

QFQCJQ

The Facsimile Support for AS/400 product uses the cleanup job queue when the STRFAXSPT command runs the cleanup job.

QFQRDJQ

The Facsimile Support for AS/400 product uses the receive dispatcher job queue when the STRFAXSPT command runs the receive dispatcher job.

QFQRPJQ

The Facsimile Support for AS/400 product uses the receive procedure job queue when the STRFAXSPT command runs the receive procedure.

QFQSJQ

The Facsimile Support for AS/400 product uses the status job queue when the STRFAXSPT command runs the status job.

QFQSRJQ

This job queue contains all of the fax requests the SBMFAX command initiates that do not require being run in a single-thread mode. Fax requests that use the option (OPTION) value of *GENFAXSPL, *FAXOFCDQC, or *FAXRCVFAX use this job queue.

QFQSRVJQ

The Facsimile Support for AS/400 product uses the fax server job queue when the STRFAXSPT command submits the server job. This job queue also contains all fax requests from a Client Access client.

QFQSSJQ

The Facsimile Support for AS/400 product uses the spool synchronization job queue when the STRFAXSPT command runs the spool synchronize job.

QFQSTJQ

This job queue contains all fax requests that the SBMFAX command initiates that must run in a single-thread mode. Fax requests that use the option (OPTION) value of *FAXNOTE, *SPLEXIST, or *PRTSCNFAX use this job queue.

QFQUJQ

The Facsimile Support for AS/400 product uses the update job queue when the STRFAXSPT runs the update job.

Providing different job queues for the Enhanced Services jobs allows more flexibility in tuning your system. You can assign any one of the Enhanced Services job queues to a different subsystem description, if required.

The QFQSBS subsystem also contains a routing entry that specifies that all routing requests call QSYS/QCMD as the initial program. All of the routing requests use class QFQCLS.

The initialization process synchronizes outbound spooled files. While this procedure is running, it holds the submit fax request and send status job queues (QFQSRJQ, QFQSTJQ, and QFQSJQ) to prevent updates of the outbound fax status. This procedure determines if a fax spooled file was moved to the QFFSND SAV or QFFSNDERR output queue without notifying the send status job. If this condition occurs, the status for the fax spooled file is updated accordingly. As the procedure completes, it releases all held job queues.

Table 1 shows the jobs that run in the Enhanced Services subsystem (QFQSBS).

Table 1. Enhanced Services System Jobs

Job	Name	Description
Cleanup	QFQCLEANUP	This job performs cleanup of outbound and inbound fax data. If the cleanup configuration values are satisfied, this job cleans up the log entries and spooled files for outbound faxes and log entries for received faxes. The job description for this job is QFQCJD.
Receive Dispatcher	QFQRCVDSP	This job starts other jobs to perform fax receive procedures. The job description used by this job is QFQDJD.
Receive Procedure	QFQRCVPROC	This job performs the fax receive procedures as defined by the Enhanced Services configuration. The job description used by this job is QFQRPJD.
Spool Synchronization	QFQSYNSPL	This job performs the spool synchronization steps during Facsimile Support for OS/400 initialization. This job uses the QFQSSJD job description.
Status	QFQSDSTS	This job updates the status information for all outbound fax requests and uses the QFQSDJD job description.
Submit	GENFAXSPL, SPLEXIST, PRTSCNFAX, FAXOFCDOC, or FAXRCVFAX	This job processes the SBMFAX command and uses the QFQSRJD or QFQSTJD job description. The job name is determined by the value of the OPTION parameter on the SBMFAX command.
Update	QFQUPDPGM	This job performs user-defined update procedures and uses the QFQUJD job description.
Server	QFQFAXSRV	This job processes spooled file and fax command information received from a client personal computer.

To stop the Enhanced Services subsystem, use the End Fax Support (ENDFAXSPT) command, as described in the *Facsimile Support for AS/400 Programmer's Guide and Reference*.

Enhanced Services Operating Environment Objects

The following sections describe the objects that Enhanced Services uses.

Enhanced Services Job Descriptions: Enhanced Services provides eight job descriptions. These job descriptions set up the environment for each job. Enhanced Services uses these job descriptions when you start a job. Table 2 shows only the default values for the Create Job Description (CRTJOB) command that have been changed in each job description for Enhanced Services. You can change other values to tailor your environment.

Table 2. Enhanced Services Job Descriptions

Job Description	Parameter	Shipped Value
QFQCJD	Job Queue and Library	QFQCJQ in QFAX
QFQDJD	Job Queue and Library	QFQDJQ in QFAX
QFQRPJD	Job Queue and Library	QFQRPJQ in QFAX
QFQSDJD	Job Queue and Library	QFQSDJQ in QFAX
QFQSRJD	Job Queue and Library	QFQSRJQ in QFAX
QFQSRVJD	Job Queue and Library	QFQSRVJQ in QFAX
QFQSSJD	Job Queue and Library	QFQSSJQ in QFAX
QFQSTJD	Job Queue and Library	QFQSTJQ in QFAX
QFQUJD	Job Queue and Library	QFQUJQ in QFAX

Enhanced Services Class Object: Enhanced Services jobs all use one class object. The QFQCLS class object resides in library QFAX. You may want to change the run priority for each job that runs in the QFQSBS subsystem. Your operating environment determines what other values, if any, you should change in the QFQCLS class object.

Enhanced Services Subsystem: The Enhanced Services subsystem (QFQSBS) provides the typical default values for a subsystem description. This subsystem initially runs in *BASE, and uses the default values for storage size, activity level, and maximum jobs. You can change this subsystem to suit your environment.

Enhanced Services Folders: Enhanced Services provides the folder QFFWRK and subfolder QFFCPY. When integrated with the OfficeVision product, the Facsimile Support for AS/400 product uses these work folders. The documents in these folders are copies that are created from a user's folder. If Enhanced Services has not removed all of the documents in these folders, you can delete the documents. However, you should ensure that the documents are not in use by another fax user before you delete them.

Enhanced Services Job Queues: Each of the eight job descriptions that Enhanced Services provides uses its own job queue to submit work to the QFQSBS subsystem. Table 3 shows the only values that have been changed from the system default in each job queue for Enhanced Services. You can change any of the values for these job queues to meet the needs of your environment.

Table 3. Enhanced Services Job Queues

Job Queue	Parameter	Shipped Value
QFQCJQ	Maximum active jobs	1
QFQRDJQ	Maximum active jobs	1
QFQRPJQ	Maximum active jobs	5
QFQSJQ	Maximum active jobs	1
QFQSRJQ	Maximum active jobs	5
QFQSRVJQ	Maximum active jobs	5
QFQSSJQ	Maximum active jobs	1
QFQSTJQ	Maximum active jobs	1
QFQUJQ	Maximum active jobs	1

Output Queues: You might want to allow the cleanup job to remove old fax and log entries according to the configuration values. To remove fax spooled files and their associated log entries, use one of the following:

- Check Fax Status (CHKFAXSTS) command
- Enhanced Services cleanup job

If you use the CHKFAXSTS command, you do not have to configure any output queues or start the cleanup job. To automatically clean up spooled files, do one of the following:

- Start the Facsimile Support for AS/400 product with a user profile that has special authority of *SPLCTL and *JOBCTL. This allows the cleanup job to remove all the fax spooled files without changing the output queue authority.
- Change the authority of the different output queues in which the fax might reside. Be sure to change authority for all of the output queues. One or more user profiles may have been used to start the cleanup job. If any of these profiles do not have proper authority to the various output queues, automatic fax removal does not occur.

Changing Output Queue Authority

To change output queue authority on an AS/400 system, perform the following steps:

1. Sign on to your AS/400 system as a security officer (QSECOFR) or with a user ID that has *SECADM administrator authority.
2. Use the Grant Object Authority (GRTOBJAUT) command to grant all users authority to the QFQOUTQ output queue. To do this, enter the following on the AS/400 command line:

```
GRTOBJAUT OBJ(QUSRSYS/QFQOUTQ) OBJTYPE(*OUTQ) USER(*PUBLIC) AUT(*ALL)
```

3. Use the Change Output Queue (CHGOUTQ) command to allow authorized users the correct authority to the output queue. To do this, enter the following at the AS/400 command line:

```
CHGOUTQ OUTQ(QUSRSYS/QFQOUTQ)
```

The Change Output Queue (CHGOUTQ) display appears. Press F4 to prompt for additional parameters.

Change Output Queue (CHGOUTQ)

Type choices, press Enter.

Output queue	> QFQOUTQ	Name
Library	> QUSRSYS	Name, *LIBL, *CURLIB
Order of files on queue	*SAME	*SAME, *JOBNBR, *FIFO
Text 'description'	*SAME	

Additional Parameters

Display any file	*YES	*SAME, *NO, *YES
Job separators	*SAME	0-9, *SAME, *MSG
Operator controlled	*YES	*SAME, *YES, *NO
Authority to check	*DTAAUT	*SAME, *OWNER, *DTAAUT

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

4. Change the *Display any file* and *Operator controlled* fields to *YES. Change the *Authority to check* field to *DTAAUT.
5. Repeat the previous steps (2 through 4) for each of the output queues in the QUSRSYS library:
 - QFFSNDERR
 - QFFSNDFAX
 - QFFSNDSAV
 - FAXSND01P

Note: The Facsimile Support for AS/400 product uses the default name of the output queue, FAXSND01P. If you used a different name when you configured the Facsimile Support for AS/400 product, or if you have more than one fax controller, use the appropriate name.

Alerts

A system in a network sends messages, called alerts, to the central network management site. These messages notify the network operator of a failure. By enabling alerts, you can ensure that the system quickly notifies the network operator of a failure in the network. The operator can then perform some problem analysis before calling for service.

The Facsimile Support for AS/400 product supports alerts. You can use any fax messages as alerts to indicate software or hardware failures that would prevent users from sending or receiving faxes. The Facsimile Support for AS/400 product does not require any special configuration to support alerts. For information on setting up alert support for the Facsimile Support for AS/400 product, see the *DSNX Support* book.

When the AS/400 System Ends Abnormally

If the AS/400 system ends abnormally while the Facsimile Support for AS/400 product is running, the integrated fax adapter, 7852-400 modem, and PC Based Integrated Remote Access hardware also end abnormally. Those fax controllers do not continue to receive inbound faxes. However, external fax controllers continue to receive inbound faxes.

In this situation, fax support stores the received faxes on the PS/2 system disk. The external fax controller continues to receive and store inbound faxes until the PS/2 disk storage is full. Once the disk storage is full, the receive support on the external fax controller ends. When the Facsimile Support for AS/400 product begins again, the stored faxes are sent to the AS/400 system. The faxes are given a receive time when they are uploaded, *not* when they are received.

If the fax controller is processing outbound fax calls when the AS/400 system ends abnormally, fax support assumes that the calls are unsuccessful. When the Facsimile Support for AS/400 product begins again, it places the spooled files that contain these faxes on the QFFSNDERR output queue. You can use completion messages to determine which calls completed successfully before the system ended. You can find these messages in the QFAXOPR message queue, send message queues, or send data queues. You can use the information from the message queues or data queues to send the faxes to the remaining destinations.

Chapter 6. Finding the Burned-In (Universally Administered) Address

This chapter describes how to find the burned-in (universally administered) address for the LAN adapter.

1. Start an OS/2 Full Screen window.
2. Change the directory to IBMCOM. To do so, type the following at the command line and press the Enter key:
`CD\IBMCOM`
3. The information you need is in the LANTRAN.LOG file. At the command line, type the following and press the Enter key:
`TYPE LANTRAN.LOG`
4. The information that appears should show the adapter address for LAN adapter 0.

Chapter 7. Checking the FaxConcentrator Program and Hardware Levels

Before you can install and use the Facsimile Support for AS/400 product, it may be necessary to determine the level of various equipment and programs you are using. This chapter explains how to check the hardware level and software level of the FaxConcentrator Utilities and FaxConcentrator Adapter/A card.

After you start the Facsimile Support for AS/400 product, the FaxConcentrator Utilities window appears on the external fax controller. When the FaxConcentrator Utility has started, you can check the program level and hardware level.

Checking the Level of the FaxConcentrator Utilities

To check the level of the FaxConcentrator Utilities, do the following:

1. On the Welcome to Fax Manager window, select *Help* from the menu bar.
2. Select the *About...* option from the Help menu.
3. You can find the FaxConcentrator Utility level on the About... display.
4. If the version number you see is less than 1.12 or the *About...* option does not display in step 3, the external fax controller should be updated. Contact your IBM service representative.

Note: In Australia and Hong Kong, the version should be 1.14 or greater.

5. Press the Enter key to continue.

If the FaxConcentrator Utility level is less than 1.10, you can use the following steps to determine the hardware level of the FaxConcentrator Adapter/A card. You can also use these instructions to verify that the EPROM modules are working correctly.

1. Start the PS/2 with the appropriate Reference diskette.
2. From the blue screen (with the IBM logo), press the Enter key. This displays the Main Menu.
 - a. If you need to copy the Option diskette to the Reference diskette, do so now.
 - b. From the Main Menu, press the Ctrl-A key combination.
3. Select the *System Checkout* option. This performs system tests. When the tests complete, a list of options appears.
 - a. If the FaxConcentrator Adapter/A card is not on the list, the Option diskette was not copied to the Reference diskette. You need to start again. Use the Reference diskette and perform step 2.a, using the FaxConcentrator Option diskette.
 - b. If the FaxConcentrator Adapter/A card is on the list, a Question window appears. Type N (No).
4. At the Do you want to add a device? window, type N (No).
5. At the Do you want to remove a device? window, type Y (Yes).
6. Press the Enter key to remove every highlighted device **except** the FaxConcentrator Adapter/A card.
7. Press the Escape (Esc) key to exit. This refreshes the list of options. Only the FaxConcentrator Adapter/A card should appear on the list. When the Question window appears, type Y (Yes).

8. Select the *Run Tests one at a time* option.
9. Highlight the FaxConcentrator Adapter/A card, and press the Enter key. If you have more than one FaxConcentrator Adapter/A card, select one of the cards and press the Enter key.

As the tests run, the adapter ROM version appears in the following format:

02:07:05.

10. Record the ROM version of your FaxConcentrator Adapter/A card.
11. If you have more than one FaxConcentrator Adapter/A card, repeat steps 9 and 10 for each card.
12. Press the PF3 key or the Esc key to quit.

Checking the Level of the FaxConcentrator Adapter/A Card

To check the level of the FaxConcentrator Adapter/A card, do the following:

1. On the Welcome to Fax Manager window, select *Help* from the menu bar.
2. Select the *Card Version* option from the Help menu. This displays a window with information about the FaxConcentrator Adapter/A card. The *Microcode* field should show the microcode level of the FaxConcentrator Adapter/A card as 02:07:05, or similar.
3. If the microcode level is less than 02:07:05 or the *Card Version* option does not display in step 2, you need to update the external fax controller. Contact your IBM service representative.

Note: In most European and Asian countries, the microcode level should be 02:01:01 or later.

Chapter 8. Updating FaxConcentrator Adapter/A EPROM Modules

This chapter provides instructions for changing the EPROM modules on a FaxConcentrator Adapter/A card with a secondary adapter card (for example, U.S. and Canada).

1. On the AS/400 system, use the ENDFAXSPT command to end the Facsimile Support for AS/400 product for the external fax controller.
2. When the Facsimile Support for AS/400 product has ended for the external fax controller, shut it down. See "Shutting Down the External Fax Controller" on page 42 for more information.
3. When the external fax controller has successfully shut down the OS/2 system, turn the IBM Operating System/2 (OS/2) power switch to off.
4. Open the PS/2 case and remove the FaxConcentrator Adapter/A card.
5. Remove the secondary adapter card from the FaxConcentrator Adapter/A card. To remove the secondary adapter card, pinch and hold the white pin (see A in Figure 2), then gently lift the card.

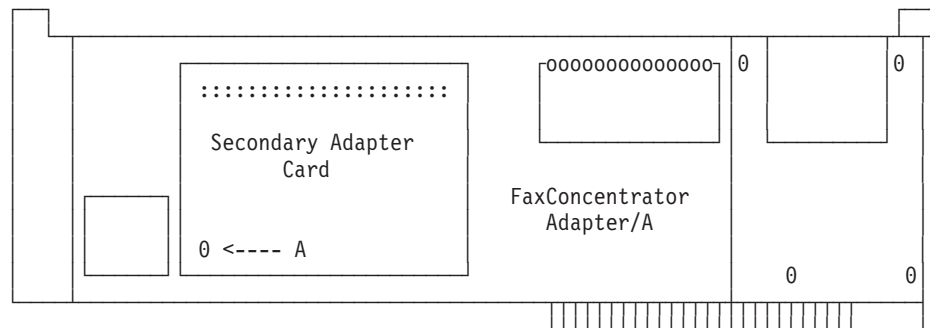


Figure 2. FaxConcentrator Adapter/A Card Top View

6. Place the secondary adapter card face up in front of you. The card should look similar to Figure 3.

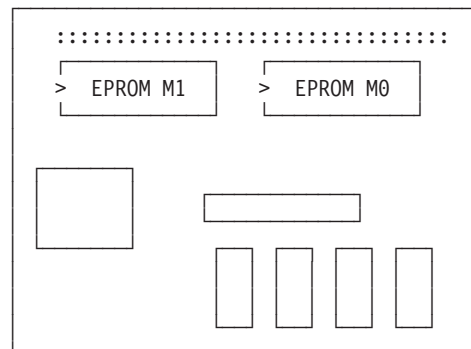


Figure 3. Secondary Adapter Card Chip Mount Surface

7. Use a chip puller to remove the two EPROM modules from the secondary adapter card. For example, in Figure 3 you would remove modules M1 and M0 (they have white labels on them).
8. Insert the new EPROMs on the secondary adapter card, ensuring that you arrange each EPROM as shown in Figure 4. **CAUTION:**
Be sure to place the EPROM modules on the secondary adapter card so that the EVEN and ODD modules are in the proper socket. Make sure that there are no bent pins on either EPROM module. You must place the EPROM modules in the socket with the notch facing correctly. The correct placement is printed on the secondary adapter card near each EPROM socket. (See Figure 4.)

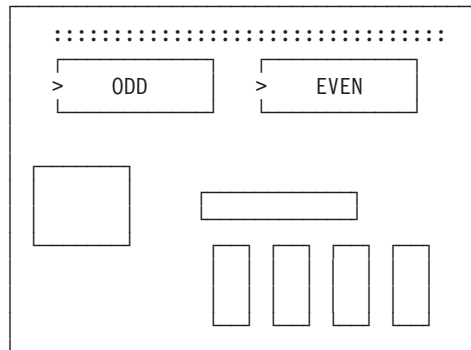


Figure 4. Secondary Adapter Card EPROM Placement

9. Replace the secondary adapter card on the FaxConcentrator Adapter/A card.
10. Insert the FaxConcentrator Adapter/A card into the same PS/2 card slot from which you removed it. **CAUTION:**
If you insert the FaxConcentrator Adapter/A card into a different slot, you must correct the Facsimile Support for AS/400 configuration. To adjust the AS/400 configuration, use the ADDFAXCRD and RMVFAXCRD commands. For more information on these commands, see the *Facsimile Support for AS/400 Programmer's Guide and Reference* manual.
11. Close the PS/2 case.
12. Power-on the external fax controller.
13. Use the STRFAXSPT command to start the external fax controller.
14. Follow the steps in "Chapter 7. Checking the FaxConcentrator Program and Hardware Levels" on page 87 to verify that you correctly installed the EPROM modules and that the modules are at the expected level.

Chapter 9. Updating 7852-400 Modem EPROM Modules

This chapter provides instructions for checking the EPROM modules for a 7852-400 modem, and the proper switch settings in the United States.

Checking the Eprom Level for the 7852-400 Modem

Follow the steps in this section to determine the eprom level for your 7852-400 modem.

1. Ensure that you ended the Facsimile Support for AS/400 product for the modem.
2. Vary off the modem.
3. Vary on the modem.
4. Type STRITF and press the F4 key.
5. Type the remote location name and press Enter. The remote location name is the name of the asynchronous device for the controller (for example, FAXASC01). To find the name, you may have to use the Work with Configuration Status (WRKCFGSTS) command, as follows:

```
WRKCFGSTS *CTL FAXDxx
```

6. The Use Interactive Terminal Facility display appears. On the command line, type the following and press the Enter key:

```
at i2i3i4i5
```

This displays information about the modem. The date of the eprom level must be 07-19-1996 or later.

If the date of the eprom level is not correct, refer to the following section for the proper switch settings in the United States.

Switch Settings for the 7852-400 Modem

The following table shows the correct switch settings for the 7852-400 modem in the United States. This table uses the abbreviation *U* for an upward switch and *D* for a downward switch. Be sure that you are using the correct cable number (21H3764).

Table 4. 7852-400 Modem Switch Settings

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
U	U	D	D	U	U	U	D	D	U	D	U	U	U	U	U

Chapter 10. Facsimile Support for AS/400 Options

This appendix provides a chart for comparing the functions that are available as options with the Facsimile Support for AS/400 product. This chart can help you determine which options best suit the needs of your business. The section that follows describes each of these options.

Table 5. Comparison of Facsimile Support for AS/400 Options

Functions Available	7852-400	IFA	GammaLink	Remote Access
Platform	External Modem	IOP	Card in PC	PCIOA
Multi-line support	1 per system	2 per IOP	Maximum of 6 lines per controller	8 per IOA
Maximum line speed (bps)	14400	9600	14400	14400
System support	V3R7 and later	V3R1 and later	V3R1 and later	V4R4
Cost	Low	Medium	Medium	Medium
Function Provided	ECS or FAX	FAX	FAX	FAX, data PPP
Mission critical performance	NO	OK	OK	OK
Measured performance (CPU loading)	High	Low	Low	High
Error detection and recovery	Basic function manual recovery	High function automatic recovery	High function automatic recovery	High function automatic recovery
ECM option	OFF	ON or OFF	ON or OFF	On or OFF
G3 compression	1D only ¹	1D or 2D	1D or 2D	1D or 2D
DBCS	Yes	HPT enabled	Yes	Yes
Font substitution table (FGID)	Limited (HPT)	System (PSF/400)	System (PSF/400)	Limited (HPT)
Page size support	Multiple	Multiple	Multiple	Multiple
Automatic routing (DTMF)	No	No	Yes	Yes
TSI banner	No	Yes	Yes	Yes
SCS support (OfficeVision/400 documents)	Yes (V4R3)	Yes	Yes	Yes
Faxing PC documents	Yes	Yes	Yes	Yes
Mail Server Framework	Yes	Yes	Yes	Yes
Call Management	No	Yes	Yes	Yes
Page limit	999	60	999	999
Computer Output Reduction	Yes (V4R3)	Yes	Yes	Yes
Broadcast	G3 image downloaded for each number	All print data moved to controller only once		G3 image downloaded for each number
Copies	Yes	Yes	Yes	Yes
Note:				
1 1D images average 10 to 30 percent larger than 2D images. If you specify *YES for the TRANSFORM parameter on the SNDFAX command, HPT is used to prepare the spooled file for faxing and DBCS is supported.				

Description of Available Functions

This section describes the functions that are available as options with the Facsimile Support for AS/400 product. The chart in the previous section provides a comparison of these options.

Platform

This is the type of hardware for the Facsimile Support for AS/400 product. The platform can be any of the following:

- The 7852-400 modem, which is an external modem that is attached to an AS/400 communications port by an Enhanced EIA RS232 V.24 communications cable.
- The Integrated Fax Adapter (feature 2664), which is an AS/400 adapter that plugs directly into an AS/400 adapter slot. The AS/400 Model 150 and 170 do not support the installation of the Integrated Fax Adapter.
- The GammaLink programmable fax adapter that is installed in a personal computer and attached to the AS/400 system by a token-ring, Ethernet, or twinaxial connection.
- The PCI Based Integrated Remote Access Analog (feature 2761), which is an AS/400 adapter that plugs directly into an AS/400 adapter slot.
- The PCI Based Integrated Remote Access Basic Rate ISDN (feature 2750 and feature 2751), which is an AS/400 adapter that plugs directly into an AS/400 adapter slot.

Multiple Line Support

The number of telephone lines that the Facsimile Support for AS/400 product supports depends on the type of fax controller that you plan to use.

- The 7852-400 modem supports one telephone line (1 port). The Facsimile Support for AS/400 product supports the installation of more than one modem, but only one modem can operate at a time.
- The Integrated Fax Adapter provides 2 ports.
- The Facsimile Support for AS/400 product supports a GammaLink programmable fax adapter with 1 to 6 ports.
- The PCI Based Integrated Remote Access Analog adapter provides up to 8 phone lines (8 ports (each one needs to be configured as a separate Facsimile Support for AS/400 controller)).
- The PCI Based Integrated Remote Access Basic Rate ISDN provides 4 ports. Each port has 2 data channels. This card is equivalent to 8 distinct phone lines.

Maximum line speed

The maximum line speed depends on the fax controller that you plan to use.

- The 7852-400 supports up to 14400 bps while transmitting a document.
- The Integrated Fax Adapter supports up to 9600 bps.
- GammaLink programmable fax adapters support up to 14400 bps.
- The PCI Based Integrated Remote Access adapters support up to 14400 bps.

System support

Version 3 Release 7 of OS/400 and later supports the 7852-400 modem. Version 3 Release 1 and later releases of IBM Operating System/400 Version 3 (OS/400) support the Integrated Fax Adapter and GammaLink

programmable fax adapter. Version 4 Release 4 and later supports the PCI Based Integrated Remote Access adapters.

Cost The cost of the various fax controllers varies. The 7852-400 modem represents the lowest cost hardware option. You can also use the modem for electronic customer support.

While the cost of the Integrated Fax Adapter and GammaLink programmable fax adapter are comparable, the cost is higher than the 7852-400 modem. However, the 7852-400 modem is not a replacement for the GammaLink or Integrated Fax Adapter. Users must consider the function available and choose the proper hardware for their applications.

Function Provided

The 7852-400 modem supports both fax and electronic customer support communications. The Integrated Fax Adapter and GammaLink programmable fax adapter provide only fax communications. The PCI Based Integrated Remote Access fax adapters can be used for fax, data, and PPP.

Performance

Fax support application programs and OS/400 APIs provide support for faxing through the 7852-400 modem and the PCI Based Integrated Remote Access hardware. The fax subsystem provides the following three functions for supporting the 7852-400 modem and PCI Based Integrated Remote Access hardware.

- A send conversion process: The send control job in the fax subsystem uses the Host Print Transform (HPT) application program interface (API) to perform the send conversion process. The fax subsystem job converts spooled files to a Group 3 Image format suitable for fax transmission.
- 7852-400 and PCI Based Integrated Remote Access hardware communications: An additional job running in the fax subsystem provides the 7852-400 and PCI Based Integrated Remote Access hardware communications.
- A receive conversion process: The receive conversion process converts the received Group 3 image and data to IBM IOCA format, which contains Modified Modified Read (MMR) compressed data. The receive conversion process also analyzes the data received to determine how much, if any, of the received data is not valid. If more than approximately 5 percent of the image data is not valid, the process issues a message to the QFAXOPR message queue.

These processes for the 7852-400 modem and the PCI Based Integrated Remote Access hardware represent an additional load on the AS/400 CPU. This load does not exist when you use the Integrated Fax Adapter or external fax controller.

Use the 7852-400 modem for lower-volume communications. If you require high-volume fax communications (multiple telephone lines) or mission-critical fax communications, consider purchasing an Integrated Fax Adapter, external fax controller, or the PCI Based Integrated Remote Access hardware.

Error detection and recovery

At the end of a page, the T.30 Fax Protocol allows a fax machine that is receiving a fax page to request a re-transmission of that page if the quality limit is exceeded. Error detection and recovery refer to the following:

- The ability to resend a page if the remote fax machine requests a re-transmission.
- The ability to detect loss of data in an incoming fax, due to poor line quality, and request a re-transmission of the page. The re-transmission might be performed at a lower baud rate to guarantee a readable fax.

ECM Error Correction Mode (ECM) may reduce error rates in fax communication. It does so by allowing incorrect frames of data within a page to be sent or received again. The Integrated Fax Adapter, external fax controller, and PCI Based Integrated Remote Access hardware support ECM. The 7852-400 modem does not support ECM.

Fax support analyzes fax documents that are received through the 7852-400 modem to remove any incorrect image data that may have been received. If Fax Support finds excessive errors, it posts a message to the QFAXOPR message queue. If the quality of the received data is not acceptable, the document must be sent again.

Group 3 Compression

Group 3 fax communications support one-dimensional (1D) and two-dimensional (2D) image compression standards. A fax page that is compressed and sent in 2D format typically contains 10 to 30 percent less data than a page in 1D format. This means that the same fax document sent to or received by the same fax device takes 10 to 30 percent longer to send if it is compressed in 1D rather than 2D format.

The 7852-400 modem supports 1D compression. The Integrated Fax Adapter, external fax controller, and PCI Based Integrated Remote Access hardware support both 1D and 2D compression.

Double-byte character set (DBCS) support

The Integrated Fax Adapter, 7852-400 modem, GammaLink programmable fax adapter, and the PCI Based Integrated Remote Access hardware allow you to send spool files that contain double-byte characters (DBCS).

The Integrated Fax Adapter supports DBCS data only if you specify *YES for the TRANSFORM parameter on the SNDFAX command. Host Print Transform (HPT) converts the spooled file into a format that is suitable for faxing. It then sends the file to the Integrated Fax Adapter to be faxed. HPT supports spooled files that contain single-byte character set (SBCS) and DBCS fonts.

Font Substitution Table

None of the fax controllers provide their own fonts. The Facsimile Support for AS/400 product uses AS/400 fonts to process all outgoing documents. As fax support processes documents, it accesses the necessary AS/400 fonts. If Font Global Identifiers (FGIDs) are used to specify fonts, AS/400 uses font substitution tables to determine which font to use.

For the 7852-400 modem and the PCI Based Integrated Remote Access adapters, the Host Print Transform (HPT) provides the support for converting AFPDS spooled files to an image format that is suitable for faxing. The Host Print Transform provides its own font substitution tables. See "Host Print Transform Font Substitution Table" on page 98 for more details.

The Integrated Fax Adapter and external fax controllers emulate AFPDS print devices that the Print Services Facility (PSF/400) drives. PSF/400

provides the font substitution. The output of PSF/400 may differ from the output from HPT. See “Host Print Transform Font Substitution Table” on page 98 for more details.

If you specify *YES for the TRANSFORM parameter on the SNDFAX command, fax support uses HPT to process spool files being sent through an Integrated Fax Adapter or GammaLink programmable fax adapter. In this case, fax support uses the HPT font substitution table.

Page Size Support

All of the fax controllers support letter, legal, A4, and B4 page size when sending a fax. All controllers support received faxes of A4, B4, and A3 page sizes.

Automatic Inbound Routing

At this time, the GammaLink programmable fax adapter and the PCI Based Integrated Remote Access adapters allow you to automatically route incoming fax documents. The transaction log and receive data queue store the routing information. See the *Facsimile Support for AS/400 Programmer's Guide and Reference* for details. For more information about routing faxes, see the *Facsimile Support for AS/400 User's Guide*.

TSI banner

The Integrated Fax Adapter, GammaLink programmable fax adapter, and the PCI Based Integrated Remote Access adapters support placing a banner at the top of each page. The banner contains the current date and time, the TSI information from the ADDFAXCRD command, the customer subscriber identifier (CSI) of the remote machine, and page count. The 7852-400 modem does not support the TSI banner.

SCS Support (OfficeVision/400)

All models of the fax controllers support SCS data. If you use the 7852-400 modem prior to Version 4 Release 3, the 7852-400 modem does not support SCS data.

Faxing personal computer documents

All of the fax controllers support faxing PC-generated output. Client Access/400 provides the support. See the *Facsimile Support for AS/400 User's Guide* for more details.

AnyMail/400 Mail Server Framework

All fax controllers support the AnyMail/400 Mail Server Framework. See the *Facsimile Support for AS/400 User's Guide* for more details.

Call Management

Some countries specify the number of retries and time between retries for three types of call errors:

- Busy
- Not answered by fax device
- No answer

Call management refers to the ability of the fax controller to follow these country requirements and override the configuration values that the ADDFAXCRD command defines.

Page limit

The Facsimile Support for AS/400 product supports sending a spooled file that contains up to 999 pages. The Integrated Fax Adapter has a limitation

of approximately 60 pages for each 2 ports. Available hard disk resources determine the page limit for the external fax controller.

Computer Output Reduction (COR)

The ability to automatically rotate and size the printed output data so that the fax output fits on the page. The Integrated Fax Adapter and the external fax controller support COR. The 7852-400 modem does not support COR prior to V4R3. If the output does not fit on the page, modem users must specify the appropriate rotation and the appropriate font size.

Host Print Transform Font Substitution Table

The Host Print Transform (HPT) can use either the 240-pel or 300-pel version of a host resident font. For the best results, you should use the 300-pel version. With 240-pel fonts, the character images are scaled to 300 pels. This may cause the edges of the characters to be jagged or fuzzy.

An Advanced Function Printing (AFP) document calls for a printer resident code page and font (CPID/FGID). When this happens, the AFP to ASCII transform performs the following steps to select a font if the transform is in raster mode:

1. The transform looks in the spooled file library list and font libraries, QFNTCPL and QFNTxx, for a host resident code page and font to download. The code page name to look for is determined by converting the CPID to a four-character string and appending it to the prefix "T1V1".

The following table determines the font character set name to look for:

Table 6. Font Substitution Table 2

Substituted Font Character Set Name	FGID Range	Notes
C0S0CR10	Fonts 1 through 17	
C0S0CI10	Font 18	
C0S0CR10	Fonts 19 through 38	
C0D0GB10	Font 39	
C0D0GT10	Font 40	
C0S0CR10	Fonts 41 through 45	
C0S0CB10	Font 46	
C0S0CR10	Fonts 47 through 65	
C0D0GT12	Fonts 66 through 68	
C0D0GB12	Font 69	
C0S0CR12	Fonts 70 through 91	
C0S0CI12	Font 92	
C0S0CR12	Fonts 93 through 109	
C0S0CB12	Fonts 110 through 111	
C0S0CR12	Fonts 112 through 153	
C0S0ESTR	Fonts 154 through 161	
C0S0EITR	Font 162	
C0S0ESTR	Fonts 163 through 200	
C0D0GT13	Fonts 201 through 210	
C0S0CR15	Fonts 211 through 229	
C0S0GT15	Font 230	
C0S0CR15	Fonts 231 through 239	
C0S0CR10	Fonts 240 through 246	
C0D0GT18	Fonts 247 through 259	
C0S0CB10	Fonts 260 through 273	
C0D0GT18	Fonts 274 through 279	

Table 6. Font Substitution Table 2 (continued)

Substituted Font Character Set Name	FGID Range	Notes
C0D0GT20	Fonts 280 through 289	
C0D0GT24	Fonts 290 through 299	
C0D0GT18	Fonts 300 through 2303	
C0D0GT18	Fonts 2304 through 3839 or 4096 through 65279	Fonts with point size 0 through 7.5
C0S0CR15		Fonts with point size 7.6 through 9.5
C0S0CR12		Fonts with point size 9.6 through 11.5
C0S0CR10		Fonts with point size 11.6 through 13.5
C0S0CB10		Fonts with point size 13.6 and greater
No substitution	Fonts 3840 through 4095 (User-defined)	
No substitution	Fonts 65280 through 65534 (User-defined)	

If you specify code page 259 (Symbols), the previous table is not used. In this case, character set C0S0SYM2 is used for fonts 0 to 65. For all other fonts, character set C0S0SYM0 is used.

All of the previously-described character sets exist in 240-pel versions in the Font Compatibility Set that is shipped with AS/400 (library QFNTCPL in QSYS). For the best results, we recommend using 300-pel fonts from the IBM Font Collection for IBM Operating Systems (program number 5648-113).

2. If the correct host resident font cannot be found, the transform ignores the font request and printing continues in the current font. If this is the first font request of the document, the transform ends with an error.

When an AFP document calls for a host resident code page and font, the AFP transform gets the font resource. It then converts it to the proper format for printing (to raster the page).

Appendix A. Work Sheets for Configuring the Facsimile Support for AS/400 Product

Use the work sheets that are provided in this appendix when you perform the following tasks:

- Create a fax description
- Add a fax card or port to a fax description
- Configure a fax controller

Keep your completed work sheets for future reference. You may find the information helpful if, in the future, you decide to make changes to your Facsimile Support for AS/400 configuration.

Fax Description Configuration Work Sheet

Use the following work sheet when you create a fax description on the AS/400 system. Make a copy of this work sheet for each fax description on your system.

Table 7. Fax Description (CRTFAXD) Configuration Work Sheet

Parameter	Parameter Name	Default Value	Value Used	Source for Value Used
Connection type	LINKTYPE	*LAN		User-selected
Line description name	LIND			User-specified
Resource names ¹	RSRCNAME		resource-name-1 resource-name-2	Unique system-assigned resource names (WRKHDWRSC *CMN)
Adapter address ²	ADPTADR			PS/2 LAN adapter address
Twinaxial port number ³	PORT			AS/400 twinaxial cable port number
Twinaxial switch setting ³	SWTSET			PS/2 twinaxial adapter address
Fax description name	FAXD	FAXD01		User-specified
Fax control device name	FAXCTLDEV	FAXCTL01		User-specified
Fax send device name	FAXSNDDEV	FAXSND01		User-specified
Fax receive device name	FAXRCVDEV	FAXRCV01		User-specified
7852-400 asynchronous device name ⁴	FAXASCDEV	FAXASC01		
Fax integrated modem device name ⁵	FAXIMDEV	FAXIM01		
Print TSI banner ⁶	TSIBNR	*NO		User-specified
TSI position	TSIPOS	*INSERT		
Text	TEXT			User-specified

Notes:

1. This parameter applies only for a connection type of *FAX, *ASYNC, or *IMANALOG. For a *FAX connection, you must specify two resource names. For an *ASYNC or *IMANALOG connection, specify only one resource name.
2. This parameter applies only to a connection type of *LAN.
3. This parameter applies only to a connection type of *TDLC.
4. This parameter applies only to a connection type of *ASYNC.
5. This parameter applies only to connection types of *IMANALOG and *IMISDN.
6. This parameter applies only to connection types of *LAN, *TDLC, *FAX, *IMANALOG, and *IMISDN.

Fax Card Configuration Work Sheet

Use the following work sheet when you add a fax card or port to a fax description on the AS/400 system. Make a copy of this work sheet for each card or port added to a fax description.

Table 8. Fax Card (ADDFAXCRD) Configuration Work Sheet

Parameter	Parameter Name	Default Value	Value Used	Source for Value Used
Fax description name	FAXD	FAXD01		Fax description name to add fax card or port description.
Fax card or port name	FAXCRD	FAX1		Slot in external fax controller where card is located, or port location on the Integrated Fax Adapter or 7852-400 modem. Must be FAX1 for the 7852-400 modem and the PCI Based Integrated Remote Access hardware.
Fax card function	FAXTYPE	*BOTH ³		User-selected.
Fax receive database file name	FAXFILE	QUSRSYS /QAFFRCV		User-specified.
Fax receive data queue	FAXRCVDQ	QUSRSYS /QFFRCVDQ		User-specified.
Transmitting subscriber ID ¹	TSI	*BLANK		User-specified.
Telephone dial type ²	DIAL	*TONE		User-selected.
Telephone dial attempts	DIALRTY	2		User-specified.
Telephone dial delay	REDIALDLY	060		User-specified.
Fax error correction mode	ECM DIRCONTYP ⁴ PREFIX RTNNEGRSP	*OFF *NONE *NONE *NONE		User-selected. Not applicable for the 7852-400 modem.

Notes:

1. Although *BLANK is the default value for the TSI parameter, we recommend that you enter a value.
2. For the 7852-400 modem, you must specify *PULSE10 or *TONE for the dial type.
3. For a fax description of *IMISDN, *BOTH is not valid for the fax card function.

4. The DIRCONTYP parameter will be ignored for a fax description with linktype *IMISDN.

Fax Controller Configuration Work Sheet

Use this work sheet as you follow the instructions in “Installing the Facsimile Support for AS/400 Product on the External Fax Controller” on page 20 to configure an external fax controller. If you are configuring more than one external fax controller, make a copy of this work sheet for each controller.

Table 9. Fax Controller Configuration Work Sheet

Parameter Description	Default Value	Value Used	Source for Value Used
AS/400 local network ID	APPN		AS/400 local network ID (use DSPNETA command)
AS/400 default local location	VALUE2		AS/400 default local location (use DSPNETA command)
AS/400 token-ring or Ethernet adapter address ¹			AS/400 local adapter address (use DSPLIND command)
Twinaxial switch setting ²	0		Switch setting specified on CRTFAXD command
Fax description	FAXD01		Fax description name specified on CRTFAXD command
Fax control device name	FAXCTL01		Fax control device name specified on CRTFAXD command
Fax send device name	FAXSND01		Fax send device name specified on CRTFAXD command
Fax receive device name	FAXRCV01		Fax receive device name specified on CRTFAXD command
Fax asynchronous device name	FAXASC01		Fax asynchronous device name specified on CRTFAXD command
External fax controller token-ring or Ethernet adapter address ¹			LAN remote adapter address specified on CRTFAXD command
Fax integrated modem device name	FAXIM01		Fax integrated modem device name specified on CRTFAXD command

Notes:

1. This parameter applies only to a connection type of *LAN.
2. This parameter applies only to a connection type of *TDLC.

Appendix B. Bit-Reversal for Ethernet Adapter Address

This appendix describes the process for converting an Ethernet adapter address.

The Ethernet adapter address is not exactly the same value that is read from the line description. You may have to convert the address if one of the following situations applies to you:

- You are using an Ethernet adapter and you selected universally administered (burned-in) addresses to configure your Ethernet network
- You communicate with non-IBM products

To convert the address, you must perform bit-reversal on each byte of the adapter address. The following example provides instructions on how to do this.

In our example, the value from the Display Line Description (DSPLIND) command is **4E0075803169**, and the converted value is **7200AE018C96**. Use the following steps to perform bit-reversal on universal address 4E0075803169.

1. Separate the 12-character Ethernet address into sets of two.

4	E	0	0	7	5	8	0	3	1	6	9
---	---	---	---	---	---	---	---	---	---	---	---

2. Use the following table to perform bit-reversal on each number.

Table 10. Ethernet Bit-Reversal Values

Original Value	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Converted Value	0	8	4	C	2	A	6	E	1	9	5	D	3	B	7	F

3. Find the digit (0 through F) in the first row of the table, labeled **Original Value**. You can find the value of the reversed address directly below the original digit in the second row of the table. This is labeled **Converted Value**.

In our example, the first digit, 4, converts to a value of 2.

4. Write the number 2.

4	E	0	0	7	5	8	0	3	1	6	9
2											

5. Reverse the next digit.

4	E	0	0	7	5	8	0	3	1	6	9
2	7										

6. Continue the procedure for each of the 12 digits of the Ethernet address.

4	E	0	0	7	5	8	0	3	1	6	9
2	7	0	0	E	A	1	0	C	8	6	9

7. Reverse the order of each pair of numbers you have written.

4	E	0	0	7	5	8	0	3	1	6	9
2	7	0	0	E	A	1	0	C	8	6	9
7	2	0	0	A	E	0	1	8	C	9	6

According to the preceding table, the address of 4E0075803169 becomes destination address 7200AE018C96. In this example, we would enter 7200AE018C96 as the destination address.

After you convert the adapter address, enter the result as the Ethernet adapter address in step 4 on page 33.

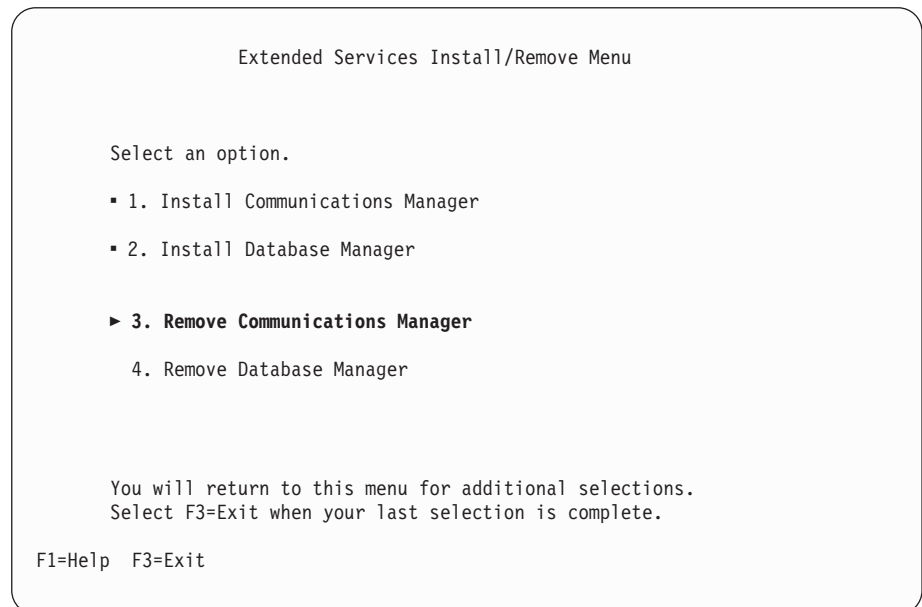
Appendix C. Removing Extended Services from the External Fax Controller

The Facsimile Support for AS/400 product no longer supports OS/2 Extended Services. Before installing the Facsimile Support for AS/400 product Version 4, you must remove Extended Services from the hard disk. This appendix provides procedures for removing the Extended Services support.

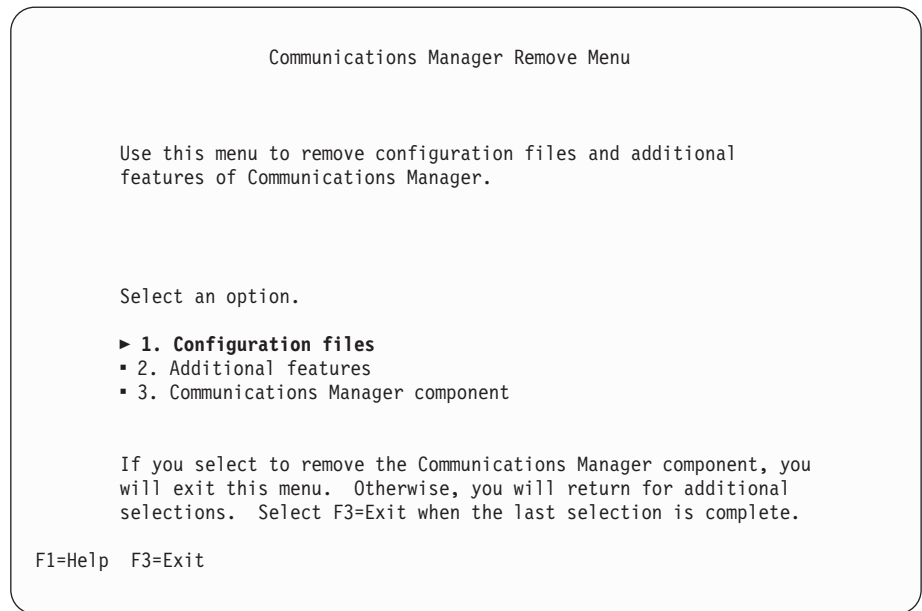
Use one of the following methods to remove Extended Services:

- Install the OS/2 system and the Facsimile Support for AS/400 workstation feature again. During the installation of the OS/2 system, format the hard disk to remove Extended Services.
- Use the Extended Services Install/Remove Menu by doing the following:
 1. Open the OS/2 System icon and select the Command Prompts folder. After the Command Prompts folder is open, select the *OS/2 Full Screen* option to open an OS/2 full screen session.
 2. Type REINST at the OS/2 command prompt and press the Enter key. The Extended Services Install/Remove Menu appears.

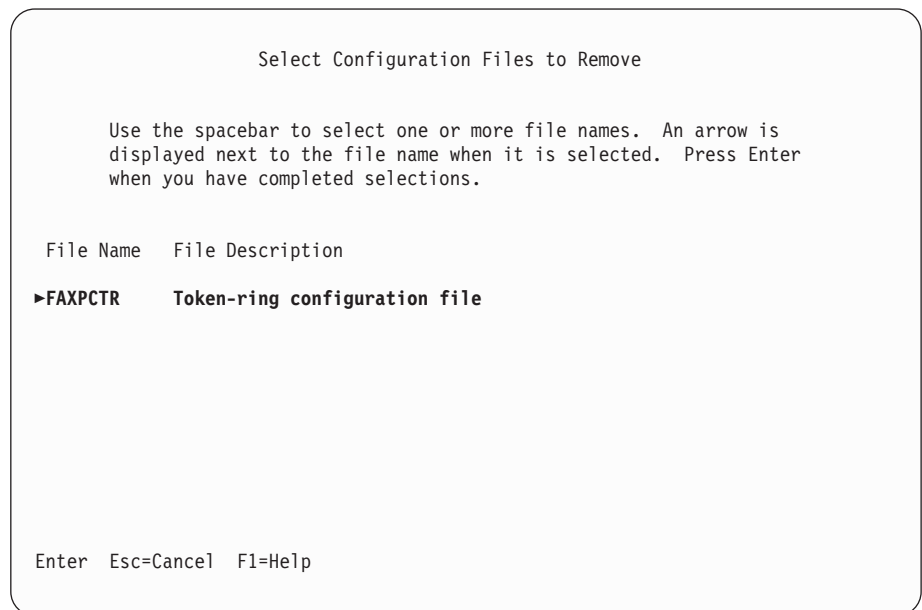
Note: You might see a warning message that says that the Courier font was not installed. This warning does not affect the operation of the Facsimile Support for AS/400 product. Press the Enter key to continue the installation procedure.



3. Use a cursor key to select option 3 (Remove Communications Manager) and press the Enter key. The Communications Manager Remove Menu appears.



4. Use a cursor key to select option 1 (Configuration files) and press the Enter key. The Select Configuration Files to Remove display appears.



5. Use a cursor key and the spacebar to select all of the configuration files that are shown and press the Enter key. The Communications Manager Remove Menu appears with a status window.

Communications Manager Remove Menu

Use this menu to remove configuration files and additional features of Communications Manager.

Select an option.

- 1. Configuration files
- ▶ **2. Additional features**
- 3. Communications Manager component

If you select to remove the Commu will exit this menu. Otherwise, selections. Select F3=Exit when

The configuration files that you have selected have been successfully removed.

F1=Help F3=Exit

6. Use a cursor key to select option 2 (Additional features) and press the Enter key. The Remove Additional Features display appears.

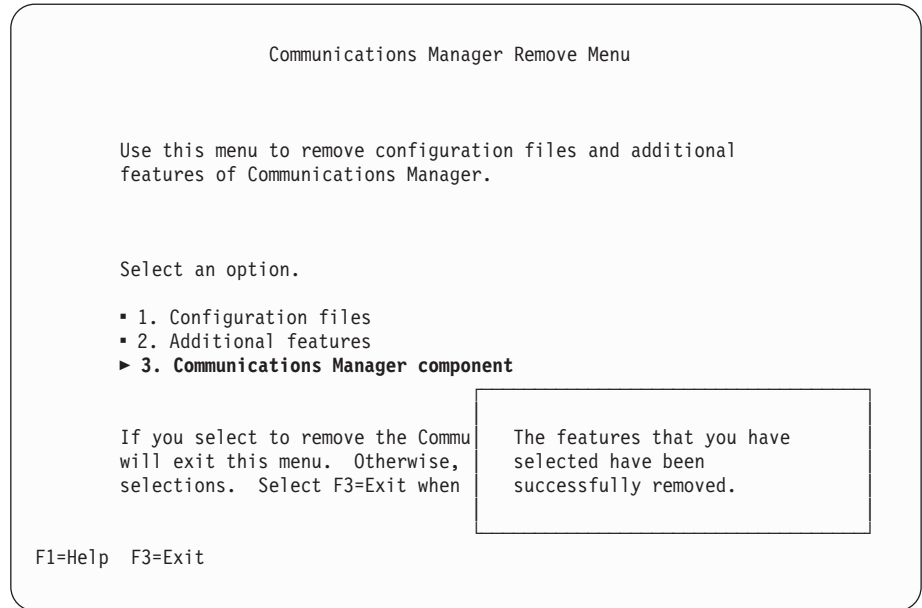
Remove Additional Features

Use the spacebar to select one or more features. An arrow is displayed next to the feature when it is selected. Press Enter when you have completed selections.

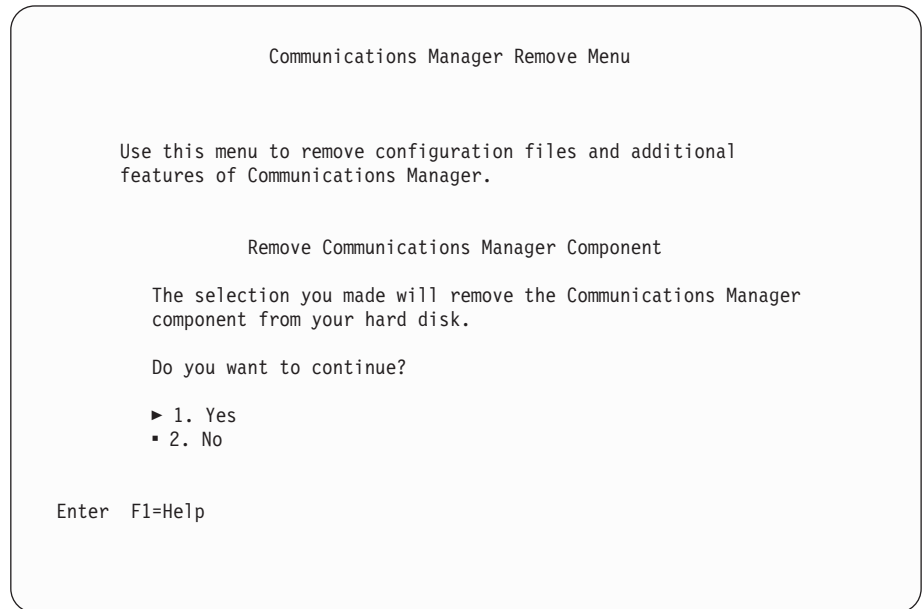
Features	Installed Status
• Configuration services	Yes
• Keyboard remap	Yes
ACDI	No
ACDI Redirection	No
API data structures	No
• Utilities	Yes

Enter Esc=Cancel F1=Help

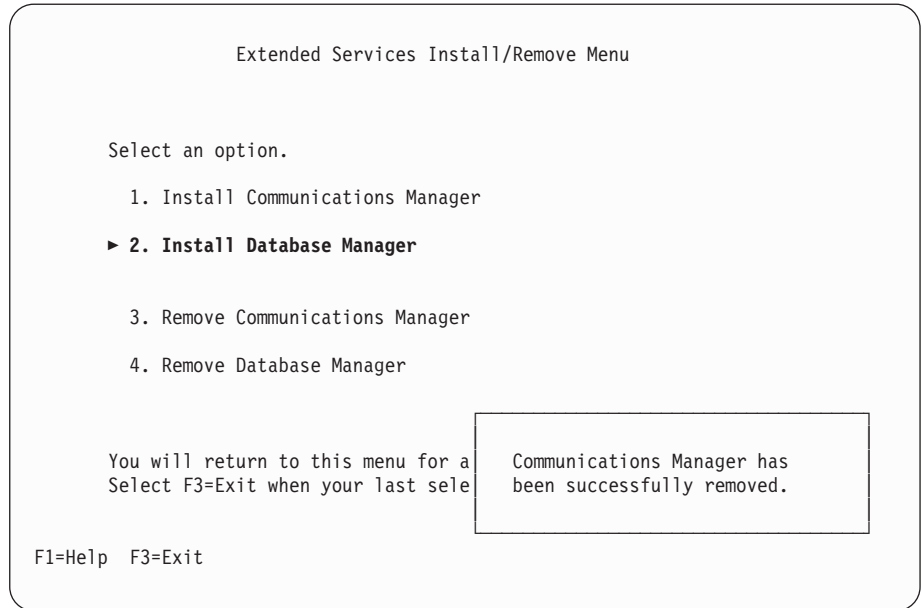
7. Use a cursor key and the spacebar to select all of the features that you installed on the external fax controller and press the Enter key. The Communications Manager Remove Menu appears with a status window.



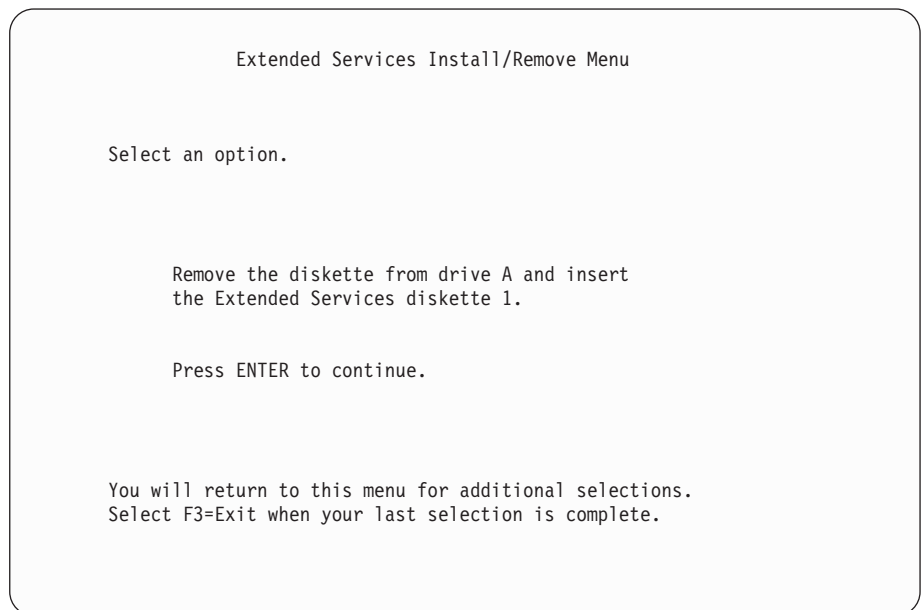
8. Use a cursor key to select option 3 (Communications Manager component) and press the Enter key. The Remove Communications Manager Component window appears.



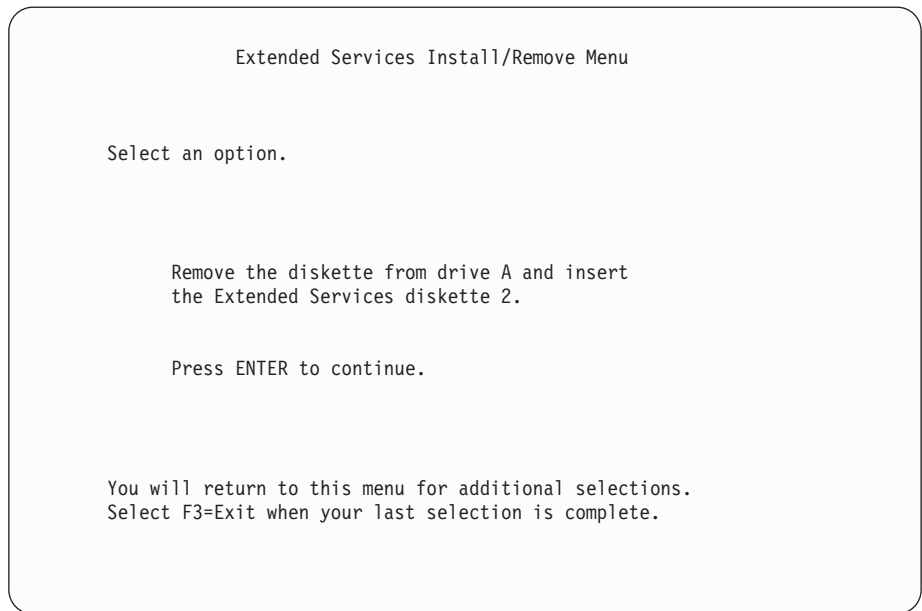
9. Use a cursor key to select option 1 (Yes) and press the Enter key. The Extended Services Install/Remove Menu appears with a status window that contains a message that the Communications Manager has been successfully removed.



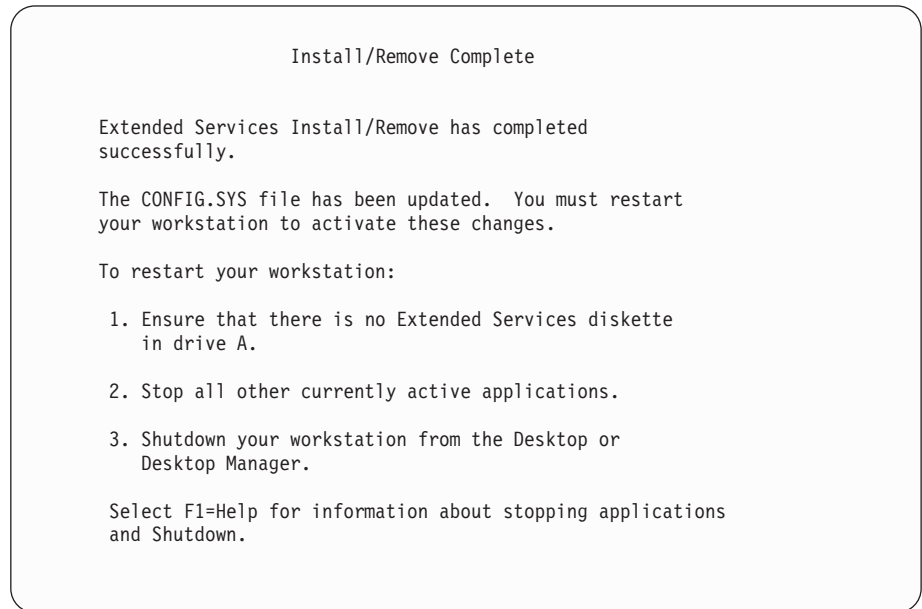
10. Press F3 (Exit). This displays a status window that asks you to insert the Extended Services diskette 1.



11. Insert the Extended Services diskette 1 into drive A: and press the Enter key. This displays a status window that asks you to insert the Extended Services diskette 2.



12. Insert the Extended Services diskette 2 into drive A: and press the Enter key. After you have loaded the diskettes, the Install/Remove Complete display appears.



13. From the Install/Remove Complete display, press the Ctrl and Esc keys to return to the OS/2 desktop.
14. Open the OS/2 System icon and select the Command Prompts folder.
15. From the Command Prompts folder, select an OS/2 Full Screen.
16. From the *OS/2 Full Screen C:* prompt, enter the following:

```
RENAME STARTUP.COMD STARTUP.nnn
```

and press the Enter key.

Note: If you do not rename the STARTUP command before you restart your personal computer, it may be necessary to restart it again.

17. After renaming the STARTUP command, type EXIT after the C: prompt and press the Enter key.

18. Shut down and restart the external fax controller, following the steps in "Shutting Down the External Fax Controller" on page 42.

19. To avoid the display that states,

Extended Services is not supported by Facsimile Support/400

you must rename or delete the CMLIB subdirectory. "Chapter 3. Installing and Configuring the Facsimile Support for AS/400 Product on an External Fax Controller" on page 17 shows this display. After you restart the fax controller, open the OS/2 System icon and select the Command Prompts folder.

20. Select an OS/2 Full Screen from the Command Prompts folder.

21. Type the following command after the C: prompt to rename CMLIB:

```
RENAME CMLIB XXLIB
```

and press the Enter key.

22. Before you can remove the CMLIB subdirectory, you must first delete all of the files in that subdirectory. To delete the files, enter the following command after the C:

```
CD CMLIB
```

and press the Enter key.

23. Type CD at the C: CMLIB> prompt to return to the root directory.

24. After the C: prompt, type the following to remove the CMLIB directory:

```
RD CMLIB
```

25. When you have renamed or deleted CMLIB, continue with step 4 on page 22 to install the workstation feature diskette.

Bibliography

The following publications may be useful to you when you install and use the Facsimile Support for AS/400 product. These publications appear with their full title and base order number.

- *Facsimile Support for AS/400 User's Guide*, SC41-0655, provides information about using the Facsimile Support for AS/400 product.
- *Facsimile Support for AS/400 Programmer's Guide and Reference*, SC41-0656, provides details for programmers who want to integrate the Facsimile Support for AS/400 product with other applications.
- *Facsimile Support/400 Version 3 Redbook*, SG24-4636, provides detailed information for planning and installing the Facsimile Support for AS/400 product. It also provides information about using this product with other products and applications.
- *CL Reference (Abridged)*, describes the AS/400 control language syntax, commands, and command parameters.
- *DSNX Support*, describes alerts and command parameters.
- *Basic System Operation, Administration, and Problem Handling*, provides information on general system operation topics, including the handling of messages and the installation of program temporary files.
- *Work Management*, describes subsystems, job queues, output queues, job descriptions, and classes.
- *Printer Device Programming*, provides information to help you understand and control printing.
- *IBM Operating System/2 Version 2.0 Installation Guide*, 84F8464, provides detailed instructions on installing the OS/2 2.0 operating system. This publication is supplied with the base OS/2 2.0 operating system program.
- *IBM Operating System/2 Version 2.1 Installation Guide*, 84F8264, provides detailed instructions on installing the OS/2 2.1 operating system. This publication is supplied with the base OS/2 2.1 operating system program.
- *User's Guide to OS/2 Warp*, 25H7205, provides information for installing and using OS/2 effectively, from basics to expert tips and technical details.
- *AnyMail/400 Mail Server Framework Developer Guide*, GC24-4449, provides detailed technical information about the configuration and operation of the AnyMail/400 Mail Server Framework product. This book also provides programmer information on the AnyMail/400 Mail Server Framework exit points and APIs.
- *TCP/IP Configuration and Reference*, provides information on configuring and using the Transmission Control Protocol/Internet Protocol (TCP/IP) and writing programs to the TCP/IP application interface.
- *AS/400 Printing III*, GG24-4028, provides details on printing functions and products as they relate to the AS/400 system. This publication includes examples, programming samples, and diagrams.
- *AS/400 Printing IV*, GG24-4389, provides details on new printing functions for the AS/400 system, including explanations of how to use these functions. This publication includes diagrams, programming samples, and working examples.

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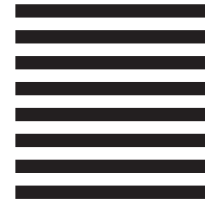
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