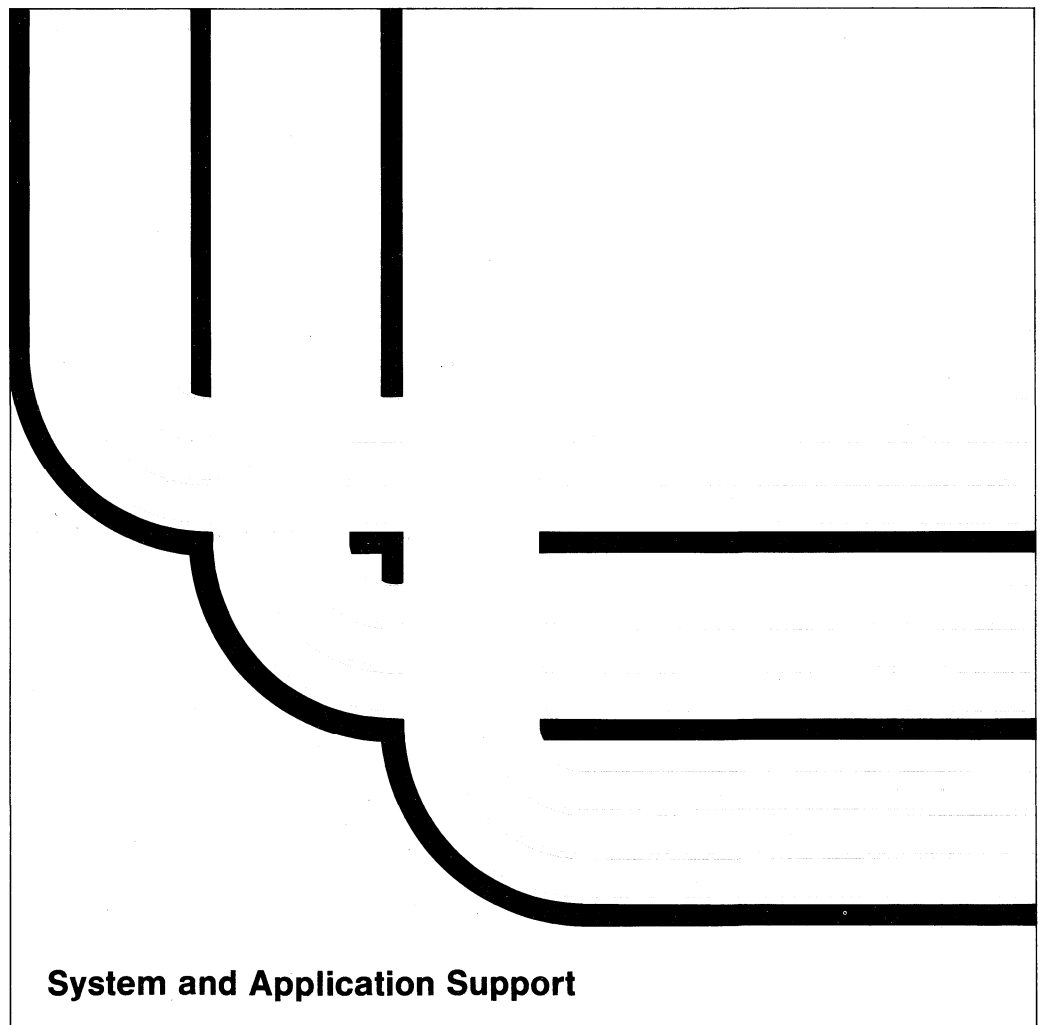


**PC Support/400:
OS/2 Installation and Administration Guide**

Version 2





Application System/400

SC41-0007-01

**PC Support/400:
OS/2 Installation and Administration Guide**

Version 2

Take Note!

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

Second Edition (September 1992)

This edition applies to the licensed programs IBM PC Support/400 (Program 5738-PC1) and IBM Operating System/400 (Program 5738-SS1), Version 2 Release 2 Modification 0, and to all subsequent releases and modifications until otherwise indicated in new editions. This major revision makes obsolete SC41-0007-00. Make sure you are using the proper edition for the level of the product.

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About This Guide

This guide contains planning, installation, and configuration information for PC Support/400. The installation diskettes for PC Support/400 are shipped with the PC Support/400 licensed program, or can be created by the PC Support administrator using the PC Support/400 administration function.

You may need to refer to other IBM manuals for more specific information about a particular topic. The *Publications Guide*, GC41-9678, provides information on all the manuals in the AS/400 library.

Who Should Use This Guide

This guide is intended for the individual who, generally, has personal computer expertise, is responsible for installation and maintenance of personal computers, and is the focal point for questions on the personal computer.

You must have a general knowledge of the Operating System/2 (OS/2) program and know how to copy and format diskettes. You should also be able to sign on to an AS/400 system and use the AS/400 displays.

This guide explains how to install and configure the PC Support/400 functions; it does not discuss the uses or basic operations of these functions. You must be familiar with these PC Support/400 operations as discussed in *PC Support/400 User's Guide for OS/2*.

PC Support/400 Information

The following is a summary of the documentation available for PC Support/400. For a complete overview of the AS/400 system documentation, see the *Publications Guide*, GC41-9678.

Tasks	Environment	Look in
Planning, Installation, Administration, Problem Analysis, and Customization.	DOS	<i>PC Support/400: DOS Installation and Administration Guide</i> , SC41-0006
	DOS (DBCS)	<i>PC Support/400: DOS Installation and Administration Guide (PS/55)</i> , SC41-0008
	OS/2	<i>PC Support/400: OS/2 Installation and Administration Guide</i> , SC41-0007
	OS/2 (DBCS)	<i>PC Support/400: OS/2 Installation and Administration Guide (PS/55)</i> , SC41-0009
	OS/2 2.0 DOS	<i>Running DOS PC Support/400 in OS/2 Version 2.0 VDM</i> , GG24-3865 ¹
Using PC Support Functions	DOS	<i>PC Support/400: DOS User's Guide</i> , SC41-8199
	DOS (DBCS)	<i>PC Support/400: DOS User's Guide (PS/55)</i> , SC41-2414
	OS/2	<i>PC Support/400: OS/2 User's Guide</i> , SC41-8200
	OS/2 (DBCS)	<i>PC Support/400: OS/2 User's Guide (PS/55)</i> , SC41-2415
Education	All	<ul style="list-style-type: none"> • Tutorial System Support² • PC Support Introduction (PCSINTRO)³
Problem Analysis	All	<ul style="list-style-type: none"> • Online message help (PCSHELP) and extended help³ • The PC Support error log (PCSLOG)³ • The PC Support Installation and Administration Guide for your environment
Technical Information and Programming	All	<ul style="list-style-type: none"> • <i>PC Support/400: DOS and OS/2 Technical Reference</i>, SC41-8091 • <i>PC Support/400: Application Program Interface Reference</i>, SC41-8254

Notes:

1. This manual contains information about using the DOS version of PC Support on a personal computer with OS/2 Version 2.0. The manual is a redbook published by the International Technical Support Center, and is provided on an "as is" basis without any warranty either expressed or implied.
2. To start online education, enter STREDU at the AS/400 command line.
3. For information about using these PC Support help features, see the chapter on "Getting Help When You Need It" in the *PC Support User's Guide*.

Summary of Changes

This guide has been updated to include several new topics related to the installation and administration of PC Support/400.

- **Enrolling users on the AS/400 system**

A new chapter on this topic has been added: Chapter 2, "Enrolling PC Support/400 Users on the AS/400 System."

- **5394 remote communications chapters combined**

Previously there were two chapters on 5394 remote communications:

- "Installing PC Support for 5394 Remote Communications Using SDLC Connections"
- "Installing PC Support for 5394 Remote Communications Using X.25"

These chapters have been combined into Chapter 8, "Installing PC Support/400 for 5394 Remote Communications."

- **5494 remote communications**

A chapter describing the use of PC Support/400 with 5494 remote communications has been added: Chapter 9, "Installing PC Support/400 for 5494 Remote Communications."

Part 1. Planning for PC Support/400

Chapter 1. Planning to Install PC Support/400 1-1

Chapter 1. Planning to Install PC Support/400

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This guide provides instructions for completing the installation and the necessary configuration on both the AS/400* system and the personal computer.

Overview of Installing PC Support/400

To install and configure PC Support/400, you need to do the following:

1. Plan your PC Support/400 setup.
 - Use this chapter for general planning considerations.
 - Use Part 6, "Appendixes" for memory requirements and other considerations.
2. Verify that the licensed program is installed on the AS/400 system. Use "Verifying the Installation of the PC Support/400 Licensed Program" on page 2-2.
3. Add each PC Support/400 user on the AS/400 system. Use "Enrolling PC Support/400 Users" on page 2-3.
4. Set up administration if needed. Use Chapter 3, "Using the PC Support/400 Administration Function." The administration function can help make installation on the personal computer easier by allowing you to:
 - Create model configurations and user configurations
 - Create customized installation diskettes
5. Configure each PC connection on the AS/400 system. Use Part 3, "Installing PC Support/400" for details you will need for each connection type. Refer to Table 1-1 on page 1-3 to determine the appropriate chapter to use.
6. Install the PC Support/400 programs on each personal computer. Refer to Table 1-1 on page 1-3 to determine the appropriate chapter to use based on the connection type you are using. Each chapter contains:
 - A work sheet for recording the information you need
 - Instructions for installing on the personal computer
 - Information about starting PC Support/400
 - For those connection types where it is recommended, instructions for copying PC Support functions to the personal computer
7. Administer users as required. Use Chapter 3, "Using the PC Support/400 Administration Function."
8. Configure functions on each personal computer if needed. Use Part 4, "Configuring PC Support/400."
 - Chapter 11, "Configuring PC Support with the Configuration Program" contains general information on how to use the PC Support/400 configuration program for configuring all functions.
 - The other chapters in Part 4 contain details for configuring specific functions.

Table 1-1. Chapters for PC Support/400 Connection Types

For this connection type	Refer to
Twinaxial (TDLC)	Chapter 4
Token-ring (LAN)	Chapter 5
Ethernet (LAN)	Chapter 6
Synchronous data link control (SDLC)	Chapter 7
5394 remote using SDLC	Chapter 8
5394 remote using X.25	Chapter 8
5494 remote	Chapter 9
X.25	Chapter 10

Packaging

The PC Support/400 program is packaged in the following parts:

- The PC Support/400 programs required for the AS/400 system are shipped on tape, unless you have ordered a Total System Package system or a pre-loaded system. In these cases, the PC Support/400 program should already be loaded on your system.
- The PC Support/400 programs required for installation on the personal computer are shipped on diskettes, or diskettes containing these programs may be created using the administration function. For more information on creating these diskettes, see "Creating Installation Diskettes" on page 3-15.

Note: The Operating System/2* (OS/2*) communications manager program is not part of the PC Support/400 program. It is part of the OS/2 Extended Services program.

PC Support/400 Options, Libraries, and Folders

The following table shows the options that PC Support/400 provides for installing the licensed program on the AS/400 system. When you install an option, the necessary libraries and folders are created on the AS/400 system.

Table 1-2. Options for Installing PC Support/400 on the AS/400 System

Option	Library	Folder	Description
PC Support/400	QIWS	QIWSADM QIWSADM/MODEL QIWSADM/USER	Base PC Support/400 files
PC DOS Programs	QIWSFS	QIWSFLR	Basic DOS PC files for SBCS ¹
DBCS (DOS)	QIWSFD	QIWSFLRD	Basic DOS PC files for DBCS ²
OS/2 Programs	QIWS2S	QIWSOS2	OS/2 PC files for SBCS ¹
DBCS (OS/2)	QIWS2D	QIWSOS2D	OS/2 PC files for DBCS ²
Extended DOS Programs	QIWSPS	QIWSFL2	Extended DOS PC files for SBCS ¹
DBCS (Extended DOS)	QIWSPD	QIWSFL2D	Extended DOS PC files for DBCS ²
PC Tools Folder	QIWSTL	QIWSTOOL	PC Support/400 utilities and sample programs
RUMBA/400 SBCS option	QRUMBA	QRUMBA	RUMBA/400 files for SBCS ¹
RUMBA/400 DBCS option	QRUMBAD	QRUMBAD	RUMBA/400 files for DBCS ²

Notes:

- ¹ For language groups that use the single-byte character set (SBCS), such as most English-speaking countries.
- ² For language groups that use the double-byte character set (DBCS), such as Traditional Chinese, Japanese, and Korean.

When you install the licensed program on the system, you need to install the following:

- PC Support/400 base option
- At least one of the options for PC files
- Any of the other options you want to use

The PC tools folder is optional. For more information about the tools folder, see Appendix C, "The PC Support/400 Tools Folder."

For information about installing the licensed program on the system, see "Verifying the Installation of the PC Support/400 Licensed Program" on page 2-2.

The QIWS library created by installing the base option contains the programs for running PC Support/400 on the AS/400 system. The libraries created by each of the other options contain programs and data for installing the option and for applying program temporary fixes (PTFs).

The folders contain PC files (programs and data files) for running PC Support/400 on a personal computer. When you install PC Support/400 on the personal computer, all functions except those necessary for making an initial connection are set up to run from the appropriate folder on the system.

The programs necessary for making a connection to the AS/400 system are copied to the hard disk on the personal computer by the PC Support/400 installation program. The installation program also allows you to select certain PC Support/400 functions to start automatically each time PC Support/400 is started. These functions are set up to run from the folder on the system.

After installation, you can use the PC Support/400 configuration program to:

- Change the list of functions that start automatically.

- Copy the programs for a function from the folder to the personal computer and run the function from the personal computer. For instructions on how to do this, see “Changing PC Support/400 General Options” on page 11-3.
- Specify other information for changing PC Support/400 functions to meet your needs.

The language-specific PC Support/400 files are stored in the MRI29nn folder within these folders. The nn represents the last 2 digits of the language feature code for the language. For information about how to use the PC Support language options, see Appendix D, “National Language Support for PC Support/400.”

AS/400 System Requirements

The AS/400 system has the following requirements when using PC Support/400:

- A 5394 remote control unit is required if you are using remotely attached personal computers in a twinaxial data link control (TDLC) environment. A 5294 controller cannot be used.
- PC Support/400 cannot be used on a personal computer attached to port 0, address 0 on the AS/400 system, because this is reserved for the system console.

Subsystems

PC Support/400 runs in a subsystem on the AS/400 system. The subsystem must be active for PC Support/400 to work. Which subsystem PC Support/400 uses depends on what subsystem on the AS/400 system is the controlling subsystem:

- If the controlling subsystem is QBASE, PC Support/400 runs in QBASE.
- If the controlling subsystem is QCTL, PC Support/400 runs in QCMN.

To determine your controlling subsystem, type

```
DSPSYSVAL QCTLSBSD
```

on the AS/400 command line and press the Enter key. Then, use the Work with Subsystems (WRKSBS) command to see if the necessary subsystem is active. If not, you can start it using the Start Subsystem (STRSBS) command.

The following list shows the routing entries used by the various PC Support/400 functions in the QBASE and QCMN subsystems:

Routing Entry	PC Support/400 Function
QCNPCSUP	Router function
QMFRCVR	Shared folder function
QMFSNDR	Shared folder function
QPGMEVOKE	Program initialization
QTFDWNLD	File transfer function
QVPPRINT	Virtual print function

If you use the shared folders function, the QXFPCS subsystem becomes active when the first drive is assigned. For more information about this subsystem, see “Working with the Shared Folders Function Subsystem” on page 12-8.

For more information about controlling subsystems, see the *Programming: Work Management Guide*, SC41-8078.

Disk Storage Requirements

The following list shows the approximate amount of disk storage needed on the AS/400 system to hold the PC Support/400 options:

Options	Disk Storage in Megabytes
QIWS (base PC Support/400 code)	4.5
PC DOS (first single-byte version)	8.5
Each additional single-byte version	3.5
PC DOS (first double-byte version)	5.5
Each additional double-byte version	2.5
Extended DOS (first single-byte version)	10.0
Each additional single-byte version	3.5
Extended DOS (first double-byte version)	6.5
Each additional double-byte version	2.5
The OS/2 program (first single-byte version)	6.5
Each additional single-byte version	3.0
The OS/2 program (first double-byte version)	6.0
Each additional double-byte version	2.5
PC Support/400 tools folder	5.0
The RUMBA/400 program (single-byte version)	4.0
The RUMBA/400 program (double-byte version)	4.5

Personal Computer Requirements

To install and run PC Support/400 you will need the following:

- An IBM* Personal System/2* (PS/2*) or PC AT* with at least one diskette drive.
- An 80-column display.
- One of the following operating systems must be installed on the personal computer:
 - OS/2 Extended Edition Version 1.3
 - OS/2 Version 2.0
- You must have a general knowledge of OS/2, and know how to copy and format diskettes.
- The necessary amount of hard disk space to store the PC Support/400 programs. You need at least 1.8MB available on your hard disk to install PC Support/400.

Notes:

1. The amount of hard disk space required to install PC Support/400 includes only the space needed to install those functions necessary for making a connection to the AS/400 system. When you install PC Support/400, you may choose to have several functions start up automatically each time you use PC Support/400. These functions are stored in a folder on the I drive. They are not copied to your hard disk, so extra space is not required. If you choose to configure other PC Support/400 functions to run from the personal computer, you will need additional space depending on which functions you choose.
2. You can store the shared folders cache on your hard disk. The amount of space used depends on the size of the cache and the number of systems to which you assign drives.

$$\text{actual disk space used} = (\text{cache size}) * (\# \text{ host drives assigned to})$$

3. Additional disk space could be required when running the update function to obtain changes after installing a new release of PC Support/400 or after applying a program temporary fix (PTF) on the AS/400 system.
- The necessary amount of memory to run the OS/2 communications manager program and PC Support/400. If you do not have enough memory to run your programs, the OS/2 program uses swapping to temporarily store program segments. In this case, you must have enough space available on your hard disk to store these segments.

To determine how much memory PC Support/400 uses, see Appendix A, "PC Support/400 Memory Requirements."

Adapter Cards

For every environment in which you are installing PC Support/400, an adapter card must be installed in the personal computer. The adapter card used depends on the type of environment.

Use the following chart to help you determine which adapter you need to install:

Table 1-3 (Page 1 of 2). Adapter Cards

Environment	Adapter Card	Description
Twinaxial data link control (TDLC)	One of the following emulation adapters: <ul style="list-style-type: none"> • IBM System/36 and System/38 Work Station Emulation Adapter/A • IBM Enhanced 5250 Emulation Adapter 	The work station emulation adapter is used when an IBM Personal System/2 Model 50 or above is connected to the AS/400 system with a twinaxial cable. The program (WSE.COM) that comes with this adapter is not used. The enhanced 5250 emulation adapter is used when a PC AT is connected to the AS/400 system with a twinaxial cable. The emulation programs (DE5250.COM and DP5250.COM) are not used.
Token-ring network	One of the following token-ring adapters: <ul style="list-style-type: none"> • IBM Token-Ring Network Adapter/A • IBM Token-Ring PC Adapter • IBM Token-Ring PC Adapter II 	The Token-Ring PC Adapter and the Token-Ring PC Adapter II are used when a PC AT is connected to a local area network. Installing the OS/2 communications manager program will set up a connection with only one system in the local area network. After the installation is complete, you can set up connections for additional systems.

Table 1-3 (Page 2 of 2). Adapter Cards

Environment	Adapter Card	Description
Ethernet network	One of the following Ethernet adapters: <ul style="list-style-type: none"> • 3Com** Etherlink/MC** • Western Digital** EtherCard PLUS/A** • Ungermann-Bass NUIps/2 • 3Com** Etherlink II** • The PS/2 Adapter/A for Ethernet Networks • Western Digital EtherCard PLUS** • Ungermann-Bass NUIpc 	The 3Com Etherlink/MC, Western Digital EtherCard PLUS/A, and Ungermann-Bass NUIps/2 adapters are used when a PS/2 Model 50 or above is connected to a local area network. The 3Com Etherlink II, Western Digital EtherCard PLUS, and Ungermann-Bass NUIpc adapters are used when a PC AT is connected to a local area network. Installing the OS/2 communications manager program will set up a connection with only one system in the local area network. After the installation is complete, you can set up connections for additional systems.
Synchronous data link control (SDLC)	One of the following synchronous data link control communications adapters: <ul style="list-style-type: none"> • Personal System/2 Multi-Protocol Adapter/A • IBM SDLC Communications Adapter 	The PS/2 Multi-Protocol Adapter/A is used when a Personal System/2 Model 50 or above is connected to the AS/400 system with SDLC. The synchronous data link control (SDLC) communications adapter is used when a PC AT is connected to the AS/400 system with SDLC. The Remote 5250 Emulation programs (RE5250.COM and RP5250.COM) are not used.
PC Support/400 asynchronous communications	The OS/2 communications manager program does not support asynchronous communications to the AS/400 system.	
X.25	X.25 Interface Coprocessor/2 Adapter	The X.25 Interface Coprocessor/2 adapter is used when a PS/2 Model 50 or above is connected to the AS/400 system through a cable with X.21 or X.21 bis V.24 (RS-232) or X.21 bis V.35 interface.

Using More than One Adapter

If you have more than one adapter in your personal computer, the OS/2 communications manager program determines which adapter card is used for which host system. This is determined in the 5250 Partner Logical Unit profile. PC Support/400 communicates with the host system through the same card the OS/2 communications manager program uses for the same system.

Considerations for Installing and Using PC Support/400

This section contains information on some of the things you should consider as you install and begin to use PC Support/400.

Installing PC Support/400 for the First Time

If you are installing PC Support/400 for the first time, you should follow the instructions from “Overview of Installing PC Support/400” on page 1-2.

Upgrading to a New Release of PC Support/400

If you are upgrading to a new release of PC Support/400, you do not need to install the new level of PC Support/400 on the personal computers.

Install the PC Support/400 licensed program on the system using the instructions in the *Licensed Programs and New Release Installation Guide*, SC41-9878. When PC Support/400 is started on each personal computer, the PC Support/400 update function automatically updates the personal computer to the new release. If you have removed the PCSUPDT command from the STARTPCS.COM file, you need to run the update function from the command line:

```
I:\QIWS0S2\PCSUPDT I:\QIWS0S2 d:\PCS0S2 /S
```

where *d* is your PC Support/400 directory drive.

See “Considerations for Using the Update Function” on page 18-10 for other factors to consider when using the update function.

Creating Custom Installation Diskettes

Creating customized installation diskettes makes the installation of PC Support/400 on the personal computer an automatic task. If you intend to have the PC Support/400 users configured from a central location as provided by the PC Support/400 administration function, you should use this method to install PC Support/400 for new users. Even if you do not plan to use the other features of the administration function, you can still create custom installation diskettes.

See Chapter 3, “Using the PC Support/400 Administration Function” for instructions on how to set up the administration function and create custom installation diskettes.

Creating Standard Installation Diskettes

Standard installation diskettes are the same as the installation diskettes shipped with the PC Support/400 licensed program and can be used in the same way. You can create your own set of standard installation diskettes to install new PC Support/400 users if you did not receive diskettes with your release upgrade.

See “Creating Standard Installation Diskettes” on page 3-17 for instructions on how to create standard installation diskettes.

Using PC Support/400 in an OS/2 2.0 Virtual DOS Machine

If you have OS/2 version 2.0 installed on your personal computer, it is recommended that you use the OS/2 version of PC Support/400. Using the DOS version of PC Support/400 is supported only if you use a virtual DOS machine (VDM) that uses IBM DOS version 5.0. The following restrictions apply when running in a VDM:

- PC Support/400 can run in only one VDM.
- DOS and OS/2 applications outside the VDM cannot access PC Support/400 functions.

- No program other than PC Support/400 can attempt to use the communications adapter card. Because installing the OS/2 Extended Services adds device drivers that access the adapter card, Extended Services cannot be installed.
- The extended DOS version of PC Support/400 cannot be used; you must use the basic DOS version of PC Support/400.
- RUMBA/400 is not supported; PC Support/400 work station function should be used for work station emulation.
- For local area network connections, the LAN Support Program Version 1.22 or later must be installed on the startup diskette.
- For SDLC connections, the modem speed is limited to 1200 bps.
- For asynchronous connections, the modem speed cannot be higher than 9600 bps. You must change the router configuration after installing PC Support/400.

For information about installing PC Support/400 in an OS/2 2.0 VDM, see *Running DOS PC Support/400 in OS/2 Version 2 Virtual DOS Machines*, GG24-3685. This manual contains additional restrictions, and also discusses the environments that are not supported.

Implications of Overriding the CCSID Default of 65535

This section contains specific information about using coded character set identifier (CCSID) values with PC Support/400. For more information about CCSID values on the system, see *National Language Support Planning Guide*, GC41-9877.

When you sign on to the PC Support router, you must ensure that the coded character set identifier (CCSID) for the user profile you use matches the default of the personal computer and the language option chosen from the Language Option for PC Support display. This ensures the data is converted correctly.

If you override the CCSID default value (65535), be aware of the following:

- Multiple AS/400 systems with different CCSID settings

IBM recommends that the user profile you use when signing on to the PC Support router use the same CCSID as the AS/400 system from which the PC Support programs were originally downloaded. This ensures that the user profile and the personal computer translation tables are created from the same values.

Note: If you used the Initialize PC Support (INZPCS) command to change the default values for the system, the user profile must be modified to match the CCSID that would have created the values you used for the INZPCS command.

You may need to use a different user profile for your router sign-on than the one you use to sign on to your work station function sessions.

- AS/400 systems with multiple languages installed

If your AS/400 system has multiple languages installed and you use a *secondary* language when downloading PC Support files to the personal computer, the default settings for the *primary* language are used. In this case, the CCSID for the user profile you use when signing on to the PC Support

router must be changed. Use the value that matches the parameters used when you ran the INZPCS command for the secondary language selected.

- Copying files between folders and AS/400 databases

When copying PC files stored in a folder to an AS/400 database (using the CPYFRMPCD command), the command cannot identify the CCSID used to create the PC file. Therefore, the conversion of that file is unpredictable. If you know the code page used on the personal computer when the file was created, you can select the appropriate ASCII translation table when using the CPYFRMPCD command.

When copying AS/400 database files to the personal computer, you must specify the code page you are using on the personal computer. If you do not specify the code page, the translation table uses the code page specified on the INZPCS command.

Migrating from a System/36 or System/38

This section contains information on the differences among the System/36, System/38, and AS/400 systems. It shows the changes to the file names, identifiers, shared virtual disk, and programs between the System/36 or System/38 and the AS/400 system.

Understanding File and Program Compatibility

There are some differences in the names of the files used with PC Support/400 depending on your host system. This list shows how the names of the PC files differ when you connect to different host systems.

Note: System/36 and System/38 transfer requests do not work with the AS/400 system.

Description	AS/400 System	System/36	System/38
OS/2 startup command file	STARTUP.CMD	STARTUP.CMD	STARTUP.CMD
Personal computer configuration file	CONFIG.PCS	CONFIG.S36	CONFIG.S38
Personal computer configuration file	CONFIG.SYS	CONFIG.SYS	CONFIG.SYS
Start PC Support/400 command file	STARTPCS.CMD	Not supported	Not supported

The following files, in their present form, cannot be used with PC Support/400:

- System/36 and System/38 configuration files and batch files.
- PC Support/36 Work Station Feature session profiles, keyboard profiles, and master profiles. Use the OS/2 Extended Edition communications manager to configure and define Work Station Feature profiles.

To make these files and profiles usable by PC Support/400, you must change them using the configuration program.

If you are migrating from a System/36 or System/38, the following files and programs are not needed to run PC Support/400:

System/38	System/36
PCROUTER.EXE	COPYVDSK.BAT
BEGINRTR.EXE	ISETVDSK.BAT
ENDRTR.EXE	SETVDSK.COM
VDSK.SYS	CFGVDSK.COM
SETVDSK.COM	VDSK.SYS
CFGVDSK.COM	WFCONFIG.EXE
PCROUTER.CES	WFGCNFG.EXE
PCRTCES.EXE	LINK36.BAT
LINK38.BAT	5250 Emulation programs
COPYVDSK.BAT	TOKREUI.COM
ISETVDSK.BAT	
5250 Emulation programs	

If you issue a command that uses one of these files or programs, PC Support/400 may issue an error message.

Recognizing Changed Configuration File Identifiers

If you are moving existing files from the those identifiers not supported on the AS/400 system are highlighted when you run the PC Support/400 configuration file support.

When you run PC Support and the files contain identifiers that are not supported, those identifiers are ignored.

The following identifiers are not supported on the AS/400 system:

- VDSK
- EMSN
- HPRC
- OFFP

The following identifiers have been changed for the AS/400 system:

- TRLN identifier is now RTLN.
- TRDL identifier is now RTDN.
- TRLI identifier: the remote system name parameter has been changed to identifier RTDN.
- EMLI identifier: the link name, work station address, and user ID parameters have been added to this identifier.
- VPRT identifier is now PRNT.

Many identifiers have been added for the AS/400 system. See Chapter 21, "Identifier Information and Work Sheets" for the list of supported identifiers.

Understanding Virtual Disk Support with PC Support

The virtual disk function is not supported by the AS/400 system. Any virtual disks that are being moved to the AS/400 system must be changed to folders. Refer to the *System/36 to AS/400 Migration Aid User's Guide and Reference* or the *System/38 to AS/400 Migration Aid User's Guide and Reference* for detailed information on how to make the change.

VDSK entries in configuration files are ignored.

The Convert to Folder (CVTTOFLR) command converts a virtual disk into a folder and personal computer documents. The specified folder becomes the root directory into which all the directories and files on the virtual disk are copied. This folder is created if it does not already exist. Personal computer files from the virtual disk are copied into personal computer documents, and other directories on the virtual disk are converted into folders nested inside the specified folder.

Using PC Support/400 with System/36s and AS/400 Systems

A programming request for price quotation (PRPQ), called PC Support Coexistence, is available. This PRPQ allows PC Support/400 to be used in an environment consisting of both System/36s and AS/400 systems. You must have both System/36s and AS/400 systems in order to use this PRPQ.

Support Available to System/36 with the PRPQ: All functions currently available with PC Support/400 are available with the PRPQ except the submit remote command function, data queues, and the administration function. In addition, all environments currently provided for the OS/2 communications manager program are provided for the PRPQ.

Documentation on how to install and use the PC Support/400 Coexistence PRPQ is provided with the PRPQ. The PRPQ number is 5799-DAK for the 5360/5362 system units or 5799-DAL for the 5363/5364 system units. See your IBM representative for more information.

You may need to refer to the PC Support/36 Coexistence PRPQ documentation for further information if you use twinaxial data link control.

Support Available to System/36 without the PRPQ:

- OS/2 communications manager work station feature
- Organizer

Note: DisplayWrite/36* must be the editor of choice. This editor uses the text-assist function.

The above functions are available without the PRPQ with the following restrictions:

- The OS/2 work station feature is not supported using a twinaxial connection.
- Advanced program-to-program communications (APPC) is required on the System/36.
- For the organizer and text-assist function, PC Support/36 is needed on the System/36.
- In order for the System/36 to communicate with the AS/400 system, Display Station Pass-Through, Feature 6090, is needed.

Functions Available with PC Support/400

The following table shows the functions that are available with PC Support/400 and the PC commands that you can use with each function. You can use the PCSHELP command to display the online documentation and the parameters for each of these commands. See Chapter 24, "Getting Help for PC Support/400

Messages and Commands” for instructions on how to use the PCSHELP command.

Table 1-4. Functions Available with PC Support/400

PC Support/400 Function	Description
Administration function	Allows a PC administrator to create PC Support/400 installation diskettes and to control groups of PC Support/400 users by making configuration changes from a central location. Associated command: PCSADM.
Configuration program	Allows you to set up the default PC Support configuration on your personal computer or create an alternative configuration. Associated command: CFGPCS.
Data queues function	Allows you to work with data queues on the AS/400 system. Associated commands: CLRDTAQ, CRTDTAQ, DLTDTAQ, QRYDTAQ, RCVDTAQ, SNDDTAQ, STPDTAQ.
Message function	Allows you to send messages to and receive messages from other personal computers and work stations. If you use this function, you do not need to be signed on to an AS/400 system to send and receive messages. Associated commands: MSG, STARTMSG, RCVMSG, STOPMSG.
Organizer	Allows you to run both PC functions and AS/400 functions from a single menu on the AS/400 system. Before you can use the organizer, you must start the 5250 work station feature which is part of the OS/2 communications manager program. Associated command: PCO.
PC Support error log	Allows you to view online help information for any PC Support/400 error messages logged for your personal computer. Associated command: PCSLOG.
PC Support help	Allows you to view online help information for PC Support/400 commands and error messages. Associated command: PCSHELP.
PC Support introduction	Allows you to view the PC Support/400 online introduction. Associated command: PCSINTRO.
PC Support Menu	Allows you to run certain PC Support/400 functions from a menu on the personal computer. Associated command: PCSMENU.
Router	Controls the communications connection from the personal computer to the AS/400 system. Associated commands: STARTRTR, STOPRTR.
Shared folders function	Allows you to access personal computer information stored in folders on the AS/400 system. The information on the AS/400 system is accessed by assigning personal computer drives to folders. The shared folders function replaces the virtual disk function that is used in PC Support/36 and PC Support/38. Associated commands: STARTFLR, STOPFLR, FSPC, CFGFLR, CHKFIL.
Submit remote command	Allows you to submit AS/400 commands to an AS/400 system from the personal computer. Associated command: RMTCMD.
Text-assist function	Allows you to use the personal computer text-assist function with OfficeVision/400* when you are using the organizer. This function is installed automatically if you select to install the Organizer function. Associated command: PCO.
Transfer function	Allows you to transfer data from an AS/400 database to the personal computer or from the personal computer to an AS/400 database. Associated commands: RTOPC, RTOPCB, RFROMPC, RFROMPCB, STF.
Update function	Allows you to update programs on the personal computer. This function automatically updates PC Support/400 when you start PC Support/400 using the STARTPCS command. Associated commands: PCSUPDT, UPDATEP2.
Virtual printer	Allows you to use printers attached to the host system as though they were directly attached to your personal computer. The personal computer data can be printed on any printer that is connected to the AS/400 system. Associated commands: VPRT, SETVPRT, CFGVPRT.

The *PC Support/400 User's Guide for OS/2* describes how to use the functions. Part 4, "Configuring PC Support/400" describes how each of the functions can be changed to tailor the functions to your specific needs. For more information on the details of the installation program, refer to Appendix B, "PC Support/400 Installation Program."

Part 2. Administering PC Support/400

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Chapter 2. Enrolling PC Support/400 Users on the AS/400 System

Verifying the Installation of the PC Support/400 Licensed Program	2-2
Enrolling PC Support/400 Users	2-3

This chapter contains instructions for:

- Verifying the installation of the PC Support/400 licensed program on the AS/400 system
- Enrolling PC Support/400 users on the AS/400 system

For a complete list of the tasks necessary for setting up your PC Support/400 configuration, see "Overview of Installing PC Support/400" on page 1-2.

Verifying the Installation of the PC Support/400 Licensed Program

PC Support/400 is normally installed along with the other licensed programs on the AS/400 system. To make sure PC Support/400 is installed on the AS/400 system, look at the list of installed licensed programs. To display this list, do the following:

1. On the AS/400 command line, type

```
GO LICPGM
```

and press the Enter key. The following display appears:

```
LICPGM                      Work with Licensed Programs                      System:  RCH38342
Select one of the following:

Manual Install
  1. Install all

Licensed Programs
  10. Display installed licensed programs
  11. Install licensed programs
  12. Delete licensed programs
  13. Save licensed programs

Secondary Languages
  20. Display installed secondary languages
  21. Install secondary languages
  22. Delete secondary languages

Selection or command
===> 10

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User support
F16=AS/400 Main Menu
(C) COPYRIGHT IBM CORP. 1980, 1992.
```

2. Select option 10 (Display installed licensed programs). A display similar to the following appears:

Display Installed Licensed Programs			System: RCH38342
Licensed Program	Description	Installed Release	
5738CB1	COBOL/400 - *PRV Base Support	V2R2M0	
5738CB1	COBOL/400 - *PRV System/36-compatible COBOL	V2R2M0	
5738CM1	AS/400 Communications Utilities	V2R2M0	
5738DB1	AS/400 System/38 Utilities	V2R2M0	
5738DS1	AS/400 Business Graphics Utility	V2R2M0	
5738FT1	SAA FORTRAN/400	V2R2M0	
5738PC1	PC Support/400	V2R2M0	
5738PC1	PC Support/400 - PC DOS Programs	V2R2M0	
5738PC1	PC Support/400 - DBCS (DOS)	V2R2M0	
5738PC1	PC Support/400 - OS/2 Programs	V2R2M0	
5738PC1	PC Support/400 - DBCS (OS/2)	V2R2M0	
5738PC1	PC Support/400 - Extended DOS Programs	V2R2M0	
5738PC1	PC Support/400 - DBCS (Extended DOS)	V2R2M0	
5738PC1	PC Support/400 - PC Tools Folder	V2R2M0	
5738PC1	PC Support/400 - RUMBA/400	V2R2M0	

More...

Press Enter to continue.

F3=Exit F12=Cancel

This list shows you the licensed programs that are installed on the system. You may need to page up and down to see everything on the list.

The following options must appear on the list:

- PC Support/400 (base option)
- Each of the PC options you need to use

Only the base support and at least one of the options for PC files are required; all other options are optional.

For a description of the options available with PC Support/400, see "PC Support/400 Options, Libraries, and Folders" on page 1-3.

If the PC Support/400 licensed program is not already installed on the system, you must install it from tape. For information about how to do this, see the *Licensed Programs and New Release Installation Guide*, SC41-9878.

If you are using automatic installation to install a new release of PC Support/400 over a previous release, any option that was not installed on the previous release is not automatically installed. Use the instructions in *Licensed Programs and New Release Installation Guide*, SC41-9878, to install the option.

Enrolling PC Support/400 Users

To use PC Support/400, each user must be added to the system as a PC Support/400 user. In addition, if your system uses level 10 security, you need to add the user profile QUSER to the system directory using the Add Directory Entry (ADDDIRE) command.

Note: In order to do some of these tasks, you must have security administrator authority or higher.

To add a PC Support/400 user:

1. Either type the command GO PCSTSK on the AS/400 command line, or select option 11 (PC Support tasks) from the AS/400 Main Menu. The following display appears:

```

PCSTSK                                PC Support Tasks                                System:  RCH38342

Select one of the following:

User Tasks
  1. Copy PC document to database
  2. Copy database to PC document
  3. Work with documents in folders
  4. Work with folders
  5. PC Support Organizer

Administrator Tasks
 20. Work with PC Support administrators
 21. Enroll PC Support users
 22. Configure PC connections

 30. Change keyboard and conversion tables

Selection or command
===> 21
-----
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User support
F16=AS/400 Main Menu
    
```

2. Select option 21 (Enroll PC Support users). The following display appears:

```

                                Enroll PC Support Users

Type choices, press Enter.

User profile . . . . .  joe          Name
User identifier:
  User ID . . . . .    joe          Character value
  Address . . . . .    AS400SYS     Character value
  User description . . . . .  joe taylor 117
-----

F3=Exit  F5=Refresh  F12=Cancel
    
```

3. Supply the following for the remaining fields:

User profile

This is the name of the user profile to be created on the system. This is the name that the user types when signing on to the system. Although you can use up to 10 characters for this name, it is recommended that you use only 8. Using 8 characters allows you to make the user ID (see below) the same as the user profile name.

User ID

This is the name that is used to identify this user when sending files in a distribution network. For convenience, you should make this the same as the user profile name.

Address

This is the name by which the AS/400 system is known on the network.
You should accept the default.

User description

Type a description for this user.

4. When you finish, press the Enter key.

Enrolling a PC Support user on the system creates the following:

- A user profile (if one does not already exist) with:
 - An entry in the system distribution directory
 - A password the same as the name of the user profile
 - *USER authority
- A job description
- An output queue
- A message queue

Chapter 3. Using the PC Support/400 Administration Function

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PC Support Administration – An Overview

In many organizations, the end users who use personal computers to perform their daily tasks may not even realize they are taking advantage of AS/400 system functions by using PC Support/400. These users may not understand how to install or configure PC Support/400. In environments like these, a personal computer “expert” is usually assigned the task of installing PC Support/400 for each end user and tailoring each configuration to fit the user’s needs. In many cases, the same basic configuration is used for groups of users performing similar tasks.

We call this “expert” the PC Support/400 administrator. The PC Support/400 administration function helps this person control, on a regular basis, diverse sets of PC Support/400 users by making personal computer configuration changes from a central location. The administration function is not intended for making occasional changes to user configurations, nor is it a required function.

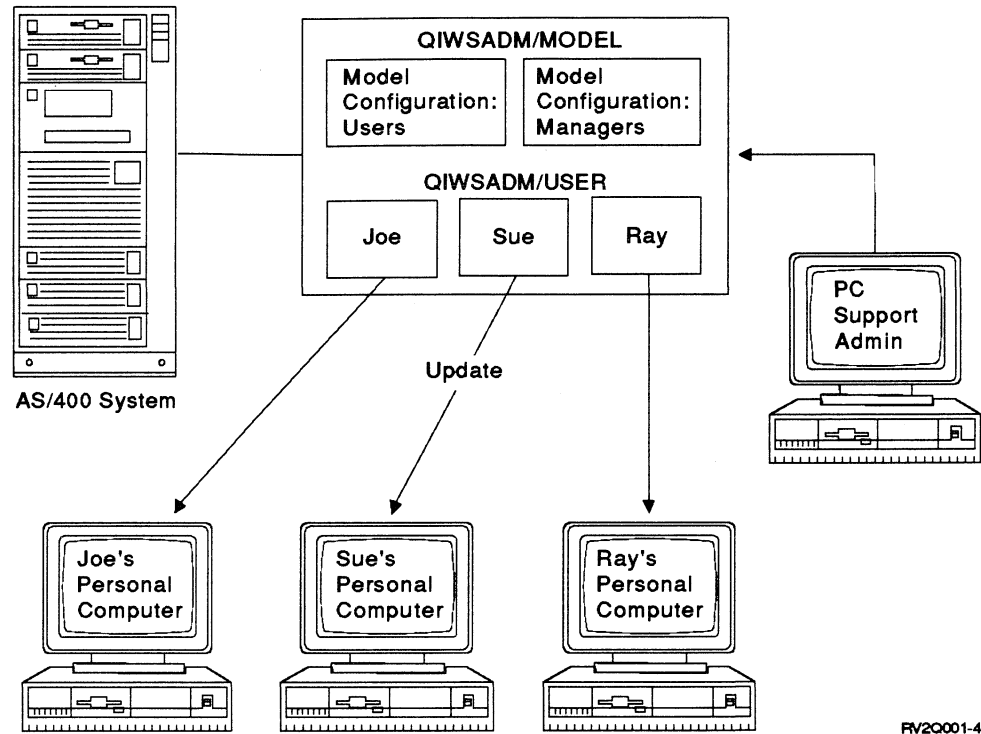
In simple terms, the PC Support/400 administration function allows a designated administrator to control the configurations of all PC Support/400 users from the administrator’s own personal computer. Master copies of each user’s configuration files are stored on the AS/400 system in folders.

When the PC Support/400 product is installed on the AS/400 system, a folder named QIWSADM is created. If you decide to use the administration function, you create a user configuration for each PC Support/400 user to be administered. These user configurations are actually folders that reside in the QIWSADM/USER folder. Any files in these folders are copied to the user’s personal computer.

To make the creation of these configuration files easier, the administrator can create model configurations that define how a specific set of end users want their personal computers configured. The administrator creating the configuration files for a user has the option of basing the configuration files on one of these model configurations.

If the end user already has PC Support installed and configured, the user can copy the configuration files to the appropriate folder on the AS/400 system. If the end user does not yet have PC Support installed, the administrator can set up the user’s configuration using the administration function, then create custom installation diskettes. The end user can then easily install PC Support/400 using the custom installation diskettes.

The following diagram shows how the PC Support/400 administration function allows the administrator to control end user configurations.



The following individual PC Support/400 configuration files are examples of the files that may be stored in a user configuration:

Table 3-1. Configuration Files Contained in a User Configuration

Description	Sample Name
PC Support command file	STARTPCS.COMD
PC Support configuration file	CONFIG.PCS

In summary, the PC Support/400 administration function allows the administrator to perform the following activities:

- Define model configurations on which to base user configurations.
- Define the configuration files needed to run PC Support/400.
- Add, change, and delete the configuration files for each individual user.
- Create PC Support/400 installation diskettes that can be customized for each user's personal computer.
- Create PC Support/400 installation diskettes that are the same as the installation diskettes shipped with the PC Support/400 product.
- Administer end users on more than one AS/400 system from the same personal computer.

Setting Up Administration

The following chart shows the tasks you need to complete in order to be able to administer PC Support/400 to other PC Support/400 users. **Follow the steps as outlined on this chart.** Depending on the process you use, not all the steps detailed in this chapter will be necessary.

TASK 1	Verify that PC Support/400 has been installed on the AS/400 system. The steps for this task are described in "Verifying the Installation of the PC Support/400 Licensed Program" on page 2-2.	
TASK 2	Someone with security administrator authority or higher must add each new PC Support/400 administrator on the AS/400 system. The steps for this task are described in "Adding or Removing an Administrator."	
TASK 3	In order to make the creation of user configurations easier, you should create some model configurations. The steps for this task are described in "Working with Model Configurations" on page 3-8.	
TASK 4	If the user already has PC Support/400 installed	If the user does not yet have PC Support/400 installed
	<ol style="list-style-type: none"> 1. Create the user configurations. The steps for this task are described in "Adding User Configurations" on page 3-10. 2. Each user to be administered must specify to accept configuration changes from the PC Support/400 administrator. Optionally, you can also have the user's existing configuration files copied to the AS/400 folder during this step. The steps for this task are described in "Allowing Administration" on page 3-12. 	<ol style="list-style-type: none"> 1. Use the appropriate chapter in Part 3, "Installing PC Support/400" to complete the host installation for the user. 2. Using the completed work sheet from the installation chapter, create the user configuration. The steps for this task are described in "Adding User Configurations" on page 3-10. 3. Install the OS/2 communications manager program on the personal computer, as instructed in the appropriate installation chapter. 4. Either complete the installation of PC Support/400 on the personal computer as discussed in the appropriate chapter in Part 3, "Installing PC Support/400," or create a custom installation diskette for the user as described in "Creating Installation Diskettes" on page 3-15.

Adding or Removing an Administrator

To be a PC Support/400 administrator, you should be:

- Familiar with PC Support/400
- Familiar with the various methods of PC Support/400 configuration
- Using PC Support/400 on your personal computer

Note: Any PC Support/400 administrator can add or delete other PC Support/400 administrators. If you need to create a new user profile and add an entry to the system directory, you need to have at least security administrator authority.

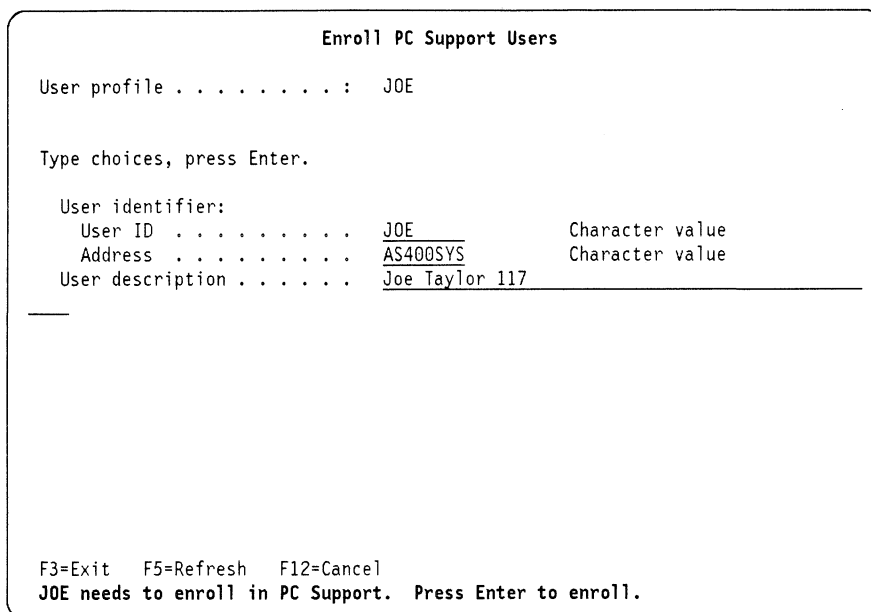
To add or remove a PC Support/400 administrator, do the following:

1. From the AS/400 Main Menu, select option 11 (PC Support tasks).
2. From the PC Support Tasks menu, select option 20 (Work with PC Support administrators). The following display appears:

Work with PC Support Administrators			
Type options, press Enter.			
1=Add 4=Remove			
Opt	Administrator	Enrollment Authority	Description
<u>1</u>	Joe		
-	QSECOFR	Y	Security Officer
-	ARNIE	N	Arnold Friend
-	TONY	Y	Tony Bologna
-	JSW	N	Jane Wright
F3=Exit F5=Refresh F12=Cancel			Bottom

This display shows you the list of current PC Support/400 administrators. A Y in the Enrollment Authority column indicates that the administrator has the authority (security administrator or higher) to create user profiles and add directory entries.

3. To remove an administrator, type a 4 (Remove) in the option column next to the name of the administrator you want to remove.
4. To add a new administrator, type a 1 (Add) in the option column, and type the user profile name for the user you want to enroll as an administrator. Although this field accepts up to 10 characters, it is recommended that you use 8 characters or less. This is because the Document Interchange Architecture (DIA) used by the shared folders function restricts folder names to 8 characters.
5. If the user profile you specified does not exist, or if the user profile exists but the user is not in the system directory, the following display appears:



On this display, you need to fill out the following fields:

User ID

This is the name that is identified with this user when sending files in a distribution network. You may find it convenient to make this the same as the user profile name.

Address

This is the name by which the AS/400 system is known on the network. You should accept the default.

User description

You can type any description you want in this field.

When you are finished, press the Enter key.

6. The Work with PC Support/400 Administrators display appears again, with the user added as an administrator. The Enrollment Authority column is filled in automatically showing whether or not the user has security administrator authority or higher.

Starting the Administration Function on the Personal Computer

To start the PC Support/400 administration function on the personal computer, you can do one of the following:

- Select the Administer PC Support/400 option from the PC Support/400 Menu.
- Use the PCSADM command at the OS/2 prompt.

The PC Support/400 Administration Menu is displayed as follows:


```

                                PC Support Administration Menu

Host System.....: AS400SYS

Select one of the following.

    Work with user configurations
    Work with model configurations
    Create install diskettes
    Change host system

-----
Enter  Esc=Cancel  F1=Help  F3=Exit

```

This display shows you the name of the system for which you are currently making administration changes. You can use the Change Host System option to work with a different system.

To use either of the options for working with configurations, you must be an authorized PC Support/400 administrator on the system listed.

Any PC Support/400 user can use the Create Install Diskettes option to create standard installation diskettes. To use this option to create custom installation diskettes, you must be an authorized PC Support/400 administrator on the system listed.

Changing the Host System

PC Support/400 administration allows those administrators who are in charge of PC Support/400 users connected to more than one AS/400 system to select the host system containing the PC Support/400 configuration structure they want to work with.

To change to a different host system, do the following:

1. From the PC Support/400 Administration Menu, select the Change host system option. The Change Host System display appears.
2. To select the system, move the cursor to the system you want to use and press the Enter key.
3. You return to the PC Support/400 Administration Menu. The current host system name at the top of the menu has changed. You can now make changes to model and user configurations on this system.

Working with Model Configurations

The PC Support/400 administrator can create model configurations for each group of users that require similar PC Support/400 configurations. Each model configuration contains the various configuration files (STARTPCS.CMD, CONFIG.PCS, and so on) that define how PC Support/400 is used by that particular group. In simpler terms, model configurations are configuration files that are used as a base for defining new user configurations. You should create model profiles before you create the individual user configuration profiles.

The functions available when you work with model configurations are very similar to those when you work with user configurations. The major difference is that the model configurations cannot be accessed by specific user IDs to allow them to update the configuration in the PC Support/400 configuration structure. Another difference with model configurations is that model configurations do not contain the information concerning whether or not a user is administered. This information is not needed in the model. It is requested for each user configuration that is created.

To create a model configuration, do the following:

1. Decide what groups of users you have – those with similar needs, settings, and so on, such as secretarial, managerial, or programmer groups.
2. Add a model configuration for each group.

Adding Model Configurations

To add model configurations, do the following:

1. From the PC Support/400 Administration Menu, select the Work with model configurations option. The Work with Model Configurations display appears.
2. Press the Enter key to select the Options action. The Options menu appears.
3. Select Add model configuration from the Options menu. The following display appears:

Add Model Configuration

Type the following information for the model configuration being added, press Enter.

Model configuration name [MANAGER]

Description . . [Typical setup for managers]

Model configuration to copy []

or

User configuration to copy []

Enter Esc=Cancel F1=Help F3=Exit F4=Prompt F7=Change working set
Spacebar

4. Enter the desired information on this display.

Model configuration name

Decide on a name for the model you want to create.

Description

Enter a description of the model you are creating.

Model configuration or User configuration to copy

Enter the name of an existing model or user configuration to use as a base when creating the new model configuration. These are both optional fields, and you may enter a name in only one of these two fields. You can use F4 (Prompt) to select from a list of existing configuration files.

5. When you are finished typing this information, press the Enter key. The PC Support Configuration menu appears, allowing you to configure the PC Support functions for this model configuration. See Part 4, "Configuring PC Support/400" for information about configuring the different PC Support/400 functions.

Note: The information you supply does not have to apply to every user configuration you intend to create using this model. Each time you create a specific user configuration, you are allowed to specify options that are unique for the user. When creating the model configuration, try to specify values that apply to the greatest number of users you will create using this model.

6. When you are finished making the configuration changes, the Work with Model Configurations display appears again.

Changing Model Configurations

Changing a *model* configuration does not have any effect on *user* configurations you have already created based on this model. To change a model configuration that you have already created, do the following:

1. From the PC Support/400 Administration Menu, select the Work with model configurations option. The Work with Model Configurations display appears.
2. Position the cursor to the model configuration you want to change.
3. Press the Enter key. The Options menu appears.
4. Select the Change model configuration option. The Change Model Configuration display appears.
5. Press the Enter key. The PC Support/400 Configuration menu appears, allowing you to configure the PC Support/400 functions for this model configuration. See Part 4, "Configuring PC Support/400" for information about configuring the different PC Support/400 functions.

Administering to Users

After you have set up the administration function and have created any model configurations you want to use, you can:

- Add user configurations.
- Change user configurations.
- Create installation diskettes for users.

Adding User Configurations

A user configuration needs to be created for each PC Support/400 user to be administered. A user configuration is actually an AS/400 folder that will contain the user's PC Support/400 configuration files.

Besides the common settings that are included in your model configurations, user configurations also include those settings that are unique for a particular user.

To add a user configuration:

1. From the PC Support/400 Administration Menu, select the Work with user configurations option. The Work with User Configurations display appears.
2. Press the Enter key to select the Options action. The Options menu appears.
3. Select Add user configuration from the Options menu. The following display appears:

Add User Configuration

Type the following information for the user configuration being added, press Enter.

User configuration name [SALLY] More: ↓

Description [Sally Smith - Manager dept. 11]

Model configuration to copy [MANAGER]
or
User configuration to copy. []

User's PC Support directory drive [C]

Is user configuration to be administered? ▶ 1. Yes
2. No

Allow user to change configuration? 1. Yes

Enter Esc=Cancel F1=Help F3=Exit F7=Change working set

4. On this display, you need to enter the following:

User configuration name

Decide on a name for the user configuration you want to create. To make this easier to remember, you can enter the user ID the user types when signing on to the AS/400 system.

Description

Enter a description for the user configuration you are creating.

Model configuration or User configuration to copy

Enter the name of an existing model or user configuration to use as a base when creating the new configuration. These are both optional fields, and you may enter a name in only one of these two fields. You can use F4 (Prompt) to select from a list of existing configurations.

User's PC Support directory drive

This is the drive letter on which the user has PC Support/400 installed or will have PC Support/400 installed. The PC Support/400 program assumes that the configuration files are in the PC Support/400 directory

on this drive. This field may not be changed once it has been set. If you need to change a user's PC Support directory drive, you must create a new user configuration for the user and specify the new drive letter.

Is user configuration to be administered?

Decide whether or not this user configuration is to be administered.

- *Yes* indicates that the user configuration is to be administered. Each time the user starts PC Support/400 on the personal computer, the PC Support/400 update function will ensure that the configuration on the personal computer matches the configuration on the AS/400 system.
- *No* indicates that configuration changes will not be copied from the master configuration files to the personal computer. You should select this option if you want to create custom installation diskettes, but do not want to be responsible for the user's configuration after installation.

Allow user to change configuration?

This field indicates whether or not the user should be able to change the configuration on the AS/400 system. If you specify *Yes*, the user will be granted *CHANGE authority to the folder in which the user's master configuration files are stored.

Note: If the user currently has PC Support/400 installed on the personal computer, and you want to copy the configuration from the personal computer to the AS/400 system as described in "Allowing Administration" on page 3-12, you must specify *Yes* in this field. Otherwise, the user will not have the proper authority to copy these files to the AS/400 system.

User ID

If you specified *Yes* on the *Allow user to change configuration?* field, this is the user profile to which *CHANGE authority will be granted. If you specified *No* on the *Allow user to change configuration?* field, this is the user profile from which *CHANGE authority will be revoked if it currently has *CHANGE authority.

5. When you are finished typing this information, press the Enter key. The following window appears:

User Connection Information

Type in the values and press Enter.

PC location name []

System name. []

Enter Esc=Cancel F1=Help Spacebar

6. The User Connection Information window is similar to the display you see when you install PC Support/400 on a personal computer. You should have already completed the host installation of PC Support/400 for this user. The information for these fields can be found on the completed installation work sheet.

Note: If a user currently has PC Support/400 installed on the personal computer, and you want to copy that user's configuration files from the personal computer to the AS/400 system as described in "Allowing Administration" on page 3-12, you do not need to specify this information accurately. When you copy the user's configuration files to the AS/400 system, the information in these configuration files replaces any information you enter on this display.

7. When you are finished typing the information on this display, press the Enter key. A display appears asking you if you want to perform additional configuration for the user. If you select Yes, the PC Support/400 Configuration menu appears, allowing you to configure the PC Support/400 functions for this user configuration. See Part 4, "Configuring PC Support/400" for information about configuring the different PC Support/400 functions.
8. When you are finished making configuration changes, or if you chose not to perform additional configuration, you will return to the Work with User Configurations display. The user configuration you added appears on the display.

Allowing Administration

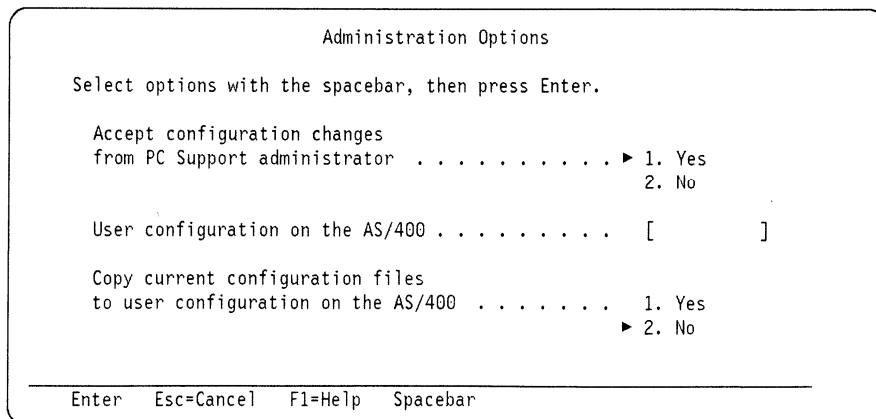
If users already have PC Support/400 installed on their personal computers, changes to their PC Support/400 configuration need to be made before they can begin receiving changes from the administrator.

Note: The following task must be performed on the personal computer that is to be administered. You cannot perform this task from another personal computer.

1. Start the PC Support/400 configuration program. You can either enter the CFGPCS command at the OS/2 prompt, or do the following:
 - a. From the PC Support/400 menu, select the Configuration option. A window appears.
 - b. Select the PC Support/400 configuration option.

The PC Support/400 Configuration menu appears.

2. Select General options. The General Options display appears.
3. Select Administration options from the General Options display. The following window appears:



4. Specify Yes for the *Accept configuration changes from the PC Support administrator* prompt. The following fields appear on the display:

User configuration on the AS/400

This is the name of the user configuration created in step 4 on page 3-10.

Copy current configuration files

Specify whether or not your current configuration files should be copied to the user configuration on the AS/400 system. If you want to copy the configuration files, you must have authority to the appropriate user configuration folder on the AS/400 system.

If you specify Yes, the PC Support/400 configuration files you are currently using are copied to the user configuration on the AS/400 system.

5. When you are finished typing this information, press the Enter key.
6. Press F3 (Exit) to leave PC Support/400 configuration.

Any changes made to the configuration files on the AS/400 system are now copied to the user's personal computer.

Changing User Configurations

After you have PC Support/400 administration set up, you can change the master configuration files on the AS/400 system. These changes will automatically be copied to the user's personal computer the next time the user starts PC Support/400.

To change a user's master configuration files:

1. Select Work with user configurations from the PC Support/400 Administration Menu. The following display appears:

```

Options  Exit  Help
-----
Work with User Configurations

Move cursor to select user configuration, then press F10
and select an action shown above.

User Configuration
►FRED
FOREST
FOX
GEORGE
HARRY
IDA
INEZ
JANET
KENT
MIKE
NELLY
PATRICK
PETER

More: ↓

Enter  Esc=Cancel  F1=Help  F3=Exit  F5=Refresh  F10=Actions

```

2. Select one of the user configurations to work with by moving the cursor to the user name and pressing the Enter key. From the Options window that appears, select Change user configuration. The following display appears:

```
Change User Configuration

Type the following information for the user configuration
being changed, press Enter.

User configuration name . . . . . : FRED

Is user configuration to be
administered? . . . . . ▶ 1. Yes
                             2. No

Allow user to change
configuration? . . . . . ▶ 1. Yes
                             2. No

User ID . . . . . [      ]

Enter Esc=Cancel F1=Help F3=Exit F7=Change working set Spacebar
```

3. You can change any of the following information. If you do not want to change any of this information, leave the fields as they are and press the Enter key.

Is user configuration to be administered?

Decide whether or not this user configuration is to be administered.

- Yes indicates that the user configuration is to be administered. Each time the user starts PC Support/400 on the personal computer, the update function will ensure that the configuration on the personal computer matches the configuration on the AS/400 system.
- No indicates that configuration changes will not be copied from the master configuration files to the personal computer.

Allow user to change configuration?

This field states whether or not the user (specified in the user ID field) should be able to change the configuration. If you specify Yes, the user will be granted authority to the folder on which the user's master configuration files are stored.

User ID

Enter the user ID that the user types when signing on to the AS/400 system. This is the profile for which authority to the folder will be granted or revoked.

4. Press the Enter key. The PC Support/400 Configuration menu appears, allowing you to configure the PC Support/400 functions for this user configuration. See Part 4, "Configuring PC Support/400" for information about configuring the different PC Support/400 functions.

Overriding User's Changes to Configurations:

1. If the administrator decides to make changes to the configuration, the administrator's changes will override any changes made on the personal computer by the user. The PC Support/400 user will only be allowed to make changes when the administrator has given the user authorization to make changes to the configuration files in the user's configuration folder.
2. Individual users can make as many changes as they want in the configuration at their own personal computers, but the changes will not be reflected on the host system. Changes made by the individual user are overridden unless the administrator makes the changes on the host system also. A warning message will be displayed if the user tries to change the local copy of the configuration.

Creating Installation Diskettes

You can use the PC Support/400 administration function to create the following kinds of installation diskettes for the personal computer:

- Custom** These diskettes contain programs and configuration files set up specifically for the user. You must be a PC Support/400 administrator to create custom installation diskettes.
- Standard** These diskettes are the same as the installation diskettes shipped with the PC Support/400 licensed program. Any PC Support/400 user can create standard installation diskettes.

Creating Custom Installation Diskettes

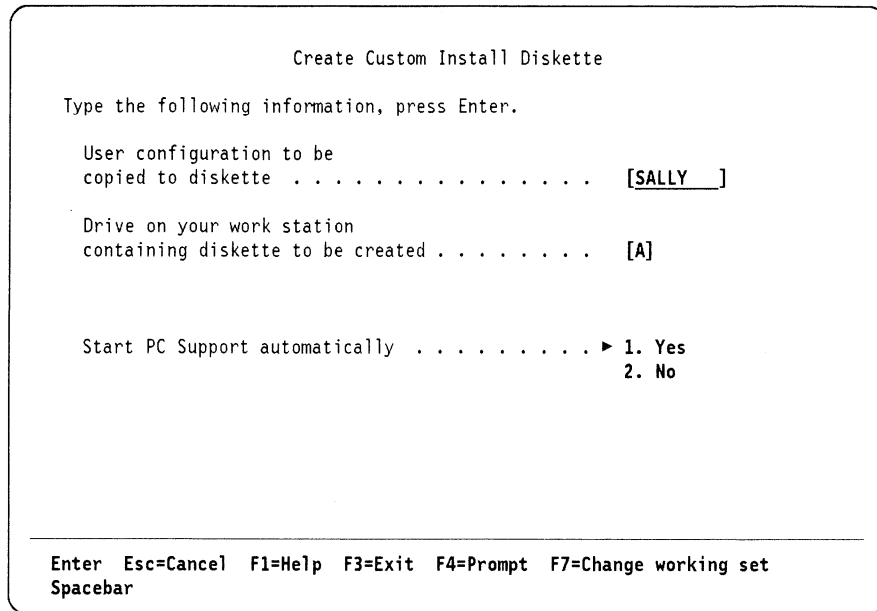
The PC Support/400 administrator can create custom installation diskettes that contain all of the programs and configuration files necessary for installing PC Support/400 on a particular personal computer. The user can then use the custom installation diskettes to install PC Support/400 on the personal computer without having to supply any additional information.

In order to create custom installation diskettes:

- The host configuration for the personal computer must have been completed. These steps are discussed in the appropriate chapter in Part 3, "Installing PC Support/400."
- You must have created a user configuration for this user. These steps are discussed in "Adding User Configurations" on page 3-10.
- The diskettes you use on your personal computer must be the same size and format as those used on the user's personal computer.

To create custom installation diskettes, do the following:

1. Make sure you have a supply of formatted, nonsystem diskettes available. (Nonsystem diskettes are those formatted without using the /s option.) Insert the first diskette into your diskette drive.
2. From PC Support/400 Administration Menu, select the Create install diskettes option. The Create Install Diskettes window appears.
3. Select Custom for the type of diskettes to create. The following display appears:



4. You need to supply the following information:

User configuration to be copied to diskette

Enter the name of the user configuration for whom you are creating the custom installation diskette.

Drive on your work station containing diskette to be created

Enter the drive letter of the diskette drive on your personal computer.

Start PC Support automatically

Specify whether or not the user you are creating this installation diskette for wants to have PC Support/400 started automatically when the personal computer is started.

- If Yes is chosen, PC Support/400 will start automatically.
- If No is chosen, PC Support/400 will not start automatically.

Note: After completing the required information on the Create Custom Install Diskette display, you can choose to press F7 (Change working set) to enter the file name of your PC Support/400 configuration file and the file name of the user's file used to start PC Support/400. Normally, you do not need to change a working set since most users have the same names for the configuration file and the file used to start PC Support/400.

5. Press the Enter key. A window appears asking whether you want to copy the PC Support/400 programs to the diskette now or have it done at installation time on the user's personal computer.

- If you choose No, only the files necessary to establish a connection with the AS/400 system are copied to the personal computer. All other files are copied to the personal computer from the appropriate folder on the AS/400 system when PC Support/400 is started on the personal computer. This option requires fewer diskettes, but the copy process may take longer to complete if the personal computer is remotely attached. This is the recommended option for locally attached personal computers.
- If you choose Yes, all the files used for PC Support/400 are copied to the diskettes.

When copying of the files to the diskettes completes, the diskettes can be used to install PC Support/400 on the personal computer.

Creating Standard Installation Diskettes

Any PC Support/400 user can create standard installation diskettes for any of the PC Support/400 options and languages that are installed on the host system. (It is not necessary to be a PC Support/400 administrator.) Standard installation diskettes created using this method are the same as the installation diskettes shipped with the PC Support/400 licensed program and can be used in the same way.

To create standard installation diskettes, do the following:

1. Insert a formatted, nonsystem diskette in the diskette drive. (Nonsystem diskettes are those formatted without using the /s option.)

Note: Make sure you have a supply of formatted, nonsystem diskettes available to use when the system prompts you to insert another diskette.

2. From the PC Support/400 Administration Menu, select the Create install diskettes option. The Create Install Diskettes window appears.
3. Select Standard for the type of diskettes to create. The following display appears:

Create Standard Install Diskettes

Type the following information, press Enter.

Drive on your work station
containing diskette to be created. [A]

PC Support/400 Option

1. Basic DOS
2. Extended DOS
3. OS/2
4. Basic DOS (DBCS)
5. Extended DOS (DBCS)
6. OS/2 (DBCS)

Enter Esc=Cancel F1=Help F3=Exit

4. Specify the following:

Drive on your work station containing diskette to be created

Enter the letter of the diskette drive on your personal computer where you want to create the diskettes.

PC Support/400 option

Select the PC Support/400 option to use on the diskettes you are creating. You can only select those options that were installed with PC Support/400 on the AS/400 system you are using. The option you are currently using is shown as the default. For more information about the PC Support/400 options, see "PC Support/400 Options, Libraries, and Folders" on page 1-3.

5. Press the Enter key.

If more than one language is available on the system for the option you have selected, a list is displayed. Select the language to be used on the diskette, then press the Enter key again.

The necessary files are copied to the diskettes from the appropriate folder on the AS/400 system. The new diskettes can now be used to install PC Support/400 on a personal computer.

Controlling Updates

When you install a new release of PC Support/400 or apply program temporary fixes to the PC Support/400 files on the AS/400 system, the PC Support/400 update function automatically copies the new files to the personal computers attached to the system. Copying the new files to the personal computer can take a significant amount of time if you are using a remote connection (such as SDLC, asynchronous, or 5394 remote).

You can use the administration function to limit updates, then use custom installation diskettes to distribute the new PC Support/400 files to each personal computer. To use this method, do the following:

1. From the PC Support/400 Administration menu, select `Work with user configurations`. (You can do this while either adding a new user configuration or changing an existing configuration.)
2. Specify that the user configuration is to be administered. Supply any other information desired, then press the Enter key.

If you are adding a new user configuration, you are asked if you want to do additional configuration. Select `Yes`, then select `PC Support Configuration`. The PC Support Configuration menu is displayed. If you are changing an existing user configuration, this menu is automatically displayed.
3. Select `General options`. The `General Options for PC Support` menu is displayed.
4. Select `Update personal computer applications`. The `Update Personal Computer Applications` menu is displayed.
5. Delete the PC Support/400 line from the list of applications by doing the following:
 - a. Select `PC Support/400`, then press the Enter key.
 - b. Select `Delete update control information`. A message is displayed informing you that you are about to change PC Support/400 information.
 - c. Press the Enter key to confirm the request.
6. Exit the administration function and save the new configuration.
7. After the new files are installed on the AS/400 system, create a custom installation diskette for the user. See "Creating Custom Installation Diskettes" on page 3-15 for instructions.
8. Use the custom installation diskette to install the new files on the personal computer.

Considerations for Controlling Updates

- When deciding whether or not to use this method, you need to compare the time it takes to create, distribute, and use the new installation diskettes with the time it would take to allow the updates to occur as part of the PC Support/400 startup process.
- Using this method only prevents updates to the files for the PC Support/400 functions. Some minimal updates will still occur for maintaining the configuration files on the personal computer.
- Using this method limits some of the functions of the administrator. For example, if the administrator selects additional entries from the Location of PC Support Functions menu, those changes do not take effect until the next time the custom installation diskettes are distributed.

Restrictions for Administration

The following are restrictions you may encounter when administering PC Support/400 for other users:

- If you use the configuration program, you can only work with configuration files that are for the OS/2 version of PC Support/400. You must also be using the same character set as the users you are administering for. The only options you will be allowed to select are those that apply to OS/2.
- To administer PC Support/400 for those users who are under a different operating system on the personal computer, you can use the configuration editor. To select the configuration editor, press F9 (PC Support/400 configuration editor) from the PC Support/400 Configuration menu.
- If you need to perform administration functions on multiple host systems that are at different release levels, you must use the PC Support Update (PCSUPDT) command to update your personal computer to match the level of PC Support on the host system on which you want to perform administration functions.
- You cannot use the DOS compatibility box to administer to DOS PC Support/400 users.
- You cannot make changes to the user's CONFIG.SYS or STARTUP.CMD files because you do not have access to these files. If you change the PC Support language, this is in effect for only one session. To make the change apply across all OS/2 sessions, the user must change the EHNL=xxxx line in his or her CONFIG.SYS file (where xxxx is the national language version code). If you change whether or not PC Support messages are logged, this is in effect for only one session. To make the change apply across all OS/2 sessions, the user must change the CONFIG.SYS file in the following way:
 - If the user wants messages logged, he/she should remove the EHNM=N entry from the file.
 - If the user does not want messages logged, he/she should add EHNM=N to the beginning of the file.
- Even though the AS/400 system supports user IDs up to 10 characters in length, the length of the user ID of any users authorized to files within the PC Support/400 configuration structure is recommended to be 8 characters in length. This is because the Document Interchange Architecture (DIA) used by the shared folders function restricts folder names to 8 characters.

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OS/2 Communications Manager Configuration Work Sheet – TDLC

Before you configure the OS/2 communications manager program on the personal computer, you must configure the AS/400 system for communications. While you configure the AS/400 system, fill out one copy of this work sheet for each personal computer as instructed. You will need this information when you configure the OS/2 communications manager program on the personal computer.

Note: Reference numbers are listed on the work sheet to assist you in finding the correct parameter.

<i>TDLC (Twinaxial Connection)</i>		
<i>OS/2 Communications Manager Work Sheet</i>		
Refer- ence Number	Configuration Parameter	Fill In Your Information
1	5250 local LU name	
2	5250 partner LU name	
3	5250 mode name	QPCSUPP (system supplied)
4	Controller address	
5	Local node name	
6	Network name	

Before You Begin

When a personal computer is attached to the AS/400 system using twinaxial data link control (TDLC), the physical connection determines which port on the AS/400 twinaxial card is used by the connection. However, each port is divided into seven addresses, and you must determine which address you will assign to each personal computer. Each personal computer must be assigned a unique address for the port. **You cannot assign a personal computer using PC Support/400 to address 0 of port 0, as this is reserved for the system console.**

The following steps show you how to determine which addresses are available on a particular port of a particular card:

1. Determine which controller is associated with the particular twinaxial work station controller card on the AS/400 system. Using the Work with Controller Description (WRKCTLD) command, you can view a list of all the controllers on your system. Controllers of the following types are associated with a twinaxial card:

2638
6040
6140

```

Work with Controller Descriptions
System: RCH38330
Position to . . . . . Starting characters

Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display 6=Print 7=Rename
8=Work with status 9=Retrieve source 12=Print device addresses

Opt  Controller  Type  Text
--  -
CTL01  6040  CREATED BY AUTO-CONFIGURATION
CTL02  6040  CREATED BY AUTO-CONFIGURATION
CTL04  6140  CREATED BY AUTO-CONFIGURATION
CTL05  6140  CREATED BY AUTO-CONFIGURATION
CTL5394 5394  5394 controller
C2HCTL *APPC  CREATED BY AUTO-CONFIGURATION
C323CTL *APPC  CREATED BY AUTO-CONFIGURATION
D#WCTL *APPC  Joe Smith
DAPCTL *APPC  Tom Allen

Parameters or command
====>
F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F14=Work with status
    
```

2. Type the Print Device Address (PRTDEVADR) command on the AS/400 command line and press F4 (Prompt). The following display appears:

```

Print Device Addresses (PRTDEVADR)

Type choices, press Enter.

Controller description . . . . . Name

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

3. In the *Controller description* field, type the name of the controller associated with the twinaxial card. Then, press the Enter key.

The Print Device Address (PRTDEVADR) command creates a spooled file that you should print. This will produce a table showing you the available addresses for each port of the twinaxial card.

Configuring Twinaxial Connections on the AS/400 System

To configure a PC connection:

1. Display the Configure PC Connections menu. Either type the command GO CFGPCS at the AS/400 command prompt, or use the menus starting from the AS/400 Main Menu.
2. Select option 1, Twinaxial (local). The following display appears:

```
                Add PC to Twinaxial (Local) Connection
Type choices, press Enter.
Use automatic configuration   Y                Y=Yes, N=No
F3=Exit  F4=Prompt  F12=Cancel
```

3. In the *Use automatic configuration* field, you should accept the default. This default depends on how the QAUTOCFG system value is set for your system. If you used a Y for yes, press the Enter key to complete the host system installation. Then, go to "Completing the OS/2 Communications Manager Work Sheet" on page 4-6. If you used an N for no, you need to supply some additional information; continue with step 4.
4. If you are not using automatic configuration, you need to supply the following information:

Device description

This is the name of the device that will be created and associated with the personal computer. To make this easy to remember, you can type the user's user ID. Write this name in the *5250 local LU name* (**1**) field of the work sheet on page 4-2. Also, write this name in the *Local node name* (**5**) field of the work sheet.

PC model

This indicates whether or not the personal computer uses MicroChannel* architecture (such as the PS/2 models 50 and above). If the personal computer uses Micro Channel architecture, type a 2. Otherwise, type a 1.

Port number

This is the AS/400 port number that the twinaxial line is connected to. This can only be determined by looking at where the line is physically connected to the AS/400 system.

Address of PC

This is an available address on the twinaxial port. For information about what addresses are available, see "Before You Begin" on page 4-2. Write this number in the *Controller address* (**4**) field of the work sheet.

Attached controller

This is the name of the controller associated with the twinaxial card. The first available controller name is shown as the default. Press F4 (Prompt) for a list of the other controller names.

Text

This is an optional description of the device.

5. When you are finished typing this information, press the Enter key. A message appears at the bottom of the display:

Add PC to Twinaxial (Local) Connection

Type choices, press Enter.

Use automatic configuration	N	Y=Yes, N=No
Device description	JOE	Name
PC model	2	1, 2
Port number	3	0-7
PC address	2	0-6
Attached controller	CTL01	Name, F4 for list
Text	joe taylor 117	

F3=Exit F4=Prompt F12=Cancel
PC added. Add another or press F3 to exit.

The AS/400 configuration for this personal computer is finished.

Preparing to Install PC Support/400 on the Personal Computer

To prepare for installing PC Support/400 on the personal computer:

1. Complete the necessary tasks on the AS/400 system as described in the following sections:
 - "Verifying the Installation of the PC Support/400 Licensed Program" on page 2-2
 - "Enrolling PC Support/400 Users" on page 2-3
 - Chapter 3, "Using the PC Support/400 Administration Function" (if required)
2. Complete the work sheet on page 4-2.
3. Install and configure the necessary OS/2 programs.

Completing the OS/2 Communications Manager Work Sheet

Record the following information on the work sheet on page 4-2, then use the information to configure the OS/2 communications manager program on the personal computer.

5250 local LU name (1)

If you chose to use automatic configuration in step 3 on page 4-4, the 5250 local LU name is the same as the user profile name of the user. Write this name in the work sheet. If you chose not to use automatic configuration, you should have already filled in this field with the device description in step 4 on page 4-4.

5250 partner LU name (2)

This is the name by which the AS/400 system is known on the network. To determine the system name, use the Display Network Attributes (DSPNETA) command, and use the value in the *Default local location name* field.

Controller address (4)

This is an available address on the twinaxial port. For information about what addresses are available, see "Before You Begin" on page 4-2. If you chose not to use automatic configuration, you should have already filled in this field in step 4 on page 4-4.

Local node name (5)

If you chose to use automatic configuration in step 3 on page 4-4, the 5250 local LU name is the same as the user profile name of the user. Write this name in the work sheet. If you chose not to use automatic configuration, you should have already filled in this field with the device description in step 4 on page 4-4.

Network name (6)

This is the local network ID of your network. To determine this value, use the Display Network Attributes (DSPNETA) command, and use the value in the *Local network ID* field. The AS/400 system is shipped with this value set to APPN.

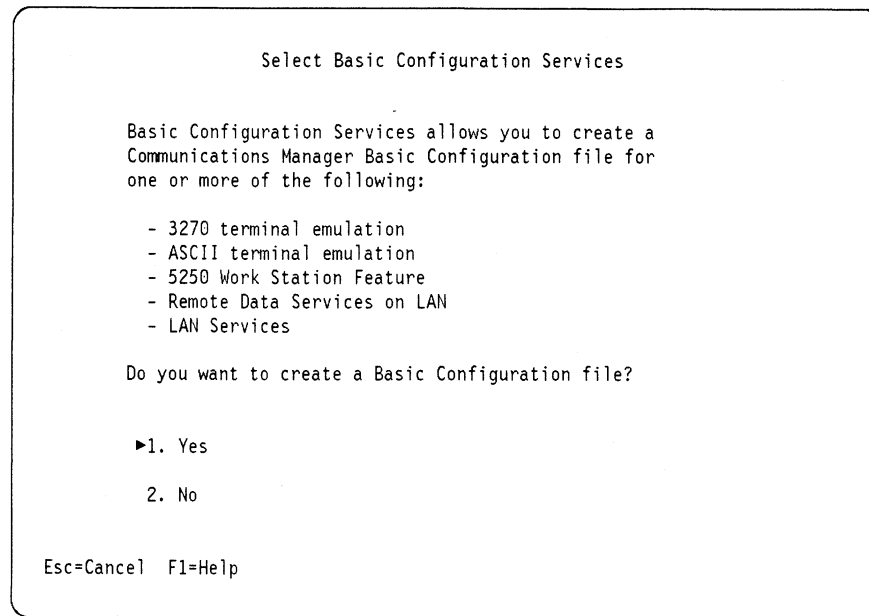
Installing the OS/2 Program on Each Personal Computer

If you have not already installed the OS/2 program on the personal computer, insert the OS/2 installation diskette into the diskette drive and start your personal computer. Follow the online prompts to install the OS/2 program. If you need help while installing the OS/2 program, see the *OS/2 Getting Started* manual.

If you are installing OS/2 version 2.0, you need to install the OS/2 Extended Services version 1.0 program. Insert the installation diskette into the A: drive and enter

```
A:ESINST
```

If you are installing OS/2 Extended Edition version 1.3, you will see the following display during the installation process. Select Yes and continue with "Configuring the OS/2 Communications Manager Program" on page 4-7.



Configuring the OS/2 Communications Manager Program

Depending on the version of OS/2 you are using, the displays you see on your screen may be slightly different than those shown in this manual.

1. Start the basic configuration services program.

The way you do this depends on whether you are installing OS/2 Extended Edition 1.3 or OS/2 Extended Services 1.0. If you are:

Installing OS/2 1.3

You will be prompted during installation whether or not you want to start the basic configuration services program. Select Yes.

Installing Extended Services 1.0

1. Insert the OS/2 Extended Services 1.0 installation diskette into the A: drive.
2. Start an OS/2 command prompt, and make A: the current drive by typing
A:
3. Enter
ESINST
4. When the title screen appears, press the Enter key.
5. A window appears giving you general information about the Extended Services program. Press the Enter key to continue.
6. A window appears giving you an introduction to installing the Extended Services program. Press the Enter key to continue.
7. The Extended Services Installation Options menu appears. Select option 1, Basic configuration and installation.

The Basic Configuration Services display appears.
8. Select option 2 (Create).

Twinaxial connection

No matter which method you use to start basic configuration services, the following window appears:

```
                Create Basic Configuration File

Type a file name for Basic Configuration file
to be created and Enter.

Basic Configuration file name. . . . . [JOEFILE ]
```

2. Type any name you want for your configuration file. When you press the Enter key, the following window appears:

```
                Change Basic Configuration File Comments

Comment. . . . . :
[Configuration file for Joe ]
```

3. Type any description you want for your configuration file and press the Enter key. The following display appears:

```
                Basic Configuration Services Main Menu

Select a Communications Manager Basic Configuration feature
that you want to create or change.

1. 3270 terminal emulation
2. ASCII terminal emulation
▶3. 5250 Work Station Feature (AS/400 host or S/36 host)
4. Remote Data Services on LAN
5. LAN Services

You will return to this menu for additional selections.
Select F3=Exit when your last selection is complete.

Esc=Cancel F1=Help F3=Exit
```

4. Select option 3, 5250 Work Station Feature. The following display appears:


```

                    5250 Work Station Feature Defaults

Use the spacebar to change 5250 Work Station Feature selections.
An arrow is displayed next to the option when it is selected.
Press Enter when you have completed the selections.

Number of 5250 Host sessions. . . . . ▶ 1      2
                                         3      4
5250 printer session. . . . . ▶ Yes
                                         No
Start all sessions automatically. . . . . ▶ Yes
                                         No
Connection type . . . . . ▶ Twinax
                               LAN
                               SDLC
Host type . . . . . ▶ AS/400
                               S/36

Enter  Esc=Cancel  F1=Help

```

5. On this display, you need to select the following:

Number of 5250 host sessions

This is the number of display sessions that you may start with the AS/400 system.

5250 printer session

Select whether or not you want to start a printer session with the AS/400 system. A printer session allows you to print AS/400 output on your personal computer's printer.

Start all sessions automatically

Select whether or not you want all of your AS/400 display and printer sessions to start automatically when you start the OS/2 communications manager program.

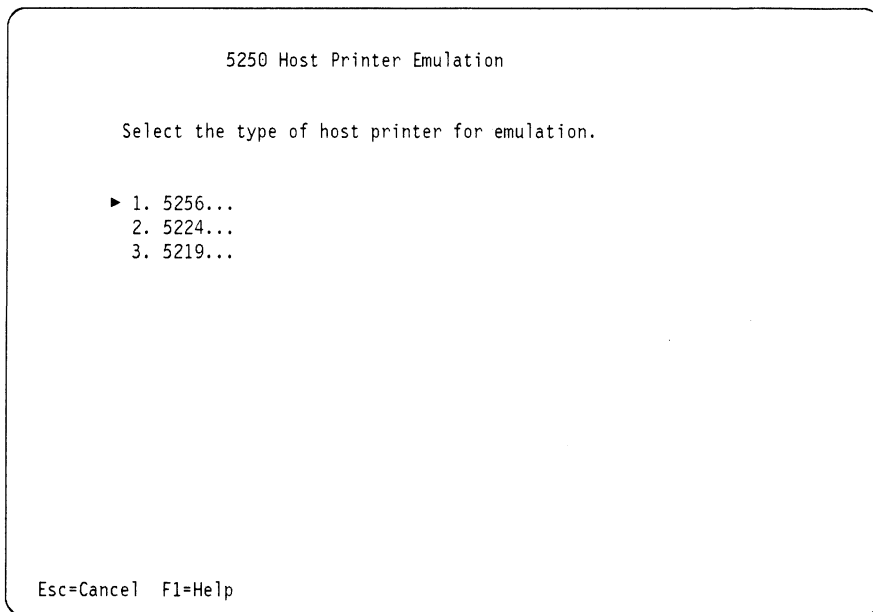
Connection type

Select Twinaxial.

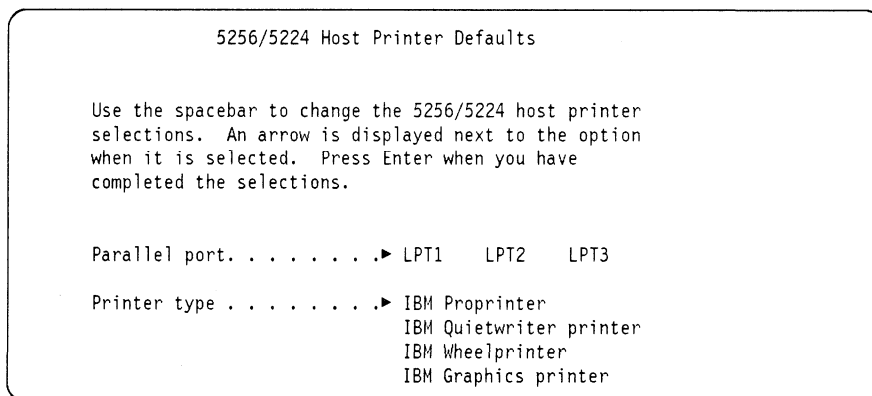
Host type

Select AS/400.

6. When you are finished selecting these options, press the Enter key. If you selected to have a printer session, the following display appears:



7. On this display, select the type of AS/400 printer that you want your personal printer to emulate. When you press the Enter key, the following window appears:



8. Select the port that your personal computer uses to communicate with the personal printer. Also, select the type of printer you are using. Then, press the Enter key. The following display appears:

```

                    5250 Work Station Feature Twinax Defaults

Type the correct information for the 5250 Work Station feature
and Enter.

5250 Local LU name . . . . .[JOE   ]
5250 Partner LU name . . . . .[AS400SYS]
5250 Mode name . . . . .[QPCSUPP ]
Twinax controller address. . . . .[0]

Enter  Esc=Cancel  F1=Help

```

9. On this display, enter the information that you recorded on your work sheet.

- 5250 Local LU name (**1**)
- 5250 Partner LU name (**2**)
- 5250 Mode name (**3**)
- Twinax controller address (**4**)

When you are finished, press the Enter key. The following display appears:

```

                    Configuration Network Defaults

Enter to use the configuration defaults displayed below
or type the correct information and Enter.

Local node name . . . . .[JOE   ]
Network name . . . . .[APPN  ]
Local node ID (in hex) . . . . .[00000]

Enter  Esc=Cancel  F1=Help

```

Note: If you are using OS/2 Extended Edition 1.3, the *local node name* is referred to as the *physical unit name*, and the *local node ID* is referred to as the *node ID*.

10. In the *Local node name* and the *Network name* fields, type the information from the work sheet.

- Local node name (**5**)

Twinaxial connection

- Network name (**6**)
- Local node ID (in hex)

This value is not used for communications with an AS/400 system. You should accept the default.

When you are finished, press the Enter key. The following display appears:

```
Basic Configuration Services Main Menu

Select a Communications Manager Basic Configuration feature
that you want to create or change.

1. 3270 terminal emulation
2. ASCII terminal emulation
3. 5250 Work Station Feature (AS/400 host or S/36 host)
4. Remote Data Services on LAN
5. LAN Services

You will return to this menu for additional selections.
Select F3=Exit when your last selection is complete.

Esc=Cancel F1=Help F3=Exit
```

11. Press F3 to exit this display. The following window appears:

```
Create/Change and verification of
configuration file is in progress.

Please wait.
```

12. If you are installing OS/2 Extended Edition version 1.3, the Basic Configuration Services Complete display appears, telling you that your configuration file is temporarily stored in the C:\OS2\INSTALL directory. Press the Enter key to continue.
13. If you have not already installed the OS/2 communications manager program, the following display appears:

```

Target Drive Specification

Type the drive letter that will be used as the target drive for
the installation of the IBM OS/2 Extended Services component
listed below and Enter.

Component name. . . . . :
Communications Manager

Target drive. . . . . [C]

Enter  Esc=Cancel  F1=Help

```

This display allows you to specify the drive that you want the OS/2 communications manager program stored on. Accept or change the default, and press the Enter key.

14. If you are installing OS/2 Extended Edition version 1.3, the following display appears:

```

Communications Manager Install Menu

Select an option.

► 1. User configuration files and features
   2. Additional features and default configuration files
   3. Re-install all of the installed features

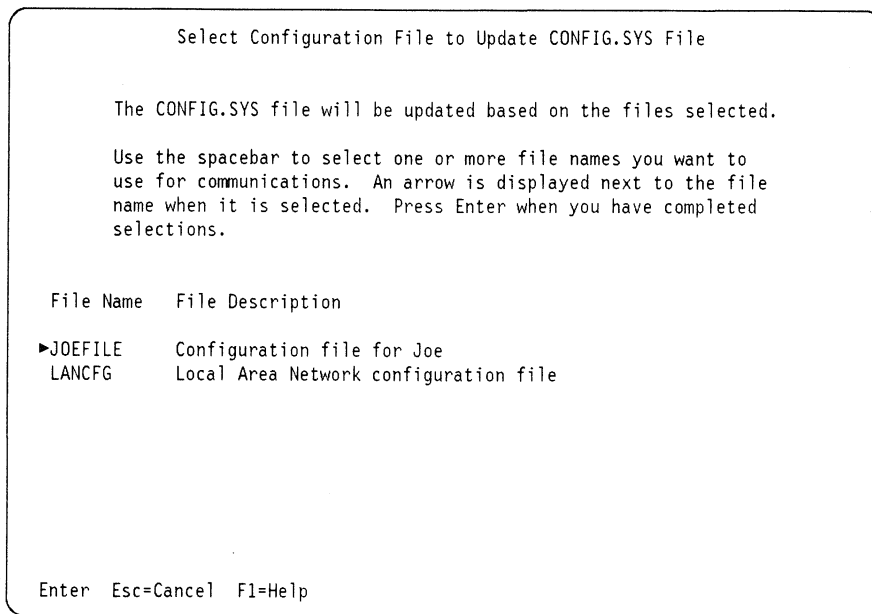
The default configuration file, ACSCFG, contains all of the
different country keyboard profiles.

All features will be installed when F3=Exit is selected.
Select F3=Exit when your last selection is complete.

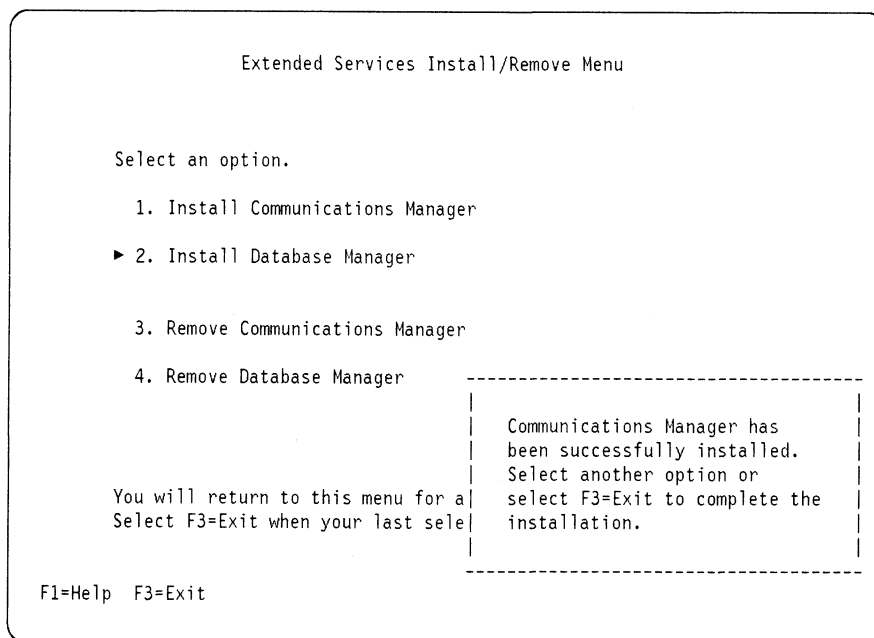
```

Press F3 to exit this display.

15. If you have more than one configuration file on your personal computer, the following display appears:



16. This display allows you to select which configuration files you want to use. Select the configuration file that you just created and press the Enter key. A display similar to the following appears:



17. Press F3 to exit this display. Either an Installation Complete display appears, or you return to the OS/2 command prompt. Remove the diskette from the diskette drive. Then, start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting the OS/2 Communications Manager Program

Although you do not need to start the OS/2 communications manager program in order to install PC Support/400, you may want to start the OS/2 communications manager program to verify that your configuration file is correct. In order to start the OS/2 communications manager program, you can double-click on the OS/2 communications manager icon.

If you selected to have your sessions start automatically, your 5250 work station feature sessions will begin. If you chose not to have your sessions start automatically, you will see the OS/2 Communications Manager Main Menu. From this menu, select option 1, Start communications. Then select option 4, 5250 Work Station Feature. You then need to specify which AS/400 sessions you want to start.

Installing PC Support/400 on Each Personal Computer

Before you install PC Support/400 on the personal computer, be sure you have completed the tasks as described in "Preparing to Install PC Support/400 on the Personal Computer" on page 4-5.

Using Custom Installation Diskettes

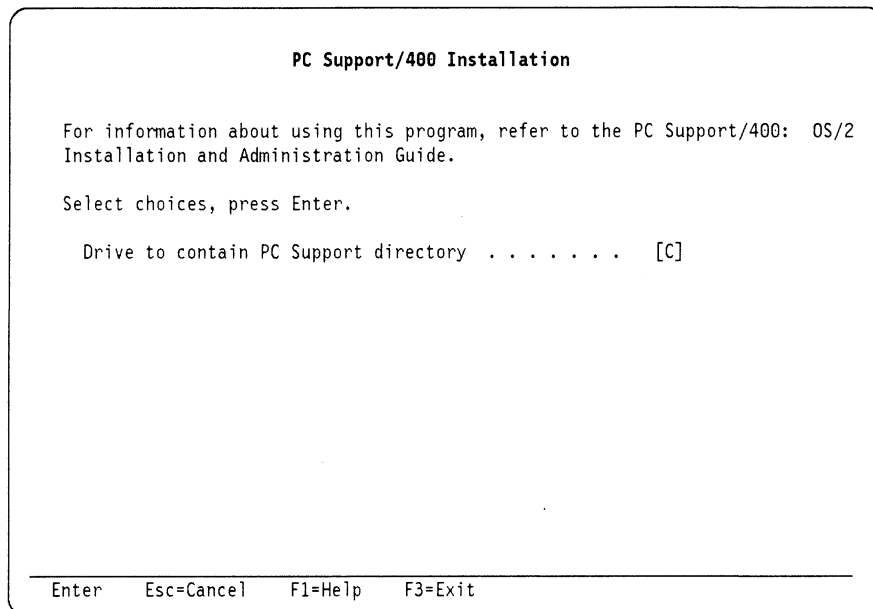
To install PC Support/400 using custom installation diskettes, do the following:

1. Insert the installation diskette in the A: drive.
2. At the OS/2 prompt, type A:INSTALL and press the Enter key. The installation program automatically sets up the necessary files on the personal computer and copies the PC Support/400 programs and files to the PCSOS2 subdirectory.
3. When the installation program has completed, start the personal computer again.

Using Standard Installation Diskettes

To install PC Support/400 using standard installation diskettes, do the following:

1. Use the OS/2 DISKCOPY command to create a backup copy of the OS/2 PC Support/400 installation diskette (volume 1) and label this diskette PCS01. You may have additional OS/2 PC Support/400 installation diskettes labeled volume 2, volume 3, and so on. Copy these diskettes, and label the backup copies PCS02, PCS03, and so on. Use the backup copies to install PC Support/400, and store the original diskettes in a safe place. You do not need to do this for each personal computer; you can install PC Support/400 on many personal computers using the same backup copies of the installation diskettes.
2. Insert the installation diskette PCS01 in the A: drive.
3. At the OS/2 prompt, type A:INSTALL and press the Enter key.
4. When the display with the IBM logo is shown, press the Enter key to continue. The following display appears:



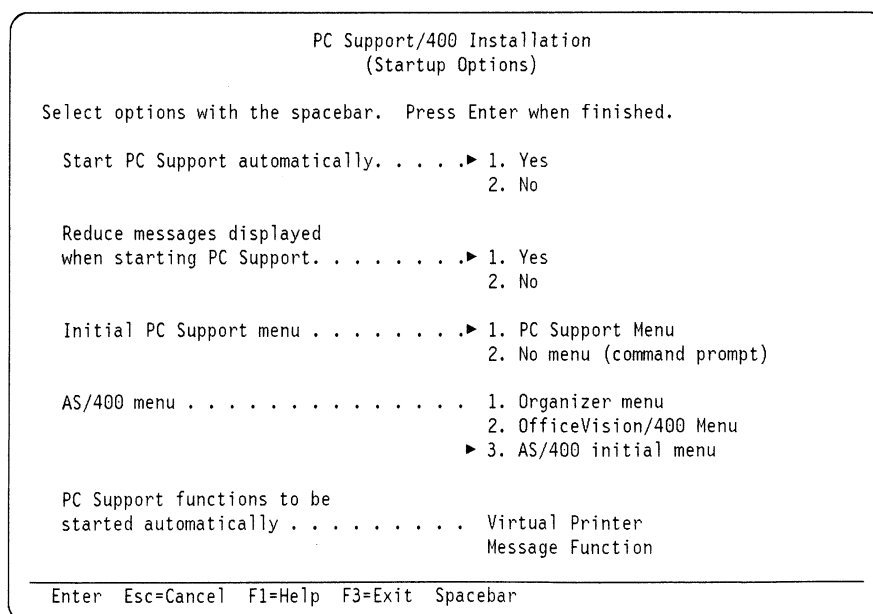
5. Enter the following information:

Drive to contain PC Support directory

This is the drive letter that you want PC Support/400 to be stored on. This is probably the C: drive.

The PC Support/400 installation program uses the drive the personal computer starts from to determine the location of the CONFIG.SYS and the STARTUP.CMD files. If you start the personal computer from one drive, install PC Support/400, and then start the personal computer from another drive, these files will not be found.

When you are finished typing this information, press the Enter key. A display similar to the following appears:



6. Enter the following information:

Start PC Support automatically

If you select *Yes*, the PC Support/400 installation program adds the STARTPCS command at the end of your STARTUP.CMD file. This causes PC Support/400 to start automatically when you start your personal computer.

Reduce messages displayed when starting PC Support

If you select *Yes*, you see fewer messages when you start PC Support/400. You still receive messages when each function begins, and you also see any error messages. Other informational messages are not shown on the display.

Initial PC Support menu

This option allows you to specify which menu you want to initially appear when you start PC Support:

PC Support Menu

The main menu for PC Support/400 will be displayed when you start PC Support/400. This menu gives you access to selected PC Support/400 functions on the personal computer.

No menu

No menu will be displayed when you start PC Support/400. You will return to the OS/2 command prompt.

AS/400 menu

This option allows you to specify which menu you want to initially appear when you sign on the AS/400 system:

Organizer menu

The PC Support/400 Organizer menu will be displayed when you sign on the AS/400 system. This menu combines AS/400 and PC commands.

OfficeVision/400* Menu

The main menu for the OfficeVision/400 program will be displayed when you sign on the AS/400 system.

AS/400 initial menu

The display you normally see first will be displayed when you sign on the AS/400 system.

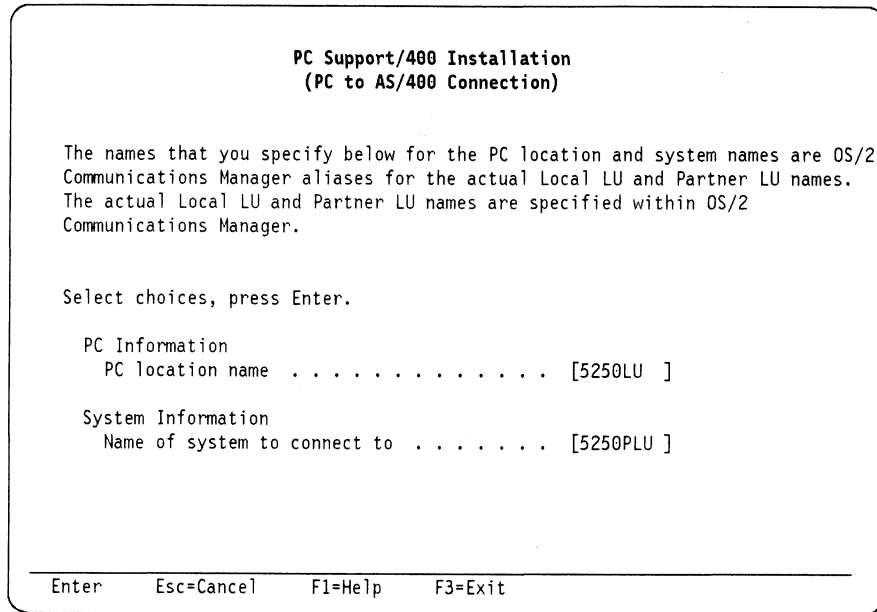
PC Support functions to be started automatically

This option allows you to select which functions you want to start automatically when you start PC Support. The functions you can select are:

- Virtual printer
- Message function

The necessary commands for the functions you select are added to the STARTPCS.CMD file. For a description of these functions, see "Functions Available with PC Support/400" on page 1-13.

When you are finished typing this information, press the Enter key. The following display appears:



7. Enter the following information:

PC location name

This is the name of the OS/2 communications manager program alias for the actual local LU name (the name of your personal computer on the network). The OS/2 basic configuration services program names this alias 5250LU. You should accept this as the default.

Name of system to connect to

This is the name of the OS/2 communications manager program alias for the actual partner LU name (the name of the AS/400 system you want to connect to). The OS/2 basic configuration services program names this alias 5250PLU. You should accept this as the default.

8. When the program is complete, the PC Support/400 Installation Completed display is shown. Before you can start PC Support/400, you must start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting PC Support/400

Before you start PC Support/400, you must start the OS/2 communications manager program which will start your emulation session with the AS/400 system.

If PC Support/400 does not start automatically when you start your personal computer, you can start it by doing the following:

1. Click on the PC Support/400 Group icon in the Workplace Shell Desktop. The PC Support/400 Group window appears.
2. Double-click on the Start PC Support/400 icon.

If PC Support/400 does not work properly, see Part 5, "Analyzing Problems with PC Support/400." For information about configuring the PC Support/400 functions, see Part 4, "Configuring PC Support/400."

Chapter 5. Installing PC Support/400 for Token-Ring Connections

OS/2 Communications Manager Configuration Work Sheet – Token-Ring . . .	5-2
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OS/2 Communications Manager Configuration Work Sheet – Token-Ring

Before you configure the OS/2 communications manager program on the personal computer, you must configure the AS/400 system for communications. While you configure the AS/400 system, fill out one copy of this work sheet for each personal computer as instructed. You will need this information when you configure the OS/2 communications manager program on the personal computer.

Note: Reference numbers are listed on the work sheet to assist you in finding the correct parameter.

Token-Ring Network OS/2 Communications Manager Work Sheet		
Reference Number	Configuration Parameter	Fill In Your Information
1	Local LAN adapter address	<input type="checkbox"/> Use default address <input type="checkbox"/> Override default address with [_____]
2	5250 local LU name	
3	5250 partner LU name	
4	5250 mode name	QPCSUPP (system supplied)
5	LAN destination address	
6	Local node name	
7	Network name	

Configuring Token-Ring Connections on the AS/400 System

To configure a PC connection:

1. Display the Configure PC Connections menu. Either type the command GO CFGPCS at the AS/400 command prompt, or use the menus starting from the AS/400 Main Menu.
2. Select option 2 (Token-ring). The following display appears:

```

Create Token-ring (LAN) Connection

Type choices, press Enter.

Line description . . . . . TRNLINE          Name
Add a PC . . . . . Y                       Y=Yes, N=No

F3=Exit  F12=Cancel

```

This display shows you the name of the line description. Press the Enter key to accept the defaults.

- If this is the first user you are adding for this communications type, a display similar to the following appears:

```

Create Token-ring (LAN) Connection

Line description . . . . . : TRNLINE

Type choices, press Enter.

Resource name . . . . . LIN031          Name, F4 for list
Local adapter address . . . 402010039031  400000000000-7FFFFFFFFFFF
Text . . . . . Line for token-ring users

F3=Exit  F4=Prompt  F12=Cancel

```

In the *Local adapter address* field, either accept the default or type a 12-digit hexadecimal number for the address of the AS/400 system. Press the Help key if you want to know how this default is derived. The value in this field will override the preset LAN address. If you override the preset address, the address must be in the range 400000000000 to 7FFFFFFFFFFF, and the address must be unique on the local area network. You can decide here what this address will be. Write this address in the *LAN destination address* (5) field on the work sheet on page 5-2.

- Press the Enter key. A display similar to the following appears:

```

                                Add PC to LAN Connection

Line description . . . . . : TRNLINE
Local adapter address . . . : 402010039031

Type choices, press Enter.

Auto create controller . . . Y           Y=Yes, N=No

_____

F3=Exit  F12=Cancel

```

The *Local adapter address* field shows you the token-ring address of the AS/400 system. If you have not done so already, write this address in the *LAN destination address* (**5**) field on the work sheet.

In the *Automatically create controller* field, you should accept the default. This default depends on whether or not the line description already exists and whether or not controllers can be automatically created on it.

If you used a Y for yes (or accepted a default of Y), you are finished with the host system installation; go to "Completing the OS/2 Communications Manager Work Sheet" on page 5-5. If you used an N for no (or accepted a default of N), continue with the next step.

5. If you are not automatically creating controllers, you need to supply the following information:

PC LAN address

In this field, type a 12-digit hexadecimal number for the personal computer's LAN address. You can decide here what address you want to assign.

If you intend to use the adapter's default address, check the *Use default address* space in the *Local LAN adapter address* field (**1**) of the work sheet.

If you intend to override the adapter's preset address, the address must be in the range 000000000001 to FFFFFFFF. The address you use must be unique on the local area network. Check off the *Override default address* space in the *Local LAN adapter address* field (**1**) of the work sheet, and write this address in the space provided.

Controller description

This is the name of the controller that will be created and associated with the personal computer. To make this easier to remember, you can type the user's user ID. This will be the name by which the personal computer is known on the network. Write this name in the *5250 local LU name* (**2**) and the *Local node name* (**6**) fields of the work sheet.

6. When you are finished typing this information, press the Enter key. A message appears at the bottom of the display:

```

                                Add PC to LAN Connection

Line description . . . . . : TRNLINE
Local adapter address . . . : 401010015031

Type choices, press Enter.

Autocreate controller . . . : N                Y=Yes, N=No
PC LAN address . . . . . : 400000000001       000000000001-FFFFFFFF
Controller description . . . : JOE                Name
Text . . . . . : joe taylor 117

-----

F3=Exit  F12=Cancel
PC added. Add another or press F3 to exit.

```

The AS/400 configuration for this personal computer is finished.

Preparing to Install PC Support/400 on the Personal Computer

To prepare for installing PC Support/400 on the personal computer:

1. Complete the necessary tasks on the AS/400 system as described in the following sections:
 - “Verifying the Installation of the PC Support/400 Licensed Program” on page 2-2
 - “Enrolling PC Support/400 Users” on page 2-3
 - Chapter 3, “Using the PC Support/400 Administration Function” (if required)
2. Complete the work sheet on page 5-2.
3. Install and configure the necessary OS/2 programs.

Completing the OS/2 Communications Manager Work Sheet

Before the work sheet can be used to install PC Support/400 on the personal computer, you need to fill out the remaining fields:

Local LAN adapter address (1)

If you chose not to automatically create the controller, you should have already filled in this field in step 5 on page 5-4.

If you want to use the adapter’s default address, check off the *Use default address* space.

If you want to override the default address of the personal computer’s LAN adapter, check off the *Override default address* space. In the space provided, write the address you want to use for the personal computer. The address must be a 12-digit hexadecimal number, and must be unique on the local area network. For token-ring, the address must be between 400000000000

Token-ring connection

and 40007FFFFFFF. Values outside this range may be incompatible with other products on the network.

5250 local LU name (2)

If you decided to automatically create the controller, the local LU name is the same as the AS/400 user ID of the user. Write this name on the work sheet. If you decided not to use automatic configuration, you should have already filled in this field with the controller name in step 5 on page 5-4.

5250 partner LU name (3)

This is the name by which the AS/400 system is known on the network. To determine the system name, use the Display Network Attributes (DSPNETA) command, and use the value in the *Default local location name* field.

Local node name (6)

If you decided to automatically create the controller, the PU name is the same as the AS/400 user ID of the user. Write this name in the work sheet. If you decided not to use automatic configuration, you should have already filled in this field with the controller name on step 5 on page 5-4.

Network name (7)

This is the local network ID of your network. To determine this value, use the Display Network Attributes (DSPNETA) command and use the value in the *Local network ID* field. The AS/400 system is shipped with this value set to APPN.

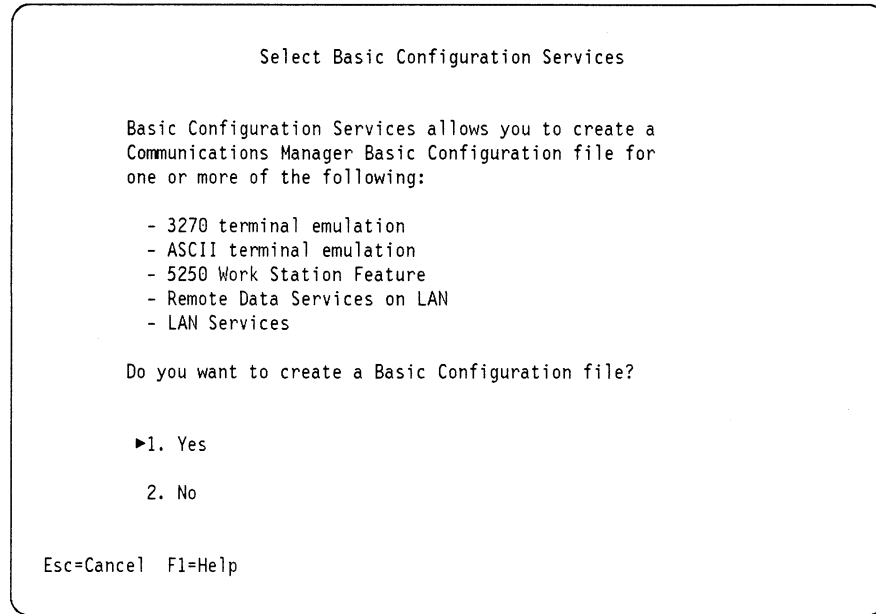
Installing the OS/2 Program on Each Personal Computer

If you have not already installed the OS/2 program on the personal computer, insert the OS/2 installation diskette into the diskette drive and start your personal computer. Follow the online prompts to install the OS/2 program. If you need help while installing the OS/2 program, see the *OS/2 Getting Started* manual.

If you are installing OS/2 version 2.0, you need to install the OS/2 Extended Services version 1.0 program. Insert the installation diskette into the A: drive and enter

```
A:ESINST
```

If you are installing OS/2 Extended Edition version 1.3, you will see the following display during the installation process. Select Yes and continue with "Configuring the OS/2 Communications Manager Program" on page 5-7.



Configuring the OS/2 Communications Manager Program

Depending on the version of OS/2 you are using, the displays you see on your screen may be slightly different than those shown in this manual.

1. Start the basic configuration services program.

The way you do this depends on whether you are installing OS/2 Extended Edition 1.3 or OS/2 Extended Services 1.0. If you are:

Installing OS/2 1.3

You will be prompted during installation whether or not you want to start the basic configuration services program. Select Yes.

Installing Extended Services 1.0

1. Insert the OS/2 Extended Services 1.0 installation diskette into the A: drive.
2. Start an OS/2 command prompt, and make A: the current drive by typing
A:
3. Enter
ESINST
4. When the title screen appears, press the Enter key.
5. A window appears giving you general information about the Extended Services program. Press the Enter key to continue.
6. A window appears giving you an introduction to installing the Extended Services program. Press the Enter key to continue.
7. The Extended Services Installation Options menu appears. Select option 1, Basic configuration and installation.
The Basic Configuration Services display appears.
8. Select option 2 (Create).

Token-ring connection

No matter which method you use to start basic configuration services, the following window appears:

```
                Create Basic Configuration File

Type a file name for Basic Configuration file
to be created and Enter.

Basic Configuration file name. . . . . [JOEFILE ]
```

2. Type any name you want for your configuration file. When you press the Enter key, the following window appears:

```
                Change Basic Configuration File Comments

Comment. . . . . :
[Configuration file for Joe ]
```

3. Type any description you want for your configuration file and press the Enter key. The following display appears:

```
                Basic Configuration Services Main Menu

Select a Communications Manager Basic Configuration feature
that you want to create or change.

1. 3270 terminal emulation
2. ASCII terminal emulation
▶3. 5250 Work Station Feature (AS/400 host or S/36 host)
4. Remote Data Services on LAN
5. LAN Services

You will return to this menu for additional selections.
Select F3=Exit when your last selection is complete.

Esc=Cancel F1=Help F3=Exit
```

4. Select option 3, 5250 Work Station Feature. The following display appears:

```

                    5250 Work Station Feature Defaults

Use the spacebar to change 5250 Work Station Feature selections.
An arrow is displayed next to the option when it is selected.
Press Enter when you have completed the selections.

Number of 5250 Host sessions. . . . . ▶ 1      2
                                         3      4
5250 printer session. . . . . ▶ Yes
                                         No
Start all sessions automatically. . . . . ▶ Yes
                                         No
Connection type . . . . . ▶ Twinax
                                         LAN
                                         SDLC
Host type . . . . . ▶ AS/400
                                         S/36

Enter  Esc=Cancel  F1=Help

```

5. On this display, you need to select the following:

Number of 5250 host sessions

This is the number of display sessions that you may start with the AS/400 system.

5250 printer session

Select whether or not you want to start a printer session with the AS/400 system. A printer session allows you to print AS/400 output on your personal computer's printer.

Start all sessions automatically

Select whether or not you want all of your AS/400 display and printer sessions to start automatically when you start the OS/2 communications manager program.

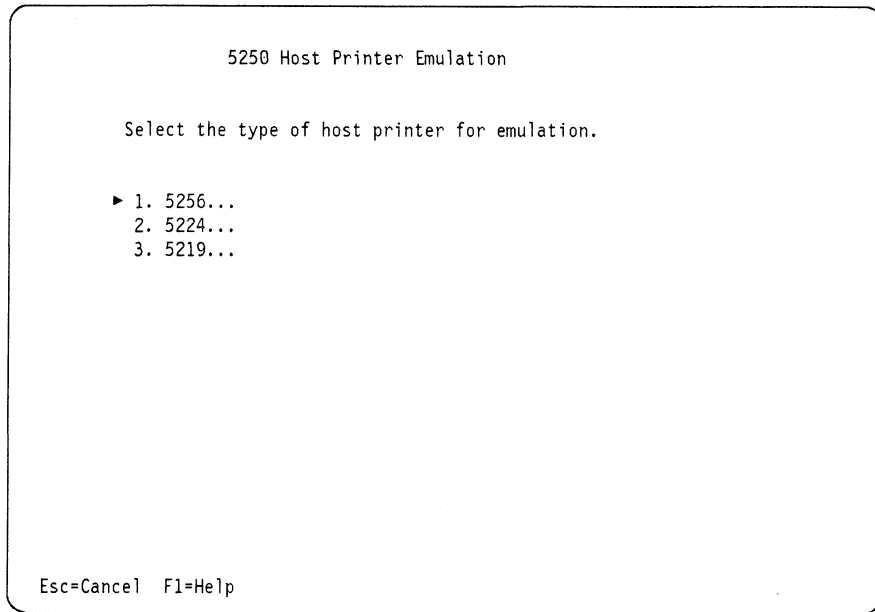
Connection type

Select LAN.

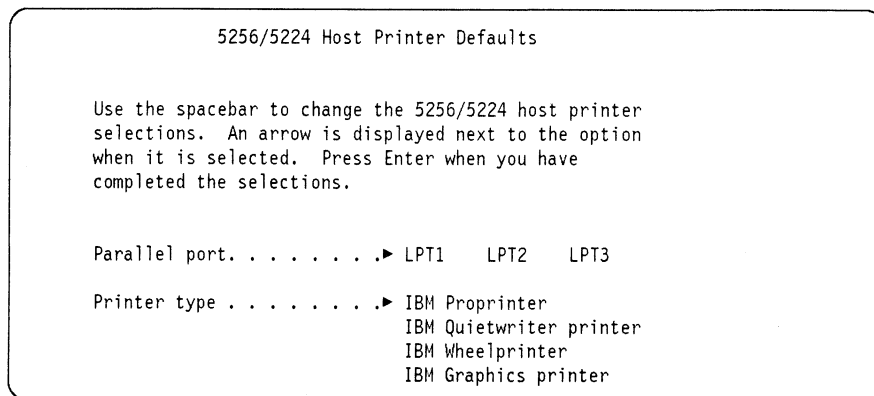
Host type

Select AS/400.

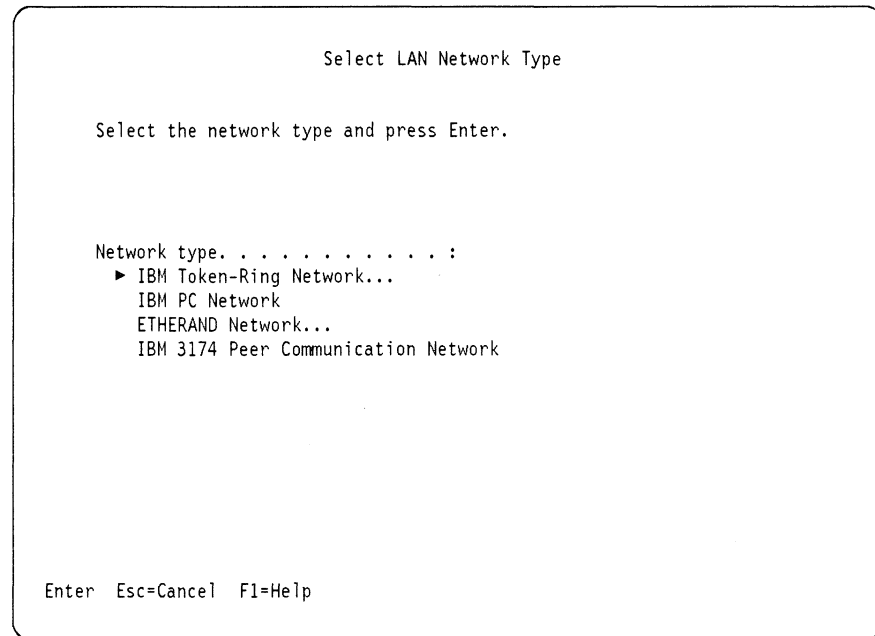
6. When you are finished selecting these options, press the Enter key. If you selected to have a printer session, the following display appears:



7. On this display, select the type of AS/400 printer that you want your personal printer to emulate. When you press the Enter key, the following window appears:



8. Select the port that your personal computer uses to communicate with the personal printer. Also, select the type of printer you are using. Then, press the Enter key. The following display appears:



9. Select IBM Token-Ring Network. If you are:

Installing OS/2 1.3

In the *Universal local LAN adapter address* field, select whether or not you want to accept the adapter's default address. This information is recorded in the *Local LAN adapter address* field (**1**) of the work sheet.

If you selected to override the adapter's default address, the *Local LAN Adapter Address* window appears. In the *Local LAN adapter address* field, type the LAN address for this personal computer. This information should be recorded on the work sheet.

Installing Extended Services 1.0

1. The *Select Token-Ring Network Adapter* window appears. Select the type of adapter card you are using.
2. The *Select LAN Address Type* window appears.

If you want to accept the adapter's default address, select the *Use universal address* option. If you want to override the adapter's default address, select the *Specify a locally administered address* option. This information is recorded in the *Local LAN adapter address* field (**1**) of the work sheet.

If you selected to override the adapter's default address, the *Local LAN Adapter Address* window appears. In the *Local LAN adapter address* field, type the LAN address for this personal computer. This information should be recorded on the work sheet.

When you press the Enter key, the following display appears:

```
5250 Work Station Feature LAN Defaults

Type the correct information for the 5250 Work Station feature
and Enter.

5250 Local LU name . . . . .[JOE   ]
5250 Partner LU name . . . . .[AS400SYS]
5250 Mode name . . . . .[QPCSUPP ]

LAN destination address. . . . .[400000000000]

Note: The ETHERAND address format may need to be reversed.
      Press F1 for more information.

Enter  Esc=Cancel  F1=Help
```

10. On this display, enter the information that you recorded on the work sheet on page 5-2:

- 5250 Local LU name (**2**)
- 5250 Partner LU name (**3**)
- 5250 Mode name (**4**)
- LAN destination address (**5**)

When you are finished, press the Enter key. The following display appears:

```
Configuration Network Defaults

Enter to use the configuration defaults displayed below
or type the correct information and Enter.

Local node name . . . . .[JOE   ]
Network name . . . . .[APPN  ]
Local node ID (in hex) . . . . .[00000]

Enter  Esc=Cancel  F1=Help
```

Note: If you are using OS/2 Extended Edition 1.3, the *local node name* is referred to as the *physical unit name*, and the *local node ID* is referred to as the *node ID*.

11. In the *Local node name* and the *Network name* fields, type the information from the work sheet.

- Local node name (**6**)
- Network name (**7**)
- Local node ID (in hex)

This value is not used for communications with an AS/400 system. You should accept the default.

When you are finished, press the Enter key. The following display appears:

Basic Configuration Services Main Menu

Select a Communications Manager Basic Configuration feature that you want to create or change.

1. 3270 terminal emulation
2. ASCII terminal emulation
3. 5250 Work Station Feature (AS/400 host or S/36 host)
4. Remote Data Services on LAN
5. LAN Services

You will return to this menu for additional selections.
Select F3=Exit when your last selection is complete.

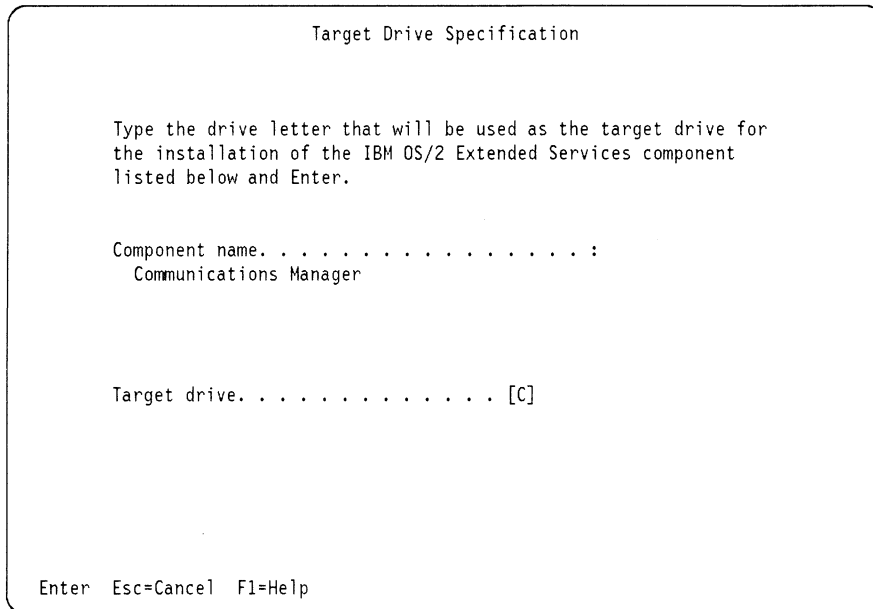
Esc=Cancel F1=Help F3=Exit

12. Press F3 to exit this display. The following window appears:

Create/Change and verification of
configuration file is in progress.

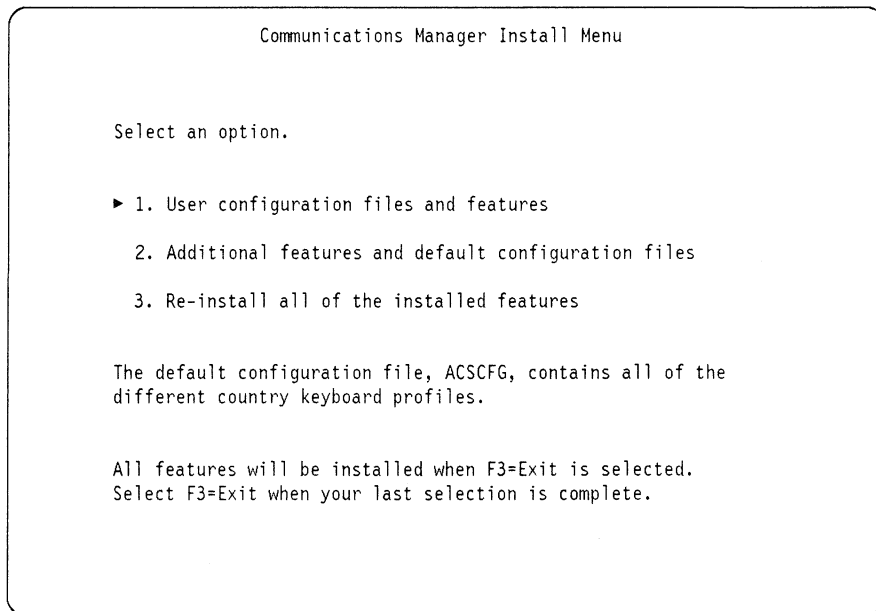
Please wait.

13. If you are installing OS/2 Extended Edition version 1.3, the Basic Configuration Services Complete display appears, telling you that your configuration file is temporarily stored in the C:\OS2\INSTALL directory. Press the Enter key to continue.
14. If you have not already installed the OS/2 communications manager program, the following display appears:



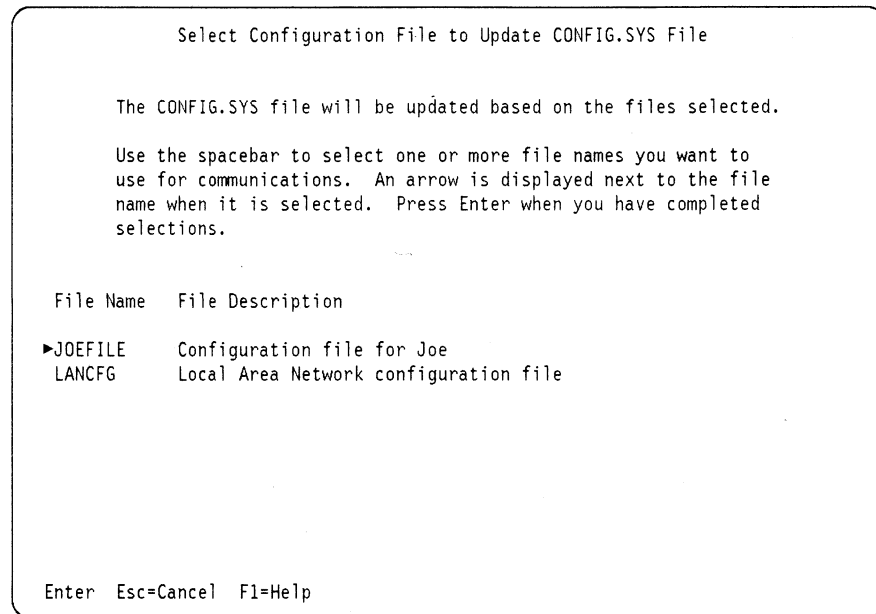
This display allows you to specify the drive that you want the OS/2 communications manager program stored on. Accept or change the default, and press the Enter key.

- 15. If you are installing OS/2 Extended Edition version 1.3, the following display appears:

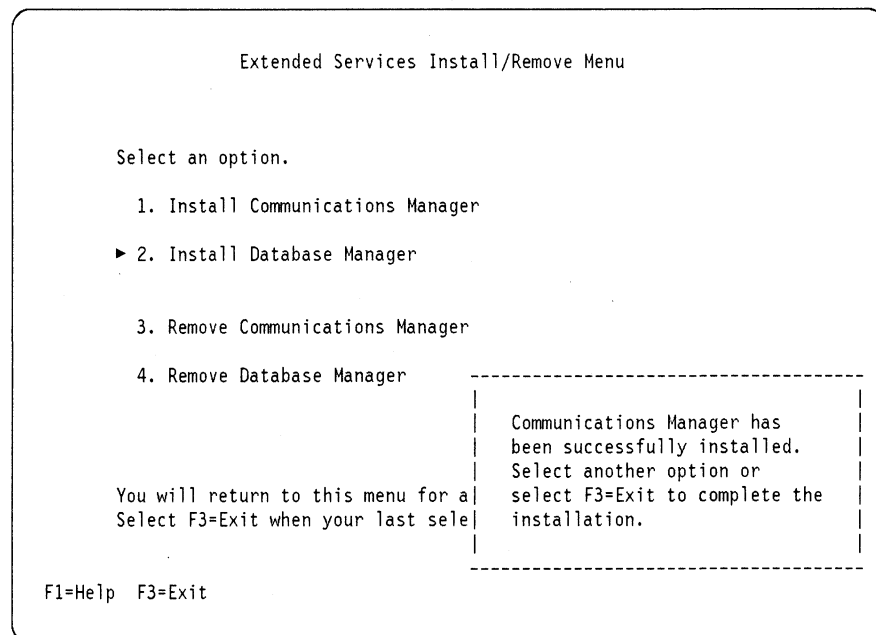


Press F3 to exit this display.

- 16. If you have more than one configuration file on your personal computer, the following display appears:



17. This display allows you to select which configuration files you want to use. Select the configuration file that you just created and press the Enter key. A display similar to the following appears:



Press F3 to exit this display. Either an Installation Complete display appears, or you return to the OS/2 command prompt. Remove the diskette from the diskette drive. Then, start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting the OS/2 Communications Manager Program

Although you do not need to start the OS/2 communications manager program in order to install PC Support, you may want to start the OS/2 communications manager program to verify that your configuration file is correct.

In order to start the OS/2 communications manager program, you can double-click on the OS/2 communications manager icon.

If you selected to have your sessions start automatically, your 5250 work station feature sessions will begin. If you chose not to have your sessions start automatically, you will see the OS/2 Communications Manager Main Menu. From this menu, select option 1, Start communications. Then select option 4, 5250 Work Station Feature. You then need to specify which AS/400 sessions you want to start.

Connecting to Multiple AS/400 Systems

If you are operating in a LAN environment and want to connect to more than one AS/400 system, then follow the instructions in this section. The instructions explain how you can add a link to a second system. If you want to add additional links, then repeat the steps for each link you want to add.

There are two main steps to this process.

- First, go into the OS/2 Communications Manager program and set up your
 - SNA feature profile and
 - 5250 Work Station Feature profile.
- Then, after setting up both profiles, change your CONFIG.PCS file to reflect the changed information.

Setting Up Your Profiles

This section tells you how to use the OS/2 Communications Manager program to set up your SNA feature profile and 5250 work station profile. When you are finished with this section, you will have defined the type of network you are using, and identified the parties (the host system and the personal computer) at each end of the network.

When you are finished with this section, complete the steps shown in "Modifying the CONFIG.PCS File" on page 5-18 to tell PC Support which systems you want to connect to.

Setting Up Your SNA Feature Profile

Follow these steps to set up your SNA Feature Profile:

1. Start the OS/2 Communications Manager program.
2. Select the Advanced option from the Communications Manager Main Menu. A pulldown menu is shown.
3. Select the Configuration option from the pulldown menu. The Specify Configuration File Name window is shown.
4. Type the name of the configuration file you want to change, and select or press Enter. The Communication Configuration Menu is shown.
5. Select the SNA feature profiles option. The SNA Feature Configuration menu is shown.
6. Select the SNA network definitions option. The SNA network definitions option window is shown.
7. Select the Create\Change option. The SNA Network Definitions Selection window is shown.
8. Highlight the Connections option and then select Configure. The SNA Connections window is shown. You should see options similar to the following in the window:

```

    To Network Node
+   To Peer Node
    To Primary Host

```

9. Highlight the To Peer Node option, and then select the plus sign (+) shown next to it. When you select the plus sign, the information for the Peer Node is expanded to show the link name, adapter, and any comments about the entry. It should look similar to the following:

```

    To Network Node
-   To Peer Node
        Link Name:  Adapter:      Comment:
        LINK0001   IBMTRNET 00   Created on 04-08-92 at 12:42
    To Primary Host

```

10. Make sure the link name is highlighted, and then select Edit followed by New. The Adapter List window is shown.
11. Select Continue to use the same adapter. The Changing a Connection to a To Peer Node window is shown. The window should contain the following information:
 - Link name
 - Partner network ID
 - Partner node name
 - LAN destination address
 - Comment about the connection
12. Select the Define Partner LUs option. The Changing Partner LUs window is shown.
13. Select the LU name you want to change from the list of names shown in the box on the right side of the window. When you select the LU name, the remaining information is filled in automatically in the boxes on the left side of the window.
14. Change the alias name so it is the same as the LU name. Make sure you use uppercase letters. Then, select Change followed by OK. The Changing a Connection to a To Peer Node window is shown again.
15. Select OK. The SNA Connections menu is shown again.
16. Make sure the link name is highlighted, and then select Edit, followed by New. The Adapter List window is shown again.
17. Select Continue to use the same adapter. The Creating a Connection to a To Peer Node window is shown again. The window should contain the following information:
 - Link name
 - Partner network ID
 - Partner node name
 - LAN destination address
 - Comment about the connection
18. Accept the information provided for the link name. Type the new partner network ID, the new partner node name, and the new LAN destination address. Then, select the Define Partner LUs option. The Creating Partner LUs window is shown.
19. Type the new LU name information in the LU name box on the left side of the window. The LU name and alias name should match the partner node name.

20. Select Add, followed by OK. The Creating a Connection to a Peer Node window is shown again.
21. Select OK. The SNA Connections window is shown again. You should see your new linkname in the window.
22. Select the File option from the action bar. Then, select the Save and Exit option from the pulldown menu. The SNA Network Definitions Selection window is shown.
23. Select the Exit option. The SNA Feature Configuration menu is shown.
24. Repeat steps 1 through 23 to establish links to additional AS/400 systems.
25. Select or press F3 to exit the SNA Feature Configuration menu. The Communication Configuration Menu should be shown again.

Setting Up Your 5250 Work Station Feature Profile

Now that your SNA profiles are completed, you need to set up your new 5250 work station feature profiles. The following steps explain how to do this.

1. Select the 5250 Work Station Feature profiles option on the Communication Configuration Menu. The 5250 Work Station Feature Configuration menu is shown.
2. Select the Session assignments option. The 5250 Session Selection menu is shown.
3. Select the 1... option. The 5250 Terminal/Printer Session Assignments window is shown. It should contain the following information:
 - 5250 Work Station Feature profile name
 - APPC partner LU alias
 - APPC mode name
 - Short session ID
4. Highlight the APPC partner LU alias name and then select or press F4. The Select Profile Name window is shown.
5. Highlight the appropriate entry in the list and then press Enter. The Select Profile Name window is removed and the 5250 Terminal/Printer Session Assignments window is shown again.
6. Press Enter. You should see a message indicating that your profile was saved.
7. Repeat steps 1 through 6 for each SNA profile you established in "Setting Up Your SNA Feature Profile."

Modifying the CONFIG.PCS File

Once you have set up your SNA feature profile and 5250 Work Station Feature profile, you must modify your CONFIG.PCS file. You need to add the new Partner LU Alias names to the CONFIG.PCS file. This ensures that when you start PC Support, it will know which systems it needs to establish connections to.

Follow these steps to modify the CONFIG.PCS file:

1. Select the OS/2 System icon from the desktop shell. The OS/2 System window is shown.
2. Select the Command Prompts icon from the window. The Command Prompts window is shown.

3. Select the OS/2 Full Screen icon. The OS/2 command prompt is shown.
4. Type the following at the command prompt:
C:\OS2\E C:\PCSOS2\CONFIG.PCS
5. Press Enter. The CONFIG.PCS file is shown.
6. Change the SFLR and RMTN entries from the existing PLU names to the new PLU names.
7. Select the File option from the action bar, and then the Save option from the pulldown menu. The OS/2 command prompt is shown again.
8. Type Exit and press Enter.
9. Close all open windows on the desktop and restart your personal computer.

When you start PC Support the next time, you should be able to establish connections to each additional AS/400 system named during this procedure.

Installing PC Support/400 on Each Personal Computer

Before you install PC Support/400 on the personal computer, be sure you have completed the tasks as described in "Preparing to Install PC Support/400 on the Personal Computer" on page 5-5.

Using Custom Installation Diskettes

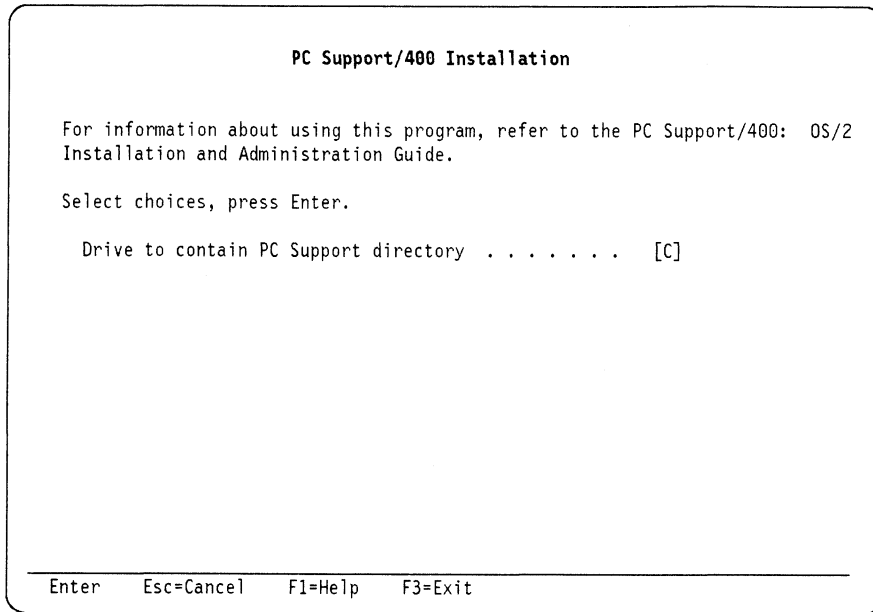
To install PC Support/400 using custom installation diskettes, do the following:

1. Insert the installation diskette in the A: drive.
2. At the OS/2 prompt, type A:INSTALL and press the Enter key. The installation program automatically sets up the necessary files on the personal computer and copies the PC Support/400 programs and files to the PCSOS2 subdirectory.
3. When the installation program has completed, start the personal computer again.

Using Standard Installation Diskettes

To install PC Support/400 using standard installation diskettes, do the following:

1. Use the OS/2 DISKCOPY command to create a backup copy of the OS/2 PC Support/400 installation diskette (volume 1) and label this diskette PCS01. You may have additional OS/2 PC Support/400 installation diskettes labeled volume 2, volume 3, and so on. Copy these diskettes, and label the backup copies PCS02, PCS03, and so on. Use the backup copies to install PC Support/400, and store the original diskettes in a safe place. You do not need to do this for each personal computer; you can install PC Support/400 on many personal computers using the same backup copies of the installation diskettes.
2. Insert the installation diskette PCS01 in the A: drive.
3. At the OS/2 prompt, type A:INSTALL and press the Enter key.
4. When the display with the IBM logo is shown, press the Enter key to continue. The following display appears:



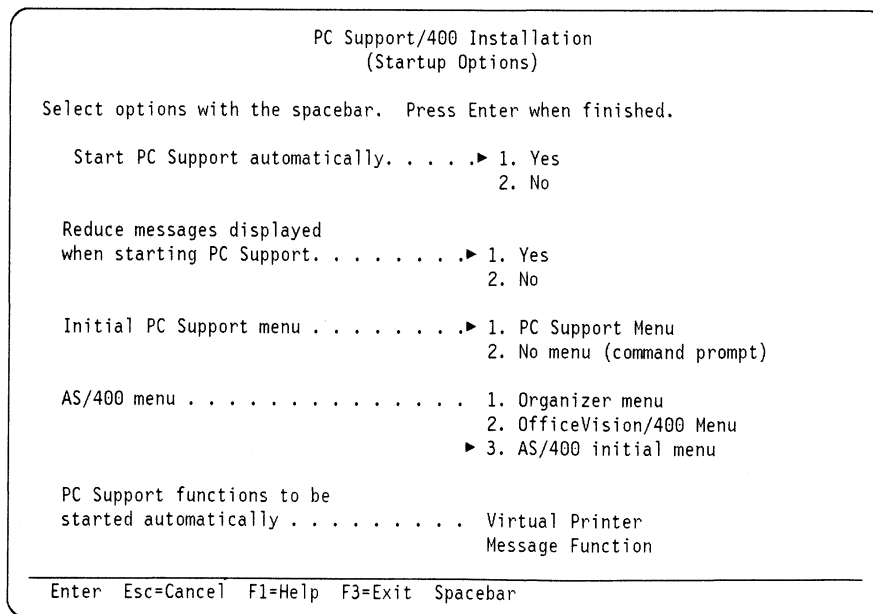
5. Enter the following information:

Drive to contain PC Support directory

This is the drive letter that you want PC Support/400 to be stored on. This is probably the C: drive.

The PC Support/400 installation program uses the drive the personal computer starts from to determine the location of the CONFIG.SYS and the STARTUP.CMD files. If you start the personal computer from one drive, install PC Support/400, and then start the personal computer from another drive, these files will not be found.

When you are finished typing this information, press the Enter key. A display similar to the following appears:



6. Enter the following information:

Start PC Support automatically

If you select Yes, the PC Support/400 installation program adds the STARTPCS command at the end of your STARTUP.CMD file. This causes PC Support/400 to start automatically when you start your personal computer.

Reduce messages displayed when starting PC Support

If you select Yes, you see fewer messages when you start PC Support/400. You still receive messages when each function begins, and you also see any error messages. Other informational messages are not shown on the display.

Initial PC Support menu

This option allows you to specify which menu you want to initially appear when you start PC Support:

PC Support/400 Menu

The main menu for PC Support/400 will be displayed when you start PC Support/400. This menu gives you access to selected PC Support/400 functions.

No menu

No menu will be displayed when you start PC Support/400. You will return to the OS/2 command prompt.

AS/400 menu

This option allows you to specify which menu you want to initially appear when you sign on the AS/400 system:

Organizer menu

The PC Support/400 Organizer menu will be displayed when you sign on the AS/400 system. This menu combines AS/400 and PC commands.

OfficeVision/400 Menu

The main menu for the OfficeVision/400 program will be displayed when you sign on the AS/400 system.

AS/400 initial menu

The display you normally see first will be displayed when you sign on the AS/400 system.

PC Support functions to be started automatically

This option allows you to select which functions you want to start automatically when you start PC Support. The functions you can select are:

- Virtual printer
- Message function

The necessary commands for the functions you select are added to the STARTPCS.CMD file. For a description of these functions, see "Functions Available with PC Support/400" on page 1-13.

When you are finished typing this information, press the Enter key. The following display appears:

PC Support/400 Installation
(PC to AS/400 Connection)

The names that you specify below for the PC location and system names are OS/2 Communications Manager aliases for the actual Local LU and Partner LU names. The actual Local LU and Partner LU names are specified within OS/2 Communications Manager.

Select choices, press Enter.

PC Information
PC location name [5250LU]

System Information
Name of system to connect to [5250PLU]

Enter Esc=Cancel F1=Help F3=Exit

7. Enter the following information:

PC location name

This is the name of the OS/2 communications manager program alias for the actual local LU name (the name of your personal computer on the network). The OS/2 basic configuration services program names this alias 5250LU. You should accept this as the default.

Name of system to connect to

This is the name of the OS/2 communications manager program alias for the actual partner LU name (the name of the AS/400 system you want to connect to). The OS/2 basic configuration services program names this alias 5250PLU. You should accept this as the default.

8. When the program is complete, the PC Support/400 Installation Completed display is shown. Before you can start PC Support/400, you must start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting PC Support/400

Before you start PC Support/400, you must start the OS/2 communications manager program and start your session with the AS/400 system.

If PC Support/400 does not start automatically when you start your personal computer, you can start it by doing the following:

1. Click on the PC Support/400 Group icon in the Workplace Shell Desktop. The PC Support/400 Group window appears.
2. Double-click on the Start PC Support/400 icon.

If PC Support/400 does not work properly, see Part 5, "Analyzing Problems with PC Support/400." For information about configuring the PC Support/400 functions, see Part 4, "Configuring PC Support/400."

Chapter 6. Installing PC Support/400 for Ethernet Connections

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OS/2 Communications Manager Configuration Work Sheet – Ethernet Network

Before you configure the OS/2 communications manager program on the personal computer, you must configure the AS/400 system for communications. While you configure the AS/400 system, fill out one copy of this work sheet for each personal computer as instructed. You will need this information when you configure the OS/2 communications manager program on the personal computer.

Note: Reference numbers are listed on the work sheet to assist you in finding the correct parameter.

<p>Ethernet Network</p> <p>OS/2 Communications Manager Work Sheet</p>		
Refer- ence Number	Configuration Parameter	Fill In Your Information
1	Local LAN adapter address	___ Use default address ___ Override default address with [_____]
2	5250 local LU name	
3	5250 partner LU name	
4	5250 mode name	QPCSUPP (system supplied)
5	LAN destination address	
6	Local node name	
7	Network name	

Before You Begin – Ethernet Addresses

Adapter addresses are represented in different formats on Ethernet and token-ring local area networks. This difference in address formats is discussed in detail in the *Communications: Local Area Network Guide*, SC41-0004. See the chapters on Ethernet and token-ring for additional information.

Because of these differences, Ethernet addresses may not be recognized when they pass through an 8209 LAN bridge. This would cause the connection attempt between the personal computer and the host system to fail.

This problem can be avoided if you use the following method to create Ethernet addresses. If you use this method, the address will be recognized correctly even if the address is read in the bit order used by token-ring. This is because these addresses use bytes with a symmetrical bit pattern.

1. For the first two digits, use either 42 or 66.
2. In each of the remaining 5 groups, use one of the following 2-digit combinations. The last 8 digits must be unique in the network.

00	18	24	3C
42	5A	66	7E
81	99	A5	BD
C3	DB	E7	FF

42 or 66 _____

For example, the following addresses will be recognized correctly even if they are read in the bit order used by token-ring:

```

420000000000
4200182499A5
4299A5BDC3FF
667EE7BDC3DB

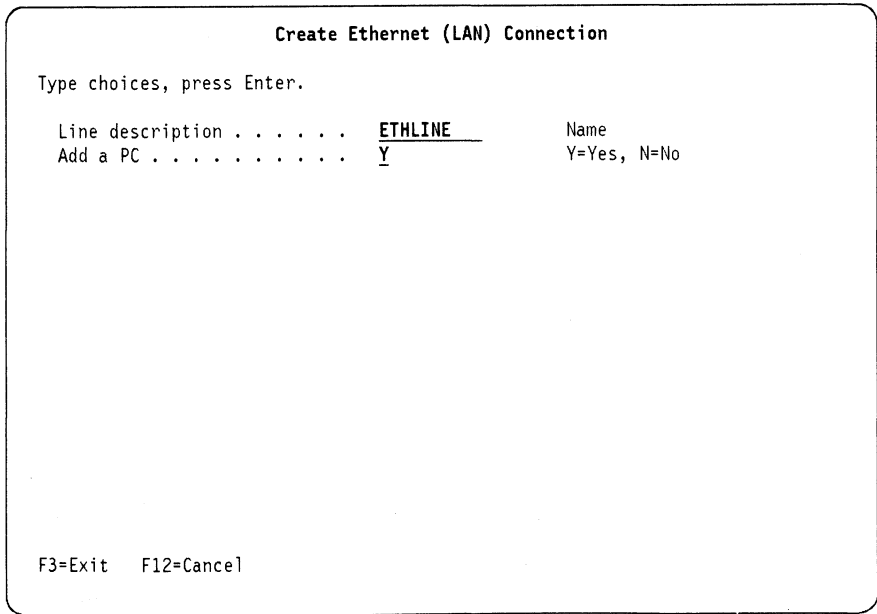
```

If you do not use this method to create Ethernet addresses, you may need to convert the address yourself in order for the address to be recognized. For information about how to do this, see Appendix E, "Ethernet Address Considerations."

Configuring Ethernet Connections on the AS/400 System

To configure a PC connection:

1. Display the Configure PC Connections menu. Either type the command GO CFGPCS at the AS/400 command prompt, or use the menus starting from the AS/400 Main Menu.
2. Select option 3 (Ethernet). The following display appears:



This display shows you the name of the line description. Press the Enter key to accept the defaults.

3. If this is the first user you are adding for this communications type, the following display appears:

```

Create Ethernet (LAN) Connection

Line description . . . . . : ETHLINE

Type choices, press Enter.

Resource name . . . . . : LIN071          Name, F4 for list
Local adapter address . . . : 4200005A81C3    020000000000-FFFFFFFF
Text . . . . . : Ethernet line
    
```

```

F3=Exit  F4=Prompt  F12=Cancel
    
```

In the *Local adapter address* field, either accept the default or type a 12-digit hexadecimal number for the address of the AS/400 system. Press the Help key if you want to know how this default is derived. The value in this field will override the preset LAN address. You can decide here what this address will be. The address must be between 020000000000 and FFFFFFFFFF, and the second digit must be a 2, 6, A or E. Write this address in the *LAN destination address* (**5**) field on the work sheet on page 6-2.

If you cannot use an address described in "Before You Begin – Ethernet Addresses" on page 6-2, and if Appendix E, "Ethernet Address Considerations" indicates that you need to convert the address, do the following:

- a. In the *Local adapter address* field on the display, type the normal, unconverted Ethernet address.
- b. Convert this address to token-ring format, and write the converted address in the *LAN destination address* (**5**) field of the work sheet.

Note: The Ethernet line is created with the Ethernet Standard (ETHSTD) parameter set to *ALL. This allows the personal computer to communicate with the AS/400 system using IEEE802.3 frames or Ethernet version 2 frames. In order to improve performance, you may want to create this line description using the Create Ethernet Line (CRTLINETH) command, and explicitly state in the ETHSTD parameter which type of frame you are using. If you are using IEEE802.2 frames encapsulated in Ethernet Version 2 frames, the ETHSTD parameter must be *ETHV2.

4. Press the Enter key. The following display appears:

```

                                Add PC to LAN Connection

Line description . . . . . : ETHLINE
Local adapter address . . . : 4200005A81C3

Type choices, press Enter.

Autocreate controller . . . Y           Y=Yes, N=No

F3=Exit  F12=Cancel

```

The *Local adapter address* field shows you the LAN address of the AS/400 system. If you have not done so already, write this address in the *LAN destination address* (**5**) field on the work sheet. If you cannot use an address described in “Before You Begin – Ethernet Addresses” on page 6-2, and if Appendix E, “Ethernet Address Considerations” indicates that you need to convert the address, convert this address, and write the converted address in the work sheet.

In the *Automatically create controller* field, you should accept the default. This default depends on whether or not the line description already exists and whether or not controllers can be automatically created on it.

If you used a Y for yes (or accepted a default of Y), you are finished with the host system installation; go to “Completing the OS/2 Communications Manager Configuration Work Sheet” on page 6-7. If you used an N for no (or accepted a default of N), continue with the next step.

5. If you are not automatically creating controllers, you need to supply the following information:

PC LAN address

In this field, type a 12-digit hexadecimal number for the personal computer’s LAN address. You can decide here what address you want to assign.

If you intend to use the adapter’s default address, check the *Use default address space* in the *Local LAN adapter address* field (**1**) of the work sheet.

If you intend to override the adapter’s preset address, the address must be in the range 020000000000 to FFFFFFFF. The address you use must be unique on the local area network. Check off the *Override default address space* in the *Local LAN adapter address* field (**1**) of the work sheet, and write this address in the space provided.

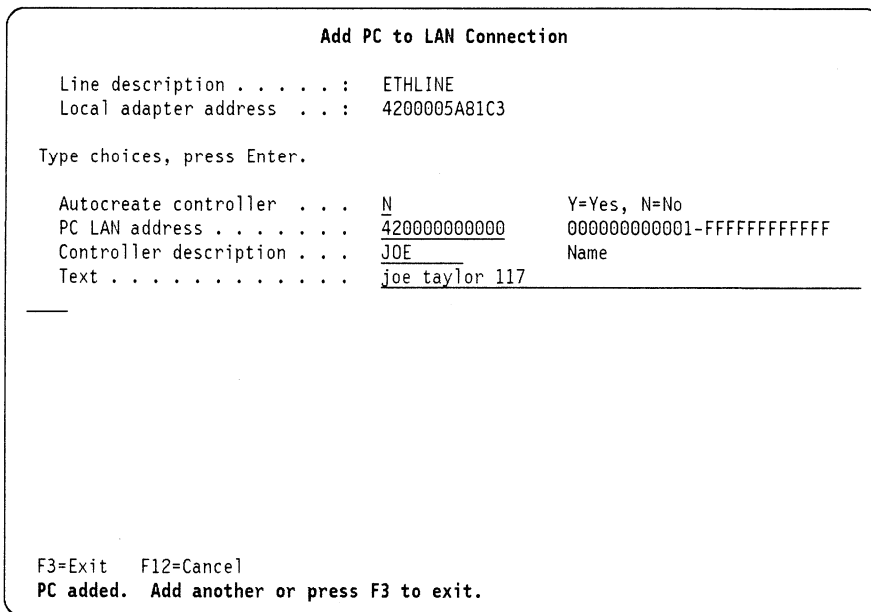
If you cannot use an address described in “Before You Begin – Ethernet Addresses” on page 6-2, and if Appendix E, “Ethernet Address Considerations” indicates that you need to convert the address, do the following:

- a. In the *Local LAN adapter address* space (**1**) of the work sheet, write in the normal, unconverted address.
- b. Convert this address, and type the converted address in the *PC LAN address* field on the display.

Controller description

This is the name of the controller that will be created and associated with the personal computer. To make this easier to remember, you can type the user's user ID. This will be the name by which the personal computer is known on the network. Write this name in the *5250 local LU name* (**2**) and the *Local node name* (**6**) fields of the OS/2 communications manager work sheet.

- 6. When you finish typing this information, press the Enter key. A message appears at the bottom of the display:



The AS/400 configuration for this personal computer is finished.

Preparing to Install PC Support/400 on the Personal Computer

To prepare for installing PC Support/400 on the personal computer:

- 1. Complete the necessary tasks on the AS/400 system as described in the following sections:
 - “Verifying the Installation of the PC Support/400 Licensed Program” on page 2-2
 - “Enrolling PC Support/400 Users” on page 2-3
 - Chapter 3, “Using the PC Support/400 Administration Function” (if required)
- 2. Complete the work sheet on page 6-2.
- 3. Install and configure the necessary OS/2 programs.

Completing the OS/2 Communications Manager Configuration Work Sheet

Before the work sheet can be used to configure the OS/2 communications manager program on the personal computer, you need to fill out the remaining fields on the work sheet:

Local LAN adapter address (1)

If you chose not to automatically create the controller, you should have already filled in this field in step 5 on page 6-5.

If you want to use the adapter's default address, check off the *Use default address space*.

If you want to override the default address of the personal computer's LAN adapter, check off the *Override default address space*. In the space provided, write the address you want to use for the personal computer. The address must be a 12-digit hexadecimal number, and must be unique on the local area network. For Ethernet, the address must be between 020000000000 and FFFFFFFF. Even if you need to convert addresses on your network, use the normal, unconverted address in this field.

5250 local LU name (2) and Local node name (6)

If you decided to automatically create the controller, the local LU name is the same as the AS/400 user ID of the user. Write this name on the work sheet. If you decided not to use automatic configuration, you should have already filled in this field with the controller name in step 5 on page 6-5.

5250 Partner LU name (3)

This is the name by which the AS/400 system is known on the network. You can determine the system name by using the Display Network Attributes (DSPNETA) command. Use the value in the *Default local location name* field.

5250 Mode name (4)

This mode description is created automatically when you install PC Support on the AS/400 system. You must enter QPCSUPP in this field.

LAN destination address (5)

This is the LAN address of the AS/400 system. The basic configuration services program will allow you to type an Ethernet address. If you do not already have this address written on the work sheet, you can display this address by using the Display Line Description (DSPLIND) command on the AS/400 system. If you use this command, you need to enter the name of the line description as a parameter. The name of the line description was specified in step 2 on page 6-3. If you accepted the default, the name of this line description is ETHLINE. Use the value in the *Local adapter address* field on the Display Line Description display for the LAN destination address (5).

Network name (7)

This is the local network ID of your network. To determine this value, use the Display Network Attributes (DSPNETA) command and use the value in the *Local network ID* field. The AS/400 system is shipped with this value set to APPN.

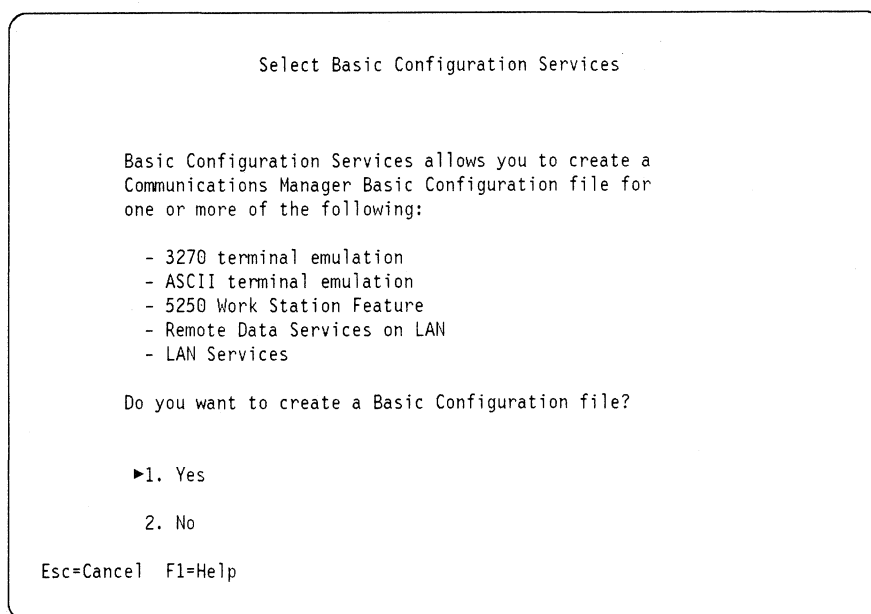
Installing the OS/2 Program on Each Personal Computer

If you have not already installed the OS/2 program on the personal computer, insert the OS/2 installation diskette into the diskette drive and start your personal computer. Follow the online prompts to install the OS/2 program. If you need help while installing the OS/2 program, see the OS/2 *Getting Started* manual.

If you are installing OS/2 version 2.0, you need to install the OS/2 Extended Services version 1.0 program. Insert the installation diskette into the A: drive and enter

A:ESISNT

If you are installing OS/2 Extended Edition version 1.3, you will see the following display during the installation process. Select Yes and continue with "Configuring the OS/2 Communications Manager Program."



Configuring the OS/2 Communications Manager Program

The basic configuration services program allows you to easily create configuration files for the OS/2 communications manager program. However, the basic configuration services program for OS/2 Extended Edition 1.3 does not allow you to select Ethernet when creating the configuration file. For users of OS/2 Extended Edition 1.3, this manual will first describe how to create a configuration file for a token-ring connection, then how to change this file using advanced configuration so that the file will work for an Ethernet connection.

Note: Depending on the version of OS/2 you are using, the displays you see on your screen may be slightly different than those shown in this manual.

1. Start the basic configuration services program.

The way you do this depends on whether you are installing OS/2 Extended Edition 1.3 or OS/2 Extended Services 1.0. If you are:

Installing OS/2 1.3

You will be prompted during installation whether or not you want to start the basic configuration services program. Select Yes.

Installing Extended Services 1.0

1. Insert the OS/2 Extended Services 1.0 installation diskette into the A: drive.
2. Start an OS/2 command prompt, and make A: the current drive by typing
A:
3. Enter
ESINST
4. When the title screen appears, press the Enter key.
5. A window appears giving you general information about the Extended Services program. Press the Enter key to continue.
6. A window appears giving you an introduction to installing the Extended Services program. Press the Enter key to continue.
7. The Extended Services Installation Options menu appears. Select option 1, Basic configuration and installation.

The Basic Configuration Services display appears.
8. Select option 2 (Create).

No matter which method you use to start basic configuration services, the following window appears:

Create Basic Configuration File

Type a file name for Basic Configuration file to be created and Enter.

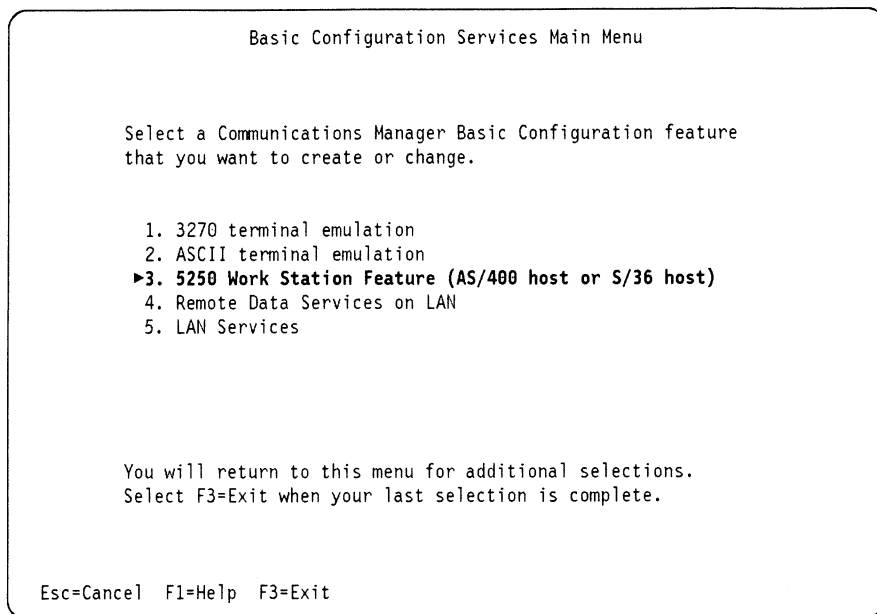
Basic Configuration file name. [JOEFILE]

2. Type any name you want for your configuration file. When you press the Enter key, the following window appears:

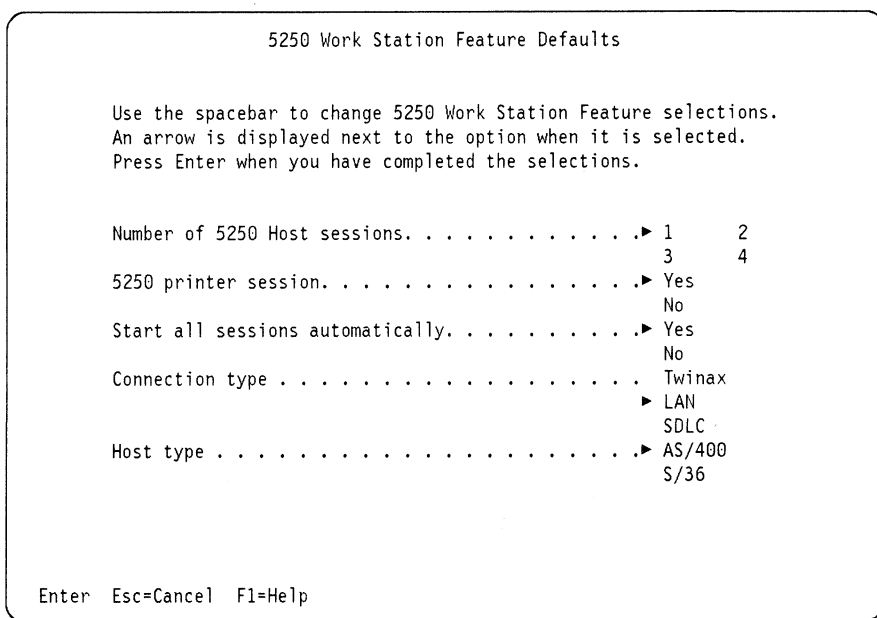
Change Basic Configuration File Comments

Comment. :
[Configuration file for Joe]

3. Type any description you want for your configuration file and press the Enter key. The following display appears:



4. Select option 3, 5250 Work Station Feature. The following display appears:



5. On this display, you need to select the following:

Number of 5250 host sessions

This is the number of display sessions that you may start with the AS/400 system.

5250 printer session

Select whether or not you want to start a printer session with the AS/400 system. A printer session allows you to print AS/400 output on your personal computer's printer.

Start all sessions automatically

Select whether or not you want all of your AS/400 display and printer sessions to start automatically when you start the OS/2 communications manager program.

Connection type

Select LAN.

Host type

Select AS/400.

6. When you are finished selecting these options, press the Enter key. If you selected to have a printer session, the following display appears:

```

                    5250 Host Printer Emulation

                Select the type of host printer for emulation.

        ▶ 1. 5256...
           2. 5224...
           3. 5219...

        Esc=Cancel  F1=Help
  
```

7. On this display, select the type of AS/400 printer that you want your personal printer to emulate. When you press the Enter key, the following window appears:

```

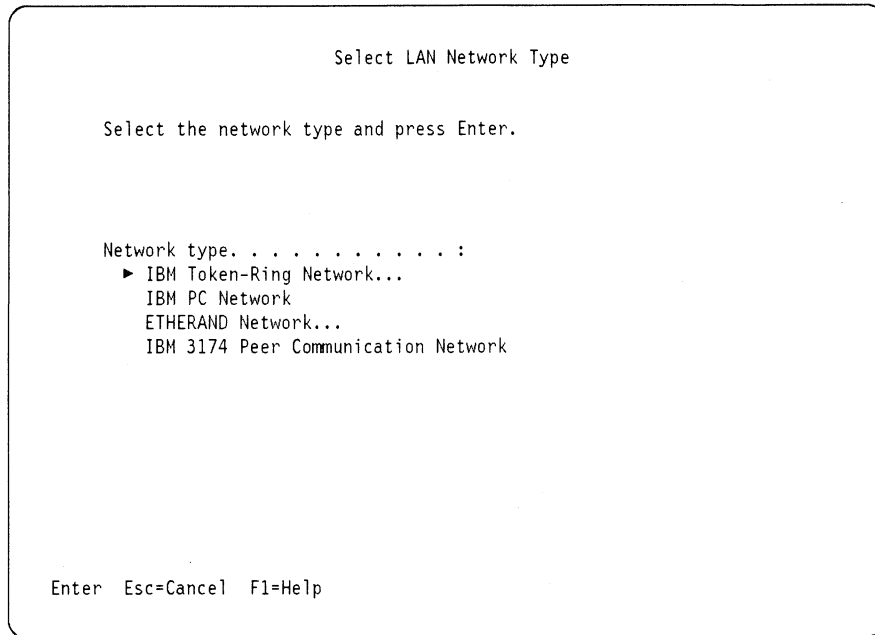
                    5256/5224 Host Printer Defaults

        Use the spacebar to change the 5256/5224 host printer
        selections. An arrow is displayed next to the option
        when it is selected. Press Enter when you have
        completed the selections.

        Parallel port. . . . . ▶ LPT1  LPT2  LPT3

        Printer type . . . . . ▶ IBM Proprinter
                               IBM Quietwriter printer
                               IBM Wheelprinter
                               IBM Graphics printer
  
```

8. Select the port that your personal computer uses to communicate with the personal printer. Also, select the type of printer you are using. Then, press the Enter key. The following display appears:



9. If you are:

Installing OS/2 1.3

1. Select IBM Token-Ring Network. The basic configuration services will not allow you to select an Ethernet adapter. "Changing the Token-Ring Configuration File for Ethernet" on page 6-17 will describe how to change this configuration file to work with your Ethernet connection.

In the *Universal local LAN adapter address* field, select whether or not you want to accept the adapter's default address. This information is recorded in the *Local LAN adapter address* field (**1**) of the work sheet.

Installing Extended Services 1.0

1. Select the type of Ethernet network you are using.
If you select Etherand, the Select Etherand Adapter display appears. Select the type of adapter card you are using.

If you selected to override the adapter's default address, the following window appears when you press the Enter key:

```

Local LAN Adapter Address

The Local LAN adapter address must be unique for each
workstation on the LAN.

Type the correct Local LAN adapter address for your
workstation and Enter.

Local LAN adapter address . . . . . [400000000000]

Enter  Esc=Cancel  F1=Help

```

10. In the *Local LAN adapter address* field, you will probably be unable to type the address for this personal computer since the valid range is different for Ethernet connections. Type any address that the program will accept (such as 400000000000). “Changing the Token-Ring Configuration File for Ethernet” on page 6-17 will describe how to change the configuration file for your Ethernet connection.

When you press the Enter key, the following display appears:

```

5250 Work Station Feature LAN Defaults

Type the correct information for the 5250 Work Station feature
and Enter.

5250 Local LU name . . . . . [JOE   ]
5250 Partner LU name . . . . . [AS400SYS]
5250 Mode name . . . . . [QPCSUPP ]

LAN destination address. . . . . [4200005A81C3]

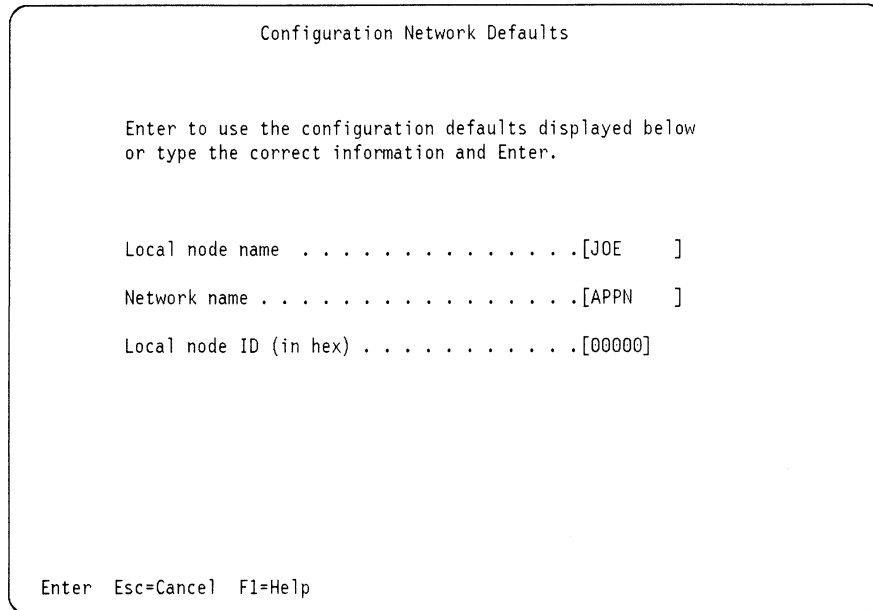
Note: The ETHERAND address format may need to be reversed.
      Press F1 for more information.

Enter  Esc=Cancel  F1=Help

```

11. On this display, enter the information that you recorded on the work sheet on page 6-2.
- 5250 Local LU name (**2**)
 - 5250 Partner LU name (**3**)
 - 5250 Mode name (**4**)
 - LAN destination address (**5**)

When you are finished, press the Enter key. The following display appears:



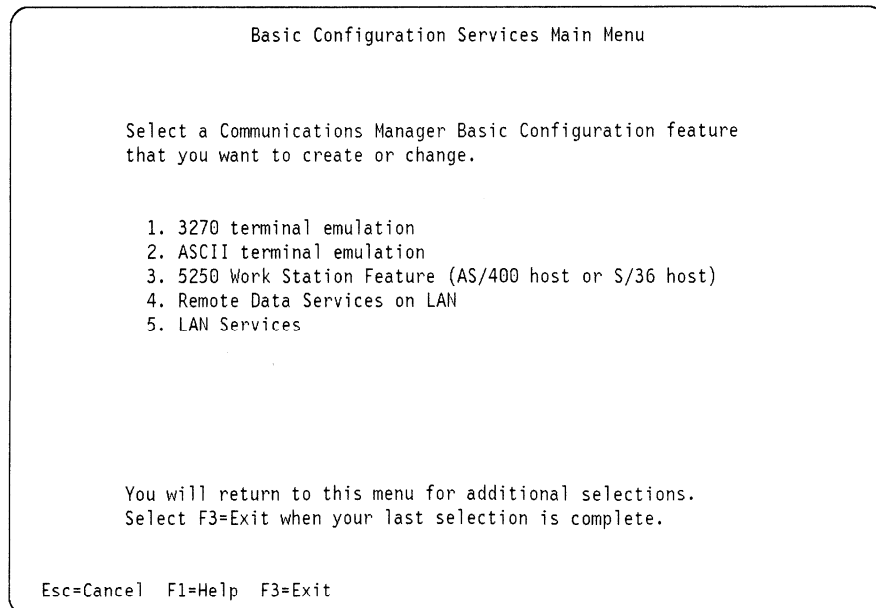
Note: If you are using OS/2 Extended Edition 1.3, the *local node name* is referred to as the *physical unit name*, and the *local node ID* is referred to as the *node ID*.

12. In the *Local node name* and the *Network name* fields, type the information from the work sheet.

- Local node name (**6**)
- Network name (**7**)
- Local node ID (in hex)

This value is not used for communications with an AS/400 system. You should accept the default.

When you are finished, press the Enter key. The following display appears:



13. Press F3 to exit this display. The following window appears:

Create/Change and verification of
configuration file is in progress.

Please wait.

14. If you are installing OS/2 Extended Edition version 1.3, the Basic Configuration Services Complete display appears, telling you that your configuration file is temporarily stored in the C:\OS2\INSTALL directory. Press the Enter key to continue.
15. If you have not already installed the OS/2 communications manager program, the following display appears:

Target Drive Specification

Type the drive letter that will be used as the target drive for the installation of the IBM OS/2 Extended Services component listed below and Enter.

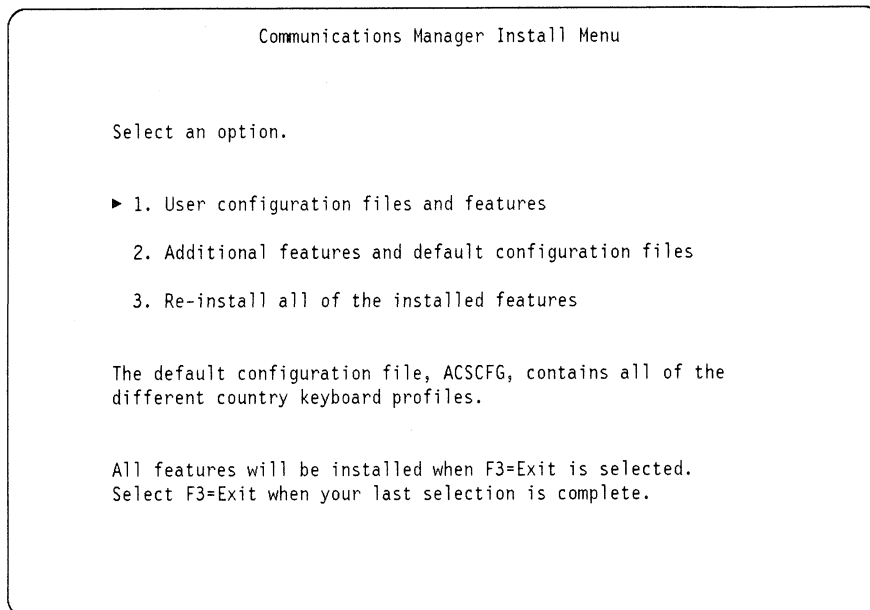
Component name. :
Communications Manager

Target drive. [C]

Enter Esc=Cancel F1=Help

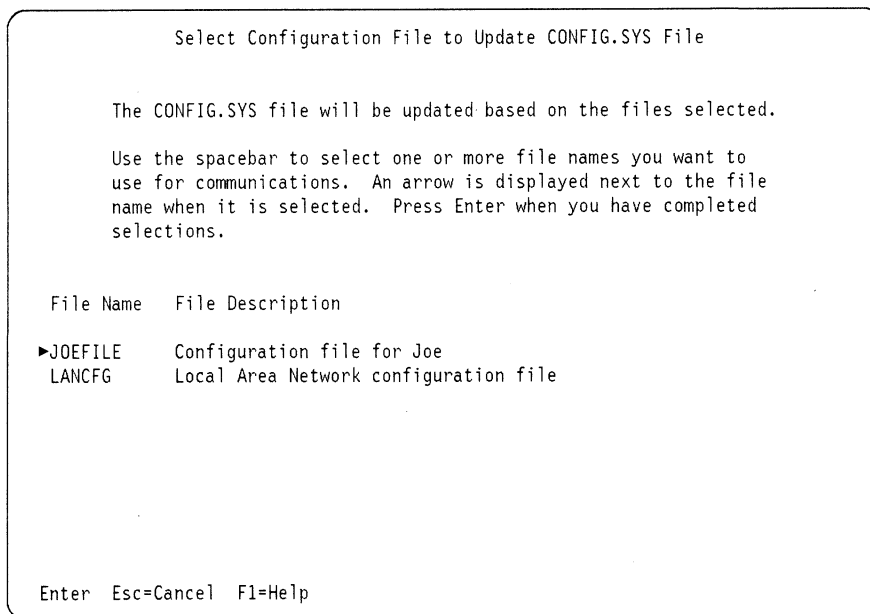
This display allows you to specify the drive that you want the OS/2 communications manager program stored on. Accept or change the default, and press the Enter key.

16. If you are installing OS/2 Extended Edition version 1.3, the following display appears:

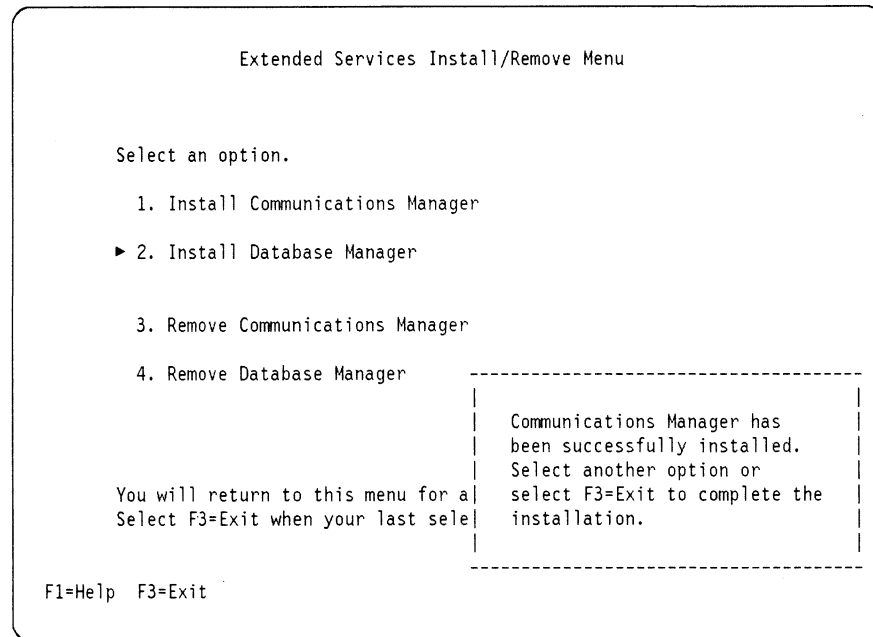


Press F3 to exit this display.

17. If you have more than one configuration file on your personal computer, the following display appears:



18. This display allows you to select which configuration files you want to use. Select the configuration file that you just created and press the Enter key. The following display appears:



19. Press F3 to exit this display. Either an Installation Complete display appears, or you return to the OS/2 command prompt. Remove the diskette from the diskette drive. Then, start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Changing the Token-Ring Configuration File for Ethernet

This task is only necessary if you are installing OS/2 Extended Edition 1.3.

When you start the OS/2 communications manager program, the personal computer attempts to connect to the AS/400 system. This connection fails, since the configuration file is for token-ring connections. The following describes how to change the configuration file for an Ethernet connection:

1. From the Communications Manager Main Menu, select the Advanced option from the action bar. Then, select Configuration.
2. A window appears asking you to enter the name of your configuration file. Select your token-ring configuration file. When you press the Enter key, the following display appears:

```
Verify Exit F1=Help

Communication Configuration Menu

Configuration file name . . . . . : JOEFILE
Configuration file status . . . . . :
Verified

Press F10 to go to the action bar or
select the type of profile you want to configure.

1. Workstation profile (and auto-start options)...
2. Asynchronous feature profiles
3. 3270 feature profiles
▶ 4. SNA feature profiles
5. Server-Requester Programming
   Interface (SRPI) profiles
6. LAN feature profiles
7. 5250 Work Station Feature profiles
8. X.25 feature profiles

9. Configuration file utilities
```

3. Choose option 4, SNA feature profiles. The following display appears:

```
SNA Feature Configuration

SNA base profile...
▶ Data Link Control (DLC) profiles...
APPC logical unit (LU) profiles...
APPC partner logical unit profiles...
APPC transmission service mode profiles...
APPC initial session limit profiles...
APPC remotely attachable transaction program
(TP) profiles...
APPC conversation security...
SNA gateway profiles...
SNA LUA profiles...

Esc=Cancel F1=Help F3=Exit
```

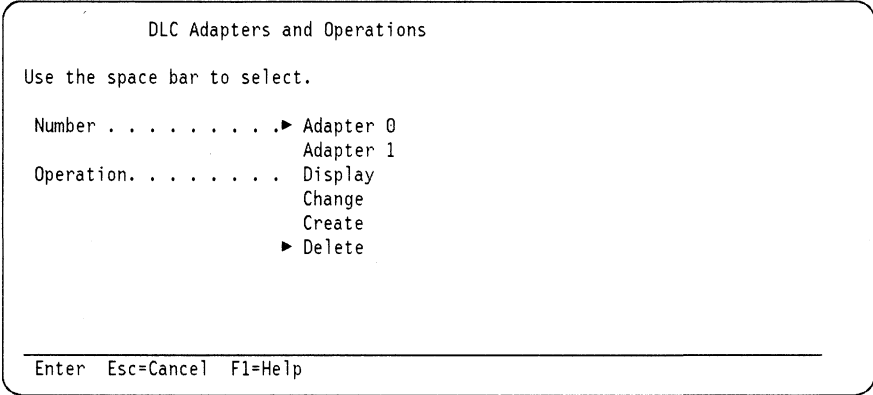
4. Choose the Data Link Control (DLC) profiles option. The following window appears:

```
DLC Types

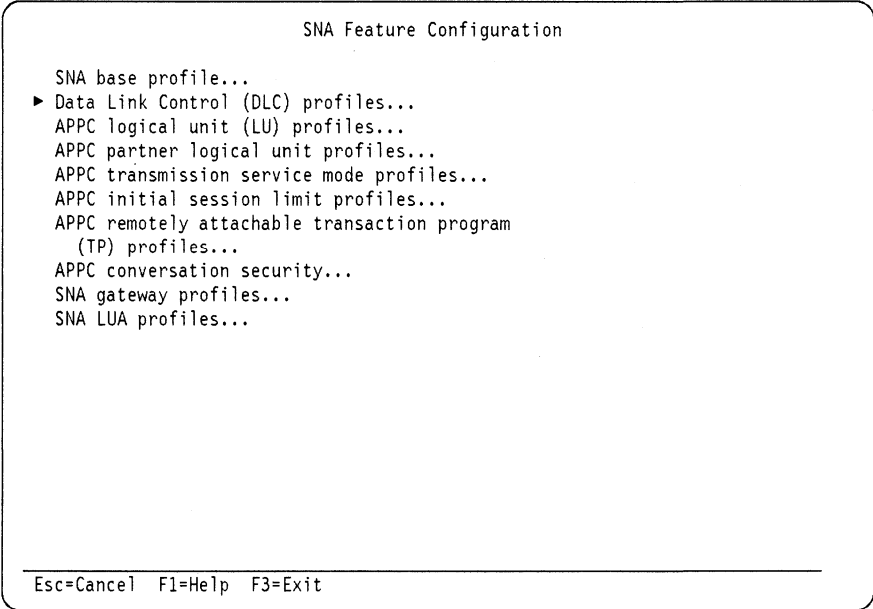
1. SDLC...
2. IBM PC Network...
▶ 3. IBM Token-Ring Network...
4. Twinaxial...
5. X.25...
6. ETHERAND Network...

Esc=Cancel F1=Help
```

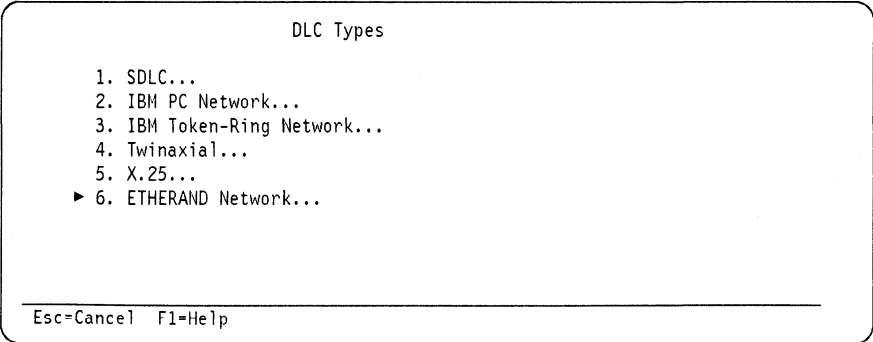
5. Choose option 3, IBM Token-Ring Network. The following window appears:



6. Select the option to Delete and press the Enter key. Before you can create a DLC profile for Ethernet, you must delete the existing token-ring DLC profile. A confirmation window appears; select Yes to remove the adapter from the configuration profile. The following display appears again:



7. Choose the Data Link Control (DLC) profiles option. The following window appears:



8. Choose option 6 (Etherand Network). The following window appears:

```
                                DLC Adapters and Operations

Use the space bar to select.

Number . . . . . ▶ Adapter 0
                                Adapter 1
Operation. . . . . Display
                                Change
                                ▶ Create
                                Delete

-----
Enter  Esc=Cancel  F1=Help
```

9. Select the option to Create and press the Enter key. The following window appears:

```
                                Create/Change ETHERAND Network DLC Adapter Profile

Use the space bar to select.

Adapter number . . . . . : 0
Load DLC . . . . . ▶ Yes
                                No
Maximum number of link stations. . . . . [4 ]
Percent of incoming calls. . . . . [0 ]%

Free unused link . . . . . Yes
                                ▶ No
Congestion tolerance . . . . . [80 ]%

Maximum RU size. . . . . [1408] bytes
Send window count. . . . . [2]
Receive window count . . . . . [1]

C&SM LAN ID. . . . . [JOE  ]

-----
Enter  Esc=Cancel  F1=Help
```

10. Change the *Maximum RU size* field to 1408 and press the Enter key. The following display appears again:

```

SNA Feature Configuration

SNA base profile...
Data Link Control (DLC) profiles...
APPC logical unit (LU) profiles...
▶ APPC partner logical unit profiles...
  APPC transmission service mode profiles...
  APPC initial session limit profiles...
  APPC remotely attachable transaction program
  (TP) profiles...
  APPC conversation security...
  SNA gateway profiles...
  SNA LUA profiles...

Esc=Cancel F1=Help F3=Exit

```

11. Select the APPC partner logical unit profiles option. The following window appears:

```

Profile Operations

  1. Display...
  ▶ 2. Change...
  3. Create...
  4. Delete...

Esc=Cancel F1=Help

```

12. Select Change and press the Enter key.
13. The Specify Profile Name display appears. Type 5250PLU and press the Enter key. The following display appears:

```

Create/Change Partner LU Profile (1 of 2)

Use the spacebar to select.

Partner LU (PLU) alias. . . . . : 5250PLU
Comment . . . . .
  [5250 PARTNER LU ]
Fully qualified PLU name. . . . . [ ] . [AS400SYS]
PLU uninterpreted name. . . . . [ ]
LU alias. . . . . [5250LU ]
DLC type. . . . .
  SDLC... IBM PC Network...
  IBM Token-Ring Network... Twinaxial
  X.25... ▶ ETHERAND Network
PLU session limit . . . . . [64 ] sessions
Maximum mapped conversation
  logical record length . . . . . [32767] bytes
LU-LU session security. . . . . ▶ Yes... No
Conversation security . . . . . Yes... ▶ No
Permanent connection. . . . . ▶ Yes No
Solicit SSCP session. . . . . ▶ Yes No

Esc=Cancel F1=Help
Enter Esc=Cancel F1=Help F4=List

```

14. In the *DLC type* field, select ETHERAND Network and press Enter. The following window appears:

```
Specify Link Information

Use the spacebar to select.

Adapter number . . . . . ▶ Adapter 0
                          Adapter 1
Destination address. . . . . [4200005A81C3]
Note: For ETHERAND, the address format may need to be reversed.
      Press F1 for more information.

-----
Enter  Esc=Cancel  F1=Help
```

15. The *Destination address* field shows the LAN address of the AS/400 system that you entered earlier. Press the Enter key. The following window appears:

```
Conversation Security Already Verified

1. Yes
▶ 2. No

-----
Esc=Cancel  F1=Help
```

16. Select No. The following display appears:

```
Create/Change Partner LU Profile (2 of 2)

To complete the partner LU profile, choose Add or Change
to specify the transmission service mode name and the
initial session limit.

Partner LU alias . . . . . : 5250PLU

1. Change...
2. Add...
3. Delete...
▶ 4. End

-----
Esc=Cancel  F1=Help
```

17. Select option 4, End. The following display appears again:

```

SNA Feature Configuration

SNA base profile...
Data Link Control (DLC) profiles...
APPC logical unit (LU) profiles...
▶ APPC partner logical unit profiles...
  APPC transmission service mode profiles...
  APPC initial session limit profiles...
  APPC remotely attachable transaction program
    (TP) profiles...
  APPC conversation security...
  SNA gateway profiles...
  SNA LUA profiles...

Esc=Cancel F1=Help F3=Exit

```

18. Press F3. The following display appears:

```

Verify Exit | F1=Help
-----
Communication Configuration Menu

Configuration file name . . . . . : JOEFILE
Configuration file status . . . . . :
  Verified

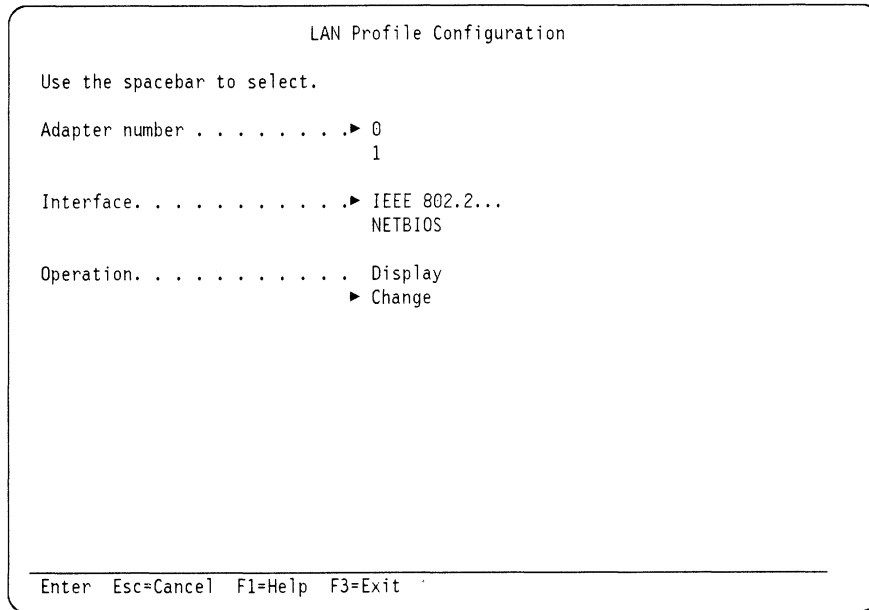
Press F10 to go to the action bar or
select the type of profile you want to configure.

  1. Workstation profile (and auto-start options)...
  2. Asynchronous feature profiles
  3. 3270 feature profiles
  4. SNA feature profiles
  5. Server-Requester Programming
    Interface (SRPI) profiles
  ▶ 6. LAN feature profiles
  7. 5250 Work Station Feature profiles
  8. X.25 feature profiles

  9. Configuration file utilities

```

19. Select option 6, LAN feature profiles. The following display appears:

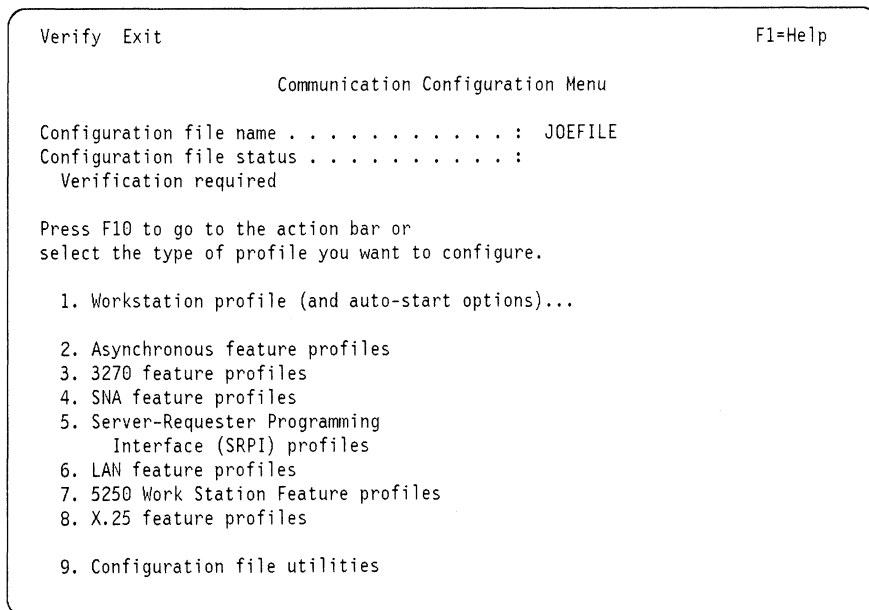


20. In the *Interface* field, specify the Ethernet standard you will be using. In the *Operation field*, select Change.

You will be prompted to enter information about the Ethernet interface you use, and the type of adapter. The displays you see depend on the selections you make.

When you are finished entering this information, the above display appears again.

21. Press F3. The following display appears:



22. Select Verify from the action bar, then select Run verify from the window. The OS/2 communications manager program will verify the configuration file. When verification is complete, exit the communications manager program and start your personal computer again.

23. Use the OS/2 REINST command to install the OS/2 files necessary to use Ethernet. See the OS/2 publications for information about the REINST command.

Installing PC Support/400 on Each Personal Computer

Before you install PC Support/400 on the personal computer, be sure you have completed the tasks as described in "Preparing to Install PC Support/400 on the Personal Computer" on page 6-6.

Using Custom Installation Diskettes

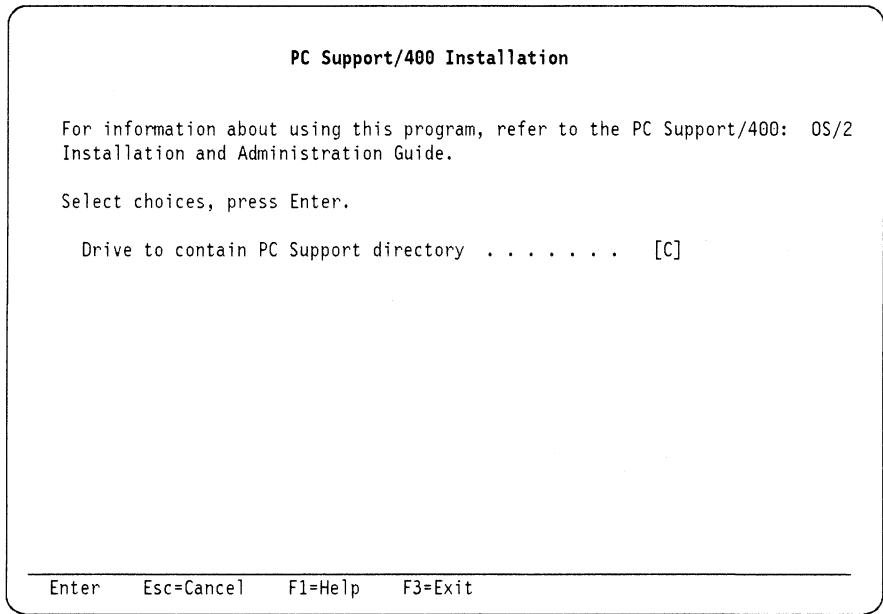
To install PC Support/400 using custom installation diskettes, do the following:

1. Insert the installation diskette in the A: drive.
2. At the OS/2 prompt, type A:INSTALL and press the Enter key. The installation program automatically sets up the necessary files on the personal computer and copies the PC Support/400 programs and files to the PCSOS2 subdirectory.
3. When the installation program has completed, start the personal computer again.

Using Standard Installation Diskettes

To install PC Support/400 using standard installation diskettes, do the following:

1. Use the OS/2 DISKCOPY command to create a backup copy of the OS/2 PC Support/400 installation diskette (volume 1) and label this diskette PCS01. You may have additional OS/2 PC Support/400 installation diskettes labeled volume 2, volume 3, and so on. Copy these diskettes, and label the backup copies PCS02, PCS03, and so on. Use the backup copies to install PC Support/400, and store the original diskettes in a safe place. You do not need to do this for each personal computer; you can install PC Support/400 on many personal computers using the same backup copies of the installation diskettes.
2. Insert the installation diskette PCS01 in the A: drive.
3. At the OS/2 prompt, type A:INSTALL and press the Enter key.
4. When the display with the IBM logo is shown, press the Enter key to continue. The following display appears:



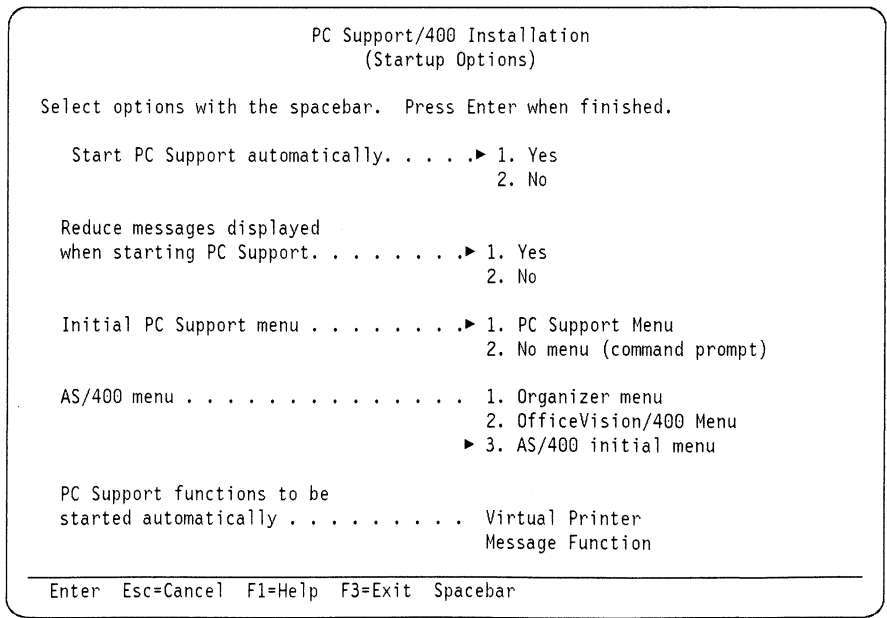
5. Enter the following information:

Drive to contain PC Support directory

This is the drive letter that you want PC Support/400 to be stored on. This is probably the C: drive.

The PC Support/400 installation program uses the drive the personal computer starts from to determine the location of the CONFIG.SYS and the STARTUP.CMD files. If you start the personal computer from one drive, install PC Support/400, and then start the personal computer from another drive, these files will not be found.

When you are finished typing this information, press the Enter key. A display similar to the following appears:



6. Enter the following information:

Start PC Support automatically

If you select Yes, the PC Support/400 installation program adds the STARTPCS command at the end of your STARTUP.CMD file. This causes PC Support/400 to start automatically when you start your personal computer.

Reduce messages displayed when starting PC Support

If you select Yes, you see fewer messages when you start PC Support/400. You still receive messages when each function begins, and you also see any error messages. Other informational messages are not shown on the display.

Initial PC Support menu

This option allows you to specify which menu you want to initially appear when you start PC Support:

PC Support/400 Menu

The main menu for PC Support/400 will be displayed when you start PC Support/400. This menu gives you access to selected PC Support/400 functions on the personal computer.

No menu

No menu will be displayed when you start PC Support/400. You will return to the OS/2 command prompt.

AS/400 menu

This option allows you to specify which menu you want to initially appear when you sign on the AS/400 system:

Organizer menu

The PC Support/400 Organizer menu will be displayed when you sign on the AS/400 system. This menu combines AS/400 and PC commands.

OfficeVision/400 Menu

The main menu for the OfficeVision/400 program will be displayed when you sign on the AS/400 system.

AS/400 initial menu

The display you normally see first will be displayed when you sign on the AS/400 system.

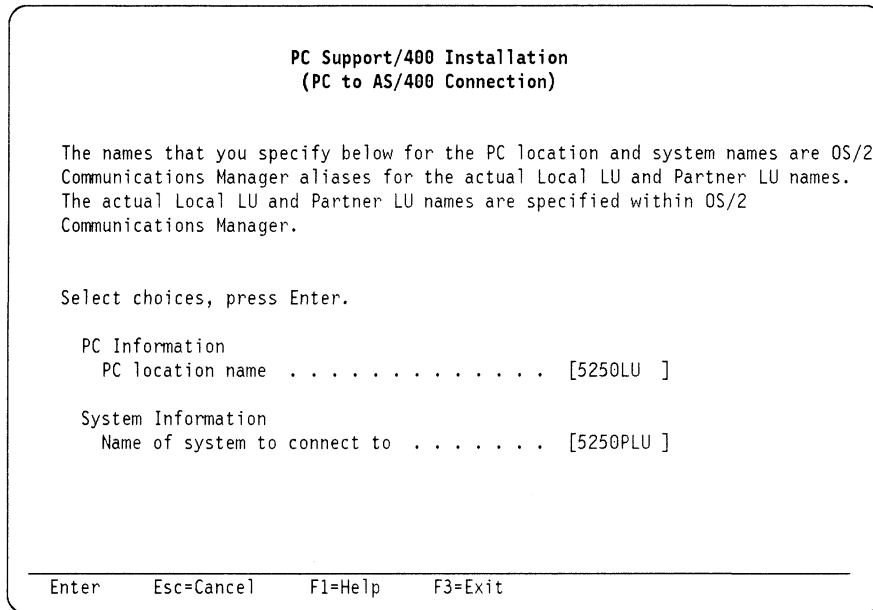
PC Support functions to be started automatically

This option allows you to select which functions you want to start automatically when you start PC Support. The functions you can select are:

- Virtual printer
- Message function

The necessary commands for the functions you select are added to the STARTPCS.CMD file. For a description of these functions, see "Functions Available with PC Support/400" on page 1-13.

When you are finished typing this information, press the Enter key. The following display appears:



7. Enter the following information:

PC location name

This is the name of the OS/2 communications manager program alias for the actual local LU name (the name of your personal computer on the network). The OS/2 basic configuration services program names this alias 5250LU. You should accept this as the default.

Name of system to connect to

This is the name of the OS/2 communications manager program alias for the actual partner LU name (the name of the AS/400 system you want to connect to). The OS/2 basic configuration services program names this alias 5250PLU. You should accept this as the default.

8. When the program is complete, the PC Support/400 Installation Completed display is shown. Before you can start PC Support/400, you must start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting PC Support/400

Before you start PC Support/400, you must start the OS/2 communications manager program and start your session with the AS/400 system.

If PC Support/400 does not start automatically when you start your personal computer, you can start it by doing the following:

1. Click on the PC Support/400 Group icon in the Workplace Shell Desktop. The PC Support/400 Group window appears.
2. Double-click on the Start PC Support/400 icon.

If PC Support/400 does not work properly, see Part 5, "Analyzing Problems with PC Support/400." For information about configuring the PC Support/400 functions, see Part 4, "Configuring PC Support/400."

Note: If you encounter communications problems, do the following:

- Make sure a TRMF identifier is in the CONFIG.PCS file, and that the entry is 1496 or less.
- Make sure the QPCSUPP mode description on the AS/400 system has *CALC specified for the MAXLENRU parameter.

Ethernet connection

Chapter 7. Installing PC Support/400 for Synchronous Data Link Control (SDLC) Connections

OS/2 Communications Manager Configuration Work Sheet – SDLC	7-2
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OS/2 Communications Manager Configuration Work Sheet – SDLC

Before you configure the OS/2 communications manager program on the personal computer, you must configure the AS/400 system for communications. While you configure the AS/400 system, fill out one copy of this work sheet for each personal computer as instructed. You will need this information when you configure the OS/2 communications manager program on the personal computer.

Note: Reference numbers are listed on the work sheet to assist you in finding the correct parameter.

SDLC		
OS/2 Communications Manager Work Sheet		
Refer- ence Number	Configuration Parameter	Fill In Your Information
1	5250 local LU name	
2	5250 partner LU name	
3	5250 mode name	QPCSUPP (system supplied)
4	SDLC station address	
5	SDLC adapter line type	___ Switched ___ Nonswitched
6	Local node name	
7	Network name	

Configuring SDLC Connections on the AS/400 System

To configure a PC connection:

1. Display the Configure PC Connections menu. Either type the command GO CFGPCS at the AS/400 command prompt, or use the menus starting from the AS/400 Main Menu.
2. Select option 4 (Synchronous data link control). The following display appears:


```

                                Create SDLC Connection

Type choices, press Enter.

Line description . . . . . SDLCLIN1      Name
Add a PC . . . . . Y                      Y=Yes, N=No

F3=Exit  F12=Cancel

```

- This display shows you the name of the line description. You should accept the default and press the Enter key.
- If this is the first personal computer of this communications type that you are adding, the following display appears:

```

                                Create SDLC Connection

Line description . . . . . :  SDLCLIN1

Type choices, press Enter.

Resource name . . . . . LIN011          Name, F4 for list
Connection type . . . . . *swtpp       *NONSWTPP, *SWTPP, *MP
NRZI data encoding . . . . . Y
Text . . . . . Line for switched point to point SDLC

F3=Exit  F4=Prompt  F12=Cancel

```

On this display, you need to specify the connection type to be used for this line. The possible values are:

- *NONSWTPP (Nonswitched point-to-point line)
- *SWTPP (Switched point-to-point line)
- *MP (Multipoint line)

On the *SDLC adapter line type* field (**5**) of the work sheet on page 7-2, check off the line type you select.

Note: Multipoint is not supported by the OS/2 basic configuration services program. If you are using a multipoint line, you will have to use the

advanced configuration. For information about using the advanced configuration, see the OS/2 publications.

In the *NRZI data encoding* field, specify whether or not your SDLC hardware uses non-return-to-zero (inverted) (NRZI) data recording. If you are using a line splitter, you should specify No.

5. If your connection is through a multipoint line, you need to specify the maximum number of controllers that you want to allow on the line. Every personal computer requires its own controller on the line. Type a number large enough to account for all of the controllers that will be attached to the line. Then press the Enter key.
6. The following display appears:

Add PC to SDLC Connection

Switched line : SDLCLIN1

Type choices, press Enter.

Controller description . . .	<u>j</u> oe	Name	01-FE
Station address	<u>0</u> 1		
Switched line list	<u>N</u>	Y=Yes, N=No	
Initial connection	<u>*ANS</u>	*ANS, *DIAL	
Text	<u>Line for switched point to point SDLC</u>		

Bottom

F3=Exit F12=Cancel

You need to supply information in the following fields:

Controller description

This is the name of the controller associated with the personal computer. This will be the name by which the personal computer is known on the network. To make this easier to remember, you can type the user's user ID. Write this name in the *5250 local LU name* (**1**) field of the work sheet. Also, write this name in the *Local node name* (**6**) field of the work sheet.

Station address

Every personal computer attached to the AS/400 system through a single SDLC card must be assigned a unique station address. Assign an address for this personal computer, and write this number in the *SDLC station address* (**4**) field of the work sheet.

Switched line list

This prompt allows you to specify if there are other switched lines this controller will attach to. If you specify Y, up to 10 line description names may be entered. The line descriptions must already be created.

Initial connection

This prompt appears only if you specified the line type as switched, and allows you to specify whether the AS/400 system or the personal com-

puter initiates the communications. Select *ANS if the personal computer initiates the call, or *DIAL if the AS/400 system initiates the call. If you do not know which system initiates the call, accept the default of *ANS.

Connection number

This prompt appears only if you specified *DIAL on a switched line. This is the phone number that the host system should dial if it wants to initiate communications with the personal computer.

Vary on line and controller

This prompt appears only if you specified the line type as nonswitched or multipoint. This prompt allows you to specify if you want the controller to vary on when it is created. Accept the default of Y.

Note: If you are using a line type of *SWTPP, you will have to vary on the controller yourself using the Vary Configuration (VRYCFG) command.

Text

Type any description you want for the controller.

- When you finish typing this information, press the Enter key. A message appears at the bottom of the display:

```

                                Add PC to SDLC Connection

Switched line . . . . . :  SDLCLIN1

Type choices, press Enter.

Controller description . . .  JOE          Name
Station address . . . . .  01           01-FE
Switched line list . . . . .  N           Y=Yes, N=No
Initial connection . . . . . *ANS       *ANS, *DIAL
Text . . . . .              Line for switched point to point SDLC

_____

F3=Exit  F12=Cancel
PC added.  Add another or press F3 to exit.

                                Bottom

```

The AS/400 configuration for this personal computer is finished.

Preparing to Install PC Support/400 on the Personal Computer

To prepare for installing PC Support/400 on the personal computer:

- Complete the necessary tasks on the AS/400 system as described in the following sections:
 - “Verifying the Installation of the PC Support/400 Licensed Program” on page 2-2
 - “Enrolling PC Support/400 Users” on page 2-3
 - Chapter 3, “Using the PC Support/400 Administration Function” (if required)

2. Complete the work sheet on page 7-2.
3. Install and configure the necessary OS/2 programs.

Completing the OS/2 Communications Manager Configuration Work Sheet

Before the work sheet can be used to configure the OS/2 communications manager program on the personal computer, you need to fill out the remaining fields on the work sheet:

5250 Partner LU name (2)

This is the name by which the AS/400 system is known on the network. You can determine the system name by using the Display Network Attributes (DSPNETA) command. Use the value in the *Default local location name* field.

5250 Mode name (3)

This mode description is created automatically when you install PC Support on the AS/400 system. You must enter QPCSUPP in this field.

Network name (7)

This is the local network ID of your network. To determine this value, use the Display Network Attributes (DSPNETA) command, and use the value in the *Local network ID* field. The AS/400 system is shipped with this value set to APPN.

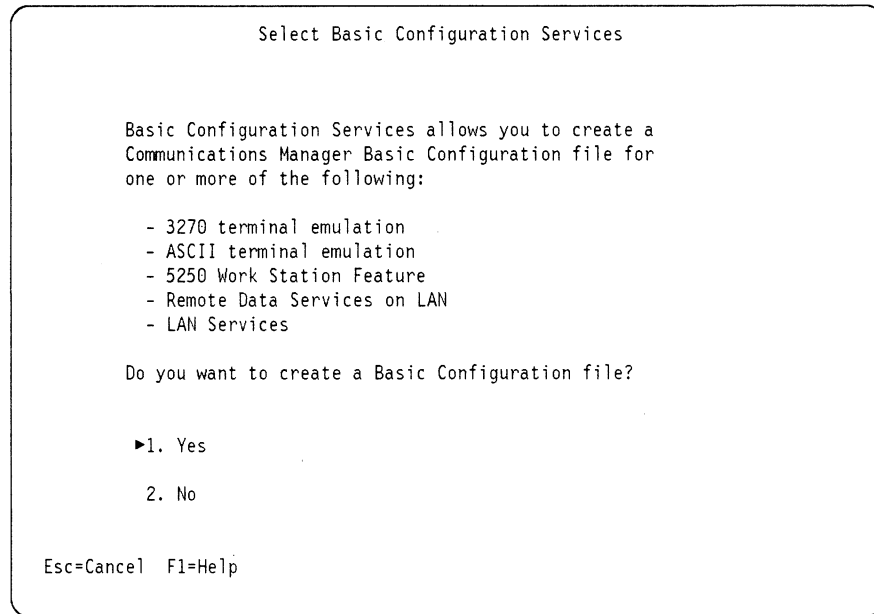
Installing the OS/2 Program on Each Personal Computer

If you have not already installed the OS/2 program on the personal computer, insert the OS/2 installation diskette into the diskette drive and start your personal computer. Follow the online prompts to install the OS/2 program. If you need help while installing the OS/2 program, see the *OS/2 Getting Started* manual.

If you are installing OS/2 version 2.0, you need to install the OS/2 Extended Services version 1.0 program. Insert the installation diskette into the A: drive and enter

```
A:ESINST
```

If you are installing OS/2 Extended Edition version 1.3, you will see the following display during the installation process. Select Yes and continue with "Configuring the OS/2 Communications Manager Program" on page 7-7.



Configuring the OS/2 Communications Manager Program

Depending on the version of OS/2 you are using, the displays you see on your screen may be slightly different than those shown in this manual.

1. Start the basic configuration services program.

The way you do this depends on whether you are installing OS/2 Extended Edition 1.3 or OS/2 Extended Services 1.0. If you are:

Installing OS/2 1.3

You will be prompted during installation whether or not you want to start the basic configuration services program. Select Yes.

Installing Extended Services 1.0

1. Insert the OS/2 Extended Services 1.0 installation diskette into the A: drive.
2. Start an OS/2 command prompt, and make A: the current drive by typing
A:
3. Enter
ESINST
4. When the title screen appears, press the Enter key.
5. A window appears giving you general information about the Extended Services program. Press the Enter key to continue.
6. A window appears giving you an introduction to installing the Extended Services program. Press the Enter key to continue.
7. The Extended Services Installation Options menu appears. Select option 1, Basic configuration and installation.
The Basic Configuration Services display appears.
8. Select option 2 (Create).

No matter which method you use to start basic configuration services, the following window appears:

```
                Create Basic Configuration File

Type a file name for Basic Configuration file
to be created and Enter.

Basic Configuration file name. . . . . [JOEFILE ]
```

- 2. Type any name you want for your configuration file. When you press the Enter key, the following window appears:

```
                Change Basic Configuration File Comments

Comment. . . . . :
[Configuration file for Joe ]
```

- 3. Type any description you want for your configuration file and press the Enter key. The following display appears:

```
                Basic Configuration Services Main Menu

Select a Communications Manager Basic Configuration feature
that you want to create or change.

1. 3270 terminal emulation
2. ASCII terminal emulation
▶3. 5250 Work Station Feature (AS/400 host or S/36 host)
4. Remote Data Services on LAN
5. LAN Services

You will return to this menu for additional selections.
Select F3=Exit when your last selection is complete.

Esc=Cancel F1=Help F3=Exit
```

- 4. Select option 3, 5250 Work Station Feature. The following display appears:

```

                    5250 Work Station Feature Defaults

Use the spacebar to change 5250 Work Station Feature selections.
An arrow is displayed next to the option when it is selected.
Press Enter when you have completed the selections.

Number of 5250 Host sessions. . . . . ▶ 1      2
                                         3      4
5250 printer session. . . . . ▶ Yes
                                         No
Start all sessions automatically. . . . . ▶ Yes
                                         No
Connection type . . . . . ▶ Twinax
                                         LAN
                                         ▶ SDLC
Host type . . . . . ▶ AS/400
                                         S/36

Enter  Esc=Cancel  F1=Help

```

5. On this display, you need to select the following:

Number of 5250 host sessions

This is the number of display sessions that you may start with the AS/400 system.

5250 printer session

Select whether or not you want to start a printer session with the AS/400 system. A printer session allows you to print AS/400 output on your personal computer's printer.

Start all sessions automatically

Select whether or not you want all of your AS/400 display and printer sessions to start automatically when you start the OS/2 communications manager program.

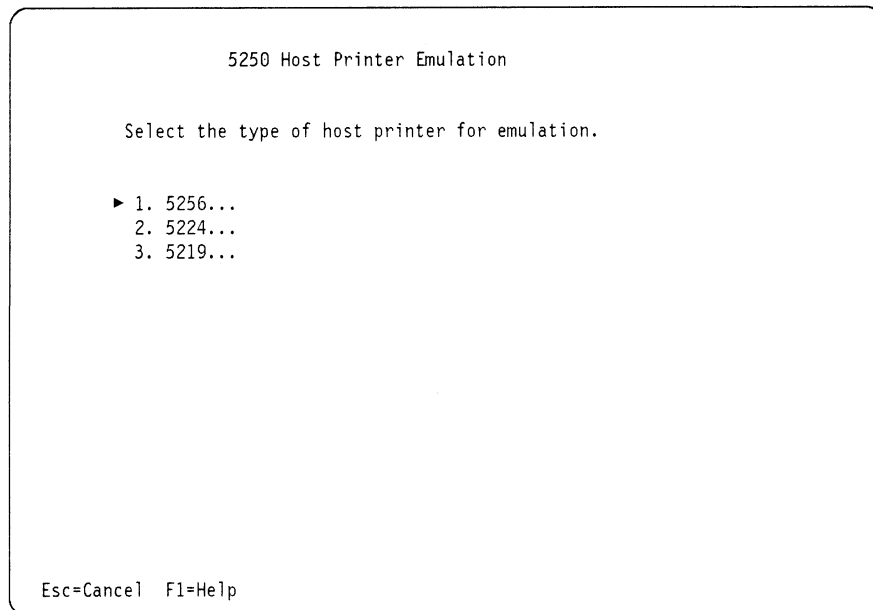
Connection type

Select SDLC.

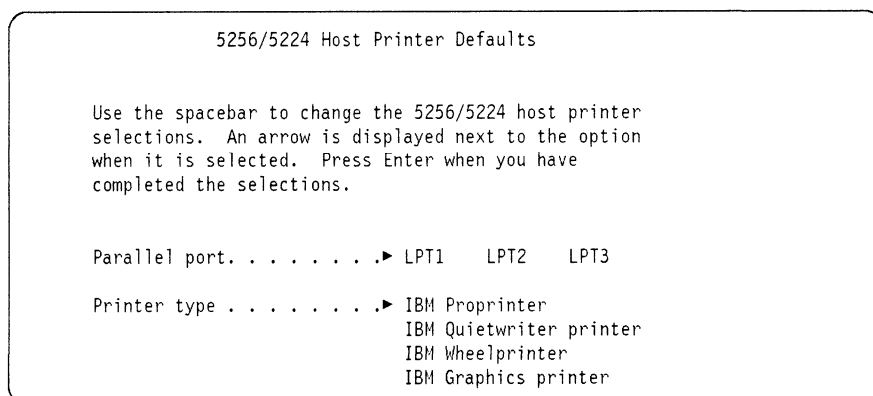
Host type

Select AS/400.

6. When you are finished selecting these options, press the Enter key. If you selected to have a printer session, the following display appears:



7. On this display, select the type of AS/400 printer that you want your personal printer to emulate. When you press the Enter key, the following window appears:



8. Select the port that your personal computer uses to communicate with the personal printer. Also, select the type of printer you are using. Then, press the Enter key. The following display appears:


```

                    5250 Work Station Feature SDLC Defaults

Type the correct information for the 5250 Work Station feature.
Use the spacebar to select the SDLC adapter line type. Press
Enter when you have completed the selection.

5250 Local LU name . . . . . [JOE  ]
5250 Partner LU name . . . . . [AS400SYS]
5250 Mode name . . . . . [QPCSUPP ]
SDLC station address . . . . . [01]
SDLC adapter line type . . . . . Switched
                               Non-switched

Enter  Esc=Cancel  F1=Help

```

9. On this display, enter the information that you recorded on the work sheet on page 7-2:

- 5250 Local LU name (**1**)
- 5250 Partner LU name (**2**)
- 5250 Mode name (**3**)
- SDLC station address (**4**)
- SDLC adapter line type (**5**)

When you are finished, press the Enter key. The following display appears:

```

                    Configuration Network Defaults

Enter to use the configuration defaults displayed below
or type the correct information and Enter.

Local node name . . . . . [JOE  ]
Network name . . . . . [APPN  ]
Local node ID (in hex) . . . . . [00000]

Enter  Esc=Cancel  F1=Help

```

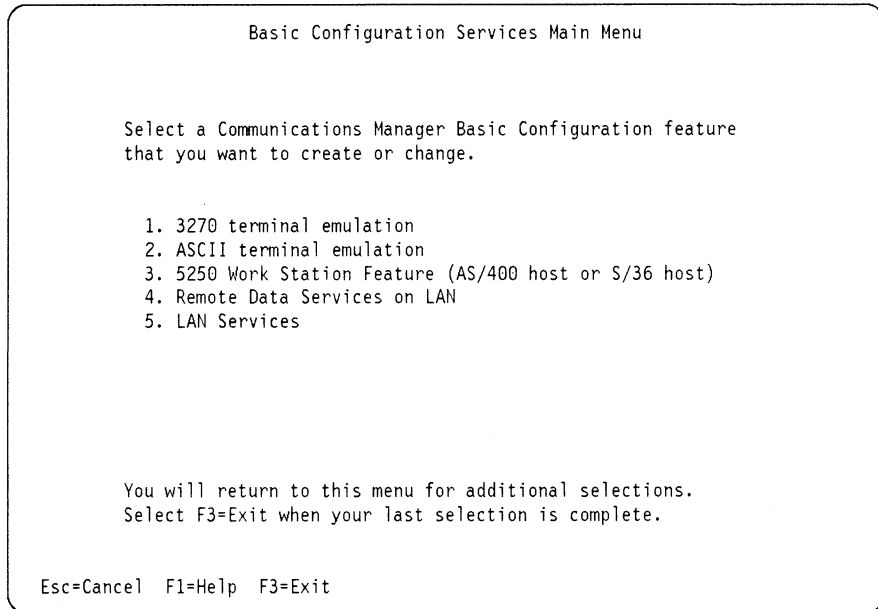
Note: If you are using OS/2 Extended Edition 1.3, the *local node name* is referred to as the *physical unit name*, and the *local node ID* is referred to as the *node ID*.

10. In the *Local node name* and the *Network name* fields, type the information from the work sheet.

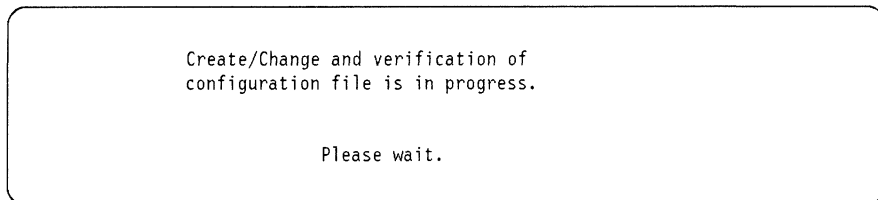
- Local node name (**6**)
- Network name (**7**)
- Local node ID (in hex)

This value is not used for communications with an AS/400 system. You should accept the default.

When you are finished, press the Enter key. The following display appears:



11. Press F3 to exit this display. The following window appears:



12. If you are installing OS/2 Extended Edition version 1.3, the Basic Configuration Services Complete display appears, telling you that your configuration file is temporarily stored in the C:\OS2\INSTALL directory. Press the Enter key to continue.

13. If you have not already installed the OS/2 communications manager program, the following display appears:

```

Target Drive Specification

Type the drive letter that will be used as the target drive for
the installation of the IBM OS/2 Extended Services component
listed below and Enter.

Component name. . . . . :
Communications Manager

Target drive. . . . . [C]

-----
Enter  Esc=Cancel  F1=Help

```

This display allows you to specify the drive that you want the OS/2 communications manager program stored on. Accept or change the default, and press the Enter key.

14. If you are installing OS/2 Extended Edition version 1.3, the following display appears:

```

Communications Manager Install Menu

Select an option.

▶ 1. User configuration files and features
   2. Additional features and default configuration files
   3. Re-install all of the installed features

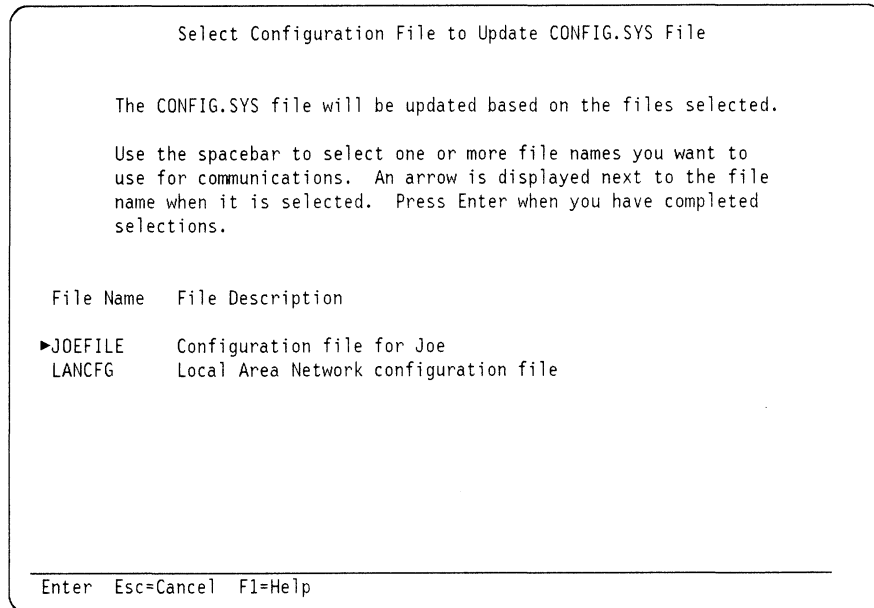
The default configuration file, ACSCFG, contains all of the
different country keyboard profiles.

All features will be installed when F3=Exit is selected.
Select F3=Exit when your last selection is complete.

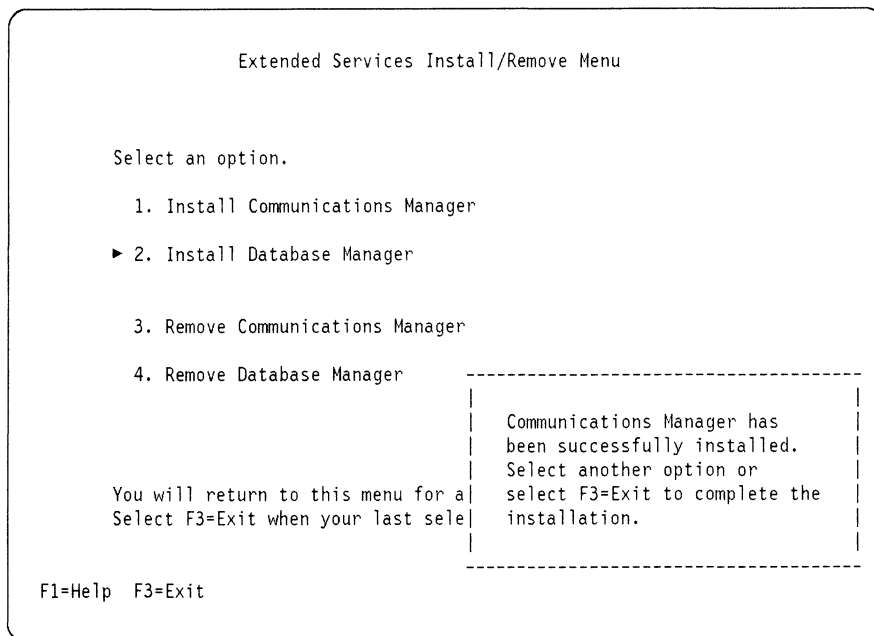
```

Press F3 to exit this display.

15. If you have more than one configuration file on your personal computer, the following display appears:



16. This display allows you to select which configuration files you want to use. Select the configuration file that you just created and press the Enter key. The following display appears:



17. Press F3 to exit this display. Either an Installation Complete display appears, or you return to the OS/2 command prompt. Remove the diskette from the diskette drive. Then, start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting the OS/2 Communications Manager Program

Although you do not need to start the OS/2 communications manager program in order to install PC Support, you may want to start the OS/2 communications manager program to verify that your configuration file is correct. In order to start the OS/2 communications manager program, you can double-click on the OS/2 communications manager icon.

If you selected to have your sessions start automatically, your 5250 work station feature sessions will begin. If you chose not to have your sessions start automatically, you will see the OS/2 Communications Manager Main Menu. From this menu, select option 1, Start communications. Then select option 4, 5250 Work Station Feature. You then need to specify which AS/400 sessions you want to start.

Installing PC Support/400 on Each Personal Computer

Before you install PC Support/400 on the personal computer, be sure you have completed the tasks as described in "Preparing to Install PC Support/400 on the Personal Computer" on page 7-5.

Using Custom Installation Diskettes

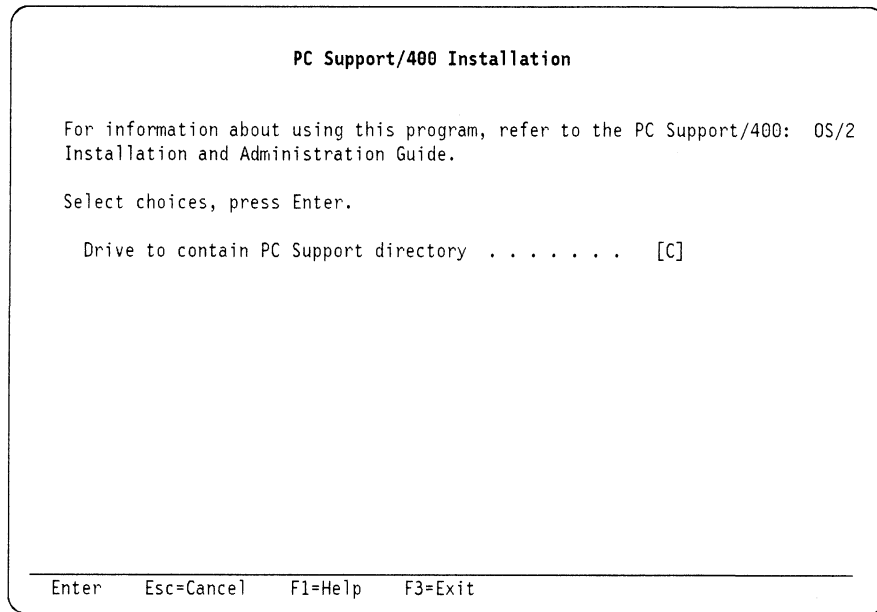
To install PC Support/400 using custom installation diskettes, do the following:

1. Insert the installation diskette in the A: drive.
2. At the OS/2 prompt, type A:INSTALL and press the Enter key. The installation program automatically sets up the necessary files on the personal computer and copies the PC Support/400 programs and files to the PCSOS2 subdirectory.
3. When the installation program has completed, start the personal computer again.

Using Standard Installation Diskettes

To install PC Support/400 using standard installation diskettes, do the following:

1. Use the OS/2 DISKCOPY command to create a backup copy of the OS/2 PC Support/400 installation diskette (volume 1) and label this diskette PCS01. You may have additional OS/2 PC Support/400 installation diskettes labeled volume 2, volume 3, and so on. Copy these diskettes, and label the backup copies PCS02, PCS03, and so on. Use the backup copies to install PC Support/400, and store the original diskettes in a safe place. You do not need to do this for each personal computer; you can install PC Support/400 on many personal computers using the same backup copies of the installation diskettes.
2. Insert the installation diskette PCS01 in the A: drive.
3. At the OS/2 prompt, type A:INSTALL and press the Enter key.
4. When the display with the IBM logo is shown, press the Enter key to continue. The following display appears:



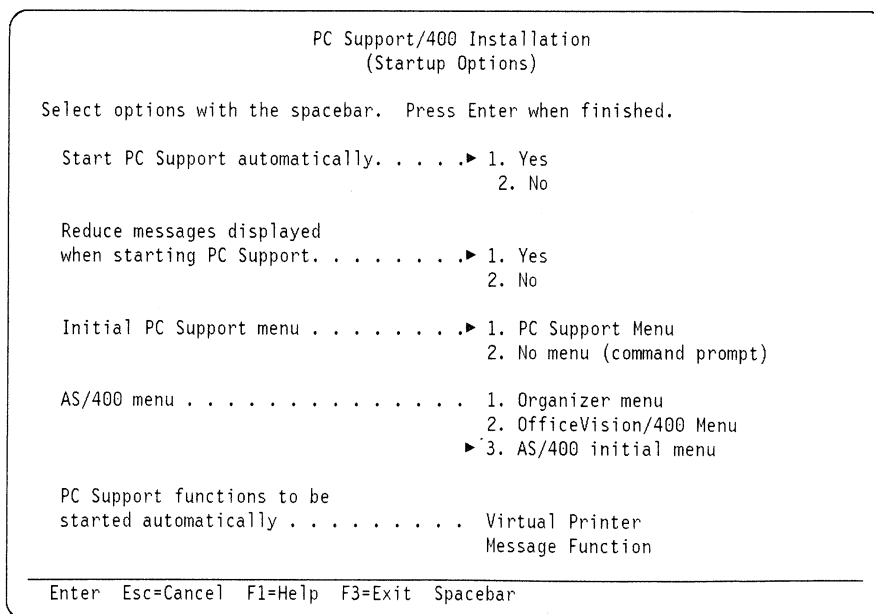
5. Enter the following information:

Drive to contain PC Support directory

This is the drive letter that you want PC Support/400 to be stored on. This is probably the C: drive.

The PC Support/400 installation program uses the drive the personal computer starts from to determine the location of the CONFIG.SYS and the STARTUP.CMD files. If you start the personal computer from one drive, install PC Support/400, and then start the personal computer from another drive, these files will not be found.

When you are finished typing this information, press the Enter key. A display similar to the following appears:



6. Enter the following information:

Start PC Support automatically

If you select *Yes*, the PC Support/400 installation program adds the STARTPCS command at the end of your STARTUP.CMD file. This causes PC Support/400 to start automatically when you start your personal computer.

Reduce messages displayed when starting PC Support

If you select *Yes*, you see fewer messages when you start PC Support/400. You still receive messages when each function begins, and you also see any error messages. Other informational messages are not shown on the display.

Initial PC Support menu

This option allows you to specify which menu you want to initially appear when you start PC Support:

PC Support/400 Menu

The main menu for PC Support/400 will be displayed when you start PC Support/400. This menu gives you access to selected PC Support/400 functions on the personal computer.

No menu

No menu will be displayed when you start PC Support/400. You will return to the OS/2 command prompt.

AS/400 menu

This option allows you to specify which menu you want to initially appear when you sign on the AS/400 system:

Organizer menu

The PC Support/400 Organizer menu will be displayed when you sign on the AS/400 system. This menu combines AS/400 and PC commands.

OfficeVision/400 Menu

The main menu for the OfficeVision/400 program will be displayed when you sign on the AS/400 system.

AS/400 initial menu

The display you normally see first will be displayed when you sign on the AS/400 system.

PC Support functions to be started automatically

This option allows you to select which functions you want to start automatically when you start PC Support. The functions you can select are:

- Virtual printer
- Message function

The necessary commands for the functions you select are added to the STARTPCS.CMD file. For a description of these functions, see "Functions Available with PC Support/400" on page 1-13.

When you are finished typing this information, press the Enter key. The following display appears:

PC Support/400 Installation
(PC to AS/400 Connection)

The names that you specify below for the PC location and system names are OS/2 Communications Manager aliases for the actual Local LU and Partner LU names. The actual Local LU and Partner LU names are specified within OS/2 Communications Manager.

Select choices, press Enter.

PC Information
PC location name [5250LU]

System Information
Name of system to connect to [5250PLU]

Enter Esc=Cancel F1=Help F3=Exit

7. Enter the following information:

PC location name

This is the name of the OS/2 communications manager program alias for the actual local LU name (the name of your personal computer on the network). The OS/2 basic configuration services program names this alias 5250LU. You should accept this as the default.

Name of system to connect to

This is the name of the OS/2 communications manager program alias for the actual partner LU name (the name of the AS/400 system you want to connect to). The OS/2 basic configuration services program names this alias 5250PLU. You should accept this as the default.

8. When the program is complete, the PC Support/400 Installation Completed display is shown. Before you can start PC Support/400, you must start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting PC Support/400

Before you start PC Support/400, you must start the OS/2 communications manager program and start your session with the AS/400 system.

If PC Support/400 does not start automatically when you start your personal computer, you can start it by doing the following:

1. Click on the PC Support/400 Group icon in the Workplace Shell Desktop. The PC Support/400 Group window appears.
2. Double-click on the Start PC Support/400 icon.

If PC Support/400 does not work properly, see Part 5, "Analyzing Problems with PC Support/400." For information about configuring the PC Support/400 functions, see Part 4, "Configuring PC Support/400."

Copying the PC Support Functions to the Personal Computer

It is recommended that you copy the PC Support functions you will be using to the personal computer from the AS/400 system. The PC Support functions load and run faster when they are located on the personal computer. This initial copying is time-consuming, but performance is significantly enhanced for each time you start PC Support/400.

To copy the PC Support functions to the personal computer, do the following:

1. From the PC Support/400 Menu, select the Configure PC Support/400 option.
2. The PC Support/400 Configuration menu appears. Select General options.
3. The General Options for PC Support/400 display appears. Select the Location of PC Support functions option.
4. The Location of PC Support Functions display appears. Select the functions that you want to copy to your hard disk. Do this by moving the cursor to the function and pressing the spacebar.
5. When you have selected the functions you want, press F3 (Exit).
6. Select Save and exit. The Copy Files to Your Personal Computer display appears.
7. Select whether you want to copy the functions now or the next time you start PC Support/400.

The necessary files will be copied to your personal computer, and the STARTPCS file will be changed to run the function from your personal computer.

Chapter 8. Installing PC Support/400 for 5394 Remote Communications

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OS/2 Communications Manager Configuration Work Sheet – Remote 5394 Communications

Before you configure the OS/2 communications manager program on the personal computer, you must configure the AS/400 system for communications. While you configure the AS/400 system, fill out one copy of this work sheet for each personal computer as instructed. You will need this information when you configure the OS/2 communications manager program on the personal computer.

Note: Reference numbers are listed on the work sheet to assist you in finding the correct parameter.

Remote 5394 Communications or Remote 5250 Adapter

OS/2 Communications Manager Work Sheet

Reference Number	Configuration Parameter	Fill In Your Information
1	5250 local LU name	
2	5250 partner LU name	
3	5250 mode name	QPCSUPP (system supplied)
4	Controller address	
5	Local node name	
6	Network name	

Configuring 5394 Connections on the AS/400 System

You may use an SDLC connection or an X.25 connection with the 5394 Remote Control Unit. If you are using an SDLC connection, continue with "Configuring 5394 (SDLC) Connections." If you are using an X.25 connection, go to "Configuring 5394 (X.25) Connections" on page 8-6.

Configuring 5394 (SDLC) Connections

To configure a PC connection:

1. Display the Configure PC Connections menu. Either type the command GO CFGPCS at the AS/400 command prompt, or use the menus starting from the AS/400 Main Menu.
2. Select option 6 (5394 remote). The following display appears:

```

Create 5394 Remote Connection

Type choices, press Enter.

Line description . . . . . LINE5394      Name
Add a PC . . . . . Y                    Y=Yes, N=No

F3=Exit  F12=Cancel

```

3. This display shows you the name of the line description. You should accept the default and press the Enter key.
4. If this is the first user of this communications type that you are adding, the following display appears.

```

Create 5394 Remote Connection

Line description . . . . . : LINE5394

Type choices, press Enter.

Resource name . . . . . LIN011      Name, F4 for list
Connection type . . . . . *swtpp    *NONSWTPP, *SWTPP, *MP
NRZI data encoding . . . . . Y
Line text . . . . . Line for 5394

F3=Exit  F4=Prompt  F12=Cancel

Bottom

```

On this display, you need to supply the following information:

Resource name

This is the name of the SDLC card that will be used for communications. If you wish to use a different card, press F4 (Prompt).

Connection type

This is the connection type to be used for this line. The possible values are:

- *NONSWTPP (Nonswitched point-to-point line)
- *SWTPP (Switched point-to-point line)

- *MP (Multipoint line)

NRZI data encoding

In the *NRZI data encoding* field, specify whether or not your SDLC hardware uses non-return-to-zero (inverted) (NRZI) data recording. If you are using a line-splitter, you should specify No.

Line text

Type any description you want for the line.

5. When you finish typing this information, press the Enter key. Depending on whether you selected *NONSWTPP, *SWTPP, or *MP, a display similar to the following appears:

```

Create 5394 Remote Connection

Line description . . . . . : LINE5394

Type choices, press Enter.

Resource name . . . . .  LINE011           Name, F4 for list
Connection type . . . . . *SWTPP           *NONSWTPP, *SWTPP, *MP
Line text . . . . .      Line for 5394

-----
Controller . . . . .      ct15394           Name
Switched line list . . . . N               Y=Yes, N=No
Initial connection . . . . *ANS           *ANS, *DIAL
Station address . . . . . 01              01-FE
Controller text . . . . . Controller for 5394

-----

F3=Exit  F4=Prompt  F12=Cancel

Bottom
    
```

Depending on your connection type, you need to supply the following information:

If your connection type is *NONSWTPP (nonswitched point-to-point):

Vary on line Specify whether or not you want to vary on the line when it is created. You should accept the default of Y.

Controller name This is the name of the controller to associate with the SDLC line.

Station address This is the SDLC station address for the 5394 controller.

Controller text Type any description you want for the controller.

If your connection type is *SWTPP (switched point-to-point):

Controller name This is the name of the controller to associate with the SDLC line. Press the Enter key to accept the default.

Switched line list If you specify Y, you will be allowed to enter a list of line names.

Initial connection Specify whether the AS/400 system or the 5394 controller initiates the communications. Select *ANS if the 5394 controller

initiates the call, or *DIAL if the AS/400 system initiates the call. If you do not know which system initiates the call, accept the default of *ANS.

Connection number

This prompt appears only if you specified *DIAL on a switched line. This is the phone number that the host system should dial to initiate communications with the 5394 controller.

Station address

This is the port number on the SDLC card that the SDLC cable is connected to.

Controller text Type any description you want for the controller.

If your connection type is *MP (multipoint):

Maximum controllers

This is the maximum number of controllers that will be allowed on the line. Every personal computer requires its own controller on the line. Type a number large enough to account for all the controllers that will attach to the line.

Vary on line

Specify whether or not you want to vary on the line when it is created. You should accept the default of Y.

Controller name

This is the name of the controller to associate with the SDLC line.

Station address

This is the SDLC station address for the 5394 controller.

Controller text Type any description you want for the controller.

6. When you finish typing the information, press the Enter key. The following display appears:

```

                                Add PC to 5394 Remote Connection

Line description . . . . . : LINE5394
Attached controller . . . . : CTL5394

Type choices, press Enter.

Device description . . . . . joe                Name
PC model . . . . . 2                            1,2
Local location address . . . 01                00-14
Vary on controller and
device . . . . . Y                            Y=Yes, N=No
Text . . . . . Device for Joe
_____

F3=Exit  F12=Cancel

```

On this display, you need to supply the following information:

Device description

This is the name of the device associated with the personal computer. To make this easier to remember, type the user's user ID. This will be the name by which the personal computer is known on the network.

Write this name in the *5250 local LU name* (**1**) field of the work sheet on page 8-2. Also write this name in the *Local node name* (**5**) field of the work sheet.

PC model

This indicates whether or not the personal computer uses Micro Channel architecture (such as the PS/2 models 50 and above). If the personal computer uses Micro Channel architecture, type a 2. Otherwise, type a 1.

Local location address

Every personal computer attached to the AS/400 system through a single SDLC card must be assigned a unique work station address. Assign an address for this personal computer, and write this number in the *Controller address* (**4**) field on the work sheet.

Vary on controller and device

Specify whether or not you want to vary on the controller and device when they are created. You should accept the default of Y.

Text

Type any description you want for the device.

7. When you finish typing this information, press the Enter key. A message appears at the bottom of the display:

```

                                Add PC to 5394 Remote Connection

Line description . . . . . : LINE5394
Attached controller . . . . : CTL5394

Type choices, press Enter.

Device description . . . . . : JOE                Name
PC model . . . . .           : 2                  1,2
Local location address . . . : 01                 00-14
Vary on controller and
device . . . . .             : Y                  Y=Yes, N=No
Text . . . . .               : Device for Joe

-----

F3=Exit  F12=Cancel
PC added. Add another or press F3 to exit.

```

The AS/400 configuration for this personal computer is finished. Continue with "Preparing to Install PC Support/400 on the Personal Computer" on page 8-7.

Configuring 5394 (X.25) Connections

The 5394 remote option on the Configure PC Connections (CFGPCS) menu creates descriptions on the system only for those 5394 remote connections using synchronous data link control (SDLC). When you use an X.25 connection with the 5394 Remote Control Unit, you need to create the connection descriptions manually on the system.

The descriptions you need to create are:

- An X.25 line description
- A remote work station controller description
- A device description for each personal computer connected to the controller

This chapter contains some general information about creating the necessary descriptions. For more details, see the *Communications: X.25 Network Guide*, SC41-0005.

Creating an X.25 Line Description

A line description must exist on the AS/400 system containing information about the communications connection between the AS/400 system and the 5394 remote control unit. If the line description does not already exist, you need to do the following:

1. Use the Create X.25 Line Description (CRTLINX25) command to create the line description.
2. Use the Vary Configuration (VRYCFG) command to vary on the line description.

Creating a Remote Work Station Controller Description

A controller description must exist on the AS/400 system containing information about the 5394 remote control unit. If the controller description does not already exist, you need to do the following:

1. Use the Create Controller Description for Remote Work Station (CRTCTLRWS) command to create the controller description
2. Use the Vary Configuration (VRYCFG) command to vary on the controller description.

Creating a Device Description

A device description must exist on the AS/400 system for each personal computer attached to the 5394 remote control unit. If the device description does not already exist, you need to do the following:

1. Use the Create Device Description (Display) (CRTDEVDSP) command to create the device description.
2. Record the name of the device description in the *5250 local LU name* (**1**) and the *Local node name* (**5**) fields on the work sheet on page 8-2.
3. Record the local location address (LOCADR) value in the *Controller address* (**4**) field on the work sheet.

The AS/400 configuration for this personal computer is finished.

Preparing to Install PC Support/400 on the Personal Computer

To prepare for installing PC Support/400 on the personal computer:

1. Complete the necessary tasks on the AS/400 system as described in the following sections:
 - “Verifying the Installation of the PC Support/400 Licensed Program” on page 2-2
 - “Enrolling PC Support/400 Users” on page 2-3

- Chapter 3, "Using the PC Support/400 Administration Function" (if required)
2. Complete the work sheet on page 8-2.
 3. Install and configure the necessary OS/2 programs.

Completing the OS/2 Communications Manager Configuration Work Sheet

Before the work sheet can be used to configure the OS/2 communications manager program on the personal computer, you need to fill out the remaining fields on the work sheet:

5250 Partner LU name (2)

This is the name by which the AS/400 system is known on the network. You can determine the system name by using the Display Network Attributes (DSPNETA) command. Use the value in the *Default local location name* field.

5250 Mode name (3)

This mode description is created automatically when you install PC Support on the AS/400 system. You must enter QPCSUPP in this field.

Network name (6)

This is the local network ID of your network. To determine this value, use the Display Network Attributes (DSPNETA) command, and use the value in the *Local network ID* field. The AS/400 system is shipped with this value set to APPN.

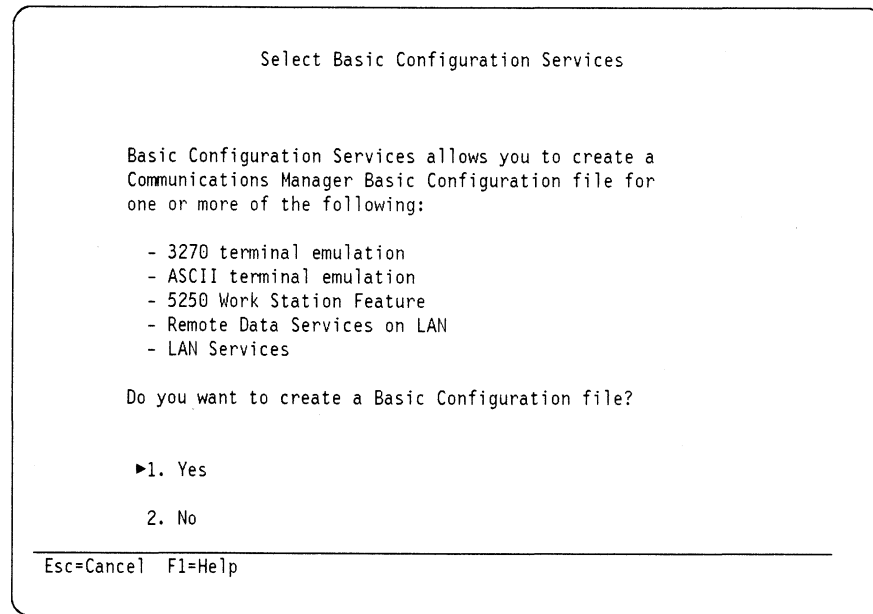
Installing the OS/2 Program on Each Personal Computer

If you have not already installed the OS/2 program on the personal computer, insert the OS/2 installation diskette into the diskette drive and start your personal computer. Follow the online prompts to install the OS/2 program. If you need help while installing the OS/2 program, see the OS/2 *Getting Started* manual.

If you are installing OS/2 version 2.0, you need to install the OS/2 Extended Services version 1.0 program. Insert the diskette into the A: drive and enter

```
A:ESISNT
```

If you are installing OS/2 Extended Edition version 1.3, you will see the following display during the installation process. Select Yes and continue with "Configuring the OS/2 Communications Manager Program" on page 8-9.



Configuring the OS/2 Communications Manager Program

Depending on the version of OS/2 you are using, the displays you see on your screen may be slightly different than those shown in this manual.

1. Start the basic configuration services program.

The way you do this depends on whether you are installing OS/2 Extended Edition 1.3 or OS/2 Extended Services 1.0. If you are:

Installing OS/2 1.3

You will be prompted during installation whether or not you want to start the basic configuration services program. Select Yes.

Installing Extended Services 1.0

1. Insert the OS/2 Extended Services 1.0 installation diskette into the A: drive.
2. Start an OS/2 command prompt, and make A: the current drive by typing A:
3. Enter
ESINST
4. When the title screen appears, press the Enter key.
5. A window appears giving you general information about the Extended Services program. Press the Enter key to continue.
6. A window appears giving you an introduction to installing the Extended Services program. Press the Enter key to continue.
7. The Extended Services Installation Options menu appears. Select option 1, Basic configuration and installation.
The Basic Configuration Services display appears.
8. Select option 2 (Create).

No matter which method you use to start basic configuration services, the following window appears:

```
                Create Basic Configuration File

Type a file name for Basic Configuration file
to be created and Enter.

Basic Configuration file name. . . . . [JOEFILE ]
```

- 2. Type any name you want for your configuration file. When you press the Enter key, the following window appears:

```
                Change Basic Configuration File Comments

Comment. . . . . :
[Configuration file for Joe ]
```

- 3. Type any description you want for your configuration file and press the Enter key. The following display appears:

```
                Basic Configuration Services Main Menu

Select a Communications Manager Basic Configuration feature
that you want to create or change.

1. 3270 terminal emulation
2. ASCII terminal emulation
▶3. 5250 Work Station Feature (AS/400 host or S/36 host)
4. Remote Data Services on LAN
5. LAN Services

You will return to this menu for additional selections.
Select F3=Exit when your last selection is complete.

Esc=Cancel F1=Help F3=Exit
```

- 4. Select option 3, 5250 Work Station Feature. The following display appears:

```

5250 Work Station Feature Defaults

Use the spacebar to change 5250 Work Station Feature selections.
An arrow is displayed next to the option when it is selected.
Press Enter when you have completed the selections.

Number of 5250 Host sessions. . . . . ▶ 1      2
                                         3      4
5250 printer session. . . . . ▶ Yes
                                         No
Start all sessions automatically. . . . . ▶ Yes
                                         No
Connection type . . . . . ▶ Twinax
                                         LAN
                                         SDLC
Host type . . . . . ▶ AS/400
                                         S/36

-----
Enter  Esc=Cancel  F1=Help

```

5. On this display, you need to select the following:

Number of 5250 host sessions

This is the number of display sessions that you may start with the AS/400 system.

5250 printer session

Select whether or not you want to start a printer session with the AS/400 system. A printer session allows you to print AS/400 output on your personal computer's printer.

Start all sessions automatically

Select whether or not you want all of your AS/400 display and printer sessions to start automatically when you start the OS/2 communications manager program.

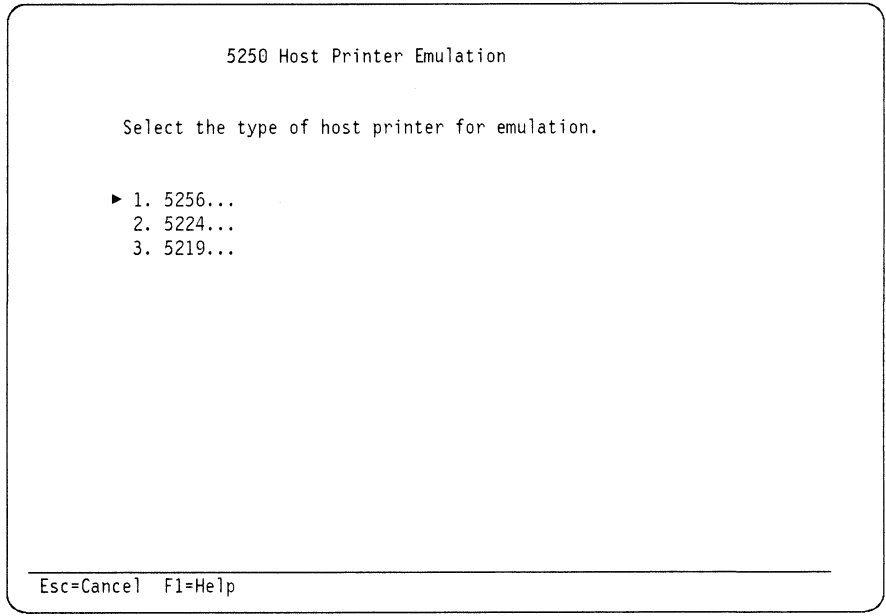
Connection type

Select Twinaxial.

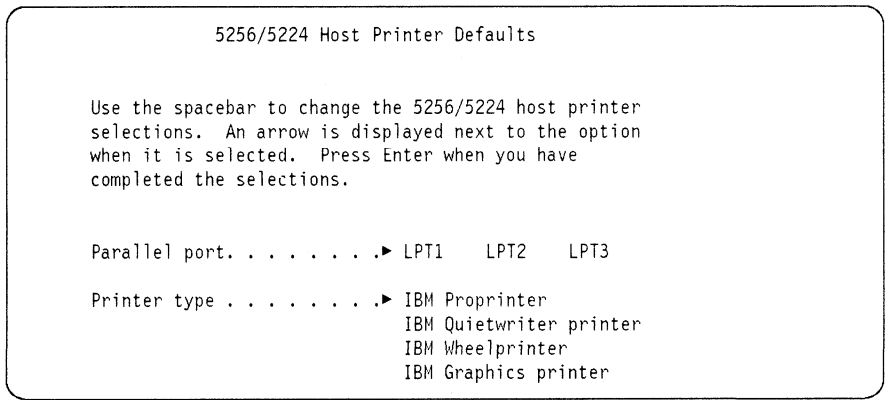
Host type

Select AS/400.

6. When you are finished selecting these options, press the Enter key. If you selected to have a printer session, the following display appears:



7. On this display, select the type of AS/400 printer that you want your personal printer to emulate. When you press the Enter key, the following window appears:



8. Select the port that your personal computer uses to communicate with the personal printer. Also, select the type of printer you are using. Then, press the Enter key. The following display appears:

```

                    5250 Work Station Feature Twinax Defaults

Type the correct information for the 5250 Work Station feature
and Enter.

5250 Local LU name . . . . . [JOE   ]
5250 Partner LU name . . . . . [AS400SYS]
5250 Mode name . . . . . [QPCSUPP ]
Twinax controller address. . . . . [0]

Enter  Esc=Cancel  F1=Help

```

9. On this display, enter the information that you recorded on the work sheet on page 8-2.

- 5250 Local LU name (**1**)
- 5250 Partner LU name (**2**)
- 5250 Mode name (**3**)
- Twinax controller address (**4**)

When you are finished, press the Enter key. The following display appears:

```

                    Configuration Network Defaults

Enter to use the configuration defaults displayed below
or type the correct information and Enter.

Local node name . . . . . [JOE   ]
Network name . . . . . [APPN   ]
Local node ID (in hex) . . . . . [000000]

Enter  Esc=Cancel  F1=Help

```

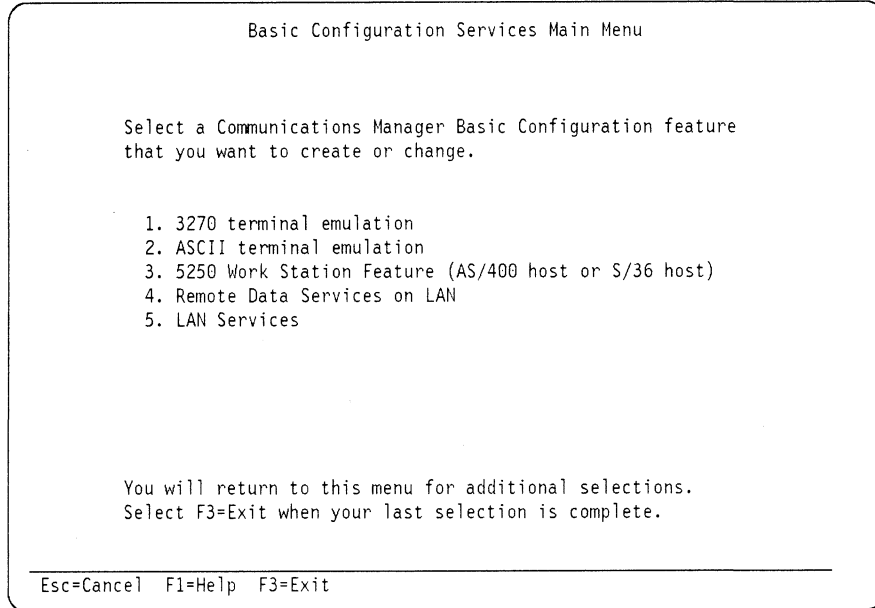
Note: If you are using OS/2 Extended Edition 1.3, the *local node name* is referred to as the *physical unit name*, and the *local node ID* is referred to as the *node ID*.

10. In the *Local node name* and the *Network name* fields, type the information from the work sheet.

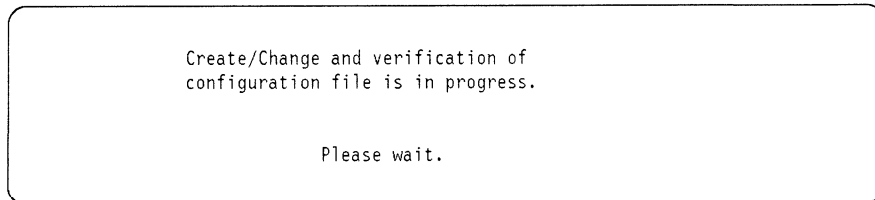
- Local node name (**5**)
- Network name (**6**)
- Local node ID (in hex)

This value is not used for communications with an AS/400 system. You should accept the default.

When you are finished, press the Enter key. The following display appears:



11. Press F3 to exit this display. The following window appears:



12. If you are installing OS/2 Extended Edition version 1.3, the Basic Configuration Services Complete display appears, telling you that your configuration file is temporarily stored in the C:\OS2\INSTALL directory. Press the Enter key to continue.

13. If you have not already installed the OS/2 communications manager program, the following display appears:


```

Target Drive Specification

Type the drive letter that will be used as the target drive for
the installation of the IBM OS/2 Extended Services component
listed below and Enter.

Component name. . . . . :
Communications Manager

Target drive. . . . . [C]

-----
Enter  Esc=Cancel  F1=Help

```

This display allows you to specify the drive that you want the OS/2 communications manager program stored on. Accept or change the default, and press the Enter key.

14. If you are installing OS/2 Extended Edition version 1.3, the following display appears:

```

Communications Manager Install Menu

Select an option.

▶ 1. User configuration files and features
   2. Additional features and default configuration files
   3. Re-install all of the installed features

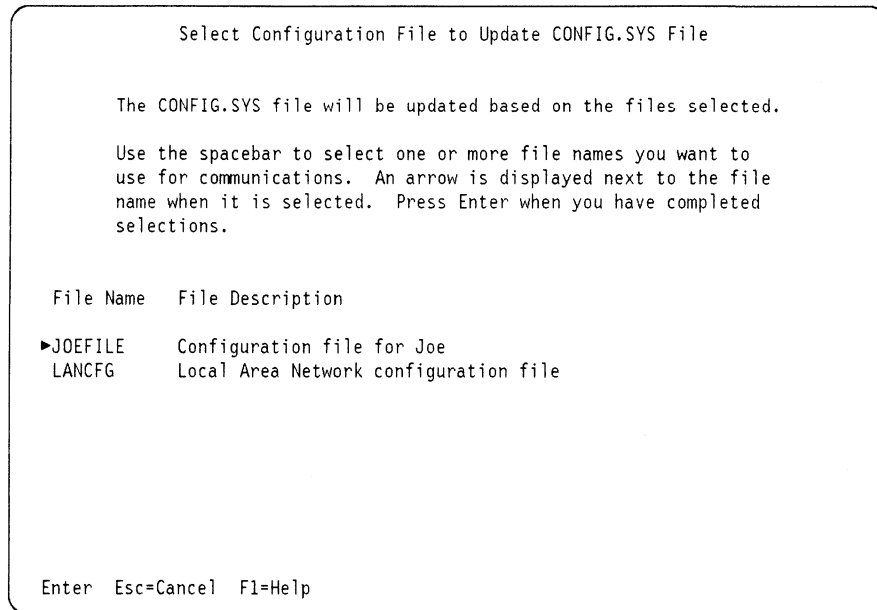
The default configuration file, ACSCFG, contains all of the
different country keyboard profiles.

All features will be installed when F3=Exit is selected.
Select F3=Exit when your last selection is complete.

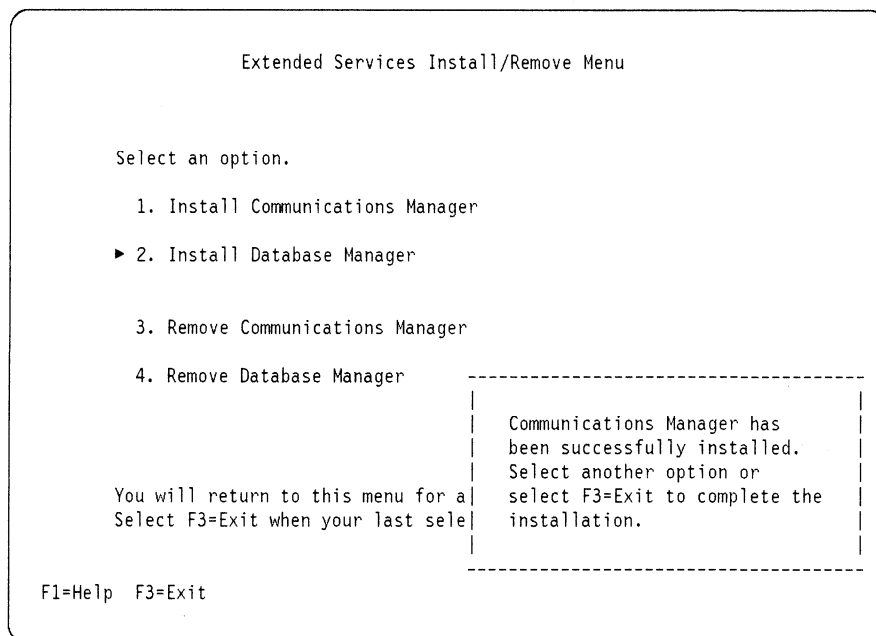
```

Press F3 to exit this display.

15. If you have more than one configuration file on your personal computer, the following display appears:



16. This display allows you to select which configuration files you want to use. Select the configuration file that you just created and press the Enter key. The following display appears:



17. Press F3 to exit this display. Either an Installation Complete display appears, or you return to the OS/2 command prompt. Remove the diskette from the diskette drive. Then, start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting the OS/2 Communications Manager Program

Although you do not need to start the OS/2 communications manager program in order to install PC Support/400, you may want to start the OS/2 communications manager program to verify that your configuration file is correct. In order to start the OS/2 communications manager program, you can double-click on the OS/2 communications manager icon.

If you selected to have your sessions start automatically, your 5250 work station feature sessions will begin. If you chose not to have your sessions start automatically, you will see the OS/2 Communications Manager Main Menu. From this menu, select option 1, Start communications. Then select option 4, 5250 Work Station Feature. You then need to specify which AS/400 sessions you want to start.

Installing PC Support/400 on Each Personal Computer

Before you install PC Support/400 on the personal computer, be sure you have completed the tasks as described in "Preparing to Install PC Support/400 on the Personal Computer" on page 8-7.

Using Custom Installation Diskettes

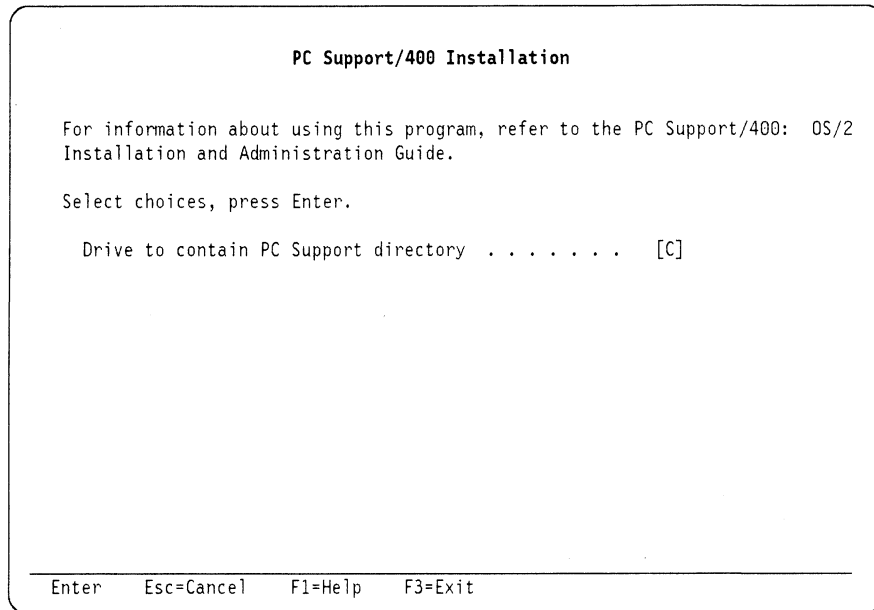
To install PC Support/400 using custom installation diskettes, do the following:

1. Insert the installation diskette in the A: drive.
2. At the OS/2 prompt, type A:INSTALL and press the Enter key. The installation program automatically sets up the necessary files on the personal computer and copies the PC Support/400 programs and files to the PCSOS2 subdirectory.
3. When the installation program has completed, start the personal computer again.

Using Standard Installation Diskettes

To install PC Support/400 using standard installation diskettes, do the following:

1. Use the OS/2 DISKCOPY command to create a backup copy of the OS/2 PC Support/400 installation diskette (volume 1) and label this diskette PCS01. You may have additional OS/2 PC Support/400 installation diskettes labeled volume 2, volume 3, and so on. Copy these diskettes, and label the backup copies PCS02, PCS03, and so on. Use the backup copies to install PC Support/400, and store the original diskettes in a safe place. You do not need to do this for each personal computer; you can install PC Support/400 on many personal computers using the same backup copies of the installation diskettes.
2. Insert the installation diskette PCS01 in the A: drive.
3. At the OS/2 prompt, type A:INSTALL and press the Enter key.
4. When the display with the IBM logo is shown, press the Enter key to continue. The following display appears:



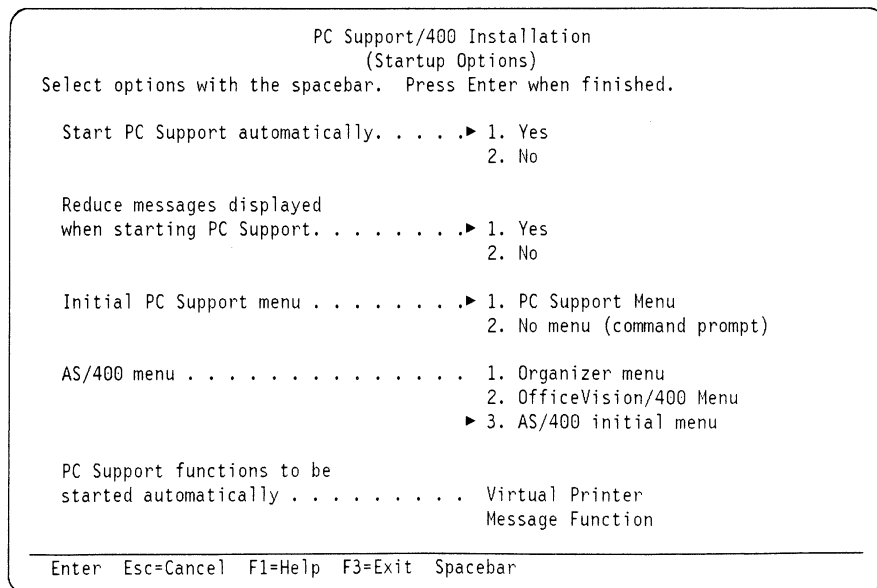
5. Enter the following information:

Drive to contain PC Support directory

This is the drive letter that you want PC Support/400 to be stored on. This is probably the C: drive.

The PC Support/400 installation program uses the drive the personal computer starts from to determine the location of the CONFIG.SYS and the STARTUP.CMD files. If you start the personal computer from one drive, install PC Support/400, and then start the personal computer from another drive, these files will not be found.

When you finish typing this information, press the Enter key. A display similar to the following appears:



6. Enter the following information:

Start PC Support automatically

If you select Yes, the PC Support/400 installation program adds the STARTPCS command at the end of your STARTUP.CMD file. This causes PC Support/400 to start automatically when you start your personal computer.

Reduce messages displayed when starting PC Support

If you select Yes, you see fewer messages when you start PC Support/400. You still receive messages when each function begins, and you also see any error messages. Other informational messages are not shown on the display.

Initial PC Support menu

This option allows you to specify which menu you want to initially appear when you start PC Support:

PC Support Menu

The main menu for PC Support/400 will be displayed when you start PC Support/400. This menu gives you access to selected PC Support/400 function on the personal computer.

No menu

No menu will be displayed when you start PC Support/400. You will return to the OS/2 command prompt.

AS/400 menu

This option allows you to specify which menu you want to initially appear when you sign on the AS/400 system:

Organizer menu

The PC Support/400 Organizer menu will be displayed when you sign on the AS/400 system. This menu combines AS/400 and PC commands.

OfficeVision/400 Menu

The main menu for the OfficeVision/400 program will be displayed when you sign on the AS/400 system.

AS/400 initial menu

The display you normally see first will be displayed when you sign on the AS/400 system.

PC Support functions to be started automatically

This option allows you to select which functions you want to start automatically when you start PC Support. The functions you can select are:

- Virtual printer
- Message function

The necessary commands for the functions you select are added to the STARTPCS.CMD file. For a description of these functions, see "Functions Available with PC Support/400" on page 1-13.

When you are finished typing this information, press the Enter key. The following display appears:

```

PC Support/400 Installation
(PC to AS/400 Connection)

The names that you specify below for the PC location and system names are OS/2
Communications Manager aliases for the actual Local LU and Partner LU names.
The actual Local LU and Partner LU names are specified within OS/2
Communications Manager.

Select choices, press Enter.

PC Information
  PC location name . . . . . [5250LU ]

System Information
  Name of system to connect to . . . . . [5250PLU ]

Enter      Esc=Cancel      F1=Help      F3=Exit

```

7. Enter the following information:

PC location name

This is the name of the OS/2 communications manager program alias for the actual local LU name (the name of your personal computer on the network). The OS/2 basic configuration services program names this alias 5250LU. You should accept this as the default.

Name of system to connect to

This is the name of the OS/2 communications manager program alias for the actual partner LU name (the name of the AS/400 system you want to connect to). The OS/2 basic configuration services program names this alias 5250PLU. You should accept this as the default.

8. When the program is complete, the PC Support/400 Installation Completed display is shown. Before you can start PC Support/400, you must start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting PC Support/400

Before you start PC Support/400, you must start the OS/2 communications manager program and start your session with the AS/400 system.

If PC Support/400 does not start automatically when you start your personal computer, you can start it by doing the following:

1. Click on the PC Support/400 Group icon in the Workplace Shell Desktop. The PC Support/400 Group window appears.
2. Double-click on the Start PC Support/400 icon.

If PC Support/400 does not work properly, see Part 5, "Analyzing Problems with PC Support/400." For information about configuring the PC Support/400 functions, see Part 4, "Configuring PC Support/400."

Copying the PC Support Functions to the Personal Computer

It is recommended that you copy the PC Support functions you will be using to the personal computer from the AS/400 system. The PC Support functions load and run faster when they are located on the personal computer. This initial copying is time-consuming, but performance is significantly enhanced for each time you start PC Support/400.

To copy the PC Support functions to the personal computer, do the following:

1. From the PC Support/400 Menu, select the **Configure PC Support/400** option.
2. The PC Support/400 Configuration menu appears. Select **General options**.
3. The **General Options for PC Support/400 display** appears. Select the **Location of PC Support functions** option.
4. The **Location of PC Support Functions display** appears. Select the functions that you want to copy to your hard disk. Do this by moving the cursor to the function and pressing the spacebar.
5. When you have selected the functions you want, press **F3 (Exit)**.
6. Select **Save** and **exit**. The **Copy Files to Your Personal Computer display** appears.
7. Select whether you want to copy the functions now or the next time you start PC Support/400.

The necessary files will be copied to your personal computer, and the STARTPCS file will be changed to run the function from your personal computer.

Chapter 9. Installing PC Support/400 for 5494 Remote Communications

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OS/2 Communications Manager Configuration Work Sheet – Remote 5494

Before you configure the OS/2 communications manager program on the personal computer, you must configure the AS/400 system for communications. Fill out one copy of this work sheet for each personal computer as instructed. You will need this information when you configure the OS/2 communications manager program on the personal computer.

Note: Reference numbers are listed on the work sheet to assist you in finding the correct parameter.

Remote 5494 Communications OS/2 Communications Manager Work Sheet		
Refer- ence Number	Configuration Parameter	Fill In Your Information
1	5250 local LU name	
2	5250 partner LU name	
3	5250 mode name	QPCSUPP (system supplied)
4	Controller address	
5	Local node name	
6	Network name	

Configuring 5494 Remote Control Units

This chapter discusses how to configure and manage the 5494 controller on the AS/400 system. For information on how to configure the 5494 controller hardware, see the *5494 Remote Control Unit Planning Guide*, GA27-3936 and the *5494 Remote Control Unit User's Guide*, GA27-3960.

The 5494 controller performs all of the functions of the 5394 controller, plus:

- The 5494 Remote Control Unit can attach to a token-ring network, with the following token-ring configurations:
 - Token-ring gateway configuration, which supports up to 40 downstream devices. Up to 28 of these devices can be attached as 5250 (dependent) devices; the remainder (or all 40) can be programmable (independent) work stations attached to a token-ring network.

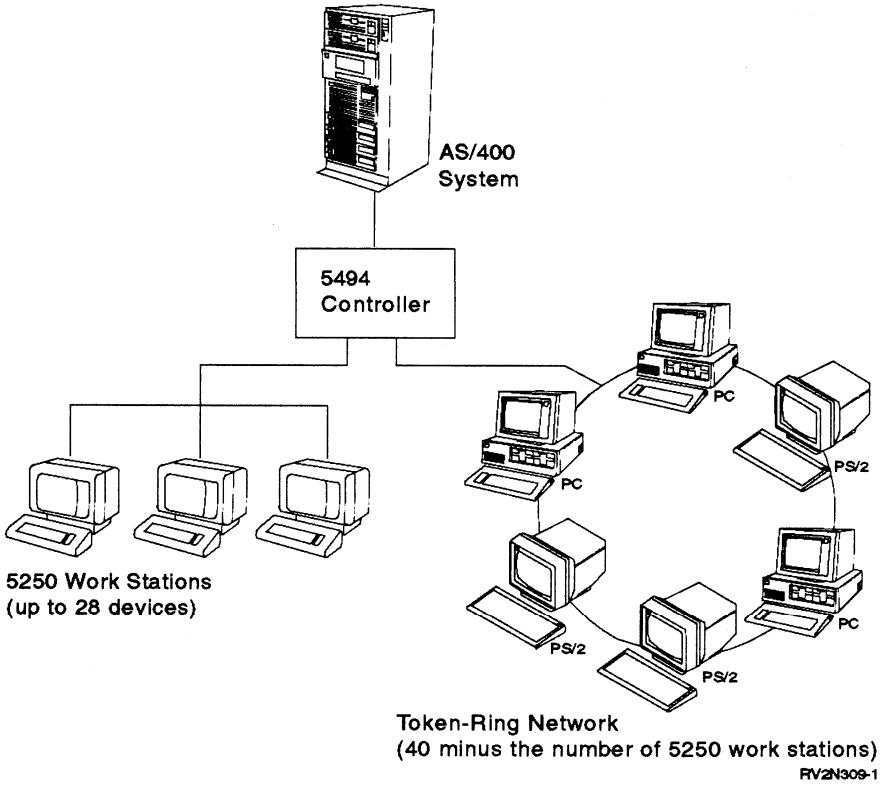


Figure 9-1. 5494 Remote Control Unit in a Token-Ring Gateway Configuration.

- AS/400 token-ring attachment configuration, which allows you to connect the 5494 controller to an AS/400 system through a token-ring network. You can connect up to twenty-eight 5250 devices in this configuration.

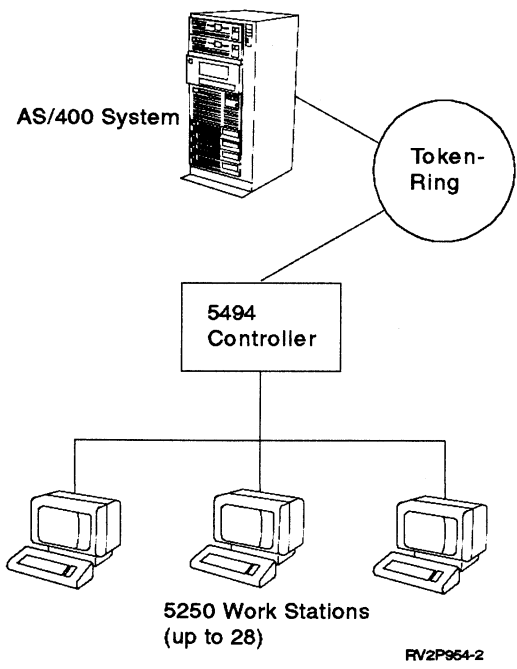


Figure 9-2. 5494 Remote Control Unit with AS/400 Token-Ring Attachment Configuration.

- The 5494 Remote Control Unit uses logical unit 6.2 (LU6.2) to communicate with the AS/400 system. This allows for better performance when using attached SNA devices.

Configuring the 5494 Remote Control Unit on the AS/400 System

You may use an SDLC connection, an X.25 connection, or a Token-ring connection with the 5494 Remote Control Unit.

- If you are using an SDLC connection, continue with “Configuring 5494 (SDLC) Connections.”
- If you are using an X.25 connection, go to “Configuring 5494 (X.25) Connections” on page 9-13.
- If you are using a Token-ring connection, go to “Configuring 5494 (Token-Ring) Connections” on page 9-21.

The AS/400 system provides a mode description, QRMTWSC, for use with the 5494 controller. There are 28 sessions available for 5250 devices with this mode. If the number of sessions is not enough (you have more than one 5494 controller), use the Change Mode Description (CHGMODD) command to increase the number of sessions associated with mode QRMTWSC.

Note: This mode is not for the PC Support session.

Configuring 5494 (SDLC) Connections

To configure a 5494 (SDLC) connection, you must configure a line description to the network, an APPC controller description, and a 5494 controller description. If previous communications between the AS/400 system and the network have occurred, this may already be done.

Configuring an SDLC Line Description

To create an SDLC line description:

1. Type the command CRTLINS DLC and press F4(Prompt). The following display appears:

```

                                Create Line Desc (SDLC) (CRTLINSDLC)

Type choices, press Enter.

Line description . . . . . Name
Resource names . . . . . Name
                                + for more values
Online at IPL . . . . . *YES      *YES, *NO
Data link role . . . . . *NEG      *NEG, *PRI, *SEC
Physical interface . . . . . *RS232V24 *RS232V24, *V35, *X21, ...
Connection type . . . . . *NONSWTPP *NONSWTPP, *SWTPP, *MP, *SHM

                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

On this display, you need to supply the following information:

Line description

Type the name of the line description you are creating.

Resource names

A resource name identifies the hardware this description represents. This name may be determined using the Work with Hardware Resource (WRKHDWRSC) command.

Data link role

The data link role specifies whether the system is the primary or secondary station, or whether the system dynamically negotiates the primary and secondary roles. The possible values are:

***NEG**
Negotiable

***PRI**
Primary

***SEC**
Secondary

Connection type

This is the connection type to be used for this line. The possible values are:

***NONSWTPP**
Nonswitched point-to-point line

***SWTPP**
Switched point-to-point line

***MP**
Multipoint line

***SHM**

X.21 short hold mode line

- When you finish typing this information, press the Enter key. Depending on whether you selected *NONSWTPP, *SWTPP, *MP, or *SHM, a display similar to the following appears:

```

                                Create Line Desc (SDLC) (CRTLINS DLC)

Type choices, press Enter.

Line description . . . . . > NYLINE      Name
Resource names . . . . . > LIN061      Name
                                + for more values

Online at IPL . . . . . *YES           *YES, *NO
Data link role . . . . . > *PRI        *NEG, *PRI, *SEC
Physical interface . . . . . *RS232V24 *RS232V24, *V35, *X21, ...
Connection type . . . . . > *SWTPP     *NONSWTPP, *SWTPP, *MP, *SHM
Vary on wait . . . . . *NOWAIT        *NOWAIT, 15-180 (1 second)
Autocall unit . . . . . *NO           *NO, *YES
Exchange identifier . . . . . *SYSGEN  05600000-056FFFFFF, *SYSGEN
NRZI data encoding . . . . . *YES      *YES, *NO
Line speed . . . . . 9600             600, 1200, 2400, 4800...
Modem type supported . . . . . *NORMAL *NORMAL, *V54, *IBMWRAP...
Switched connection type . . . . . *BOTH *BOTH, *ANS, *DIAL
Autoanswer . . . . . *YES            *YES, *NO
Autodial . . . . . *NO               *NO, *YES

F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
More...
    
```

Note: You may leave the default value for the NRZI data encoding prompt, but the value must match the value for this prompt in the 5494 controller configuration setup.

- Press the Page Down key to move to the next set of prompts. A display similar to the following is shown:

```

                                Create Line Desc (SDLC) (CRTLINS DLC)

Type choices, press Enter.

Calling number . . . . . *NONE
Connect poll retry . . . . . 7          0-64
Maximum frame size . . . . . 521        265, 521, 1033, 2057
Duplex . . . . . *HALF                 *HALF, *FULL
Nonproductive receive timer . . 320     160-4200 (0.1 seconds)
Idle timer . . . . . 30                5-300 (0.1 seconds)
Connect poll timer . . . . . 30        2-300 (0.1 seconds)
Poll cycle pause . . . . . 0          0-2048 (0.0001 seconds)
Frame retry . . . . . 7                0-64
Autoanswer type . . . . . *DTR         *DTR, *CDSTL
Remote answer timer . . . . . 60       30, 35, 40, 45, (seconds)...
Text 'description' . . . . . *BLANK

F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
Bottom
    
```

On this display, you need to supply the following information:

Text 'description'

Type a description that uniquely identifies this line.

Notes:

- a. The maximum possible value for the *Maximum frame size* prompt for a 5494 controller is 521.
 - b. You may leave the default value for the *Duplex* prompt, but the value must match the capabilities of your data circuit terminating equipment (DCE) and your 5494 configuration value.
4. When you finish typing this information, press the Enter key. You have completed the configuration of the SDLC line.

Configuring an APPC Controller for an SDLC Connection

This controller description is used to connect the 5494 controller to the AS/400 system.

Note: The APPC controller description automatically creates the APPC device description. To change the APPC device description, use the Work with Device Description (WRKDEVD) command.

To create an APPC controller description:

1. Type the command CRTCTLAPPC and press F4 (Prompt). The following display appears:

Create Ctl Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description	Name
Link type	*IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL *YES	*YES, *NO

Bottom

F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

On this display, you need to supply the following information:

Controller description

Type the name of the controller description you are creating.

Link type

Type *SDLC.

2. When you finish typing this information, press the Enter key. The following display appears:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > NYAPPC      Name
Link type . . . . . > *SDLC                    *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                    *YES, *NO
Switched connection . . . . . *NO                *NO, *YES

                                                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

If your line is switched, change the value for the *Switched connection* prompt to *YES.

3. Press the Enter key. A display similar to the following is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > NYAPPC      Name
Link type . . . . . > *SDLC                    *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                    *YES, *NO
Switched connection . . . . . > *YES          *NO, *YES
Short hold mode . . . . . *NO                  *NO, *YES
APPN-capable . . . . . *YES                    *YES, *NO

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

4. Press the Enter key again. The following display is shown:


```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > NYAPPC           Name
Link type . . . . . > *SDLC                       *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                       *YES, *NO
Switched connection . . . . . > *YES              *NO, *YES
Short hold mode . . . . . *NO                      *NO, *YES
APPN-capable . . . . . *YES                       *YES, *NO
Switched line list . . . . .                       Name
      + for more values
Maximum frame size . . . . . *LINKTYPE            265-16393, 256, 265, 512...
Remote network identifier . . . *NETATR           Name, *NETATR, *NONE, *ANY
Remote control point . . . . .                   Name, *ANY
Exchange identifier . . . . .                     00000000-FFFFFFFF
Initial connection . . . . . *DIAL                *DIAL, *ANS

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

```

On this display, you need to supply the following information:

Switched line list

These are the names of the switched lines to which this controller attaches. Specify the name of the line description created in "Configuring an SDLC Line Description" on page 9-4.

Remote network identifier

Leave the value *NETATR to use the same network identifier as the AS/400 system. This is field Hn:3 (where n is any number) on the 5494 configuration display.

Remote control point

Enter the remote control point name for this controller. The remote control point name must match the control point name of the 5494 controller. This is field 13 on the 5494 configuration display.

Initial connection

Specify an initial connection of *ANS.

5. Press the Page Down key to move to the next set of prompts. A display similar to the following is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > NYAPPC      Name
Link type . . . . . > *SDLC                  *IDL, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . > *YES                *YES, *NO
Switched connection . . . . . > *YES          *NO, *YES
Short hold mode . . . . . > *NO              *NO, *YES
APPN-capable . . . . . > *YES                *YES, *NO
Switched line list . . . . . > NYLINE         Name
      + for more values
Maximum frame size . . . . . *LINKTYPE       265-16393, 256, 265, 512...
Remote network identifier . . . *NETATR      Name, *NETATR, *NONE, *ANY
Remote control point . . . . . > L5494       Name, *ANY
Exchange identifier . . . . . 05600000      00000000-FFFFFFF
Initial connection . . . . . > *ANS          *DIAL, *ANS
Connection link number . . . . .
Data link role . . . . . *NEG                *NEG, *PRI, *SEC

More...
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

6. Press the Page Down key to move to the next set of prompts. A display similar to the following is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Station address . . . . . 00-FE
APPN CP session support . . . . *YES      *YES, *NO
APPN node type . . . . . *ENDNODE      *ENDNODE, *LENNODE...
APPN transmission group number  1         1-20, *CALC
APPN minimum switched status . . *VRYONPND *VRYONPND, *VRYON
Autodelete device . . . . . 1440        1-10000, *NO
User-defined 1 . . . . . *LIND         0-255, *LIND
User-defined 2 . . . . . *LIND         0-255, *LIND
User-defined 3 . . . . . *LIND         0-255, *LIND
Text 'description' . . . . . *BLANK

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

On this display, you need to supply the following information:

Station address

Type the station address to be used when communicating with the controller. The station address must match the station address of the 5494 controller. This is field 2 on the 5494 configuration display.

APPN CP session support

Specify a value of *NO.

APPN node type

The only valid APPN node type for a 5494 controller is *LENNODE.

Text 'description'

Type a description that uniquely identifies this controller.

- When you finish typing this information, press the Enter key. You have completed the configuration of the APPC controller.

Configuring a Remote Work Station Controller for an SDLC Connection

To create a remote work station controller description:

- Type the command CRTCTLRWS and press F4 (Prompt). The following display is shown:

```

                                Create Ct1 Desc (Remote WS) (CRTCTLRWS)

Type choices, press Enter.

Controller description . . . . .                               Name
Controller type . . . . .                                     3174, 3274, 5251, 5294...
Controller model . . . . .                                   0, 1, 0001, 2, 0002, 12, 0012
Link type . . . . .                                         *IDLC, *LAN, *NONE, *SDLC...
Online at IPL . . . . . *YES                               *YES, *NO

                                                                 Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

On this display, you need to supply the following information:

Controller description

Type the name of the controller description you are creating.

Controller type

Type 5494.

Controller model

Type the model number of your 5494 controller. Possible values for a 5494 SDLC connection are 1 or 2.

Link type

Enter the value *NONE to indicate LU6.2 attachment. The controller description will not be physically attached to a line description.

- When you finish typing this information, press the Enter key. The following display appears:

```

                                Create Ctl Desc (Remote WS) (CRTCTLRWS)

Type choices, press Enter.

Controller description . . . . . > NYRWSCTL      Name
Controller type . . . . . > 5494                3174, 3274, 5251, 5294...
Controller model . . . . . > 1                  0, 1, 0001, 2, 0002, 12, 0012
Link type . . . . . > *NONE                    *IDLC, *LAN, *NONE, *SDLC...
Online at IPL . . . . . > *YES                 *YES, *NO
Remote location . . . . .                      Name
Local location . . . . . *NETATR                Name, *NETATR
Remote network identifier . . . *NETATR         Name, *NETATR, *NONE
Text 'description' . . . . . *BLANK

                                                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

On this display, you need to supply the following information:

Remote location

Enter the remote location name for this controller. The remote location name must match the logical unit (LU) name of the 5494 controller. This is field 12 on the 5494 configuration display.

Note: If the 5494 LU name does not match the 5494 control point name, you must create a remote configuration list on the AS/400 system.

Local location

Enter the local location name for this controller. The local location name must match the remote location name of the AS/400 system on the 5494 controller. A value of *NETATR causes the network identifier specified in the network attributes to be used. This is field Hx:1 on the 5494 configuration display.

Remote network identifier

Enter the remote network identifier for this controller. The remote network identifier must match the network identifier that is specified on the 5494 controller. A value of *NETATR causes the network identifier specified in the network attributes to be used. This is field Hx:3 on the 5494 configuration display.

Text 'description'

Type a description that uniquely identifies this controller.

- When you finish typing this information, press the Enter key. You have completed the configuration of the remote work station controller. Continue with "Preparing to Install PC Support/400 on the Personal Computer" on page 9-27.

Configuring 5494 (X.25) Connections

To configure a 5494 (X.25) connection, you must configure a line description to the network, an APPC controller description, and a 5494 controller description. If previous communications between the AS/400 system and the network have occurred, this may already be done.

Configuring an X.25 Line Description

To create an X.25 line description:

1. Type the command CRTLINX25 and press F4 (Prompt). The following display appears:

```

                                Create Line Desc (X.25) (CRTLINX25)

Type choices, press Enter.

Line description . . . . . Name
Resource name . . . . . Name, *NWID
Logical channel entries:
  Logical channel identifier . . 001-FFF, *PROMPT
  Logical channel type . . . . . *PVC, *SVCIN, *SVCBOTH...
  PVC controller . . . . . Name
                                + for more values
Local network address . . . . .
Connection initiation . . . . . *LOCAL, *REMOTE, *WAIT
Online at IPL . . . . . *YES *YES, *NO
Physical interface . . . . . *X21BISV24 *X21BISV24, *X21BISV35...
Connection type . . . . . *NONSWTPP *NONSWTPP, *SWTPP

                                Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

```

On this display, you need to supply the following information:

Line description

Type the name of the line description you are creating.

Resource names

A resource name identifies the hardware this description represents. This name may be determined using the Work with Hardware Resource (WRKHDWRSC) command.

Logical channel identifier

Valid values for a logical channel identifier range from hexadecimal 001 to FFF.

Logical channel type

The possible channel types are:

*PVC

permanent virtual circuit

*SVCIN

switched virtual circuit for incoming calls

*SVCBOTH

switched virtual circuit for both incoming and outgoing calls

***SVCOUT**

switched virtual circuit for outgoing calls

Note: If you specify *PVC for this prompt, the APPC controller must be connected with a nonswitched connection. If you specify *SVCIN, *SVCBOTH, or *SVCOUT, the APPC controller must be connected with a switched connection.

Local network address

This is the address of the local network.

Connection initiation

This specifies who initiates the X.25 Data Link connection. Possible values are:

***LOCAL**

local system initiates connection

***REMOTE**

remote system initiates connection

***WAIT**

local system waits for a disconnect or disconnect mode before attempting to activate the link

2. When you finish typing this information, press the Enter key. The following display appears:

```

                                Create Line Desc (X.25) (CRTLINX25)

Type choices, press Enter.

Line description . . . . . > CHILINE      Name
Resource name . . . . . > LINO21        Name, *NWID
Logical channel entries:
  Logical channel identifier . . > 001    001-FFF, *PROMPT
  Logical channel type . . . . . > *PVC   *PVC, *SVCIN, *SVCBOTH...
  PVC controller . . . . .             Name
                                + for more values
Local network address . . . . . > 11111111111111
Connection initiation . . . . . > *LOCAL  *LOCAL, *REMOTE, *WAIT
Online at IPL . . . . .             *YES   *YES, *NO
Physical interface . . . . .         *X21BISV24 *X21BISV24, *X21BISV35...
Connection type . . . . .           *NONSWTTP *NONSWTTP, *SWTTP
Vary on wait . . . . .             *NOWAIT  *NOWAIT, 15-180, (1 second)
Line speed . . . . .                9600    *CALC, 600, 1200, 2400...
Exchange identifier . . . . .       *SYSGEN  05600000-056FFFFFF, *SYSGEN
Extended network addressing . .     *NO      *YES, *NO
                                                More...

F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

3. Press the Page Down key to move to the next set of prompts. The following display is shown:

```

                                Create Line Desc (X.25) (CRTLINX25)

Type choices, press Enter.

Maximum frame size . . . . . 1024          1024, 2048, 4096
Default packet size:
  Transmit value . . . . . 128            64, 128, 256, 512, 1024...
  Receive value . . . . . *TRANSMIT      *TRANSMIT, 64, 128, 256...
Maximum packet size:
  Transmit value . . . . . *DFTPFSIZE    *DFTPFSIZE, 64, 128, 256...
  Receive value . . . . . *TRANSMIT      *DFTPFSIZE, *TRANSMIT, 64...
Modulus . . . . . 8                      8, 128
Default window size:
  Transmit value . . . . . 2             1-15
  Receive value . . . . . *TRANSMIT      1-15, *TRANSMIT
Insert net address in packets . *YES      *YES, *NO
Text 'description' . . . . . *BLANK

                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

On this display you need to enter the following information:

Text 'description'

Type a description that uniquely identifies this line.

4. Press F10 (Additional parameters). Press the Page Down key to move to the next set of prompts. The following display is shown:

```

                                Create Line Desc (X.25) (CRTLINX25)

Type choices, press Enter.

                                Additional Parameters

X.25 DCE support . . . . . *NO          *NO, *YES
Network controller . . . . .           Name
Switched controller list . . . . . *NONE  Name, *NONE
      + for more values
Idle timer . . . . . 40                3-600 in 0.1 second intervals
Frame retry . . . . . 7                0-64
Error threshold level . . . . . *OFF    *OFF, *MIN, *MED, *MAX
Modem type supported . . . . . *NORMAL  *NORMAL, *V54, *IBMWRAP
Modem data rate select . . . . . *FULL  *FULL, *HALF
Clear To Send timer . . . . . 25       10-60 (seconds)
Link speed . . . . . *INTERFACE        *INTERFACE, *MIN, 1200...
Cost/connect time . . . . . 128        0-255
Cost/byte . . . . . 128                0-255

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

```

On this display, you need to supply the following information:

X.25 DCE support

Type *YES if the system communicates through the X.25 data circuit-terminating equipment (DCE) support.

5. When you finish typing this information, press the Enter key. You have completed the configuration of the X.25 line.

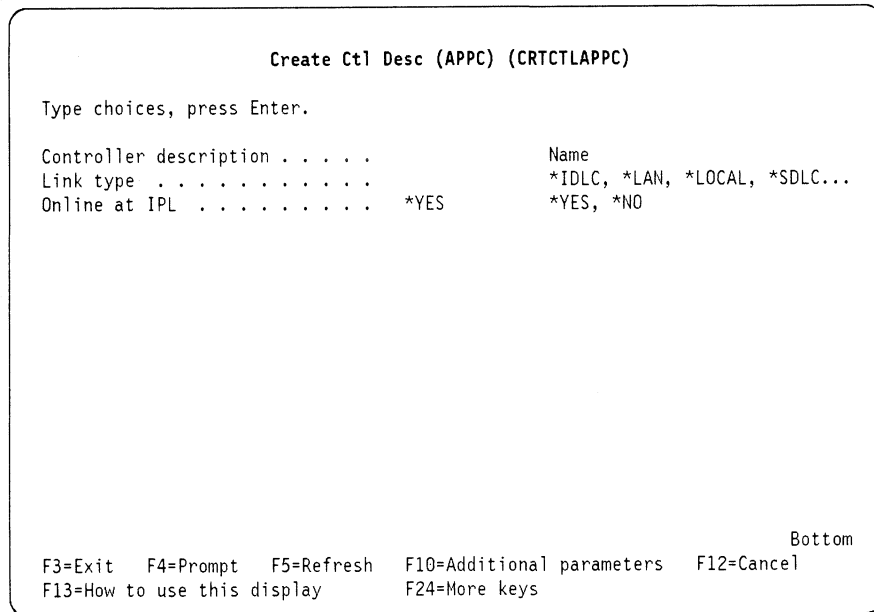
Configuring an APPC Controller for an X.25 Connection

This controller description is used to connect the 5494 controller to the AS/400 system.

Note: The APPC controller description automatically creates the APPC device description. To change the APPC device description, use the Work with Device Description (WRKDEVD) command.

To create an APPC controller description:

1. Type the command CRTCTLAPPC and press F4 (Prompt). The following display appears:



On this display, you need to supply the following information:

Controller description

Type the name of the controller description you are creating.

Link type

Type *X25.

2. When you finish typing this information, press the Enter key. The following display is shown:


```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > CHIAPPC      Name
Link type . . . . . > *X25                      *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                    *YES, *NO
Switched connection . . . . . *NO               *NO, *YES

                                                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

3. Press the Enter key again. The following display is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > CHIAPPC      Name
Link type . . . . . > *X25                      *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                    *YES, *NO
Switched connection . . . . . *NO               *NO, *YES
APPN-capable . . . . . *YES                     *YES, *NO

                                                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Press F10 (Additional parameters). The following display is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > CHIAPPC      Name
Link type . . . . . > *X25                    *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                  *YES, *NO
Switched connection . . . . . *NO            *NO, *YES
APPN-capable . . . . . *YES                  *YES, *NO
Attached nonswitched line . . . . .           Name
Maximum frame size . . . . . *LINKTYPE       265-16393, 256, 265, 512...
Remote network identifier . . . *NETATR       Name, *NETATR, *NONE, *ANY
Remote control point . . . . .              Name, *ANY
Exchange identifier . . . . .               00000000-FFFFFFFF
Data link role . . . . . *NEG                *NEG, *PRI, *SEC

                                                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

On this display, you need to supply the following information:

Attached nonswitched line

Type the name of the line that was created in "Configuring an X.25 Line Description" on page 9-13.

Remote network identifier

Leave the value *NETATR to use the same network identifier as the AS/400 system. This is field Hx:3 on the 5494 configuration display.

Remote control point

Enter the remote control point name for this controller. The remote control point name must match the control point name of the 5494 controller. This is field 13 on the 5494 configuration display.

- When you finish typing this information, press the Enter key. The following display is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > CHIAPPC      Name
Link type . . . . . > *X25                    *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                  *YES, *NO
Switched connection . . . . . *NO            *NO, *YES
APPN-capable . . . . . *YES                  *YES, *NO
Attached nonswitched line . . . . . > CHILINE   Name
Maximum frame size . . . . . *LINKTYPE       265-16393, 256, 265, 512...
Remote network identifier . . . *NETATR       Name, *NETATR, *NONE, *ANY
Remote control point . . . . . > LU5494       Name, *ANY
Exchange identifier . . . . .               00000000-FFFFFFFF
Data link role . . . . . *NEG                *NEG, *PRI, *SEC
X.25 network level . . . . .               1980, 1984, 1988
X.25 link level protocol . . . . *QLLC    *QLLC, *ELLC
X.25 logical channel ID . . . .           001-FFF
APPN CP session support . . . . *YES    *YES, *NO
APPN node type . . . . . *ENDNODE          *ENDNODE, *LENNODE...

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

On this display, you need to supply the following information:

X.25 network level

Type the year of the standard used by the X.25 network.

X.25 logical channel ID

Type the logical channel identifier used for the X.25 permanent virtual circuit (PVC) to this controller. The first digit is the logical group number. The last two digits are the logical channel number.

APPN CP session support

Specify a value of *NO.

APPN node type

The only valid APPN node type for a 5494 controller is *LENNODE.

Text 'description'

Type a description that uniquely identifies this controller.

- When you finish typing this information, press the Enter key. You have completed the configuration of the APPC controller.

Configuring a Remote Work Station Controller for an X.25 Connection

To create a remote work station controller description:

- Type the command CRTCTRLWS and press F4 (Prompt). The following display is shown:

```

                                Create Ctl Desc (Remote WS) (CRTCTRLWS)

Type choices, press Enter.

Controller description . . . . .                               Name
Controller type . . . . .                                     3174, 3274, 5251, 5294...
Controller model . . . . .                                   0, 1, 0001, 2, 0002, 12, 0012
Link type . . . . .                                         *IDL, *LAN, *NONE, *SDLC...
Online at IPL . . . . . *YES                                *YES, *NO

                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

On this display, you need to supply the following information:

Controller description

Type the name of the controller description you are creating.

Controller type

Type 5494.

Controller model

The model number for an X.25 connection is 1.

Link type

Enter the value *NONE to indicate LU6.2 attachment. The controller description will not be physically attached to a line description.

- When you finish typing this information, press the Enter key. The following display appears:

```

                                Create Ct1 Desc (Remote WS) (CRTCTLRWS)

Type choices, press Enter.

Controller description . . . . . > NYRWSCTL      Name
Controller type . . . . . > 5494                3174, 3274, 5251, 5294...
Controller model . . . . . > 1                  0, 1, 0001, 2, 0002, 12, 0012
Link type . . . . . > *NONE                    *IDLC, *LAN, *NONE, *SDLC...
Online at IPL . . . . . *YES                    *YES, *NO
Remote location . . . . .                      Name
Local location . . . . . *NETATR                Name, *NETATR
Remote network identifier . . . *NETATR         Name, *NETATR, *NONE
Text 'description' . . . . . *BLANK

                                                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display      F24=More keys
    
```

On this display, you need to supply the following information:

Remote location

Enter the remote location name for this controller. The remote location name must match the logical unit (LU) name of the 5494 controller. This is field 12 on the 5494 configuration display.

Local location

Enter the local location name for this controller. The local location name must match the remote location name of the AS/400 system on the 5494 controller. A value of *NETATR causes the network identifier specified in the network attributes to be used. This is field Hx:1 on the 5494 configuration display.

Remote network identifier

Enter the remote network identifier for this controller. The remote network identifier must match the network identifier that is specified on the 5494 controller. A value of *NETATR causes the network identifier specified in the network attributes to be used. This is field Hx:3 on the 5494 configuration display.

Text 'description'

Type a description that uniquely identifies this controller.

- When you finish typing this information, press the Enter key. You have completed the configuration of the remote work station controller. Continue with "Preparing to Install PC Support/400 on the Personal Computer" on page 9-27.

Configuring 5494 (Token-Ring) Connections

To configure a 5494 (token-ring) connection, you must configure a line description to the network, an APPC controller description, and a 5494 controller description. If previous communications between the AS/400 system and the network have occurred, this may already be done.

Configuring a Token-Ring Line Description

To create a token-ring line description:

1. Type the command CRTLINTRN and press F4 (Prompt). The following display appears:

```

                                Create Line Desc (Token-Ring) (CRTLINTRN)

Type choices, press Enter.

Line description . . . . . Name
Resource name . . . . . Name
Online at IPL . . . . . *YES *YES, *NO
Vary on wait . . . . . *NOWAIT *NOWAIT, 15-180 (1 second)
Maximum controllers . . . . . 40 1-256
Line speed . . . . . 4M 4M, 16M
Maximum frame size . . . . . 1994 265-16393, 265, 521, 1033...
Local adapter address . . . . . *ADPT 400000000000-7FFFFFFFFF...
Exchange identifier . . . . . *SYSGEN 05600000-056FFFFFF, *SYSGEN
SSAP list:
  Source Service Access Point . *SYSGEN 02-FE, *SYSGEN
  SSAP maximum frame . . . . . *MAXFRAME, 265-16393
  SSAP type . . . . . *CALC, *NONSNA, *SNA
  + for more values
Text 'description' . . . . . *BLANK

                                Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

```

On this display, you need to supply the following information:

Line description

Type the name of the line description you are creating.

Resource name

A resource name identifies the hardware this description represents. This name may be determined using the Work with Hardware Resource (WRKHDWRSC) command.

Text 'description'

Type a description that uniquely identifies this line.

2. When you finish typing this information, press the Enter key. You have completed the configuration of the token-ring line.

Configuring an APPC Controller for a Token-Ring Connection

This controller description is used to connect the 5494 controller to the AS/400 system.

Note: The APPC controller description automatically creates the APPC device description. To change the APPC device description, use the Work with Device Description (WRKDEVVD) command.

To create an APPC controller description:

1. Type the command CRTCTLAPPC and press F4 (Prompt). The following display appears:

```

                                Create Ctl Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . .
Link type . . . . .
Online at IPL . . . . . *YES

Name
*IDLC, *LAN, *LOCAL, *SDLC...
*YES, *NO

Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys
    
```

On this display, you need to supply the following information:

Controller description

Type the name of the controller description you are creating.

Link type

Type *LAN.

2. When you finish typing this information, press the Enter key. The following display appears:

```

                                Create Ctl Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > LAAPPC
Link type . . . . . > *LAN
Online at IPL . . . . . *YES
APPN-capable . . . . . *YES

Name
*IDLC, *LAN, *LOCAL, *SDLC...
*YES, *NO
*YES, *NO

Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys
    
```

Press the Enter key again. The following display is shown:

```

                                Create Ctl Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > LAAPPC           Name
Link type . . . . . > *LAN                         *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES                       *YES, *NO
APPN-capable . . . . . *YES                       *YES, *NO
Switched line list . . . . .                       Name
      + for more values
Maximum frame size . . . . . *LINKTYPE            265-16393, 256, 265, 512...
Remote network identifier . . . *NETATR           Name, *NETATR, *NONE, *ANY
Remote control point . . . . .                   Name, *ANY
Exchange identifier . . . . .                     00000000-FFFFFFF
Initial connection . . . . . *DIAL                *DIAL, *ANS

                                                                    Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

On this display, you need to supply the following information:

Switched line list

Type the name of the line that was created in "Configuring a Token-Ring Line Description" on page 9-21.

Remote network identifier

Leave the value *NETATR to use the same network identifier as the AS/400 system. This is field Hx:3 on the 5494 configuration display.

Remote control point

Enter the remote control point name for this controller. The remote control point name must match the control point name of the 5494 controller. This is field 13 on the 5494 configuration display.

Initial connection

Specify an initial connection of *ANS.

- When you finish typing this information, press the Enter key. The following display is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

Controller description . . . . . > LAAPPC          Name
Link type . . . . . > *LAN          *IDLC, *LAN, *LOCAL, *SDLC...
Online at IPL . . . . . *YES        *YES, *NO
APPN-capable . . . . . *YES        *YES, *NO
Switched line list . . . . . > LALINE       Name
      + for more values
Maximum frame size . . . . . *LINKTYPE  265-16393, 256, 265, 512...
Remote network identifier . . . *NETATR  Name, *NETATR, *NONE, *ANY
Remote control point . . . . . > LU5494     Name, *ANY
Exchange identifier . . . . .          00000000-FFFFFFFF
Initial connection . . . . . > *ANS        *DIAL, *ANS
Dial initiation . . . . . *LINKTYPE    *LINKTYPE, *IMMED, *DELAY
LAN remote adapter address . . .          000000000001-FFFFFFFFFFFF
APPN CP session support . . . . *YES        *YES, *NO
APPN node type . . . . . *ENDNODE     *ENDNODE, *LENNODE...
APPN transmission group number  1        1-20, *CALC
                                                    More...

F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

On this display, you need to supply the following information:

LAN remote adapter address

Type the LAN adapter address of the remote controller. This is field 15 on the 5494 configuration display.

APPN node type

The only valid APPN node type for a 5494 controller is *LENNODE.

4. Press Page Down to display the next set of prompts. The following display is shown:

```

                                Create Ct1 Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

APPN minimum switched status . . *VRYONPND  *VRYONPND, *VRYON
Autodelete device . . . . . 1440      1-10000, *NO
User-defined 1 . . . . . *LIND      0-255, *LIND
User-defined 2 . . . . . *LIND      0-255, *LIND
User-defined 3 . . . . . *LIND      0-255, *LIND
Model controller description . . *NO        *NO, *YES
                                                    More...

F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

5. Press the Enter key. The following display is shown:


```

                                Create Ctl Desc (APPC) (CRTCTLAPPC)

Type choices, press Enter.

APPN minimum switched status . . *VRYONPND      *VRYONPND, *VRYON
Autodelete device . . . . .      1440          1-10000, *NO
User-defined 1 . . . . .          *LIND         0-255, *LIND
User-defined 2 . . . . .          *LIND         0-255, *LIND
User-defined 3 . . . . .          *LIND         0-255, *LIND
Model controller description . . *NO           *NO, *YES
Text 'description' . . . . .      *BLANK

More...
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display      F24=More keys

```

On this display, you need to supply the following information:

Text 'description'

Type a description that uniquely identifies this line.

- When you finish typing this information, press the Enter key. You have completed the configuration of the APPC controller.

Configuring a Remote Work Station Controller for a Token-Ring Connection

To create a remote work station controller description:

- Type the command CRTCTLRWS and press F4 (Prompt). The following display is shown:

```

                                Create Ctl Desc (Remote WS) (CRTCTLRWS)

Type choices, press Enter.

Controller description . . . . .      Name
Controller type . . . . .            3174, 3274, 5251, 5294...
Controller model . . . . .           0, 1, 0001, 2, 0002, 12, 0012
Link type . . . . .                  *IDLC, *LAN, *NONE, *SDLC...
Online at IPL . . . . .              *YES          *YES, *NO

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display      F24=More keys

```

On this display, you need to supply the following information:

Controller description

Type the name of the controller description you are creating.

Controller type

Type 5494.

Controller model

The model number for a token-ring connection is 2.

Link type

Enter the value *NONE to indicate LU6.2 attachment. The controller description will not be physically attached to a line description.

2. When you finish typing this information, press the Enter key. The following display appears:

```

                                Create Ctl Desc (Remote WS) (CRTCTLRWS)

Type choices, press Enter.

Controller description . . . . . > NYRWSCTL      Name
Controller type . . . . . > 5494                3174, 3274, 5251, 5294...
Controller model . . . . . > 2                  0, 1, 0001, 2, 0002, 12, 0012
Link type . . . . . > *NONE                    *IDLC, *LAN, *NONE, *SDLC...
Online at IPL . . . . . *YES                    *YES, *NO
Remote location . . . . .                      Name
Local location . . . . . *NETATR                Name, *NETATR
Remote network identifier . . . *NETATR         Name, *NETATR, *NONE
Text 'description' . . . . . *BLANK

                                Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

On this display, you need to supply the following information:

Remote location

Enter the remote location name for this controller. The remote location name must match the logical unit (LU) name of the 5494 controller. This is field 12 on the 5494 configuration display.

Local location

Enter the local location name for this controller. The local location name must match the remote location name of the AS/400 system on the 5494 controller. A value of *NETATR causes the network identifier specified in the network attributes to be used. This is field Hx:1 on the 5494 configuration display.

Remote network identifier

Enter the remote network identifier for this controller. The remote network identifier must match the network identifier that is specified on the 5494 controller. A value of *NETATR causes the network identifier specified in the network attributes to be used. This is field Hx:3 on the 5494 configuration display.

Text 'description'

Type a description that uniquely identifies this controller.

- When you finish typing this information, press the Enter key. You have completed the configuration of the remote work station controller. Continue with "Preparing to Install PC Support/400 on the Personal Computer."

Preparing to Install PC Support/400 on the Personal Computer

To prepare for installing PC Support/400 on the personal computer:

- Complete the necessary tasks on the AS/400 system as described in the following sections:
 - "Verifying the Installation of the PC Support/400 Licensed Program" on page 2-2
 - "Enrolling PC Support/400 Users" on page 2-3
 - Chapter 3, "Using the PC Support/400 Administration Function" (if required)
- Complete the work sheet on page 9-2.
- Install and configure the necessary OS/2 programs.

Completing the OS/2 Communications Manager Configuration Work Sheet

There is no configuration information required on the AS/400 system for personal computers that have a twinaxial or token-ring connection to the AS/400 system through the 5494 remote controller. Because the 5494 remote controller is a type 2.1 node and APPN capable, all of the APPC devices associated with the personal computers attached through the 5494 are automatically created through APPC automatic configuration on the AS/400 system.

Before the work sheet can be used to configure the OS/2 communications manager program on the personal computer, you need to fill out the fields on the work sheet on page 9-2:

5250 local LU name (1) and Local node name (5)

Each personal computer must have a unique location name. To make this easier to remember, use the user's user ID. This will be the name by which the personal computer is known on the network.

5250 partner LU name (2)

This is the name by which the AS/400 system is known on the network. You can determine the system name by using the Display Network Attributes (DSPNETA) command. Use the value in the *Default local location name* field.

5250 Mode name (3)

This mode description is created automatically when you install PC Support on the AS/400 system. You must enter QPCSUPP in this field.

Controller address (4)

For personal computers connected through a token-ring from a 5494 remote controller to an AS/400 system (through an SDLC or X.25 line between the AS/400 and the 5494), **the controller address is the token-ring adapter address of the 5494 token-ring adapter**. This is field 15 on the 5494 configuration display.

For personal computers connected through a twinaxial line from a 5494 remote controller to an AS/400 system, the controller address is any

twinaxial work station address (a valid value from 0 to 6) that is unique to the twinaxial 5494 port to which you are connecting. No two twinaxial devices on the same twinaxial port may have the same controller address.

Network name (6)

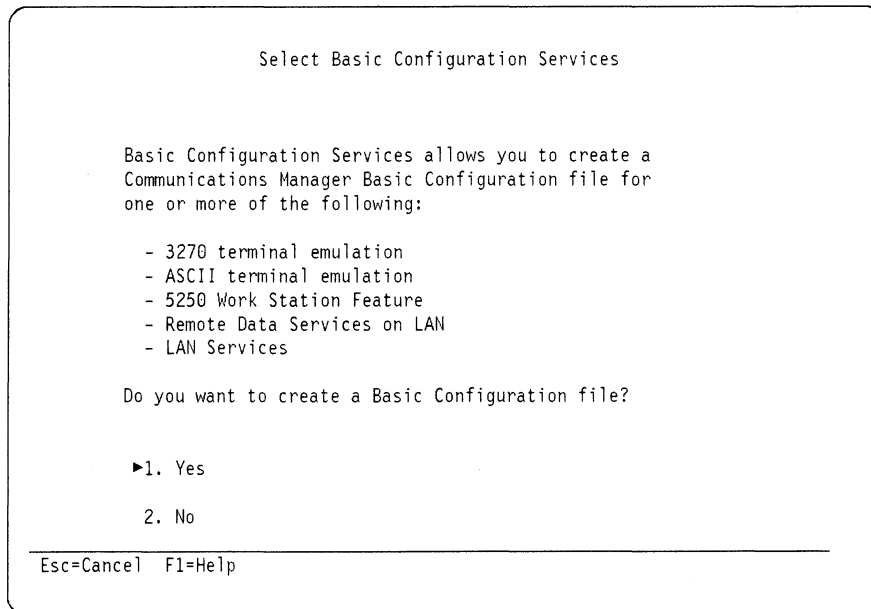
This is the local network ID of your network. To determine this value, use the Display Network Attributes (DSPNETA) command, and use the value in the *Local network ID* field. The AS/400 system is shipped with this value set to APPN.

Installing the OS/2 Program on Each Personal Computer

If you have not already installed the OS/2 program on the personal computer, insert the OS/2 installation diskette into the diskette drive and start your personal computer. Follow the online prompts to install the OS/2 program. If you need help while installing the OS/2 program, see the *OS/2 Getting Started* manual.

If you are installing OS/2 version 2.0, you need to install the OS/2 Extended Services version 1.0 program. Insert the diskette into the A: drive and enter
A:ESISNT

If you are installing OS/2 Extended Edition version 1.3, you will see the following display during the installation process. Select Yes and continue with "Configuring the OS/2 Communications Manager Program."



Configuring the OS/2 Communications Manager Program

Depending on the version of OS/2 you are using, the displays you see on your screen may be slightly different than those shown in this manual.

1. Start the basic configuration services program.

The way you do this depends on whether you are installing OS/2 Extended Edition 1.3 or OS/2 Extended Services 1.0. If you are:

Installing OS/2 1.3

You will be prompted during installation whether or not you want to start the basic configuration services program. Select Yes.

Installing Extended Services 1.0

1. Insert the OS/2 Extended Services 1.0 installation diskette into the A: drive.
2. Start an OS/2 command prompt, and make A: the current drive by typing
A:
3. Enter
ESINST
4. When the title screen appears, press the Enter key.
5. A window appears giving you general information about the Extended Services program. Press the Enter key to continue.
6. A window appears giving you an introduction to installing the Extended Services program. Press the Enter key to continue.
7. The Extended Services Installation Options menu appears. Select option 1, Basic configuration and installation.
The Basic Configuration Services display appears.
8. Select option 2 (Create).

No matter which method you use to start basic configuration services, the following window appears:

Create Basic Configuration File

Type a file name for Basic Configuration file
to be created and Enter.

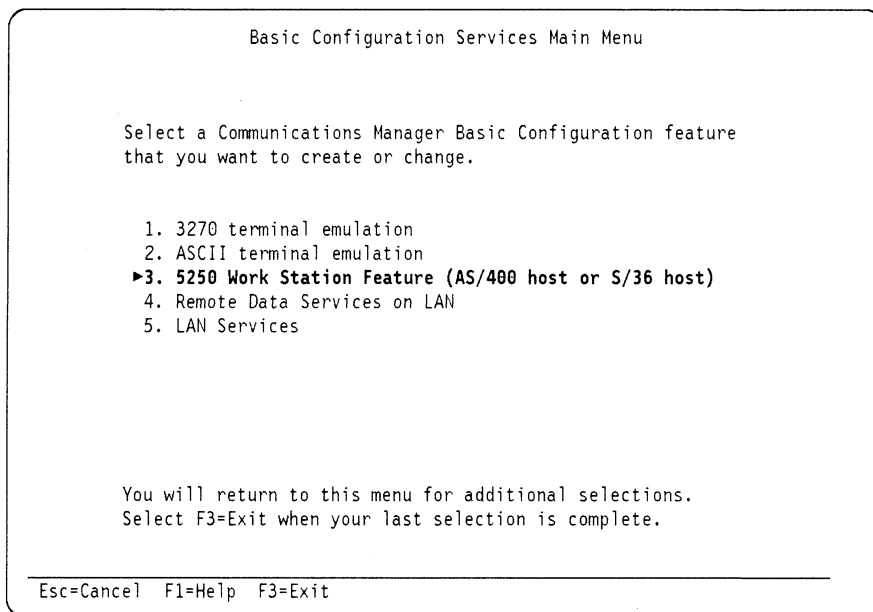
Basic Configuration file name. [JOEFILE]

2. Type any name you want for your configuration file. When you press the Enter key, the following window appears:

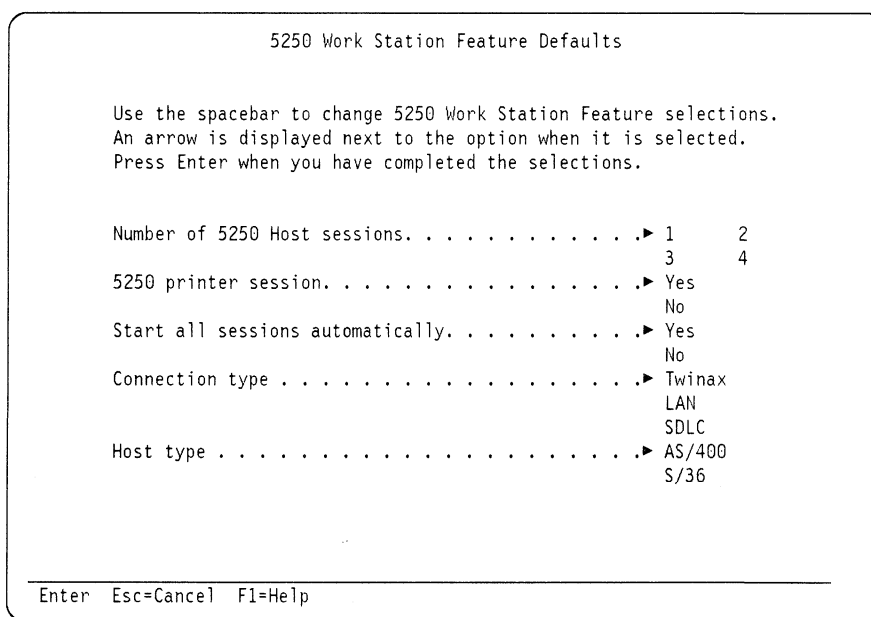
Change Basic Configuration File Comments

Comment. :
[Configuration file for Joe]

3. Type any description you want for your configuration file and press the Enter key. The following display appears:



4. Select option 3, 5250 Work Station Feature. The following display appears:



5. On this display, you need to select the following:

Number of 5250 host sessions

This is the number of display sessions that you may start with the AS/400 system.

5250 printer session

Select whether or not you want to start a printer session with the AS/400 system. A printer session allows you to print AS/400 output on your personal computer's printer.

Start all sessions automatically

Select whether or not you want all of your AS/400 display and printer sessions to start automatically when you start the OS/2 communications manager program.

Connection type

Select Twinaxial.

Host type

Select AS/400.

6. When you are finished selecting these options, press the Enter key. If you selected to have a printer session, the following display appears:

```

                    5250 Host Printer Emulation

                Select the type of host printer for emulation.

        ▶ 1. 5256...
           2. 5224...
           3. 5219...

-----
Esc=Cancel  F1=Help

```

7. On this display, select the type of AS/400 printer that you want your personal printer to emulate. When you press the Enter key, the following window appears:

```

                    5256/5224 Host Printer Defaults

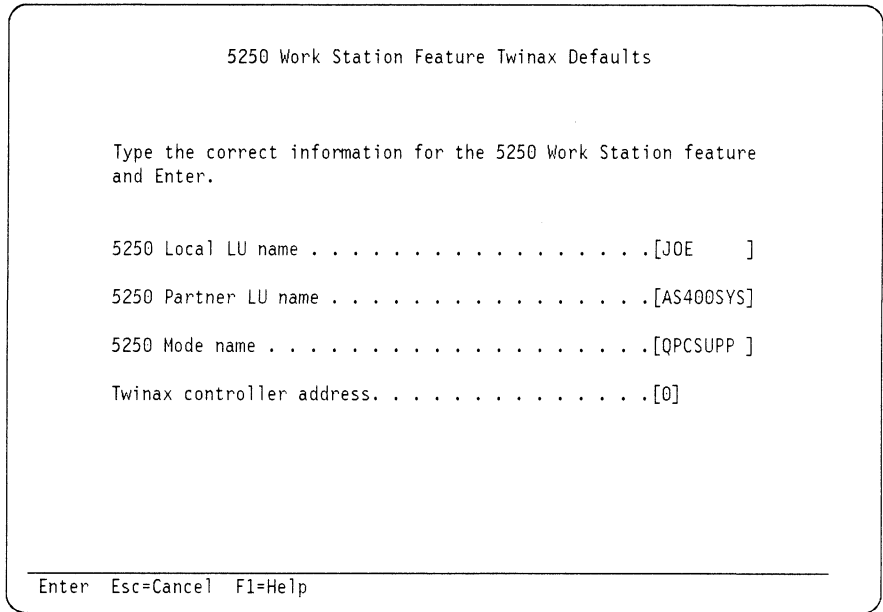
                Use the spacebar to change the 5256/5224 host printer
                selections. An arrow is displayed next to the option
                when it is selected. Press Enter when you have
                completed the selections.

Parallel port. . . . . ▶ LPT1  LPT2  LPT3

Printer type . . . . . ▶ IBM Proprinter
                       IBM Quietwriter printer
                       IBM Wheelprinter
                       IBM Graphics printer

```

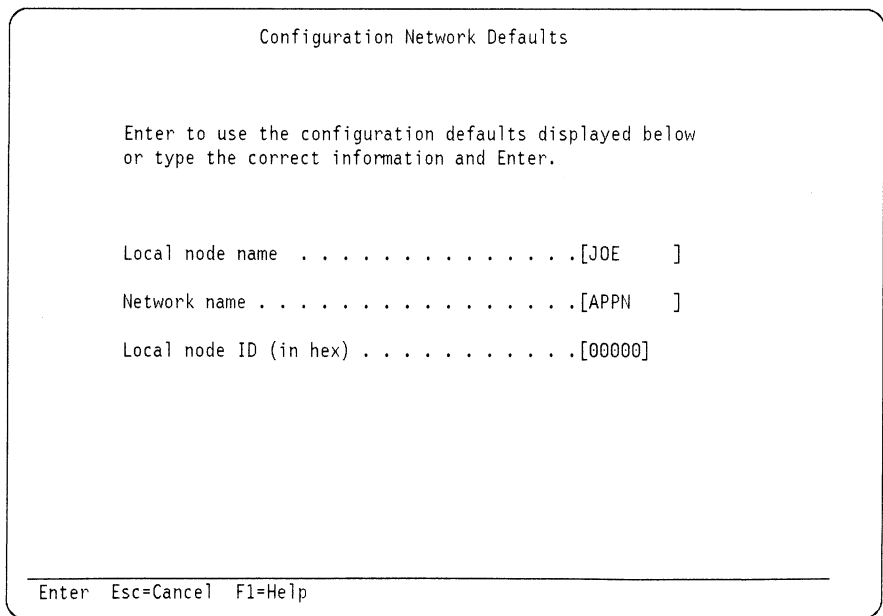
8. Select the port that your personal computer uses to communicate with the personal printer. Also, select the type of printer you are using. Then, press the Enter key. The following display appears:



9. On this display, enter the information that you recorded on the work sheet on page 9-2.

- 5250 Local LU name (**1**)
- 5250 Partner LU name (**2**)
- 5250 Mode name (**3**)
- Twinax controller address (**4**)

When you are finished, press the Enter key. The following display appears:

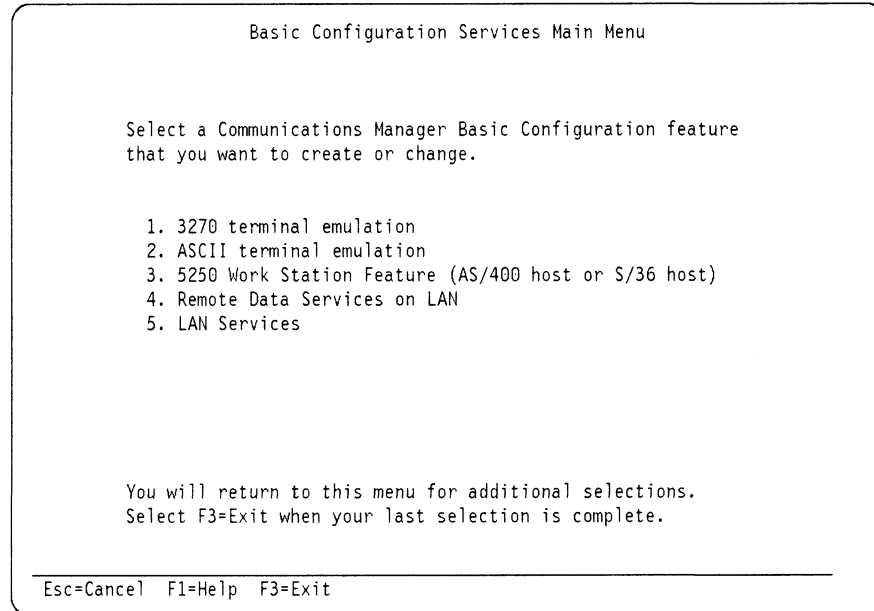


Note: If you are using OS/2 Extended Edition 1.3, the *local node name* is referred to as the *physical unit name*, and the *local node ID* is referred to as the *node ID*.

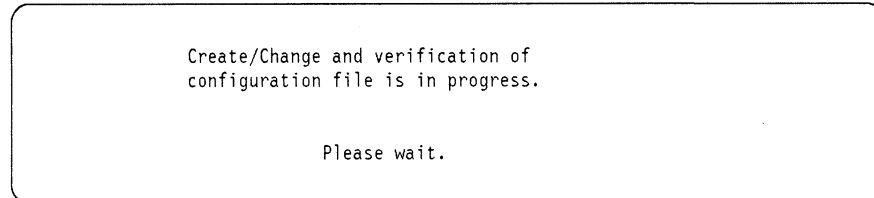
10. In the *Local node name* and the *Network name* fields, type the information from the work sheet.

- Local node name (**5**)
- Network name (**6**)
- Local node ID (in hex)

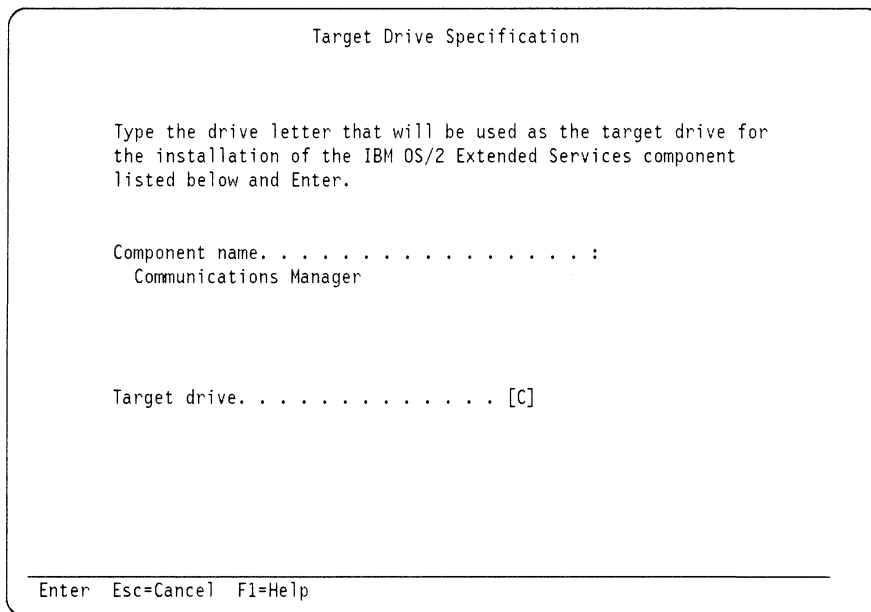
When you are finished, press the Enter key. The following display appears:



11. Press F3 to exit this display. The following window appears:

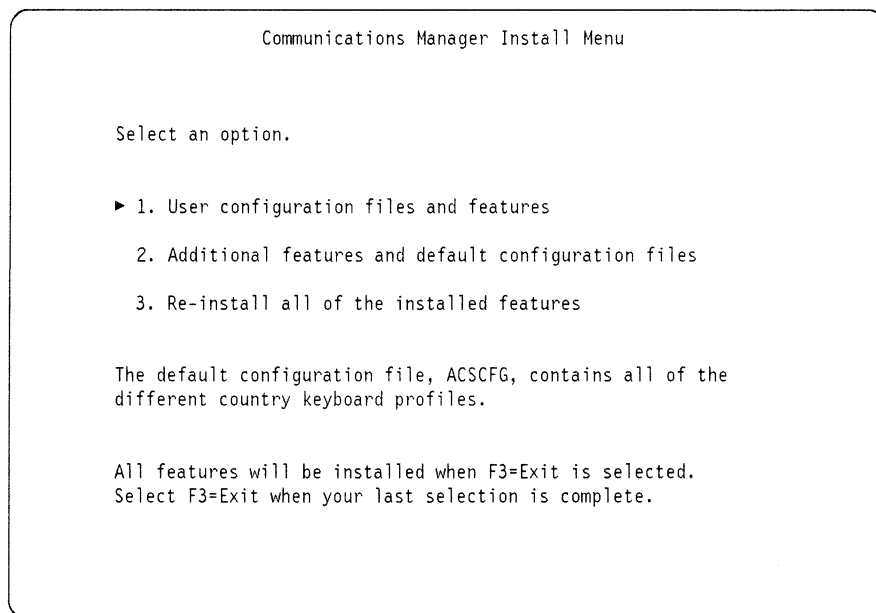


12. If you are installing OS/2 Extended Edition version 1.3, the Basic Configuration Services Complete display appears, telling you that your configuration file is temporarily stored in the C:\OS2\INSTALL directory. Press the Enter key to continue.
13. If you have not already installed the OS/2 communications manager program, the following display appears:



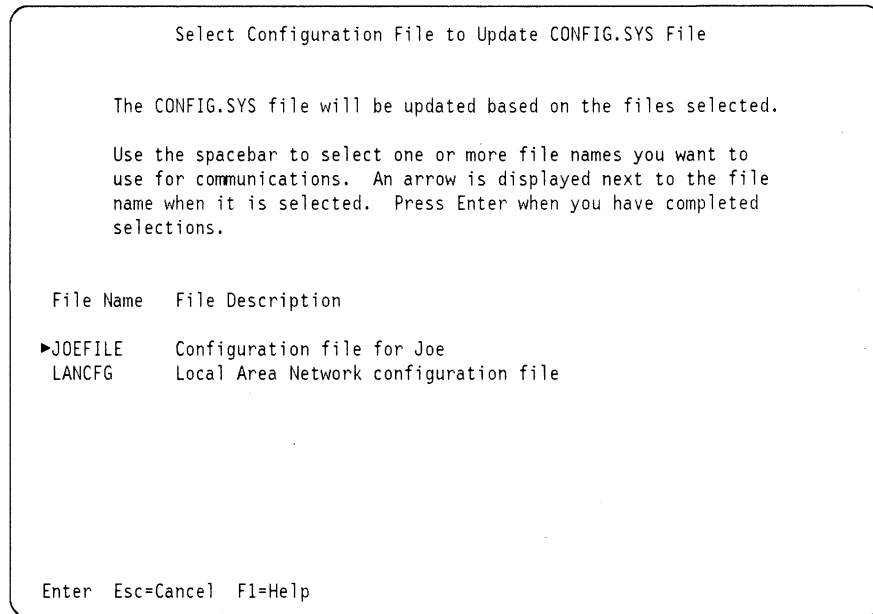
This display allows you to specify the drive that you want the OS/2 communications manager program stored on. Accept or change the default, and press the Enter key.

- 14. If you are installing OS/2 Extended Edition version 1.3, the following display appears:

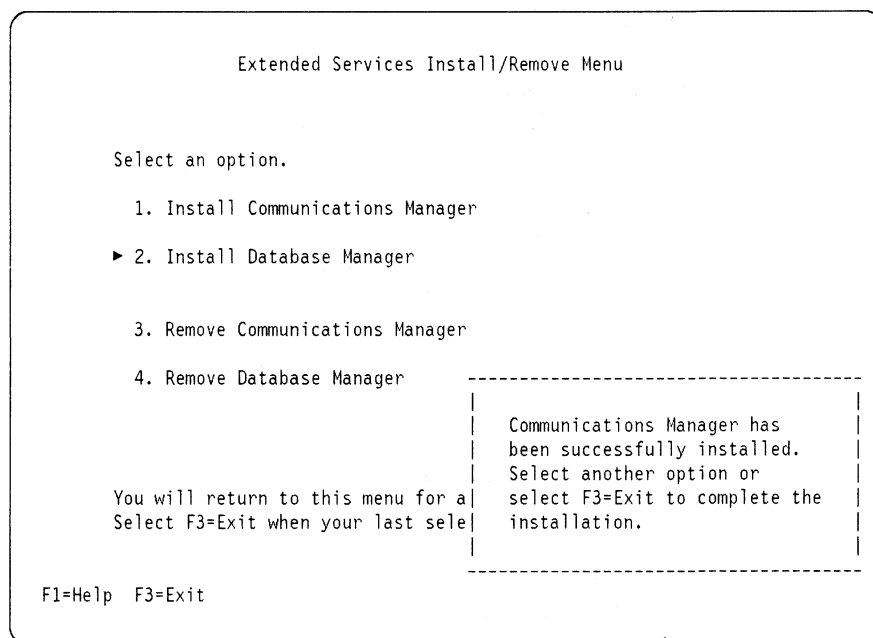


Press F3 to exit this display.

- 15. If you have more than one configuration file on your personal computer, the following display appears:



16. This display allows you to select which configuration files you want to use. Select the configuration file that you just created and press the Enter key. The following display appears:



17. Press F3 to exit this display. Either an Installation Complete display appears, or you return to the OS/2 command prompt. Remove the diskette from the diskette drive. Then, start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting the OS/2 Communications Manager Program

Although you do not need to start the OS/2 communications manager program in order to install PC Support/400, you may want to start the OS/2 communications manager program to verify that your configuration file is correct. In order to start the OS/2 communications manager program, you can double-click on the OS/2 communications manager icon.

If you selected to have your sessions start automatically, your 5250 work station feature sessions will begin. If you chose not to have your sessions start automatically, you will see the OS/2 Communications Manager Main Menu. From this menu, select option 1, Start communications. Then select option 4, 5250 Work Station Feature. You then need to specify which AS/400 sessions you want to start.

Installing PC Support/400 on Each Personal Computer

Before you install PC Support/400 on the personal computer, be sure you have completed the tasks as described in "Preparing to Install PC Support/400 on the Personal Computer" on page 9-27.

Using Custom Installation Diskettes

To install PC Support/400 using custom installation diskettes, do the following:

1. Insert the installation diskette in the A: drive.
2. At the OS/2 prompt, type A:INSTALL and press the Enter key. The installation program automatically sets up the necessary files on the personal computer and copies the PC Support/400 programs and files to the PCSOS2 subdirectory.
3. When the installation program has completed, start the personal computer again.

Using Standard Installation Diskettes

To install PC Support/400 using standard installation diskettes, do the following:

1. Use the OS/2 DISKCOPY command to create a backup copy of the OS/2 PC Support/400 installation diskette (volume 1) and label this diskette PCS01. You may have additional OS/2 PC Support/400 installation diskettes labeled volume 2, volume 3, and so on. Copy these diskettes, and label the backup copies PCS02, PCS03, and so on. Use the backup copies to install PC Support/400, and store the original diskettes in a safe place. You do not need to do this for each personal computer; you can install PC Support/400 on many personal computers using the same backup copies of the installation diskettes.
2. Insert the installation diskette PCS01 in the A: drive.
3. At the OS/2 prompt, type A:INSTALL and press the Enter key.
4. When the display with the IBM logo is shown, press the Enter key to continue. The following display appears:

```

PC Support/400 Installation

For information about using this program, refer to the PC Support/400: OS/2
Installation and Administration Guide.

Select choices, press Enter.

Drive to contain PC Support directory . . . . . [C]

-----
Enter  Esc=Cancel  F1=Help  F3=Exit

```

5. Enter the following information:

Drive to contain PC Support directory

This is the drive letter that you want PC Support/400 to be stored on. This is probably the C: drive.

The PC Support/400 installation program uses the drive the personal computer starts from to determine the location of the CONFIG.SYS and the STARTUP.CMD files. If you start the personal computer from one drive, install PC Support/400, and then start the personal computer from another drive, these files will not be found.

When you finish typing this information, press the Enter key. A display similar to the following appears:

```

PC Support/400 Installation
(Startup Options)
Select options with the spacebar. Press Enter when finished.

Start PC Support automatically. . . . .▶ 1. Yes
                                           2. No

Reduce messages displayed
when starting PC Support. . . . .▶ 1. Yes
                                           2. No

Initial PC Support menu . . . . .▶ 1. PC Support Menu
                                           2. No menu (command prompt)

AS/400 menu . . . . .▶ 1. Organizer menu
                                           2. OfficeVision/400 Menu
                                           ▶ 3. AS/400 initial menu

PC Support functions to be
started automatically . . . . .▶ Virtual Printer
                                           Message Function

-----
Enter  Esc=Cancel  F1=Help  F3=Exit  Spacebar

```

6. Enter the following information:

Start PC Support automatically

If you select *Yes*, the PC Support/400 installation program adds the STARTPCS command at the end of your STARTUP.CMD file. This causes PC Support/400 to start automatically when you start your personal computer.

Reduce messages displayed when starting PC Support

If you select *Yes*, you see fewer messages when you start PC Support/400. You still receive messages when each function begins, and you also see any error messages. Other informational messages are not shown on the display.

Initial PC Support menu

This option allows you to specify which menu you want to initially appear when you start PC Support:

PC Support Menu

The main menu for PC Support/400 will be displayed when you start PC Support/400. This menu gives you access to selected PC Support/400 function on the personal computer.

No menu

No menu will be displayed when you start PC Support/400. You will return to the OS/2 command prompt.

AS/400 menu

This option allows you to specify which menu you want to initially appear when you sign on the AS/400 system:

Organizer menu

The PC Support/400 Organizer menu will be displayed when you sign on the AS/400 system. This menu combines AS/400 and PC commands.

OfficeVision/400 Menu

The main menu for the OfficeVision/400 program will be displayed when you sign on the AS/400 system.

AS/400 initial menu

The display you normally see first will be displayed when you sign on the AS/400 system.

PC Support functions to be started automatically

This option allows you to select which functions you want to start automatically when you start PC Support. The functions you can select are:

- Virtual printer
- Message function

The necessary commands for the functions you select are added to the STARTPCS.CMD file. For a description of these functions, see "Functions Available with PC Support/400" on page 1-13.

When you are finished typing this information, press the Enter key. The following display appears:

PC Support/400 Installation
(PC to AS/400 Connection)

The names that you specify below for the PC location and system names are OS/2 Communications Manager aliases for the actual Local LU and Partner LU names. The actual Local LU and Partner LU names are specified within OS/2 Communications Manager.

Select choices, press Enter.

PC Information
PC location name [5250LU]

System Information
Name of system to connect to [5250PLU]

Enter Esc=Cancel F1=Help F3=Exit

7. Enter the following information:

PC location name

This is the name of the OS/2 communications manager program alias for the actual local LU name (the name of your personal computer on the network). The OS/2 basic configuration services program names this alias 5250LU. You should accept this as the default.

Name of system to connect to

This is the name of the OS/2 communications manager program alias for the actual partner LU name (the name of the AS/400 system you want to connect to). The OS/2 basic configuration services program names this alias 5250PLU. You should accept this as the default.

8. When the program is complete, the PC Support/400 Installation Completed display is shown. Before you can start PC Support/400, you must start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting PC Support/400

Before you start PC Support/400, you must start the OS/2 communications manager program and start your session with the AS/400 system.

If PC Support/400 does not start automatically when you start your personal computer, you can start it by doing the following:

1. Click on the PC Support/400 Group icon in the Workplace Shell Desktop. The PC Support/400 Group window appears.
2. Double-click on the Start PC Support/400 icon.

If PC Support/400 does not work properly, see Part 5, "Analyzing Problems with PC Support/400." For information about configuring the PC Support/400 functions, see Part 4, "Configuring PC Support/400."

Copying the PC Support Functions to the Personal Computer

It is recommended that you copy the PC Support functions you will be using to the personal computer from the AS/400 system. The PC Support functions load and run faster when they are located on the personal computer. This initial copying is time-consuming, but performance is significantly enhanced for each time you start PC Support/400.

To copy the PC Support functions to the personal computer, do the following:

1. From the PC Support/400 Menu, select the **Configure PC Support/400** option.
2. The PC Support/400 Configuration menu appears. Select **General** options.
3. The **General Options for PC Support/400** display appears. Select the **Location of PC Support functions** option.
4. The **Location of PC Support Functions** display appears. Select the functions that you want to copy to your hard disk. Do this by moving the cursor to the function and pressing the spacebar.
5. When you have selected the functions you want, press **F3 (Exit)**.
6. Select **Save** and **exit**. The **Copy Files to Your Personal Computer** display appears.
7. Select whether you want to copy the functions now or the next time you start PC Support/400.

The necessary files will be copied to your personal computer, and the **STARTPCS** file will be changed to run the function from your personal computer.

Chapter 10. Installing PC Support/400 for X.25 Communications

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OS/2 Communications Manager Configuration Work Sheet – X.25

Before you configure the OS/2 communications manager program on the personal computer, you must configure the AS/400 system for communications. While you configure the AS/400 system, fill out one copy of this work sheet for each personal computer. You will need this information when you configure the OS/2 communications manager program on the personal computer.

Parameter	Actual Data	Description	Where Used
LCLCPNAME 5250 LU name		Local control point name 5250 partner logical unit name	
LCLNETID Network name		Local network ID Network name	DSPNETA OS/2 SNA profile
CTLD PU Name Local LU name		Controller description name Physical unit name Local logical unit name	CRTLINX25 OS/2 SNA profile OS/2 SNA profile
Node ID (in hex)		The last 5 digits used in the XID exchange	CRTCTLAPPC OS/2 SNA profile
NETADR		Local network address Remote DTE address	CRTLINX25 OS/2 X.25 remote SNA entry (SVC)
DFTPFSIZE		Default packet size	CRTLINX25 OS/2 X.25 link profile
MODULUS		Modulus	CRTLINX25 OS/2 X.25 link profile
DFTWDSIZE		Default window size	CRTLINX25 OS/2 X.25 link profile
CNNNBR		Connection number Local DTE address	CRTCTLAPPC OS/2 X.25 link profile

Configuring X.25 Connections on the AS/400 System

The X.25 option on the Configure PC Connections (CFGPCS) menu displays only a reference to the *Communications: X.25 Network Guide*, SC41-0005. When you use an X.25 communications connection, you need to create the connection descriptions manually on the system.

The descriptions you need to create are:

- An X.25 line description
- An APPC controller description for each personal computer

This chapter contains general information about creating the necessary descriptions. For more details, see the *Communications: X.25 Network Guide*, SC41-0005.

Creating an X.25 Line Description

Use the Create X.25 Line Description (CRTLINX25) command to create a line description. If you need help while creating this line, see *Communications: X.25 Network Guide*, SC41-0005. Because you will need to use some of these parameters when you configure the personal computer, record the appropriate information on "OS/2 Communications Manager Configuration Work Sheet—X.25" on page 10-2.

Creating an APPC Controller Description

Use the Create APPC Controller (CRTCTLAPPC) command to create an APPC controller description for each personal computer. The name you give the controller will be the name by which the personal computer is known on the network. If you need help while creating this controller, see the *Communications: X.25 Network Guide*, SC41-0005. Because you will need to use some of these parameters when you configure the personal computer, record the appropriate information on the communications manager work sheet.

Note: If your system uses level 10 security, you need to add the user profile QUSER to the system directory using the Add Directory Entry (ADDIRE) command.

Preparing to Install PC Support/400 on the Personal Computer

To prepare for installing PC Support/400 on the personal computer:

1. Complete the necessary tasks on the AS/400 system as described in the following sections:
 - "Verifying the Installation of the PC Support/400 Licensed Program" on page 2-2
 - "Enrolling PC Support/400 Users" on page 2-3
 - Chapter 3, "Using the PC Support/400 Administration Function" on page 3-1 (if required)
2. Complete the "OS/2 Communications Manager Configuration Work Sheet—X.25" on page 10-2.
3. Install and configure the necessary OS/2 programs.

Installing the OS/2 Program on Each Personal Computer

If you have not already installed the OS/2 program on the personal computer, insert the OS/2 installation diskette into the diskette drive and start your personal computer. Follow the online prompts to install the OS/2 program. If you need help while installing the OS/2 program, see the *OS/2 Getting Started* manual.

Configuring the OS/2 Communications Manager Program

X.25 is not supported by the basic configuration services program. For this reason, this section describes how to modify a configuration file for use in an X.25 environment. You should first create a configuration file by using the basic configuration services program. Then, modify this profile by following the steps below.

The following profiles need to be modified:

- Work station profile

- SNA feature profile
- X.25 feature profile

Modifying the Work Station Profile

1. Select the Advanced option from the action bar of the Communications Manager Main Menu, and then select option 4 (Configuration).
2. Specify your configuration file. You can use F4 (List) to see a list of available configuration files.
3. From the Select Auto-Start Options display, change the work station profile and press the Enter key. On the next display, select the option Select desired services. Make sure that you have both SNA/APPC and X.25 selected.
4. Select the option to end changing your work station profile.

Modifying the SNA Feature Profile

1. From the Communications Manager menu, select option 4 (SNA feature profiles).
2. Change the base profile to match the values on your work sheet.
3. From the SNA Feature Configuration display, change the DLC profile by deleting the current entry and adding an X.25 entry.
4. You are asked to enter a link profile name. Use X25 for this value. Answer Yes to continue even though the profile does not yet exist.
5. If you wish to reserve the logical channel for incoming connections, change the value for the *Number of incoming connections* prompt.
6. Use the value from the work sheet for your LU name. You do not need to change the LU alias.
7. Change the DLC type to X.25. You will be asked for a directory name. Use X25REM for the directory name. A message appears that indicates that the directory does not exist; answer yes to continue (the directory will be created later).
8. Answer No for the *Conversation security verified* prompt.
9. You are prompted to Add or Change the transmission service mode name and initial session limit. Because you are working with a file created with the basic configuration services program, the mode description is already set at QPCSUPP.
10. Take the option to end and return to the SNA Feature Configuration menu.
11. You have finished editing the SNA feature profile. Return to the Communication Configuration menu.

Modifying the X.25 Feature Profile

There are three parts to an X.25 feature profile:

- X.25 adapter profiles refer to the X.25 physical layer
- X.25 link profiles refer to the X.25 link and packet levels
- X.25 directory refers to the X.25 packet level

1. X.25 Adapter Profiles

The X.25 adapter profiles allow you to associate an adapter profile name with an adapter slot in your personal computer.

- a. Select adapter profiles and use F10 to select Operations.
 - b. Create an adapter profile named X25.
2. X.25 Link Profiles
- The X.25 link profiles define the characteristics of the network to which you will connect your personal computer.
- a. Use the model profile M1 to create a profile named X25.
 - b. Make changes as needed to the *Base link* parameters, the *Virtual circuit ranges*, and the *Virtual circuit* parameters.
3. X.25 Directory
- a. Select adapter profiles and use F10 to select Operations. Create a local directory entry named X25LOC from the model profile M2.
 - b. Create a remote directory for SVC using M5 as a model. Name the directory entry X25REM.

Installing PC Support/400 on Each Personal Computer

Before you install PC Support/400 on the personal computer, be sure you have completed the tasks as described in "Preparing to Install PC Support/400 on the Personal Computer" on page 4-5.

Using Custom Installation Diskettes

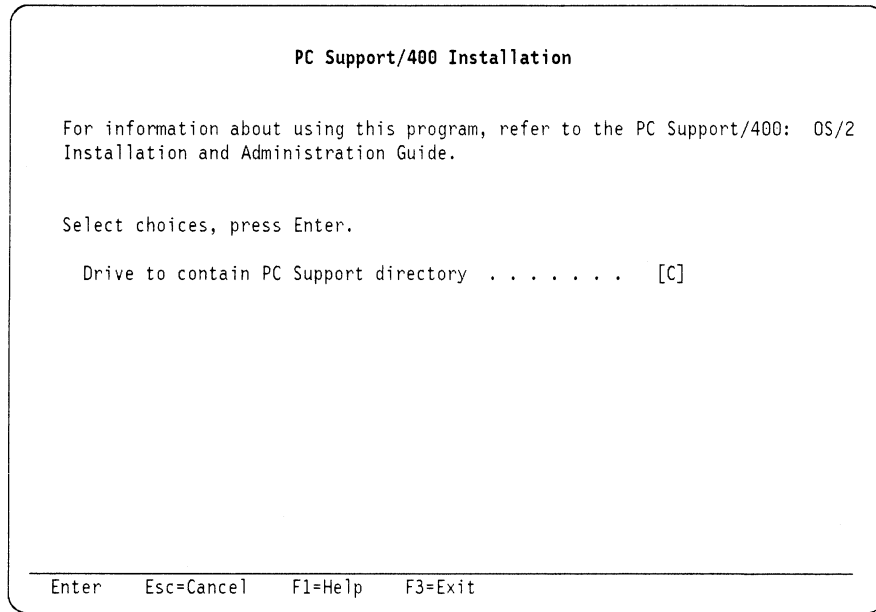
To install PC Support/400 using custom installation diskettes, do the following:

1. Insert the installation diskette in the A: drive.
2. At the OS/2 prompt, type A:INSTALL and press the Enter key. The installation program automatically sets up the necessary files on the personal computer and copies the PC Support/400 programs and files to the PCSOS2 subdirectory.
3. When the installation program has completed, start the personal computer again.

Using Standard Installation Diskettes

To install PC Support/400 using standard installation diskettes, do the following:

1. Use the OS/2 DISKCOPY command to create a backup copy of the OS/2 PC Support/400 installation diskette (volume 1) and label this diskette PCS01. You may have additional OS/2 PC Support/400 installation diskettes labeled volume 2, volume 3, and so on. Copy these diskettes, and label the backup copies PCS02, PCS03, and so on. Use the backup copies to install PC Support/400, and store the original diskettes in a safe place. You do not need to do this for each personal computer; you can install PC Support/400 on many personal computers using the same backup copies of the installation diskettes.
2. Insert the installation diskette PCS01 in the A: drive.
3. At the OS/2 prompt, type A:INSTALL and press the Enter key.
4. When the display with the IBM logo is shown, press the Enter key to continue. The following display appears:

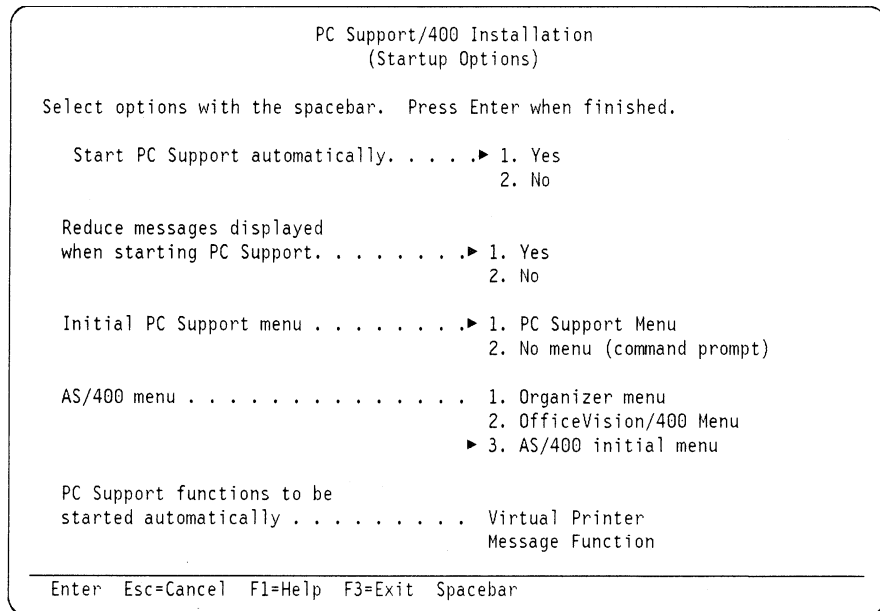


5. Enter the following information:

Drive to contain PC Support directory

This is the drive letter that you want PC Support/400 to be stored on. This is probably the C: drive.

When you are finished typing this information, press the Enter key. A display similar to the following appears:



6. Enter the following information:

Start PC Support automatically

If you select Yes, the PC Support/400 installation program adds the STARTPCS command at the end of your STARTUP.COM file. This causes PC Support/400 to start automatically when you start your personal computer.

Reduce messages displayed when starting PC Support

If you select *Yes*, you see fewer messages when you start PC Support/400. You still receive messages when each function begins, and you also see any error messages. Other informational messages are not shown on the display.

Initial PC Support menu

This option allows you to specify which menu you want to initially appear when you start PC Support:

PC Support/400 Menu

The main menu for PC Support/400 will be displayed when you start PC Support/400. This menu gives you access to selected PC Support/400 functions on the personal computer.

No menu No menu will be displayed when you start PC Support/400. You will return to the OS/2 command prompt.

AS/400 menu

This option allows you to specify which menu you want to initially appear when you sign on the AS/400 system:

Organizer menu

The PC Support/400 Organizer menu will be displayed when you sign on the AS/400 system. This menu combines AS/400 and PC commands.

OfficeVision/400 Menu

The main menu for the OfficeVision/400 program will be displayed when you sign on the AS/400 system.

AS/400 initial menu

The display you normally see first will be displayed when you sign on the AS/400 system.

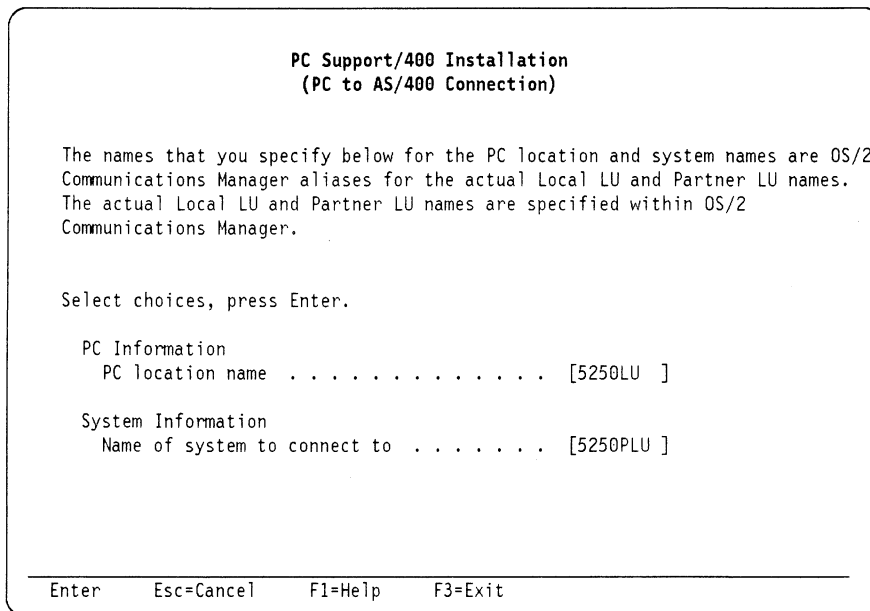
PC Support functions to be started automatically

This option allows you to select which functions you want to start automatically when you start PC Support. The functions you can select are:

- Virtual printer
- Message function

The necessary commands for the functions you select are added to the STARTPCS.CMD file. For a description of these functions, see "Functions Available with PC Support/400" on page 1-13.

When you are finished typing this information, press the Enter key. The following display appears:



7. Enter the following information:

PC location name

This is the name of the OS/2 communications manager program alias for the actual local LU name (the name of your personal computer on the network). The OS/2 basic configuration services program names this alias 5250LU. You should accept this as the default.

Name of system to connect to

This is the name of the OS/2 communications manager program alias for the actual partner LU name (the name of the AS/400 system you want to connect to). The OS/2 basic configuration services program names this alias 5250PLU. You should accept this as the default.

8. When the program is complete, the PC Support/400 Installation Completed display is shown. Before you can start PC Support/400, you must start your personal computer again (press and hold the Ctrl and Alt keys, then press the Delete key).

Starting PC Support/400

Before you start PC Support/400, you must start the OS/2 communications manager program and start your session with the AS/400 system.

If PC Support/400 does not start automatically when you start your personal computer, you can start it by doing the following:

1. Click on the PC Support/400 Group icon in the Workplace Shell Desktop. The PC Support/400 Group window appears.
2. Double-click on the Start PC Support/400 icon.

If PC Support/400 does not work properly, see Part 5, "Analyzing Problems with PC Support/400." For information about configuring the PC Support/400 functions, see Part 4, "Configuring PC Support/400."

Copying the PC Support Functions to the Personal Computer

It is recommended that you copy the PC Support functions you will be using to the personal computer from the AS/400 system. The PC Support functions load and run faster when they are located on the personal computer. This initial copying is time-consuming, but performance is significantly enhanced for each time you start PC Support/400.

To copy the PC Support functions to the personal computer, do the following:

1. From the PC Support Main Menu, select the `Configure PC Support/400` option.
2. The PC Support/400 Configuration menu appears. Select `General` options.
3. The `General Options for PC Support/400` display appears. Select the `Location of PC Support functions` option.
4. The `Location of PC Support Functions` display appears. Select the functions that you want to copy to your hard disk. Do this by moving the cursor to the function and pressing the spacebar.
5. When you have selected the functions you want, press `F3 (Exit)`.
6. Select `Save` and `exit`. The `Copy Files to Your Personal Computer` display appears.
7. Select whether you want to copy the functions now or the next time you start PC Support/400.

The necessary files will be copied to your personal computer, and the `STARTPCS` file will be changed to run the function from your personal computer.

Part 4. Configuring PC Support/400

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Chapter 11. Configuring PC Support with the Configuration Program

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An Overview of the Configuration Process

You can operate PC Support using the default values supplied by the licensed program. But, if you have special needs or want to enhance your performance in some way, you can use the PC Support/400 configuration program (CFGPCS) to create new values or to change the values already present.

This chapter provides you with the basic information you need to use the configuration program. It explains how to:

- Start the PC Support/400 configuration program
- Use the PC Support/400 Configuration menu to change the working set and to select a function to configure
- End the PC Support/400 configuration program

For specific information about configuring a function, refer to the chapter dealing with the function. For example, for information about configuring a shared folders function drive, refer to chapter Chapter 12, "Managing Information in Folders."

Introducing the PC Support Configuration Program

The PC Support configuration program (CFGPCS.EXE) is an interactive program you can use to change the way PC Support operates. It consists of a series of menus and displays to help you tailor the individual functions of PC Support. As you make selections or enter information on the displays, the program edits the necessary files and makes the requested changes for you. You do not have to edit the files yourself.

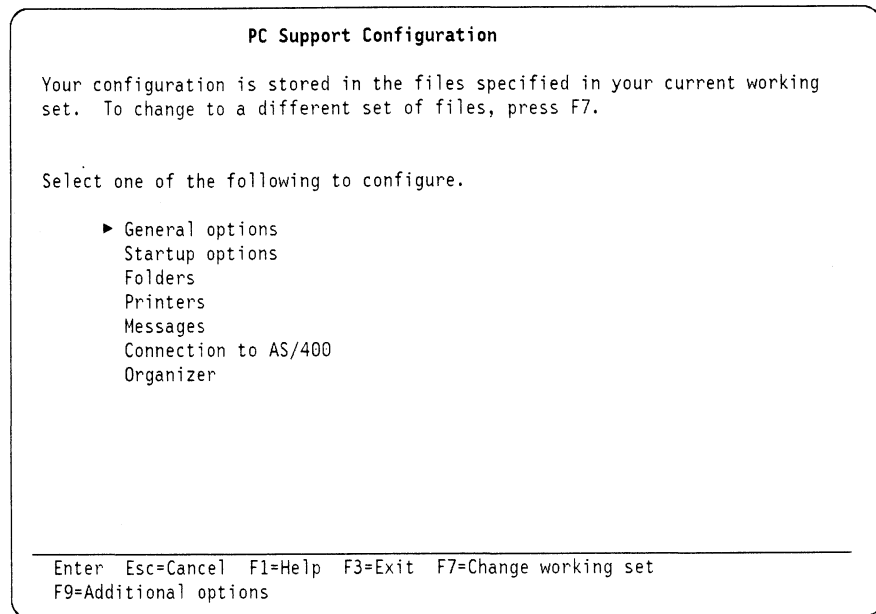
Note: If you make changes to a command file that is currently running (for example, the STARTPCS.CMD file), you may have unexpected results when you exit the configuration program. The command file should run normally the next time it is processed.

When you start a PC Support/400 function, the function reads the configuration files. If you change the configuration file after starting the function, the changes you make may not take effect immediately. For example, if you start the shared folders function, then change your shared folders function type, the change will not take effect until you start your personal computer again.

Starting the PC Support/400 Configuration Program

You can start the PC Support/400 configuration program from the PC Support/400 Menu or with the command CFGPCS. In addition, the PC Support/400 administration program (PCSADM) allows you to access the configuration program from within the administration function.

- To start the configuration program from the PC Support/400 Menu, select the Configure PC Support/400 option. The PC Support Configuration main menu is shown.



- To start the configuration program with the command CFGPCS, enter the following at the OS/2 prompt:

[d:][path]CFGPCS

where d: and path are the drive and directory where the configuration program is stored.

When you enter the command, the IBM logo is shown. Press the Enter key to go to the PC Support Configuration main menu.

Using the PC Support Configuration Menu

From this menu you can:

- Change the PC Support/400 general options
- Change the PC Support/400 startup options
- Change or verify the working set by pressing F7 (Change working set)
- Select a function to configure or change
- Select the configuration editor by pressing F9 (Additional options)

Changing PC Support/400 General Options

Selecting General options allows you to do the following:

- Specify where you want the individual PC Support/400 functions to be stored. You can have the functions stored on your personal computer or on the AS/400 system. For more information on where to store the functions, see “Changing the Location of PC Support/400 Functions” on page 11-4.
- Specify which personal computer applications you want updated from the host system when you start PC Support/400. For more information about the PC Support/400 update function, see Chapter 18, “Managing the Update Function.”
- Specify whether or not PC Support/400 errors should be logged in the PC Support/400 error log. For more information about PC Support/400 error logging, see Chapter 25, “The PC Support/400 Error Logging Function.”

- Select the language to use on your personal computer when using PC Support/400. For more information about using different languages with PC Support/400, see Appendix D, "National Language Support for PC Support/400."
- Allow your PC Support/400 configuration to be changed by an administrator. For more information about the PC Support/400 administration function, see Chapter 3, "Using the PC Support/400 Administration Function."

Changing the Location of PC Support/400 Functions

The Location of Functions option provides an interactive menu interface for you to select the location of each PC Support/400 function.

It is recommended that you copy the PC Support functions you will be using to the personal computer from the AS/400 system. The PC Support functions load and run faster when they are located on the personal computer. This initial copying is time-consuming, but performance is significantly enhanced for each time you start PC Support/400.

To copy the PC Support functions to the personal computer, do the following:

1. From the PC Support/400 Menu, select the `Configure PC Support/400` option.
2. The PC Support/400 Configuration menu appears. Select `General` options.
3. The General Options for PC Support/400 display appears. Select the `Location of PC Support functions` option.
4. The Location of PC Support Functions display appears. Select the functions that you want to copy to your hard disk. Do this by moving the cursor to the function and pressing the spacebar.
5. When you have selected the functions you want, press F3 (Exit).
6. Select `Save and exit`. The `Copy Files to Your Personal Computer` display appears.
7. Select whether you want to copy the functions now or the next time you start PC Support/400.

The necessary files will be copied to your personal computer, and the STARTPCS file will be changed to run the function from your personal computer.

Notes:

1. If you select to copy the PC Support update function, the `Next time` option will not be available.
2. The `Immediate` option is only available when the I: drive is assigned as an AS/400 system drive.
3. If you select to copy a function that is started automatically, the `next time` option will not be available.

Changing PC Support/400 Startup Options

Selecting Startup options allows you to do the following:

- Specify whether or not PC Support/400 should be started automatically when you start your personal computer.

Note: This option is not shown if you are using the PC Support/400 administration function.

- Specify whether or not informational messages should be displayed when PC Support/400 is started.
- Specify which display should appear when PC Support/400 is started.
- Specify which display should appear when you sign on your first AS/400 session.
- Specify which functions should start automatically when you start PC Support/400.

Changing the Working Set

The working set displayed by the PC Support configuration program is the list of items that define your PC Support configuration. The **working set** consists of the drive, directory, and file names that the PC Support/400 configuration program uses to display or change your configuration. The working set consists of the following:

- Configuration file
- Command file

The configuration file is the file you use to define how your PC Support functions operate. The default configuration file is the CONFIG.PCS file.

The command file is the file used to start PC Support. When you select a function to configure, the program displays the current startup options based on the entries in this file. The default command file is the STARTPCS.CMD file.

You can also specify whether or not this working set is your default working set. If you make the working set your default, it becomes the working set the configuration program changes unless you specify otherwise. The default working set is also the working set used if you choose to start PC Support/400 automatically when you start the personal computer.

You should verify that these are the files you want to change. If you want to change the working set, press F7 before you select the function you want to change.

Selecting a Function to Configure

Once you have verified that the files shown in your working set are the files you want changed by the PC Support/400 configuration program, you can select a function to configure such as folders, printers, a connection to the AS/400 system, and so on.

For detailed information about configuring each function, refer to the chapter dealing with the function or press F1 (Help) for online help information.

Ending the Configuration Program

To end the configuration program:

1. Press F3 (Exit) on the PC Support Configuration Menu.
2. Select option 1 (Exit configuration).

The environment you have defined will be effective the next time you use the PC Support function. You may need to start your personal computer again for your changes to take effect.

Chapter 12. Managing Information in Folders

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Introducing the Concept of Folders

A folder stored on the AS/400 system is like a folder stored in a filing cabinet. It can contain:

- Text documents
- Mail
- Data created using OfficeVision/400
- PC files

When you store a PC file as a document in a folder, it is stored in PC format just like OS/2 files. By using folders on the AS/400 system, you can share information with others.

When you want information from a folder stored in a filing cabinet, you open the appropriate drawer and select the folder containing the information you need. All of the folders are stored according to a particular pattern, such as alphabetical or numerical order.

When you want information from a folder stored on the AS/400 system, PC Support/400 gets it for you using the shared folders function. When you use the shared folders function, you assign one of eight drive letters to the folder or system of folders you want to use.

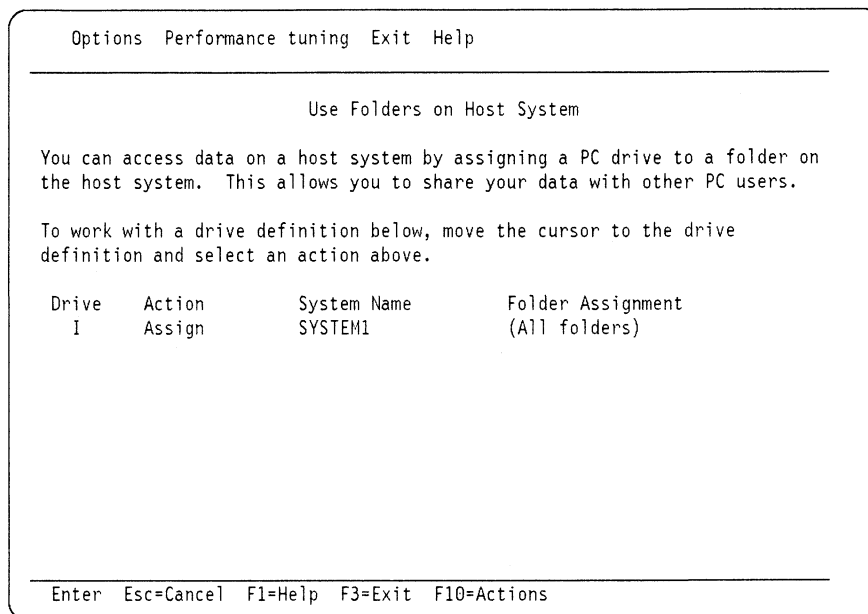
The folders act like directories and subdirectories on a personal computer's hard disk. Therefore, you can use many of the OS/2 commands to work with the folders. Be aware, though, that some restrictions do exist. For a discussion of these restrictions, see the *PC Support/400 Technical Reference for DOS and OS/2*.

Managing Folders Using the Configuration Program

You can use the PC Support/400 configuration program to assign and release drives, and to specify values that can increase performance when using the shared folders function.

To use the configuration program to work with folders, do the following:

1. Display the PC Support Configuration menu. Refer to "Starting the PC Support/400 Configuration Program" on page 11-2 for information on displaying this menu.
2. Select **Folders** from the list of functions on the PC Support Configuration menu. The following display appears:



Assigning and Releasing Drives

You can use the PC Support/400 configuration program to assign or release one or more drives and save the changes so that these tasks are done automatically each time you start PC Support/400.

The Use Folders on Host System display shows the current drive definitions. (See “Managing Folders Using the Configuration Program” on page 12-2 for instructions on how to access this display.)

To assign or release drives from this display, do the following:

1. If you want to work with an existing drive definition, place the cursor on the drive definition.
2. Press the Enter key or F10 (Actions) and select Options from the list of actions. A window is shown.
3. From the window, you can select to change, add, delete, or move a drive definition.

You can also use the FSPC or CFGFLR commands from the command prompt or from a command file to assign and release drives. For information on using these commands, refer to the manual *PC Support/400: OS/2 User's Guide*, SC41-8200.

Performance Tuning

You can use the PC Support/400 configuration program to specify options and values that can help improve the performance of the shared folders function when accessing data stored in folders on the AS/400 system.

To specify these values, select Performance tuning from the list of actions on the Use Folders on Host System display. (See “Managing Folders Using the Configuration Program” on page 12-2 for instructions on how to access this display.)

On the Change Caching display, you can specify the following:

- The amount of PC memory to use for caching. The size of the cache can be from 64KB to 8192KB, or you can specify 0 for no caching. The default is 128KB.
- Whether to save the cache data when drives are released. If you select Yes, the data in the cache is saved on the hard disk when the last drive to a host system is released. The default is not to save the data.

If the cache is saved to disk it is in a file called

xxxx.EHN

where xxxx is the host name. For example, if you have drives assigned to hosts 'SYSTEM1' and 'CHICAGO' you will have files called SYSTEM.EHN and CHICAGO.EHN. These files will be in your PC Support subdirectory. If you stop saving your cache or no longer attach to these AS/400 systems you can delete these files.

Securing Folders

Because the shared folders function makes it possible for programs and data stored in folders to be shared by multiple users, you may want to use the AS/400 security functions to limit access to certain folders or files. In addition, you should take steps for preventing and detecting PC viruses that may be introduced into programs stored in folders.

Controlling Access to Folders

To control access to objects stored in AS/400 folders, you can use:

- Resource security

This type of security is used when a system is fully secured with security level 30 or higher. For each object, you can determine specific authority or public authority.

- Specific authority describes the authority for individual users.
- Public authority describes the authority for all users who do not have specific authority.

Resource security is stored with each object. You can assign resource security in different ways:

- Specify the public and specific authority for a folder. Then, let the objects within the folder use the same authority.
- Secure each document or file within a folder individually with either public or specific authority.
- Use authorization lists to authorize a group of users at a time. If you need to add or delete a name from the group, you make the change in the authorization list.
- Use a group profile to specify the same kind of authority to a group of users. When you give specific authority for an object to the name of a group profile, every member of the group has the same authority for the object.

- Special authority security

This type of security overrides any specific or public authority given to an object. Special authority is specified in your user profile.

- Working for another user

This type of authority allows a user to work with the mail and folders of another user. When you have authority to work for another user, you have all the authority of that user.

- User exit programs

User exit programs can be used with the above security types to further define access to folders or files. See the *PC Support/400: DOS and OS/2 Technical Reference*, SC41-8091 for information about user exit programs. The QIWSTOOL folder also contains a sample exit program. See Appendix C, "The PC Support/400 Tools Folder" for information on how to use this folder.

See the *Security Reference* for more information on securing folders.

You must be authorized to use the AS/400 Create Folder (CRTFLR) command before you can create a folder using the personal computer Make Directory (MKDIR) command.

Preventing and Detecting PC Viruses in Folders

A computer **virus** is a program that can modify other programs to include a copy of itself. The other programs are then said to be *infected* by the virus. In addition, the virus can perform other operations that can take up system resources or destroy data.

PC viruses can infect PC programs stored in folders. These viruses can then spread to programs in other folders and to personal computers that use the infected programs.

Note: Although these viruses can be very damaging to programs on the attached personal computers, there are no known PC viruses that damage AS/400 programs or destroy the integrity of AS/400 databases.

To help keep programs in folders secure, you should follow good security practices. Control access to system resources and keep backup copies of all important data. You should also establish methods for preventing, detecting, containing, and recovering from viruses. For more information about these topics, refer to the IBM publication *Coping with Computer Viruses and Related Problems*, G320-9913.

The following sections contain suggestions for preventing and detecting viruses in folders and on personal computers using programs in folders.

Preventing PC Viruses in Folders

The following suggestions can help you prevent PC viruses when using the shared folders function:

- Control access to folders as described in "Controlling Access to Folders" on page 12-4.
- Restrict access to folders containing PC programs.

Store PC programs (files with extensions of .COM, .EXE, .OVL, .DLL, and so on) in different folders from data files. Secure the folders containing PC programs so that these folders are read only (*USE).

Note: This does not restrict users with system administrator (*ALLOBJ) authority. The history log (QHST) does not record Access denied messages for these users.

- Use a secure user ID to make program updates.

When you need to make updates to PC programs in folders, use a user ID specifically reserved for this purpose. You should run a virus scan program immediately before and again immediately following the update.

- Use exit programs on the AS/400 system.

You can use an exit program to help prevent unintentional storing of a program that has been modified or to prevent the user ID used to run a virus scan program from doing any updates.

Detecting PC Viruses

The following suggestions can help you detect PC viruses:

- Use a virus scan program to detect any known viruses.

Periodically run a virus scan program against the AS/400 folders that contain programs. You can do this from any personal computer with a shared folders function drive assigned to all folders on the system. Also run the virus scan program on each personal computer that uses PC Support/400 and the shared folders function.

Note: The possible risk of introducing a virus with the virus scan program must be weighed against the possibly greater exposure of not performing the scan. To minimize this risk, you can either store the virus scan program on a write-protected diskette and start the personal computer from that diskette when you run the program, or use a user ID with read-only access to the folders being scanned.

- Use the audit journal to detect authority failures.

Authority failures are logged in the audit journal on the system when the audit level is set to *AUTFAIL. The authority failures can be selected from the journal receiver by requesting entries of type AUTHORITY FAILURE (AF). For more information about audit journals, see *Security Reference*, SC41-8083.

- Monitor Access denied messages on the system.

Once the programs in folders have been write protected, any attempt to update them generates an Access denied message that is logged in the user job log and in the system history log (QHST). Multiple occurrences of this message could indicate the presence of a virus. To help detect possible viruses, you can monitor for this message on the system or scan user job logs on a regular basis.

- Use the last change date on documents to detect unauthorized updates.

PC programs stored in folders have the OS/400* object type of *DOC (document). Documents, like other OS/400 objects, have a last change date that can be used to determine when the object was last modified. The last change date for an object is automatically updated by the system when the object is modified. The last change date cannot be reset.

Notes:

1. A limitation of using the last change date for an object is that it is updated whenever a change is made by any program, not just by a virus.
2. Documents also have a revision date that is changed less frequently than the last change date. This date can be reset to its previous value by another program, so you should not use this date for detecting a virus.

The system object change date for all *DOC objects can be stored in a database file using the OUTFILE option of the Display Object Description (DSPOBJD) command. The following command creates a database file named OBJD for all documents stored in the system.

```
DSPOBJD OBJ(QDOC/*ALL) OBJTYPE(*DOC) OUTPUT(*OUTFILE) OUTFILE(OBJD)
```

The object name from the DSPOBJD command is generated by the system and is not meaningful to users.

Both the system object name and the user-assigned name can be retrieved into a database file using the Query Document Library (QRYDOCLIB) command. The following command creates a database file named QRY for all documents in all folders.

```
QRYDOCLIB FLR(*ALL) OUTFILE(QRY)
```

Note: Depending on the number of documents in the system, the DSPOBJD and QRYDOCLIB commands can take a long time to run and should be submitted as batch jobs. To ensure access to all documents, the batch job should be run using a user ID with *ALLOBJ authority.

After the two database files OBJD and QRY are produced, you can use the system database support to join the two files using the system object name. The following example shows the SQL/400 statements that produce a report containing the last change date and both the system and user-assigned names. The field names from this example can be used in other programs such as Query/400 to produce an equivalent report. You can produce a report with a subset of this information by selecting specific dates.

```
SELECT objd.odl1dat, qry.qd1onm, qry.qd1dnm,  
       qry.qd1flr  
FROM objd, qry  
WHERE objd.odobnm = qry.qd1onm  
ORDER BY qry.qd1flr
```

The field names from this example can be used in other programs to produce a similar report. If you select changes for specific dates, you can also produce a subset of this report as follows:

Sample report

```
-----  
Change OBJECT      DOCUMENT      FOLDER  
Date  NAME          NAME          NAME  
071891 EJKN343486 NEWDOC      EVANS  
070891 EJKN551026 WOEPS.BAT  EVANS  
070891 EJKN561146 STARTRTR.EXE EVANS  
070891 EJST142650 WOEPS.CPY  EVANS  
070991 EJLL411130 QHSTPRT    QFOS2950  
070991 EJLL411306 QINDUSR    QFOS2950  
070991 EJLL411440 QPROFDOC   QFOS2950  
070991 EJLL411564 QPROFN0T   QFOS2950  
***** End of data *****
```

You can use the change dates from this report to determine which PC programs may have been changed by an unknown virus.

Improving Performance

The following suggestions may improve the performance of the shared folders function:

- If you use the same drive assignments regularly, use the configuration program to add the drive definitions to your configuration file. The configuration file is read by the CFGFLR program, which is usually faster than the FSPC program.
- Increase the size of the storage pool associated with the shared folder subsystem QXFPCS. For information about changing this subsystem, see “Working with the Shared Folders Function Subsystem.”
- Allocate a dedicated storage pool for the shared folders subsystem (QXFPCS).
- Minimize the number of times a file is downloaded or uploaded. For example, a file could be downloaded in the morning and uploaded at the end of the day.
- Backing up files to a folder takes significant AS/400 system resources. You should wait until system activity is low to back up a large number of files to a folder.
- To maximize the use of system time, consider assigning separate drives to applications that make extensive use of folders. If you have one directory drive, applications may have to wait in a queue for their input or output to be processed. When you use separate drives, the input or output requests from two applications can be processed at the same time.
- Use write-with-verification only when absolutely necessary. When verification is used, buffering of the write operations is not done by the shared folders function.
- Combine folders where possible.

The following suggestions for improving performance should be considered by those designing PC applications using the shared folders function:

- PC applications should be designed to open a file once, do all the necessary operations, and then close the file.
- Perform read and write operations sequentially, rather than randomly, whenever possible. This method uses shared folders buffers more efficiently.
- If a file is small, store it in the PC memory because accessing memory is faster than accessing the disk or data on the AS/400 system.
- Set the current directory to the appropriate folder to reduce opening folders.
- Searching for a file requires significant time and resources compared with other operations. A PC application should use a create or open operation instead of searching for a file.

Working with the Shared Folders Function Subsystem

AS/400 systems are made up of different subsystems. Each subsystem has a portion of the AS/400 main storage (called a storage pool) allocated to it in which it can run its jobs. Lack of main storage or too much subsystem activity can cause jobs in particular subsystems to run slowly.

The subsystem is supplied with its own default values for the size of the memory pool and the activity level of the subsystem. You can use the default values supplied or you can change them.

Starting the Subsystem

You can start the QXFPCS subsystem manually or automatically. Starting it manually is faster than letting it start automatically. However, to start it manually you must have physical access to the AS/400 system and must have some knowledge of AS/400 commands.

- To start the QXFPCS subsystem manually, the control language (CL) Start Subsystem (STRSBS) command should be entered on the AS/400 system as soon as the PC Support/400 licensed program is installed on the AS/400 system and each time you start the AS/400 system again. The command should be entered as follows:

```
STRSBS QIWS/QXFPCS
```

By entering the command as soon as PC Support/400 is installed, you ensure that the subsystem has the storage it needs. You may want to add this command to your system startup program.

- To start the subsystem automatically, you only need to assign your first shared folders function drive. In most cases, the first assignment to take place is the assignment of drive I to the system folder.

When a drive is assigned, the STRSBS command runs automatically. It may take longer than usual for the first drive assignment to complete, since the QXFPCS subsystem is also being started at that time. Once the subsystem is started, it continues to run until you stop it or until you start your AS/400 system again. If the subsystem is stopped, the next time a drive is assigned you will have to wait for the QXFPCS subsystem to start again.

Note: The remote user who assigns the first drive must have authority to the Start Subsystem (STRSBS) command.

Stopping the Subsystem: If you need to stop the QXFPCS subsystem, use the CL End Subsystem (ENDSBS) command. Enter the following:

```
ENDSBS QIWS/QXFPCS
```

Tailoring the Subsystem

You can use CL commands to tailor the QXFPCS subsystem. Some of the reasons you might want to do this are:

- To allocate a dedicated storage pool for the subsystem
- To change the size of the storage pool
- To limit the number of personal computers that can be attached to the subsystem at any one time, enter the CL Change Routing Entry (CHGRTGE) command, specifying a value for the MAXACT parameter:

```
CHGRTGE SBSD(QIWS/QXFPCS) MAXACT(n)
```

where *n* is the maximum number of personal computers that can be attached at any one time.

For more information about subsystems and the CL commands you can use with them, refer to the *Work Management Guide*.

Chapter 13. Managing Virtual Printers

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Introducing the Concept of Virtual Printers

The PC Support virtual printer function allows you to use AS/400 printers from your personal computer while still being able to use PC-attached personal computer printers. This allows you to take advantage of the faster speed and quality of the larger AS/400 printers. The term **virtual printer** means that the printer is controlled using commands very similar to the ones you use for your personal computer printer, although the printer can be attached to the AS/400 system.

Unlike personal computer printers, AS/400 printers are typically used by more than one program or person. Before you can use a host system printer as a virtual printer, you need to **assign** it. This can be done interactively when you want to use the virtual printer or automatically when PC Support is started.

You should run the OS/2 spool function to keep data coming from your personal computer application programs from intermixing. If you run the OS/2 spool function, it should be started before you assign the virtual printers. For more information about printing and spool functions with OS/2, refer to the OS/2 publications.

You can define up to three printers to be used from your personal computer. These three printers can all be local personal computer printers, virtual printers, or any combination of the two. All three printers can be active at the same time.

The virtual printer function supports all printers that are supported by the AS/400 system.

Setting Up a Printer with the Configuration Program

If you want to use a virtual printer the same way each time you start PC Support, you can use the PC Support configuration program to set up the printer. When you use the PC Support configuration program, you define how you want the printer to operate. The configuration program adds all the information about starting the virtual printer function and assigning the virtual printers to the command and configuration files specified in your working set.

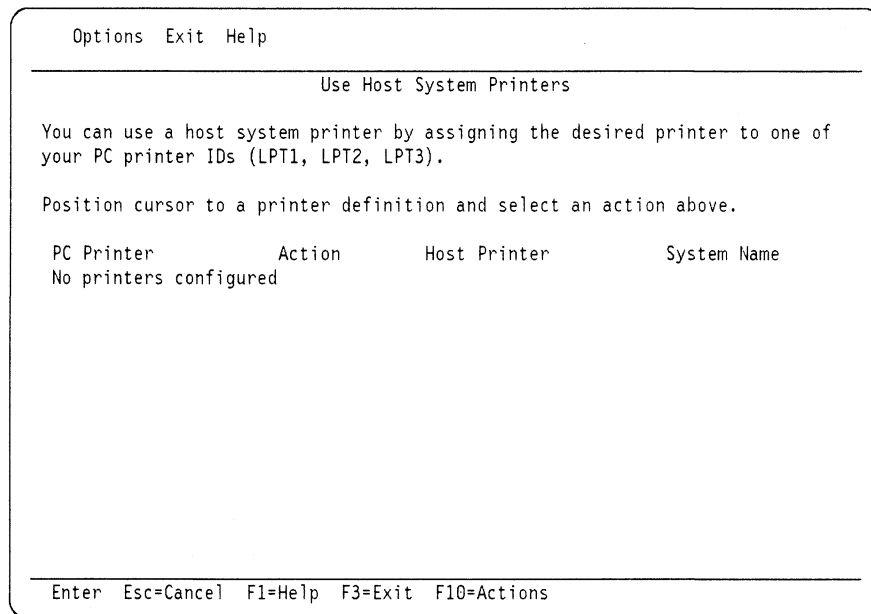
To use this method, you must first start the PC Support configuration program. Refer to "Starting the PC Support/400 Configuration Program" on page 11-2 for instructions on starting the program and displaying the PC Support/400 Configuration menu.

Adding a Printer Definition

When you have displayed the PC Support Configuration menu, follow these steps to add a printer definition. A printer definition tells PC Support how to set up your printer.

1. Select the Printers option from the list of items on the menu.

The following display appears. Any host printers currently defined are shown on the display.



2. Press the Enter key or F10 (Actions) and select Options from the list of actions. A window is shown.
3. Select option 2 (Add printer definition) from the window. The Add Printer Definition window is shown.
4. Enter values for the prompts displayed in the window. Use the arrow keys or the Tab key to move through the prompts displayed in the window.
5. Press the Enter key when you have finished filling in the prompts. You return to the Use Host System Printers display where you can select Exit and save your printer definition.

At this point, the configuration has been changed. The new printer assignments will take place the next time you start PC Support.

The prompts shown in the Add Printer Definition window are described in "Setting Up a Virtual Printer: Example" on page 19-2. When you use the PC Support/400 configuration program to change the virtual printer function, the F4 (Prompt) key is not available.

Changing the Way the Virtual Printer Function Starts

You can have the virtual printer function start automatically each time you start PC Support or you can start it yourself using the CFGVPRT or the SETVPRT command. You can also have the virtual printer function run from your personal computer's hard disk or from your AS/400 system.

If you choose to run the function from your personal computer, files are copied onto your personal computer. If you choose to run the function from the AS/400 subdirectory, files are not copied onto your personal computer.

You can choose to start the function automatically each time you start PC Support/400. If you choose to start the function manually, you need to use the appropriate command from the PC command prompt. To change the way the virtual printer function starts, first display the PC Support Configuration menu. Refer to "Starting the PC Support/400 Configuration Program" on page 11-2 for information on displaying this menu. Then, select Startup options.

Changing a Virtual Printer Definition

If you have used the configuration program to assign a virtual printer, you can change it using the configuration program.

Follow these steps to change a virtual printer definition.

1. Display the PC Support Configuration menu. Refer to "Starting the PC Support/400 Configuration Program" on page 11-2 for information on displaying this menu.
2. Select Printers from the list of functions on the PC Support Configuration menu.

The Use Host System Printers display is shown. Any virtual printers currently defined are shown on the menu.
3. Use the arrow keys or the Tab key to move the cursor to the virtual printer you want to change. This is very important. If you do not specify the printer you want to change, then the printer that is currently highlighted will be changed.
4. Press the Enter key or F10 (Actions) and select options from the list of actions. A window is shown.
5. Select option 1 (Change printer definition). The Change Printer Definition window is shown.
6. Use the arrow keys or the Tab key to move to the prompt or prompts you want to change. Refer to "Assigning or Changing a Virtual Printer" on page 13-6 for a description of the prompts and the values you can supply for them.
7. When you have completed your changes, press the Enter key. The Change Printer Definition window is removed.
8. Press F3 (Exit) or F10 (Actions) and select Exit. A window is displayed.
9. Select option 1 (Save and exit) to save the changes you have made and exit the Use Host System Printers display. You are returned to the PC Support Configuration menu.

At this point, the configuration has been changed. The new printer definitions will take effect the next time you start PC Support.

Deleting a Virtual Printer Defined by the Configuration Program

If you define a virtual printer using the configuration program, you can use the configuration program to delete it.

To delete a virtual printer using the configuration program, follow these steps.

1. Display the PC Support Configuration menu. Refer to "Starting the PC Support/400 Configuration Program" on page 11-2 for information on displaying this menu.
2. Select Printers from the list of functions on the PC Support Configuration menu.

The Use Host System Printers display is shown. The virtual printers currently defined are shown on the menu.

3. Use the arrow keys or the Tab key to select the printer you want to delete. This is very important. If you do not specify the printer you want to delete, the printer currently highlighted on the display will be deleted.
4. Press the Enter key or F10 and select Options from the action bar. A window is shown.
5. Select option 3 (Delete printer definition). A window is shown.
6. Press the Enter key. The window is removed from the display and the printer assignment is no longer shown.
7. Press F3 (Exit), Esc, or F10 (Actions) and select Exit from the action bar.
8. Select option 1 (Save and exit) to save the changes you have made and exit the Use Host System Printers menu. You are returned to the PC Support Configuration menu.

Setting Up a Printer with the Interactive Virtual Printer Program

The interactive virtual printer program SETVPRT.EXE can be used to assign virtual printers or change currently assigned virtual printers. If you do not have any virtual printers currently assigned, it can be used to assign one. It can also be used to change a current virtual printer assignment made using the automatic virtual printer program.

Virtual printers assigned using the SETVPRT program remain assigned until you release them, stop PC Support, or turn off your personal computer. If you want the virtual printer assigned each time you start PC Support, then use the PC Support configuration program to define the printer. Refer to "Setting Up a Printer with the Configuration Program" on page 13-2 for information about using the PC Support configuration program.

The interactive virtual printer program, SETVPRT, prompts you through the steps necessary for assigning or changing virtual printers.

To start the interactive virtual printer program, do one of the following:

- Select the Use printers on host system option from the PC Support/400 Menu.
- Use the SETVPRT command.

When using the SETVPRT command, enter the following at the command prompt:

```
[d:][path]SETVPRT  [/C or /M]  [/Z]
```

where the drive [d:] and path [path] contain the SETVPRT program. The drive is required only if the SETVPRT program is not in the current drive. The optional parameters are:

- /C** Specifies a color display mode. If this value is entered, it overrides the value specified on the DSPL identifier in the configuration file for this command. If you want to change the value for all commands, you should change the DSPL identifier.
- /M** Specifies a monochrome display mode. If this value is entered, it overrides the value specified on the DSPL identifier in the configuration file for this command. If you want to change the value for all commands, you should change the DSPL identifier.

/Z Specifies that the IBM logo will not be displayed. If you did not specify the /z parameter, the IBM logo appears. If you specified /z, the Current Virtual Printers display appears.

The Current Virtual Printers display shows how the printers are currently assigned. To use the assign, release, close, or exit actions of the virtual printer function, you must press F10 to select an option from the action list. Press F1 (Help) for more information about each option.

The release action is displayed only if there is a printer to release. The close action is displayed only if there are output files to close.

```

Assign Release Translation table Exit Help

                          Current Virtual Printers

To select an action shown above, first press F10.

                                LPT1      LPT2      LPT3

System name . . . . . : S58          SYSTEM60
Printer device . . . . . :              P2
Printer type . . . . . :              3812
Printer file library . . . . . : QSYSPRINT1
Printer file . . . . . : 3812FILE
Printer data type . . . . . : 2          3
Printout format
  Characters per inch . . . . . : 15      10
  Characters per line . . . . . : 80      80
  Lines per inch . . . . . : 6           8
  Page length in lines . . . . . : 66     66
  Lines per page . . . . . : 60          60
Printer setup
  Number of copies . . . . . : 1          1
  Command override . . . . . : No        No
Enter Esc=Cancel F1=Help F3=Exit F5=Refresh F10=Actions

```

Assigning or Changing a Virtual Printer

To assign a printer using the interactive virtual printer program (SETPRINT):

1. Press F10 (Actions) on the Current Virtual Printers display.
2. Select the option Assign from the action list. The Assign or Change Virtual Printers display is shown.
3. Enter values or select options for the prompts on the display.

For information about the prompts on the displays, refer to "Adding a Printer Definition" on page 13-2 or press F1 (Help) for more information about each. You can also press F4 (Prompt) for a list of selectable values for some of the prompts.

4. Press the Enter key to assign the virtual printer or to have your changes go into effect.

If any problems are found, an error message is shown. Press the Esc key to return to the Current Virtual Printers display. The Current Virtual Printers display shows the values you selected for your virtual printer.

When you assign a virtual printer, you need to provide values for the parameters listed on the Assign or Change Virtual Printers display. The parameters for the printer and the description of each parameter are described below.

When you have provided values for the parameters, press the Enter key to assign the virtual printer.

If any problems are found, an error message is displayed. If an error occurs, press the Esc key to return to the Current Virtual Printers display. The display shows the values you selected for your virtual printer.

PC Printer

The personal computer's name for the virtual printer you want to assign. The personal computer refers to the PC printers and virtual printers by the names LPT1, LPT2, and LPT3. If a virtual printer is already assigned to a name, the assigned values are displayed.

System Name

The name of the host system that the printer you want to use as a virtual printer is attached to. If no system name is entered, the default system name is used. If you are using the interactive virtual printer program (SETVPRT), you can press F4 (Prompt) to select from a list of systems.

Printer Device

The name of the host system printer you want to use as a virtual printer. You must select a printer device or a printer file or both.

Printer File Library

The name of the library that contains the printer file you want to use. If you select a library, you must also select a printer file. If you select a printer file but do not select a library, the host system searches through your library list to find the printer file.

If you are using the interactive virtual printer program (SETVPRT), you can press F4 (Prompt) to select from a list of libraries defined in the user portion (*USRLIBL) of the AS/400 job's library list. You can personalize this list by changing your job description using the Change Job (CHGJOB) command on the AS/400 system.

Printer File

The name of the printer file you want to use. You must select a printer device or a printer file or both. If you select a printer file but do not select a library, the host system searches through your library list to find the printer file.

Note: The AS/400 system uses printer files to control information printed on AS/400 printers. A **printer file** contains information to format and control printing. Printer files are stored in **libraries** on the AS/400 system. A library is used to group related objects on the AS/400 system and to find objects by name when they are used.

If you are using the interactive virtual printer program (SETVPRT), you can press F4 (Prompt) to select from a list of printer files found in libraries defined in the user portion (*USRLIBL) of the AS/400 job's library list. You can personalize this list by changing your job description using the Change Job (CHGJOB) command on the AS/400 system.

If you use a printer file, the supplied default values for characters per inch, characters per line, lines per inch, page length, lines per page, number of copies, and defer printing are determined by the printer file. If you specify a printer device in addition to a printer file, the virtual printer function will change any

values supplied by the printer file that are not valid for the printer device you choose.

Printer Data Type

Use this value to determine how you want the virtual printer to handle the data coming from your personal computer program. Select one of the following:

1. SCS data

Select this data type if your personal computer program is supplying data that is already SCS and does not have to be translated from ASCII to SCS. You may select this option if you are using programs that supply final form text (FFT) such as DisplayWrite* 5/2.

If you select this option and your printed document does not look the way you expect it to, you may want to return to this prompt and select option 3 (Final form text).

2. Convert ASCII to SCS

Select this data type if your personal computer program is supplying ASCII data and you want the data to print on an SCS or IPDS printer.

3. Final form text

Select this data type if you are using any program supplying final form text (FFT), such as DisplayWrite 5/2.

If you select this option and the virtual printer you are using cannot print the data in the manner you request it (for example, underlined), the virtual printer will change the data to a printable form.

When you select this option, your text data can be printed on any AS/400 printer. However, because printers vary in their capabilities, your printed document may not look the way you expect it to look. If this happens, you may want to return to this prompt and select option 1 (SCS data).

4. ASCII data

Select this data type if your personal computer program is supplying ASCII data and you want the data to print on a ASCII printer that is connected to the host system.

5. AFPDS

Select this data type if you are using personal computer programs that supply advanced function printing data stream (AFPDS) data (for example, the IBM AFPDS printer driver for Microsoft Windows) and you want to print the data on a printer connected to your AS/400 system using AFP (advanced function printing) support.

Characters per Inch

The number of characters that you want the virtual printer to print per inch.

Characters per Line

The maximum number of characters per line that you want the virtual printer to print. If you do not know the values allowed for the host system printer you are using as your virtual printer, refer to the printer manual for the allowed values. This value must be less than or equal to the characters per inch multiplied by the page width in inches.

Lines per Inch

The number of lines that you want the virtual printer to print per inch.

Page Length

The length of your page in lines. You can enter any number between 1 and 255.

Calculate the length of your page in lines by multiplying the number of lines per inch that you selected times the length of the page in inches. For example, if you selected 6 lines per inch and your page is 11 inches long, your page length is 66 lines.

Lines per Page

The number of lines, between 1 and your page length, that you want the virtual printer to print on each page. A default value is supplied. You can use that value or specify one of your own.

If you select a number less than your page length, the blank lines will be inserted at the bottom of your printed page. If your data is already formatted, you should use the same value as the page length value.

Number of Copies

The number of copies that you want the virtual printer to print.

If you selected option 1 (SCS data), option 2 (ASCII to SCS), option 4 (ASCII data), or option 5 (AFPDS) as your printer data type, you can enter any number from 1 through 255.

If you selected option 3 (Final form text) as your printer data type, you can enter any number from 1 through 99.

Command Override

This value (also known as Application Formatted Data) affects the way the virtual printer handles some personal computer printer commands if you selected option 2 (ASCII to SCS) as your printer data type.

1. Yes.

The virtual printer attempts to print the document as it was formatted by the printing application and uses personal computer printer commands found in the data that change characters per inch (cpi), characters per line (cpl), lines per inch (lpi), lines per page (lpp), and page length (pl) rather than the values you choose when you assign the virtual printer. Superscript and subscript commands are also used. These commands are in effect for the current output file only.

2. No.

This is the default value. The virtual printer uses the values you choose for cpi, cpl, lpi, lpp, and pl when you assign the virtual printer. If you select No, the program ignores the personal computer printer commands that change those values in the data. Superscript and subscript commands found in the data are ignored.

PC Printer Character Set

The printer character set determines how your virtual printer handles ASCII codes. Depending on the character set that you select, the printer expects a command or a printable character.

1. Character set 1.

The virtual printer handles ASCII codes hexadecimal 80 through 9F as printer commands.

2. Character set 2.

The virtual printer handles ASCII codes hexadecimal 80 through 9F as printable characters. This is the default.

For example, in character set 1, the printer handles a hexadecimal 9B as the beginning of a printer command, and the printer expects the next character to be part of a command. But in character set 2, the printer translates a hexadecimal 9B into a printable character.

Defer Printing until Output File Closed

This value lets you choose if you want your data to begin printing on the host system printer immediately or if you want to wait until all of the data has arrived at the host system.

Option 1 (Yes) is the default for this parameter.

1. Yes.

The host system printer waits until the output file is closed before it starts printing the data.

2. No.

The host system printer starts printing your data as soon as it receives the first character, without waiting for the output file to close.

Choosing option 2 (No) can save you time if you are printing a large amount of data. However, other users are not able to print their data until your output file is closed and completely printed.

Untranslatable Character

The EBCDIC hexadecimal code for the character the virtual printer prints if it finds a character it cannot translate from ASCII to EBCDIC. A default value of hexadecimal 40 (blank) is supplied.

Because many personal computers supply ASCII data and many host system printers accept only EBCDIC data, the virtual printer must translate each character of data sent by the personal computer from ASCII to EBCDIC. When an untranslatable character is found, the virtual printer substitutes a printable EBCDIC character.

Changing the ASCII-to-EBCDIC Translation Tables

ASCII-to-EBCDIC translation tables are used by the virtual printers to determine what EBCDIC characters the ASCII characters in the data are translated to when you assign your virtual printer with printer data type 2 (ASCII to SCS). The virtual printer program uses the system ASCII-to-EBCDIC translation table.

Note: You can change the system ASCII-to-EBCDIC translation table by starting the router again specifying an A2ET identifier in the configuration file. For

more information about the A2ET identifier, refer to “Other PC Support Identifiers” on page 21-12.

You can also change just the virtual printer ASCII-to-EBCDIC translation table. To change the ASCII-to-EBCDIC translation table for a virtual printer, press F10 from the Current Virtual Printers display to go to the action list. Move the cursor to the translation table action. The translation table action is displayed if there is a virtual printer assigned. Press the Enter key. The following display appears:

```
Current Virtual Printers

Change the Translation Table for a Virtual Printer

Select options and then press Enter to change the translation table.

PC printer . . . . . ▶ 1. LPT1
                      *. LPT2
                      *. LPT3

Translation table. . . . . ▶ 1. Default
                           2. User-defined

Enter Esc=Cancel F1=Help F3=Exit Spacebar
```

The parameters for the printer are as follows:

PC Printer

The name of the virtual printer for which you want to change the ASCII-to-EBCDIC translation table. The assigned values are shown for the virtual printer that is currently selected. Only the virtual printers that are assigned can be selected.

Translation table

The ASCII-to-EBCDIC translation table you want to use for your virtual printer. You can choose the default system translation table or you can select one of your own translation tables. If you select option 2, *User-defined*, the translation table filename parameter is displayed.

Translation table filename

The name of the file that contains your ASCII-to-EBCDIC translation table. You can specify a drive and path for your translation table.

You can press F4 to get a list of files. If you press F4 before you type anything in the input field you get a list of files in the current drive and directory with the format *.TBL. If you want to list files with a different extension, type *.ext where ext is the extension for the list of files you want to see. If you want to see all the files in the current drive and directory, type *.*. You can get a list of files in a different drive and directory by specifying the drive or directory.

Press the Enter key after you have made your selections to change the translation table. You can do this for any number of virtual printers.

Releasing a Virtual Printer

When the Current Virtual Printers display is shown, press F10 to go to the action list. Move the cursor to Release on the action list and press the Enter key. You may select the printer or printers you want to release and then press the Enter key. This option is only displayed if you have a virtual printer assigned.

There are some virtual printers you cannot select. Those that cannot be selected are identified with an asterisk (*). The asterisk indicates that, because the virtual printer was never assigned, you cannot release it.

If you have any open output files, you will get an error message. You can choose one of the following options to release the virtual printer or press the Esc key to cancel the release request.

1. Complete current output file and then release

Allows the virtual printer to continue sending the current output file to the host system to print. When the virtual printer receives the close file command from OS/2, the virtual printer will be released.

2. Delete current output file and then release

The remaining data will not be sent to the host system for printing. The virtual printer will continue receiving the data for the current output file until the close file command is received from OS/2. The virtual printer will then be released.

3. Release immediately

Stops and releases the virtual printer immediately.

```

Assign Release Translation table eXit Help

                                Current Virtual Printers

To select an action shown above, first press F10.

                                LPT1      LPT2      LPT3
System name. . . . . : S58          SYSTEM60
Printer device . . . . . :           P2
Printer type . . . . . :           3812
Printer file library . . . . . : QSYSPRINT1
Printer file . . . . . : 3812FILE
Printer data type. . . . . : 2          3
Printout format
Characters per inch. . . . . : 15      10
Characters per line. . . . . : 80      80
Lines per inch . . . . . : 6          8
Page length in lines . . . . . : 66    66
Lines per page . . . . . : 60         60
Printer setup
Number of copies . . . . . : 1         1
Command override . . . . . : No       No
Enter Esc=Cancel F1=Help F3=Exit F5=Refresh F10=Actions

```


Closing the Output Files

If an open output file exists, the Close option is shown at the top of the Current Virtual Printers display. To close an output file:

1. Press F10 at the Current Virtual Printers display.
2. Select the Close option.
3. Select the printer or printers you want to close output files for.
4. Press the Enter key.

There are some virtual printers you cannot select. Those that you cannot select are identified with an asterisk (*). The asterisk indicates that there are no output files to close for that virtual printer or the virtual printer is not assigned.

Ending the Interactive Virtual Printer Program

When the Current Virtual Printers display is shown, press F10 to go to the action list. Move the cursor to Exit on the action list, and press the Enter key. On the task option list, you may choose option 1 (Exit virtual printer) or option 2 (Resume virtual printer). Select option 1 if you are through working with virtual printers. Select option 2 if you want to continue working with virtual printers.

Setting Up a Printer with the Automatic Virtual Printer Program

If you want to use the same virtual printer configuration every time you run a particular application, you can have your virtual printers automatically set up using the automatic virtual printer program, CFGVPRT. You can include the CFGVPRT command in a command file, such as STARTPCS, or you can run the CFGVPRT program from the command prompt. If you select the virtual printer function when you install PC Support, the CFGVPRT command is automatically added to the STARTPCS file.

Assigning a Virtual Printer

To assign a virtual printer using the automatic virtual printer program, use the following PC command:

```
[d:][path]CFGVPRT [c:][path][filename.ext] [/z]
```

where:

d:path

Specifies the drive and an optional path where the CFGVPRT program is located.

c:path

Specifies the drive and optional path where the configuration file is located.

filename.ext

Specifies the name of the configuration file to use. The configuration file must contain configuration identifier (PRNT) entries for the virtual printer function. This parameter is optional. If no file name is specified, the CONFIG.PCS file is used.

/z Specifies that the IBM logo and informational messages will not be displayed.

When you press the Enter key, the automatic virtual printer program searches

the CONFIG.PCS file, or the alternative configuration file you specified, for PRNT identifiers to process. For more information about the PRNT identifier, refer to the "Virtual Printer Function Identifiers" on page 21-5.

If you specify an alternative configuration file, CFGVPRT searches only for PRNT identifiers in the alternative configuration file. Any PRNT identifiers in the CONFIG.PCS file are ignored.

When you press the Enter key, the automatic virtual printer program searches the CONFIG.PCS file, or the alternative configuration file you specified, for PRNT identifiers and AEPx identifiers to process. You can use as many PRNT identifiers as you want; however, the maximum number of virtual printers allowed is three. AEP1, AEP2, and AEP3 identifiers are used to change the ASCII to EBCDIC translation tables for virtual printers.

Note: If you specify the alternative configuration file, CFGVPRT searches only for PRNT or AEPx identifiers in the alternative configuration file. Any PRNT or AEPx identifiers in the CONFIG.PCS file are ignored.

Releasing a Virtual Printer

To release a virtual printer using the automatic virtual printer program, create a PRNT identifier in a configuration file. Specify the name of the virtual printer you want to release as the only parameter for the PRNT entry. Then, run the CFGVPRT program as described in "Setting Up a Printer with the Automatic Virtual Printer Program" on page 13-13.

If an output file is open when you release a virtual printer, you will receive an error message. You will have two choices:

- Press the Enter key to allow the virtual printer to continue sending the current output file to the host system to print. When the virtual printer receives the close file command from OS/2, the virtual printer will be released.
- Press the Esc key to cancel the release request.

Identifying Batch Error Level Codes

If you are running a command file, CFGVPRT (and VPRT) sets a return code that can be checked by OS/2. When all entries are processed successfully, the error level is 0. If an error occurs, but you choose to continue the operation, the error level is set to 10 (hexadecimal 0A). If an unrecoverable error occurs, or if you choose to end the CFGVPRT or VPRT program, the error level is set to 20 (hexadecimal 14).

Changing the ASCII-to-EBCDIC Translation Tables

ASCII-to-EBCDIC translation tables are used by the virtual printers to determine which EBCDIC character each ASCII character in the data is translated to when you assign your virtual printer with printer data type 2 (ASCII to SCS). The virtual printer program uses the system ASCII-to-EBCDIC translation table.

Note: You can change the system ASCII-to-EBCDIC translation table by running the router specifying an A2ET identifier in the configuration file. For more information about changing the ASCII-to-EBCDIC tables, see "Other PC Support Identifiers" on page 21-12.

You can also change just the virtual printer ASCII-to-EBCDIC translation table. To change the ASCII-to-EBCDIC translation tables for the virtual printers using the automatic virtual printer program, create AEP1, AEP2, and AEP3 identifiers in the configuration file. Specify the files that contain your ASCII-to-EBCDIC translation tables. Then run the CFGVPRT program as described in “Setting Up a Printer with the Automatic Virtual Printer Program” on page 13-13. The ASCII-to-EBCDIC translation tables will be changed.

For more information about the AEPx identifiers, see “Virtual Printer Function Identifiers” on page 21-5.

Understanding the Differences between Virtual Printers and PC Printers

Although you can use a virtual printer as you would use a personal computer printer, there are some differences you should be aware of:

- If emphasized printing is specified for a virtual printer, the printing is done using double strike. This happens because some AS/400 printers do not support the emphasized printing available on a personal computer printer.
- If double-width printing is specified in a file sent to a virtual printer, the printing is expanded by placing a blank after each character to allow correct spacing when the command override prompt for the virtual printer is set to No. If you assigned your virtual printer to an AS/400 printer that supports double-width printing, you can set the command override prompt to Yes. Then, the virtual printer will simulate double-width printing by changing the characters per inch to 5.
- If printer data type 2 is specified for the virtual printer, the virtual printer function assumes that the data to be printed is intended for the IBM Proprinter* 4201 or other compatible personal computer printers. Printer data intended for use with other personal computer printers may not be changed correctly to the appropriate AS/400 printer data stream by the virtual printer function. If you are using a word processing program or spreadsheet program that allows you to select a printer, you should select the IBM 4201 Proprinter.
- If you print on a printer device that supports the FONT parameter and you assigned the virtual printer with a printer file (with or without a printer device), then the CPI value is not used unless the printer file has FONT(*CPI) specified.
- Files printed on a virtual printer using printer data type 4 (the ASCII data type) cannot be displayed on the AS/400 system.
- If you are sending personal computer printer data to a personal computer printer that is emulating an AS/400 printer, you should set the printer data type value to data type 4 (ASCII data) when you assign your virtual printer. Using the ASCII data type assures that the features of the personal computer printer are used. No data conversion is done by the virtual printer function.
- If the virtual printer is assigned with printer data type 2, the lines per page and the page length values are used by the printer to determine when page ejects are inserted into the virtual data. If the value specified for the lines per page value is less than the value specified for the page length value, then the virtual printer detects when to perform a page eject.

However, if your print data contains the commands needed to perform the page breaks, and the lines per page value is less than the page length, the

virtual printer may cause extra form feeds to be done. This results in blank pages scattered throughout the printer output.

If your print stream is already formatted by a word processing or spreadsheet program, you should ensure that the values specified for the lines per page and page length values are equal when you assign a virtual printer. This will prevent the virtual printer from inserting any extra form feeds.

If you print data that is not already formatted to produce page breaks, specifying a value for lines per page that is less than the value specified for page length allows the virtual printer to skip the specified number of lines across the page breaks. The number of lines skipped is the difference between the page length and the number of lines per page. The interactive virtual printer program (SETVPR) will not run as a detached program.

- The OS/2 print spooler should be started before the virtual printers are assigned. The spooler keeps the print requests from the OS/2 sessions separated. Refer to the SPOOL command in the OS/2 publications for special considerations when printing from applications running in the OS/2 compatibility environment.
- When your PC application prints, your output is first sent to the OS/2 spool queue. When the output file is closed by the sending application, your output is released and sent to the AS/400 system. You cannot send a job to the spool queue larger than the disk space available on your personal computer system.
- When you are using a virtual printer that is assigned with printer data type 1 or printer data type 3, you must use the OS/2 printer driver IBMNULL.DRV. IBMNULL.DRV can be used for virtual printers assigned with printer data type 2 and also printer data type 4. IBMNULL.DRV does not put personal computer commands in the data to reset the printer.

The default OS/2 printer driver is IBM4201.DRV. Therefore, to use IBMNULL.DRV you must change the OS/2 printer. Refer to the *OS/2 Getting Started* manual for information on changing the printer settings and choosing a printer driver.

- If you are using data type 3 the PAGRTT field in the printer file is not used and the page rotation attribute of the resulting spooled file will always be zero. To use the page rotation specified in the printer file, print the document using data type 1.
- If you are using data type 5 the Front Side Overlay and Back Side Overlay fields in the printer file are not used.

Chapter 14. Introducing Work Station Feature

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Using Work Station Feature

Using Your Personal Computer as a Work Station

Work station emulation is done by the OS/2 Work Station Feature programs. These programs are part of the Communications Manager function of OS/2 Extended Edition. The basic principles and concepts behind work station emulation are similar to the PC Support/400 work station function. The online PC Support introductory help information gives an overview of using your personal computer as a work station.

Configuring the OS/2 Communications Manager and Work Station Feature

To identify your display sessions, you need to configure the OS/2 Extended Edition Communications Manager and Work Station Feature.

An AS/400 **display session** allows a personal computer user to do AS/400 activities, such as creating documents with OfficeVision/400. A **printer session** allows the personal computer printer to be used as a printer attached to the AS/400 system. For example, you can create an OfficeVision/400 document and print it on the personal computer printer.

The number and kind of sessions you configure depend on the type of tasks you want to do. You can configure up to five sessions. You can choose to make each session a printer session or a display session, and the PC Support organizer will run in all configured display sessions. To switch from one session to another, use the hot-key sequence.

The Work Station Feature of OS/2 Extended Edition Version 1.2 allows you to use personal printers, connected to your personal computer, as AS/400 printers. A personal printer used this way is called a Work Station Feature printer.

It is not necessary to use PC Support if you merely need an AS/400 display station or printer emulation. These functions are provided by OS/2 Work Station Feature.

Using the PC Keyboard with PC Support/400

Personal computer keyboards differ from the keyboards used on other display stations attached to the AS/400 system. Because of this, some of the keys do different functions when you are operating your personal computer as an AS/400 display station.

The best way to handle this difference is to make your keyboard continue to function as a personal computer keyboard, even when you are operating your personal computer as an AS/400 display station. To do this, you need to use the personal computer keyboard profile that is provided with the OS/2 Work Station Feature. Using your keyboard as a personal computer keyboard makes the transition between the AS/400 system and personal computer applications easier and greatly increases the productivity of users who do not use PC Support frequently.

For more details about how to use the OS/2 Extended Edition Basic Configuration Services that allow you to customize your work station, refer to the OS/2 publications. The OS/2 publications also contain information about advanced configuration options for your work station.

Chapter 15. Managing the Organizer

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Introducing the PC Support Organizer

As you read this chapter, you should keep in mind the programs you use most often. Careful planning and preparation can make installing and using the PC Support organizer easier.

This chapter shows you how to set up and tailor the organizer so you can use your needed programs quickly and efficiently. The following list outlines the steps you should follow in doing this.

- Prepare PC Support for use with the organizer.
- Personalize your PC Support Organizer menu, if desired.
- Change your configuration file.
- Select an editor of choice.

You should complete these steps before using the organizer. The following sections discuss each of these steps individually.

Preparing to Use the Organizer

To prepare PC Support for use with the organizer, you should configure the OS/2 Communications Manager and the Work Station Feature. The Work Station Feature must be started before you can use the organizer.

Configuring the OS/2 Communications Manager and Work Station Feature

You may select the PC Support organizer when you install PC Support. But before you start using the organizer, you need to configure the OS/2 Extended Edition Communications Manager or Extended Services 1.0 and Work Station Feature. When you configure Work Station Feature, you identify display sessions.

An AS/400 **display session** allows a personal computer user to do AS/400 activities, such as creating documents with OfficeVision/400. A **printer session** allows the personal computer printer to be used as a printer attached to the AS/400 system. For example, you can create an OfficeVision/400 document and print it on the personal computer printer.

The number and kind of sessions you configure depend on the type of tasks you want to do. You can configure up to five sessions. You can choose to make these sessions a printer session or a display session, and the PC Support organizer will run in all configured display sessions. To switch from one session to another, use the hot-key sequence.

Using the Configuration Program to Change the Organizer

Using the PC Support/400 configuration program, you can change your session information, including:

- The menu displayed when the organizer is started.
- The startup options for the organizer.
- The way the organizer operates in your Work Station Feature session.
- The value for the input-inhibited time. For more information about this value, see "Organizer Function Identifiers" on page 21-10.

Changing Your Session Information

To change your session information, start the PC Support/400 configuration program and display the PC Support Configuration menu. Refer to "Starting the PC Support/400 Configuration Program" on page 11-2 for information on starting this program.

When you have displayed the PC Support Configuration menu, complete the following steps.

1. Select Organizer from the list of functions on the PC Support Configuration menu. The Organizer display appears.
2. Select General organizer options. The following display appears:

```
Sessions  Exit  Help
-----
                        General Organizer Options
Select options, press Enter.

      Input inhibited time value,
      (0, 1 to 3600) seconds. . . . . [30 ]

-----
Enter  Esc=Cancel  F1=Help  F3=Exit  F10=Actions  Spacebar
```

3. Press F10 (Actions) and select Sessions from the list of actions.
4. Select the option showing the session number you want to change. A window is shown.
5. Enter the command or commands you want to run in the session.

For example, if you want the organizer started and the Organizer menu displayed in a session, enter the following:

```
STRPCO
GO PCOMNU
```

Note: If your user profile has the *Limit capabilities* parameter set to *YES, specify STRPCO as the only command to run. This is because users with the *Limit capabilities* parameter set to *YES cannot use the GO command. If you want to display the Organizer menu when you sign on to the AS/400 system, specify PCOMNU for the *Initial menu* parameter in your user profile.

6. If you need to add more lines, press F9 (Insert line).
7. When you have finished, press F3 (Exit) and select the option to exit.
8. Press F10 (Actions) and select Exit. A window is shown.
9. Select option 1 (Save and exit) to save your changes and exit. You return to the Organizer menu.

10. Press F3 to return to the PC Support Configuration menu.

Starting the PC Support Organizer

One way to start all the programs you need for the PC Support organizer is to create a STARTUP.CMD file. The STARTUP.CMD file is processed when the personal computer is turned on or started again.

If you do not have a STARTUP.CMD file and you selected the PC Support organizer when you installed PC Support, you can display the Organizer menu by following these steps:

1. Start the communications manager.
2. Start 5250 Work Station Feature with at least one display session configured.
3. Enter `d:\PCS0S2\STARTPCS` at the command prompt.

You receive a message instructing you to select the *5250 Work Station Feature* option from the OS/2 Task List. To do this:

1. Press `Ctrl+Esc` to display the OS/2 Task List.
2. Select the option *5250 Work Station Feature* from the list.
3. Sign on the AS/400 system when the sign-on display is shown.

The PC Support Organizer menu is shown.

Personalizing Your PC Support/400 Organizer Menu

The first time the PC Support/400 Organizer menu is displayed, it looks like this:

```
PC SUPPORT/400 ORGANIZER

Select one of the following:

Office Functions
 1. OfficeVision/400
 2. Work with documents in folders
 3. Select editor of choice

PC Support
 4. PC Support tasks
 5. PC Support host system tasks
 6. PC command prompt
 7. Start a PC command

90. Sign off

Selection or command
====> _____

F3=Exit F4=Prompt F9=Retrieve F12=Cancel
F13=User support F16=System main menu
```

OfficeVision/400 must be installed to use option 1. Installing OfficeVision/400 will also increase the number of functions available for option 2.

Because every office environment is different and users require different applications, you can change the options on this menu to fit your own environment. For example, if you frequently use a spreadsheet application, you would probably add your own option to create spreadsheets. You might want your menu to appear as follows:

```
AS/400 PC SUPPORT ORGANIZER

Select one of the following:

1. Work with documents in folders
2. Create spreadsheet
3. Send note
4. Work with calendar
5. OS/2 commands
6. AS/400 PC Support
7. Sign off

Selection or command
===> _____

F3=Exit F4=Prompt F9=Retrieve F12=Cancel
F13=User support F16=PC Support Product Menu
```

The options displayed on the PC Support/400 Organizer menu can be changed using the screen design aid (SDA) function of the AS/400 Application Development Tools licensed program.

For more details on creating and changing your own menus, see the *SDA User's Guide and Reference*. Help is also available for all SDA displays.

For an example of changing the organizer menu, refer to "Personalizing the Organizer Menu: An Example" on page 15-10.

Selecting a Text Editor

When you select a text editor, you tell the organizer which word processing program you plan to use. Option 3 (Select editor of choice) on the AS/400 PC Support Organizer menu helps you choose an editor. The text editors available using OS/2 are OfficeVision/400 and DisplayWrite 5/2.

Note: To use DisplayWrite 5/2, you must use DW52A112.EXE. You cannot use DW52A100.EXE.

```

Select Editor of Choice

Type choice, press Enter.

Text editor . . . . . : 1=OfficeVision/400 (DOS, OS/2)
                       2=DW4 (DOS)
                       3=DW4 Version 2 (DOS)
                       4=DW5 (DOS)
                       5=DW5/2 (OS/2)

F3=Exit   F12=Cancel

```

This display lets you select the text editor you want to use when you work with documents. OfficeVision/400 is selected if you do not specify an editor.

Using DisplayWrite 5/2

The organizer includes the capability to use DisplayWrite 5/2 on the personal computer as the editor of choice. Using DisplayWrite 5/2 gives you the ability to view and print images and graphics. If you select DisplayWrite 5/2 as editor of choice, additional resources will be required. For example, shared folders must be active to use DisplayWrite 5/2 with the organizer function.

```

Select Editor of Choice

Type choices, press Enter.

Text editor . . . . . DW5/2
Name of editor . . . . . C:/DW5-2/DW52A112.EXE
Profile name . . . . . C:/DW5-2/DW5.COMD
Primary program path . . C:/DW5-2
Temporary program path .
Secondary program path . C:/DW5-2
Document type for save . . . 3 1=Revisable form
                               2=Final form
                               3=Select type at end of edit

F3=Exit   F12=Cancel

```

When you select the create function from the Work with Documents display, the DisplayWrite 5/2 display is shown and you can proceed to create, revise, and edit your document. When you are finished and you press the appropriate Exit key, you return to the Work with Documents display.

If you want to print a document with DisplayWrite 5/2, you can select a personal computer printer or a host system printer.

You can also get data from the host system by using the get query function of DisplayWrite 5/2. This function incorporates the interactive document profile information into the personal computer document created using DisplayWrite 5/2.

When the user selects DisplayWrite 5/2 as editor of choice, the *Temporary program path* prompt has special meaning. If this field is left blank, temporary edit documents are placed on the shared folder by DisplayWrite 5/2. If the *Temporary program path* prompt is not blank, DisplayWrite 5/2 uses the specified path for temporary edit documents. Performance is improved when a valid directory on the C: drive is specified as the *Temporary program path*. You should specify a shared folder drive for the *Temporary program path* prompt.

The system paths specified in the profile named in the DW5.CMD file specify where DisplayWrite 5/2 internal temporary documents are stored. The temporary document path tells Display Write 5/2 where to put the working files during the edit session. This may be any valid directory on the C: drive. If the field is left blank while using DisplayWrite 5/2 with the organizer function, DisplayWrite 5/2 internal temporary documents are stored on the shared folder. It is recommended that the revisable-form text path be left blank when using DisplayWrite 5/2 with the organizer function.

Using OfficeVision/400

OfficeVision/400 includes an AS/400 text editor that allows you to create, change, view, and print documents. You can merge information from one document with another. Using OfficeVision/400, you can merge information from a file. OfficeVision/400 also allows you to edit notes.

The OfficeVision/400 Edit display is enhanced by the PC Support text-assist function to provide easier editing and faster performance.

Using the PC Support Text-Assist Function

If you use the text-assist function with the OfficeVision/400 word processing function, the following requirements exist:

- You must be using a personal computer.
- You must be using the Work Station Feature.
- You must be using the organizer.
- You must be enrolled in Office using the administration function.

There are some limitations when you use the text-assist function:

- You cannot use OfficeVision/400 line commands.
- You cannot use some OfficeVision/400 column operations. However, you can still use column functions by using the table layout function of OfficeVision/400 to define existing text as a table or to define new tables.
- You cannot check spelling interactively on the Edit display.

Editing a Document Created Using Another Editor

If you create a document using DisplayWrite 5/2, but you want to edit it using OfficeVision/400, do the following:

1. Convert the document to revisable-form text using DisplayWrite 5/2.
2. Using OfficeVision/400, specify that you want to edit the document that is now in revisable form. For more information about using OfficeVision/400 to edit a document, see the manual *Using OfficeVision/400* Word Processing*.

Option 3 (Select editor of choice) on the PC Support/400 Organizer menu allows you to select the text editor you want to use. When you select option 3, the Select Editor of Choice display is shown.

When you use DisplayWrite 5/2 with the organizer, you may notice differences in printing.

For example, the organizer allows you to take advantage of AS/400 printer functions without using the PC Support virtual printer function. You no longer have to change your document to final form before printing.

If your document is in the revisable form called RFTDCA, you are shown the Print Options display. If your document is in the revisable form called RFTDW, you are asked if you want to print using the personal computer or the AS/400 system. If you choose to print using the AS/400 system, you are shown the Resolved Document Print Options display. This special support for printing is flexible; you can print a whole document, a single page, or a range of pages. Otherwise, you print as you normally would using DisplayWrite 5/2.

Understanding How the Organizer Functions

If you are already familiar with the personal computer and personal computer products, you might want to consider the following information when you use the organizer.

Controlling Display Information

Starting personal computer applications from the organizer may result in delays while the personal computer loads the application, and it may also cause extra messages to appear on the display while the application is being started.

When setting up command files for programs to be called by the organizer, you can reduce the number of extra messages displayed by:

- Using the OS/2 `@ECHO OFF` command. This command prevents commands in a command file from being displayed while the file is being processed.
- Sending the display output to the NUL device. After each OS/2 statement in the command file, type:

```
>NUL
```

Messages sent to the NUL device do not appear on the user's personal computer.

Simple informational messages can be displayed to tell the user what is happening, especially during a long program load or a copy operation. For example, a command file might contain:

```
@ECHO OFF
rem Turn off the batch file display
ECHO COPY OPERATION IS IN PROGRESS...
rem The copy message is stopped from appearing.
COPY FILE1 FILE2 >NUL
ECHO FILE COPY HAS COMPLETED...
```

In this example, the command file displays the following:

```
COPY OPERATION IS IN PROGRESS ...
FILE COPY HAS COMPLETED ...
```

If an error occurs at this point, an error message is shown on your display.

Tracing Errors When the Output Is Directed to NUL

If you have redirected the output of a command file to the NUL device and the file does not run correctly, you can use the following to help you identify errors:

- Print the file, then run each meaningful command from the PC command prompt.
- Convert the file to a REXX file and set up a trace by doing the following:

1. Add a comment line at the beginning of the file:

```
/* comment */
```

2. Surround each line with quotes:

```
'line text'
```

3. Add a trace statement:

```
TRACE ?I
```

This allows a step-by-step trace of the activities of the file.

Running the Organizer Function from a Pass-Through Session

Running the organizer from a pass-through session is not recommended. When a display session is started, the organizer function assumes it is working with the single host system associated with that display. Passing through to a second system and starting the organizer function results in two different host systems communicating to the same organizer session. This can lead to problems in the following areas:

1. Any DisplayWrite edit sessions will be working with folders on the original host system, rather than the folders on the pass-through system.
2. If the organizer function is only started on the pass-through session, it is not possible to end the organizer function without errors. The organizer function only ends when a sign-on display is shown, and the ENDPASTHR command to return to the first system does not show a sign-on display. To recover, you must sign on the first system, run the STRPCO command, and then sign off again.

Personalizing the Organizer Menu: An Example

When you change a menu display using the screen design aid (SDA) function of the AS/400 Application Development Tools licensed program, your new menu options process your requests by using either personal computer commands or AS/400 commands.

The following example shows how to copy the Organizer menu to a personal library and change the PC Support/400 configuration file so that the organizer displays the changed menu instead of the default. Once you have seen the example, you can easily create your own menu with SDA.

In the example, the following general steps must be taken to modify the default Organizer menu:

- Copy the Organizer menu (source members PCOMNU and PCOMNUQ in file QMENUSRC in library QIWS) to a personal library
- Change the Organizer menu with SDA
- Change CONFIG.PCS so that the organizer function uses the new menu

User menus are made of two components: source and commands. The source contains the options and online help information the user sees when using a menu. The commands are the AS/400 commands associated with the menu options. SDA allows users to create or modify source and commands for user menus.

User menus only call host system commands; however, when the organizer is running, the host system command STRPCCMD runs OS/2 programs and commands. This is how programs from both systems are run from a single menu.

The source for the Organizer menu is shipped with PC Support/400 and resides in file QIWS/QMENUSRC.

It is safer to change a copy of the Organizer menu source and commands in a personal library than to change QIWS/QMENUSRC. To get a copy of the PC Support/400 menu source and commands, use the Create Duplicate Object (CRTDUPOBJ) command. CRTDUPOBJ will copy both the source and commands in file QIWS/QMENUSRC to the library you choose. In this example, the library CHART is assumed to exist on the system.

Most users do not have authority to PCOMNU in QIWS, so you will probably need to get the security officer (QSECOFR) to copy the menu for you. The copy operation will consist of the following commands:

- CRTDUPOBJ: copy the menu source
- GRTOBJAUT: give a user authority to menu source


```

CRTDUPOBJ                      Create Duplicate Object

Type choices, press Enter.

Object . . . . . > QMENUSRC__  Name, generic*, *ALL
Library . . . . . > QIWS_____  Name, *CURLIB
Object type . . . . . > *FILE___  *ALL, *AUTL, *CHTFMT, *CLS...
      + for more values _____
To library . . . . . > CHART_____  Name, *SAME, *CURLIB
New object . . . . . *SAME_____  Name, *SAME
Duplicate data . . . . . *yes_____  *NO, *YES

                                           Bottom
F3=Exit      F4=List      F5=Refresh
F11=Keywords  F12=Cancel  F13=Prompter help

      05-37      SA      MW      KS      IM  II S1 LU368  KB

```

```

GRTOBJAUT                      Grant Object Authority

Type choices, press Enter.

Object . . . . . qmenusr_____  Name, generic*, *ALL
Library . . . . . chart_____  Name, *LIBL, *CURLIB, *ALL...
Object type . . . . . *file___  *ALL, *CFGL, *CHTFMT, *CLS...
Users . . . . . dpt_____  Name, *PUBLIC
      + for more values _____
Authority . . . . . *all_____  *CHANGE, *ALL, *USE...
      + for more values _____
Authorization list . . . . . _____  Name
Reference object . . . . . _____  Name
Library . . . . . *LIBL_____  Name, *LIBL, *CURLIB
Reference object type . . . . . *OBJTYPE _____  *OBJTYPE, *AUTL,
                                           *CFGL...

                                           Bottom
F3=Exit      F4=List      F5=Refresh
F11=Keywords  F12=Cancel  F13=Prompter help

      11-37      SA      MW      KS      IM  II S1 LU368  KB

```

After QSECOFR copies the menu and gives user DPT authority, user DPT can use SDA to change the menu in library CHART. In this example, user DPT signs on to a PC Support session; however, a nonprogrammable work station could be used. To start screen design aid (SDA), enter STRSDA from a command line.

```
PCOMNU                PC SUPPORT/400 ORGANIZER

Select one of the following:

Office Functions
1. OfficeVision/400
2. Work with documents in folders
3. Select editor of choice

Use PC Support/400
4. PC Support PC tasks
5. PC Support host system tasks
6. PC command prompt
7. Start a PC command

90. Sign off

Selection or command
====> strsda_____

22-13      SA      MW      KS      IM  II S1 LU368  KB
```

```
AS/400 Screen Design Aid (SDA)

Select one of the following:

1. Design screens
2. Design menus
3. Test display files

Selection or command
====> 2_____

F3=Exit  F4=Prompt  F12=Cancel

21-08      SA      MW      KS      IM  II S1 LU368  KB
```

Select option 2 from the AS/400 Screen Design Aid (SDA) menu. The Design Menus display is shown. This display allows you to select the menu you want to create or change. Fill in the values shown.

```

                                Design Menu

Type choices, press Enter.

Source file . . . . . QMENSURC__ Name,
Library . . . . . CHART_____ Name, *LIBL, *CURLIB
Menu . . . . . PCOMNU_____ Name, F4 for List

F3=Exit  F4=Prompt F12=Cancel

07-39      SA      MW      KS      IM  II S1 LU368  KB

```

The Specify Menu Functions display is shown. You can work with menu options or menu online help information from this display. Place a Y in the *Work with menu image and commands* prompt and press Enter.

```

                                Specify Menu Functions

File . . . . .: QMENSURC      Menu . . . . .: PCOMNU
Library . . .: CHART

Type choices, press Enter.

Work with menu image and commands . . . . . Y  Y=Yes N=No
Work with menu help . . . . . N  Y=Yes N=No

F3=Exit  F12=Cancel

07-39      SA      MW      KS      IM  II S1 LU368  KB

```

A free-format edit display is shown that allows you to change text. Move the cursor to the spot you would like to change and type over what is there already. You can put any text you like in any spot on the display. Press the Help key on this display for more information.

If you press F13, a command area appears at the bottom of the display. This display contains the command that is started when you select option 1. By placing your cursor in this area and using the Page Up and Page Down keys you can see what each option does when that option is selected. Press F13 again to see your function keys again.

You can change the command in the command area. Also, you can press F10 to view or change the commands for all the options.

```

PCOMNU                                PC SUPPORT/400 ORGANIZER

Select one of the following:

Perform Office Functions
  1. OfficeVision/400
  2. Work with documents in folders
  3. Select editor of choice

Use PC Support/400
  4. PC Support/400 PC tasks
  5. PC Support/400 host system tasks
  6. PC command prompt
  7. Start a PC command

90. Sign off

Selection or command
===> _____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=User support  F16=System main menu

```

Organizer Menu Option	AS/400 Command
1. OfficeVision/400	STROFC
2. Work with documents in folders	WRKDOC
3. Select editor of choice	CHGPCOPRF
4. PC Support/400 PC tasks	STRPCCMD PCCMD('I:PCSMENU /Z /S8')
	PAUSE(*NO)
5. PC Support/400 host system tasks	GO PCSHOST
6. PC command prompt	STRPCCMD PCCMD(COMMAND.COM)
7. Start a PC command	?STRPCCMD ¹
90. Sign off	SIGNOFF
¹ The question mark (?) preceding the STRPCCMD command tells the AS/400 system to provide you with the prompts you need to enter and start a personal computer command.	

Ignore the message Some menu specifications are incorrect. Customized menu options 1 through 4 have been modified from the default Organizer menu. Since this menu is in library CHART, the default Organizer menu is still unchanged. This menu is a copy which can safely be modified.

The options for the customized Organizer menu are shown in the following display.

```

PCOMNU                               My Customized Organizer Menu

Select one of the following:

Perform Office Functions
  1. OfficeVision/400
  2. Assistant series
  3. DW5/2 main menu

  5. Work with documents in folders
  6. Select editor of choice

Use PC Support/400
  7. PC Support/400 PC tasks
  8. PC Support/400 host system tasks
  9. PC command prompt
 10. Start a PC command
 90. Sign off

Selection or command

F3=Exit          F10=Work with commands    F12=Cancel
F13=Command area F20=Reverse                F24=More keys
  01-20          SA          MW          KS          IM  II S1 LU368  KB

```

Organizer Menu Option	AS/400 Command
1. OfficeVision/400	STROFC
2. Assistant Series*	STRPCCMD PCCMD('C:\ASSIST')
	PAUSE(*NO)
3. DW5/2 main menu	STRPCCMD PCCMD('C:\DW5-2\DW5-2')
	PAUSE(*NO)
4. NO SOURCE	NO COMMAND
5. Work with documents in folders	WRKDOC
6. Select editor of choice	CHGPCOPRF
7. PC Support/400 PC tasks	STRPCCMD PCCMD('1:PCSMENU /Z /S8')
	PAUSE(*NO)
8. PC Support/400 host system tasks	GO PCSHOST
9. PC command prompt	STRPCCMD PCCMD(COMMAND.COM)
10. Start a PC command	?STRPCCMD ¹
11. Sign off	SIGNOFF
¹ The question mark (?) preceding the STRPCCMD command tells the AS/400 system to provide you with the prompts you need to enter and start a personal computer command.	

After editing the menu source, press F10 to edit the menu commands. The next display, Define Menu Commands, is shown.

To create options for personal computer applications, type:

```
STRPCCMD
```

followed by a blank and the command you type at the OS/2 command line to run that application. For example, to display a directory, type:

```
STRPCCMD 'DIR *.EXE/W'
```

To create options for AS/400 applications, type the command or procedure that you want to run. For example, to run an existing query, type:

```
RUNQRY
```

The online help information contains descriptions of the AS/400 commands.

On this display, you associate the appropriate command with the menu source on the previous display. If you forget what options are on your menu, you can press F12 to see the source again but by doing this you may lose the changes you have made to the commands. These are the commands for the default organizer menu:

```
Define Menu Commands
Menu . . . . . :   PCOMNU   Position to menu option . . . . . ___

Type commands, press Enter.
Option  Command
01     STROFC _____
02     WRKDOC _____
03     CHGPCOPRF _____
04     STRPCCMD PCCMD('I:PCSMENU /Z /S8')PAUSE(*NO) _____
05     GO PCSHOST _____
06     STRPCCMD PCCMD(COMMAND.COM) _____
07     ?STRPCCMD _____

More...
F3=Exit  F11=Defined only options  F12=Cancel  F24=More keys
08-11    SA          MW          KS          IM  II S1 LU368  KB
```

The following display shows the options that have been changed.

```

Define Menu Commands

Menu . . . . . : PCOMNU      Position to menu option . . .  ____

Type commands, press Enter.
Option      Command
01          STROFC _____
02          STRPCCMD PCCMD ('C:\ASSIST') PAUSE (*NO) _____
03          _____
04          _____
05          WRKDOC _____
06          CHGPCCPRF _____
07          STRPCCMD PCCMD ('I:PCSMENU /Z /S8") PAUSE (*NO) _____
                                                    More . . .

F3=Exit  F11=Defined only options  F12=Cancel  F24=More keys

08-11    SA      MW      KS      IM  II S1 LU368  KB

```

Since options 2 and 3 call personal computer programs, the AS/400 command to be entered is the STRPCCMD command. You can press F4 to be prompted for the appropriate parameters for any command. For example, if you do not remember the parameters for STRPCCMD, you can type STRPCCMD on the line for option 2, press F4, and the prompt display for STRPCCMD will appear.

You must make sure that the personal computer command will work in a variety of situations. For example, for option 2 it would be a good idea to have a command file called ASSIST.CMD in the personal computer root directory that will change the directory to **ASSIST2** and then run the MENU command to start the Assistant Series menu.

When you are done changing the options, you can press F3 to return to the edit display. Press F3 to exit to the Specify Menu Functions display. Press F3 again. The Exit Menus display will appear.

```

Exit Menu
File . . . . . : QMENSRC          DDS member . . . . . : PCOMNU
Library . . . :   CHART          Commands member . . . : PCOMNUQQ

Type choices, press Enter.

Save new or updated menu source . . . Y          Y=Yes, N=No
Source file . . . . . QMENSRC      Name
Library . . . . . CHART          Name, *LIBL, *CURLIB
Text . . . . . PC Support Organizer menu display
source
Replace menu members . . . . . Y          Y=Yes, N=No

Create menu objects . . . . . Y          Y=Yes, N=No
F4 for Prompt
Object library . . . . . CHART      Name, *CURLIB
Replace menu objects . . . . . __Y__  Y=Yes, N=No

F3=Exit      F4=Prompt      F12=Cancel
08-45       SA         MW         KS         IM         II         S1         LU368      KB

```

Press the Enter key on the Exit Menu display to create the new menu.

You have now finished editing the menu PCOMNU in library CHART. From any command entry prompt on the system (identified by the ==> sign), you can enter:

```
GO CHART/PCOMNU
```

And your new menu will be displayed.

You now need to customize the organizer so that it will use this menu instead of PCOMNU in library QIWS. To do this, you need to modify the PC Support/400 configuration file, CONFIG.PCS. Change or add the PCOP entries that start menus to:

```
PCOP n, GO CHART/PCOMNU
```

where n is the work station session where you want this menu to appear.

Ending the PC Support Organizer

To end the organizer:

1. Go to the Communications Manager menu.
2. Select the option to stop communications.
3. Complete the prompts to end the 5250 Work Station Feature sessions.

Chapter 16. Managing Your Messages

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Introducing the Message Function

The PC Support message function:

- Allows you to communicate with other display stations, personal computers attached to your AS/400 system, and other users.
- Displays any message that has been sent on the AS/400 system for you or your personal computer.

You have the option of changing the way the message function operates. For example, you could:

- Run the message function from your personal computer or the AS/400 system
- Start the message function automatically when you start PC Support
- Start the message function only when you enter the STARTMSG command or start the message function from the PC Support/400 Menu
- Place the messages under the control of another host system
- Change the message receive interval
- Change the message display interval

You can change the way the message function operates using the PC Support/400 configuration program or the PC Support editor. When you use the configuration program, the changes you select are added for you to your CONFIG.PCS file or specified alternative configuration file. If you use the PC Support editor, you must make the changes in the configuration file yourself.

Using OS/2, you can run many sessions, with each session running a different process. For example, you can use the interactive MSG command to send messages from one session and receive messages with the RCVMSG command from another session.

Notes:

1. For the remainder of this chapter, references to the configuration file mean either CONFIG.PCS or an alternative configuration file you specified on the STARTMSG command.
2. The work station feature and the message function use the same message queue. Therefore, if you start the work station feature before you start the message function, you can only use the message function to send messages. If you started message function first, you can receive messages only if you sign on to the 5250 session with the same user ID as you used on the router.

Configuring the Message Function

You can use the PC Support/400 configuration program to change message function options.

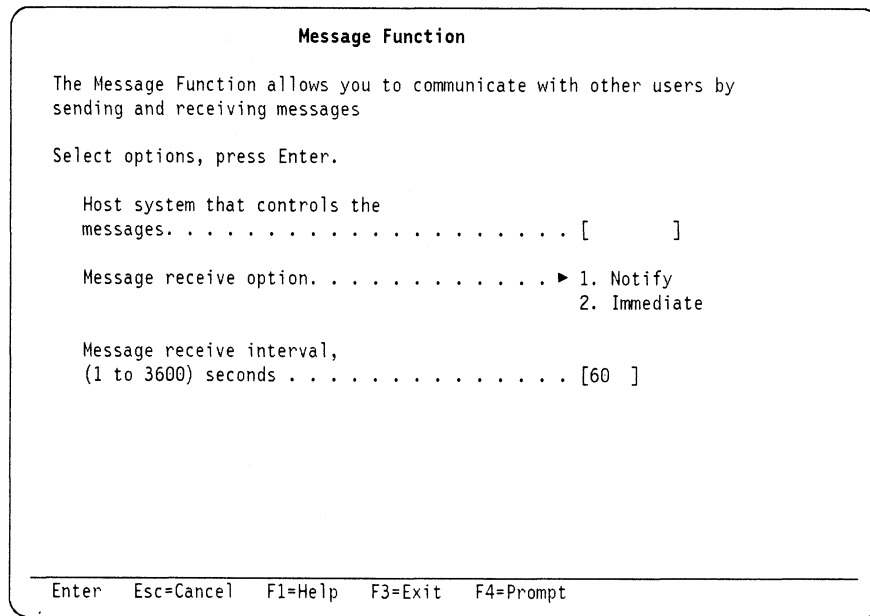
Changing Message Function Options

You can use the PC Support/400 configuration program to change:

- Which system controls your messages
- How you want to receive your messages
- The frequency at which you receive your messages

When you change the configuration, the changes are not in effect until the next time you enter the STARTMSG command. On the PC Support/400 Menu, select the Configure PC Support option. When the PC Support Configuration menu is shown, complete the following steps.

1. Select Messages from the list of items on the menu. The Message Function Configuration menu is shown.



2. Enter values for the following prompts:

Host system that controls the messages

Enter the name of the system you want to send messages to and receive messages from. If you do not specify a system name, your default system will be used.

Message receive option

This prompt determines how you will receive your messages. If you want to be notified by an alarm when messages are waiting, select option 1 (Notify). If you want to be notified by an alarm and then have the message or messages displayed, select option 2 (Immediate).

Message receive interval

This is the number of seconds that you want the message function to wait before checking the AS/400 system for new messages. A default value of 60 seconds is specified for this prompt. You can enter a number from 1 to 3600.

3. When you have specified values for the appropriate prompts, press F3 (Exit).
4. Select option 1 (Save and exit) to save your changes and exit. You are returned to the PC Support Configuration menu.

Improving the Performance of the Message Function

If you use the MSG or RCVMSG command to use the message function without using the STARTMSG command, the send, receive, and display functions start and end the sessions to the AS/400 system each time the functions are selected. This causes the send, receive, and display functions to run more slowly.

If you are not using the 5250 Work Station Feature, it is highly recommended that you use the STARTMSG command. If you use the STARTMSG command, a send session and a receive session are established to the AS/400 system. Whenever the MSG or RCVMSG command is used, the current session is used, which removes the need to start and end each time the commands are used. This improves the performance of the message function.

Also, if you use the STARTMSG command:

- An alarm is sounded or the message may be displayed whenever a message is received by the AS/400 system.
- You are able to receive messages that were sent as *ALLWS or *ALLACT by a local user.
- You are able to receive messages that were sent to your PC location.

The message receive interval (MMRI) controls how often messages are automatically displayed to the user or the user is notified of existing messages. The MMRI identifier controls how often messages are checked for on the AS/400 system. Changing the MMRI can affect performance.

Recognizing Problems That Prevent Notification or Display of Messages

There are some programs that prevent automatic notification or display of messages while they are running. After a program has ended, automatic notification or display of messages is resumed.

If you are using the 5250 Work Station Feature, it is not necessary to use the STARTMSG command. Using both the STARTMSG command and the 5250 Work Station Feature may cause conflicts when you use the user profile message queue on the AS/400 system. You will be able to send messages, but your user profile message queue may not be available for use. In this case, you would not be notified of a message waiting, and you could not delete messages on your 5250 session.

Chapter 17. Managing Your PC Support Router

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Using the PC Support Router

The PC Support router, together with the OS/2 Extended Edition Communications Manager, controls communications between one or more PC Support applications and their corresponding applications on the AS/400 system.

Router Programs

The PC Support router consists of the following programs:

- STARTRTR.EXE is the program that must be run to process the router-related entries in the configuration file. STARTRTR.EXE runs CMGRRTR.EXE. Dynamic link libraries EHNCM00.DLL, EHNCMMSG.DLL, M2RTS.DLL, and M2LIB are also used by STARTRTR.

CMGRRTR.EXE can only be loaded by STARTRTR.EXE and should not be run from the OS/2 command prompt.

Note: CMGRRTR.EXE must be located in the same drive and directory from which STARTRTR is run.

- STOPRTR clears the security-related information set when STARTRTR processed the entries in the configuration file. STOPRTR uses the same dynamic link libraries as STARTRTR. Active links are not stopped by STOPRTR, but no new links can be started until STARTRTR is run again.

Requirements

The OS/2 Extended Edition Communications Manager must be started before most of the PC Support functions can be used. The router must be running before you can use any of the other PC Support functions.

Configuring the Router

The identifiers in the router configuration file are used to control the communications between the personal computer and the host system.

For more information about these identifiers, refer to "Router Identifiers" on page 21-2.

If you want to change the router information, select the PC Support/400 configuration option from the PC Support main menu. The PC Support/400 Configuration menu is displayed. Then, select Connection to AS/400 from the list of items on this menu. The following display is shown:

```

PC to AS/400 Connection (Router) Configuration

Select one of the following to work with.

1. PC information
2. System information
3. Mode information

PC information:
Name of local LU alias . . .      5250LU

System information
System name
5250PLU

Enter Esc=Cancel F1=Help F3=Exit

```

You can change the PC information, system information, or mode information from this display. For example, to change your default ID:

1. Select option 1 (PC information) by pressing the Enter key. A window similar to the following is shown:

```

Work with PC Information

Type in the values and press Enter.

Name of local LU alias . . . . . [5250LU ]
Common user ID . . . . . [      ]

Enter Esc=Cancel F1=Help

```

2. Move the cursor to the *Default user ID* prompt and enter the new value.
3. Press F3 (Exit) and save the changes you requested.

You can also change the system and mode information by selecting the appropriate options.

Starting the Router

If the router is not set to start automatically in the STARTPCS.CMD file (or similar file), you need to issue the command at the OS/2 prompt. To start the router, type:

```
STARTRTR [configuration file]
```

and press the Enter key.

The configuration file is the name of an alternative configuration file you created to be used in place of CONFIG.PCS. This is an optional entry. If no configuration file is specified, the CONFIG.PCS file is used.

When the STARTRTR program is run, it searches for the configuration file in the current directory and then in the directories listed in the DPATH statement located in the CONFIG.SYS file. If the configuration file exists in the current directory, or in the DPATH statement, the router processes the following identifiers:

- Required
 - RTYP CMGR (router type). The only RTYP value recognized is CMGR.
 - RMTN (remote system information). This value specifies the LU profile name of a communications manager partner.
- Optional
 - RTDN (default remote system name)
 - LCLN (local LU alias). The LCLN entry is optional if you have configured one communications manager local LU alias as the default.
 - MODN (mode information)
 - A2ET (change default ASCII-to-EBCDIC translation table)
 - E2AT (change default EBCDIC-to-ASCII translation table)
 - RTCU (common user ID)

The values specified for the optional identifiers override the default values for the router. For a detailed description of these identifiers and how to specify them, refer to "Router Identifiers" on page 21-2.

If the router is already active and STARTRTR is run again, all the router entries in the configuration file are processed by the router and overlay the data previously stored in the router configuration. You can start the router again without starting the personal computer again.

When the router connections are not accepted, error messages are displayed to help you determine the source of the problem.

Display Communications Status: To display communications status, use the OS/2 Communications Manager. For more information, refer to the OS/2 publications.

Batch Error Level Codes Set by STARTRTR

If you are running a command file, STARTRTR sets a return code that can be verified by the OS/2 command IF ERRORLEVEL. If the router is started successfully, the error level is 0. If an error occurs but the router is able to continue, the error level is 10. If an error occurs and the router cannot be installed, the error level is 20.

Stopping Communications

Before you end PC Support and stop the router, you should:

- Release any shared folders function drives and virtual printers still assigned
- End the message function
- End the organizer function

To end PC Support and stop the router, sign off the AS/400 system and go to the Communications Manager menu to select option 2 (Stop communications). As you exit and select the sessions you want to stop, communications with the host system are ended. You can also type STOPRTR at the command prompt to stop

the router and to clear the configuration information set up when STARTRTR was run.

Note: This only clears the configuration information. It does not stop communications with the AS/400 system.

After STOPRTR is run, the default system name is changed to *NONE. This is the only system listed. Existing communication links remain active. New communication links are not allowed until STARTRTR is run.

Chapter 18. Managing the Update Function

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Introducing the PC Support/400 Update Function

The PC Support/400 update function compares two sets of files and, if they are not at matching levels, updates one set with the contents of the other. PC Support/400 uses the update function to update personal computers when changes are made on the host system.

You can also use the update function to update applications other than PC Support/400. This is useful when you want to ensure that all your personal computer users are using the same versions of files.

How PC Support/400 Uses the Update Function

The PC Support/400 update function provides a simplified method of maintaining the most appropriate functional level of the PC Support/400 programs and other applications on the personal computer.

For PC Support/400, the PC Support/400 installation program creates the appropriate entries in your STARTPCS.COM and CONFIG.PCS files to apply updates from the PC Support/400 folder QIWSOS2 to your PC Support/400 directory. The update function automatically applies any updates when you start PC Support/400.

The update function is also used when you are using the administration function. The administrator makes configuration changes in a shared folder, and the update function copies these changes to the personal computer. For more information about the administration function, see Chapter 3, "Using the PC Support/400 Administration Function."

When you use the STARTPCS command that was created for you by the PC Support/400 installation program, the PC Support/400 update function automatically copies the new level of PC Support/400 programs to your personal computer PCSOS2\UPDATE.TMP directory from folder QIWSOS2. When you start your personal computer again, the new level of PC Support/400 programs is moved from the PCSOS2\UPDATE.TMP directory to the PCSOS2 directory by the UPDATEP2 program. The PC Support/400 installation program changes the CONFIG.SYS file so that UPDATEP2 is run when you start your personal computer.

The OS/2 operating system does not allow files that are in use to be updated directly. Therefore, PC Support/400 uses the temporary subdirectory so that the update function can update any programs that are running. Other applications that you start after PC Support/400 may not require this. You can update the programs directly in the specified target directory without using the UPDATE.TMP directory by doing one of the following:

- using the /1 parameter with the PCSUPDT command
- starting the configuration program and selecting Yes for the Update directly without using temporary directory option on the Add Update Control Information display.

Specifying When to Update PC Support/400

It is important that you run the update function as a part of starting PC Support/400. This helps to avoid any problems that may arise from having different program levels on the personal computer and on the host system. However, if you are connected remotely, you may want to delay updating PC Support/400 until a more convenient time.

To specify when you want the PC Support/400 files updated on your personal computer, do the following:

1. Select `General` options from the PC Support/400 Configuration menu.
2. Choose `Update personal computer applications`.
3. Select `PC Support/400` from the list of applications you are updating, then press `F10 (Actions)` and select `Options` from the action bar.
4. From the list of options, select `Change`. A warning display appears, notifying you that you are about to change the update options for PC Support/400; press the `Enter` key to continue.
5. The `Change Update Control Information` display appears. Select `Update` option to control how the update function operates each time PC Support/400 is started.
 - Select `Update files` to allow the update function to perform the necessary updates each time you start PC Support/400.
 - Select `List files` to display a list of the files that need updating without making the actual updates. After listing the files that need updating, the update function allows you to specify whether to perform the updates immediately or to continue without updating.

Using the Update Function to Update Other Files

The `PCSUPDT` command can be used to update files in any target directory based on files from any source directory. It is not limited to updating only the files in your PC Support/400 directory (`PCSOS2`) based on files in the `QIWSOS2` folder.

In order to configure the update function to update other files, you must do the following:

1. Create the source directory
2. Configure your users to update from the source directory

Creating the Source Directory

The source directory is the folder that contains the master copy of the files. All updates will be applied from this folder to the personal computers.

The source directory may contain a **trigger file**. A trigger file is used to determine whether or not updates need to be applied. The name of this trigger file is `UPDATE2.PCS`. The update function compares the time and date of the trigger file on the source with a similarly named file on the target. If the time or date is different, the updates are applied. If no trigger file is present in the source directory, updates are always applied to the target directory for each file that has a different time or date.

There is no format for the contents of the trigger file. The update function only looks at the time and date of this file.

If you want, you can also use a **package file** on the source directory. A package file describes which files you want to exist on the personal computer. This list of files must follow a certain format, and must be stored on the directory specified as the source for the update command.

Package files are identified by having .PKG as an extension. The package file has the following format:

- One line must contain the following identifier:

PKG [*description*]

This identifier indicates the file is a package file. Following this identifier, you can type up to 40 characters as a description for the package file.

- The other lines each contain one of the following keywords:

MBRF [*path*] *filename*

This identifies a file as part of the package to be updated. A path name can also be specified; this indicates that the file is in a subdirectory of the source directory.

The *path* should not contain the drive letter, nor should it begin with a backslash character (\). When you begin the update function, you specify a target directory; the path specified in the package file is considered a subdirectory of this target directory. See "Updating User Tools" on page 18-7 for an example.

DLTF [*path*] *filename*

This identifies a file to be deleted from the target directory. A path name can also be specified; this indicates that the file is in a subdirectory of the target directory. As with the MBRF identifier, you should not specify a drive letter or begin with a backslash character (\).

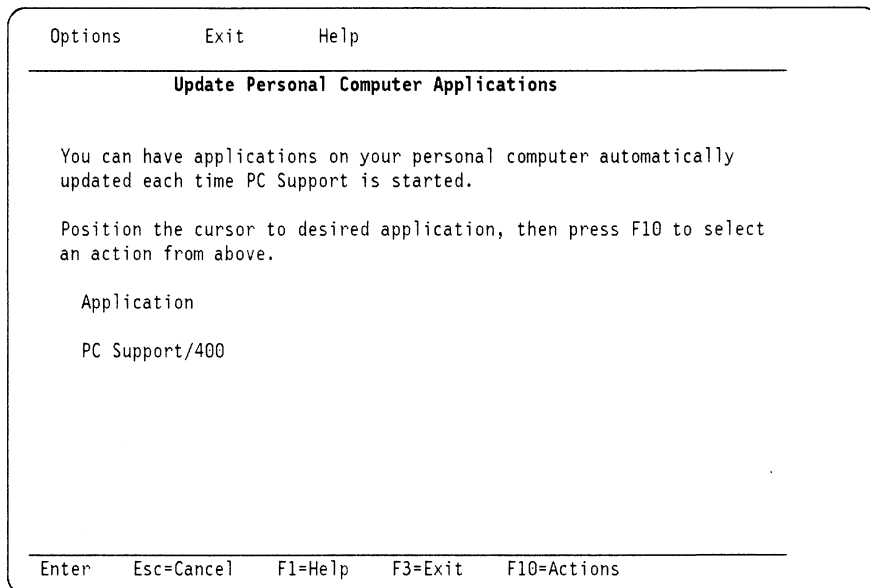
REM [*comment*]

This identifies a comment. The update function ignores the line.

Configuring Your Users to Update from the Source Directory

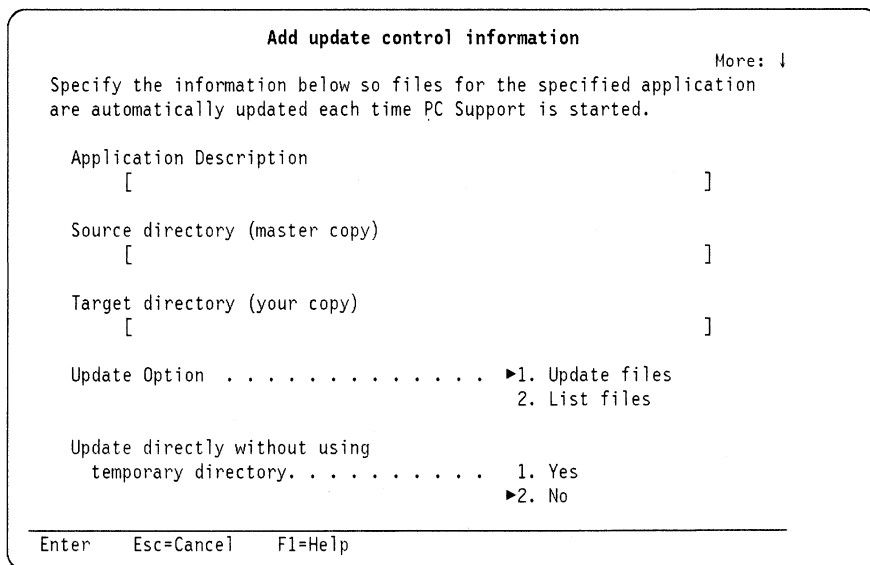
To receive updates from the source directory, each user must do the following:

1. Display the PC Support Configuration menu. Refer to "Starting the PC Support/400 Configuration Program" on page 11-2 for information on displaying this menu.
2. Select General options. The General Options for PC Support/400 display appears.
3. Select Update personal computer applications. The following display appears:



This display shows you the functions you are currently updating. Each of these applications has a separate UPDT entry in your PC Support/400 configuration file.

4. Press the Enter key or F10 (Actions) and select Options. A window appears.
5. Select Add update control information. The following window appears:



On this display, you need to supply the following information:

Application description

A description of the contents of the source directory.

Source directory

The drive, path, and folder name on the AS/400 system where the master copy of the application is located.

Target directory

The drive and path indicating where the files should be stored on the personal computer.

Update option

If you specify `Update` files for this field, the files are copied from the source to the target if the files are not at matching levels.

If you specify `List` files for this field, the update function lists the files that need to be updated but does not copy the files. After listing the files that need to be updated, the update function allows you to specify whether to perform the updates immediately or continue without updating.

Update matching subdirectories

This field allows you to specify that files in subdirectories in the target directory should also be updated, if the same subdirectories exist in the source directory on the AS/400 system. This is similar to the `/s` option on the OS/2 `XCOPY` and `REPLACE` commands.

Update directly without using temporary directory

This field allows you to specify whether you want the files to be copied immediately to the target directory, or whether you want the updates stored in a temporary directory and applied the next time you start your personal computer.

6. When you are finished typing this information, press the Enter key. You return to the Update Personal Computer Applications display.
7. Press F3 (Exit). A window appears.
8. Select option 1 (Save and exit). The changes you made are saved, and you return to the General Options for PC Support display.
9. Press F3 (Exit). You return to the PC Support Configuration display.

Creating the Target Directory

You should use the OS/2 `XCOPY` command to create files on the target with the same names as all the files on the source. For example, if your source directory is `I:\MASTER` and your target directory is `C:\EDITORS`, enter

```
XCOPY I:\MASTER\*.* C:\EDITORS /S
```

The `/S` option on the `XCOPY` command indicates that subdirectories should also be copied.

Deciding When to Run the Update Function

Sometimes you need to start your personal computer again in order for the updates you made to take effect. If you start an application and then update that function, you will still be using the old version of the application. Similarly, some applications use configuration files that are read only when you start your personal computer.

You can sometimes avoid having to start your personal computer again by running the update function before you start the application you are updating. When possible, you should use the `/I` option to indicate that you want updates to be made immediately. You should not start any applications you are updating until after you have started PC Support/400. If you do not do this, or if the application makes changes to configuration files that are only read when you start the personal computer, you should start the personal computer again immediately in order to use the newest version of the application.

Examples of Using the Update Function

Updating PC Support/400

When you install PC Support/400 on the personal computer, the installation program creates a STARTPCS.COM file that starts all the PC Support/400 functions you selected while installing, including PCSUPDT. By default, this command assumes that information about the source and target directories will be found in the CONFIG.PCS file. The installation program creates the following entry in the CONFIG.PCS file:

```
UPDT I:\QIWSOS2,C:\PCSOS2,S,,,PC Support/400
```

The I:\QIWSOS2 directory contains many package files, which are identified by the PKG extension. For example,

PKGF Sample Package File
MBRF PROG1.EXE
MBRF PROG2.EXE
MBRF SUB1\SHEET.DAT
DLTF PROG3.EXE

When started, the program works as follows:

1. If the application being updated is a licensed program, the update program looks for a QPTFIDX file to determine if any program updates need to be applied.
2. If the QPTFIDX file does not exist on the source, the update program compares the time and date of the I:\QIWSOS2\UPDATE2.PCS file with the time and date of the C:\PCSOS2\UPDATE2.PCS file.
3. If the times and dates are identical, the program issues a message stating that the source and target are at matching levels. The program then exits.
4. If the program finds a file with the extension .PKG, the program assumes it is a package file, and looks for a file with the same name on the target directory. If one exists and the time and date are different, then the files listed in the package file are processed. Each file listed as an MBRF is added to the target directory if it did not already exist in the target directory. Each file listed as a DLTF is deleted from the target directory. For example, the update program copies the following files for the sample package file:

```
I:\QIWSOS2\PROG1.EXE to C:\PCSOS2\PROG1.EXE  
I:\QIWSOS2\PROG2.EXE to C:\PCSOS2\PROG2.EXE  
I:\QIWSOS2\SUB1\SHEET.DAT to C:\PCSOS2\SUB1\SHEET.DAT
```

If the PROG3.EXE file exists on the C:\PCSOS2 directory, the PC Support/400 update function deletes the file.

5. If the times and dates of any files do not match, the program copies the changed files from the I:\QIWSOS2 directory to the C:\PCSOS2 directory.

Updating User Tools

In this example, the update function is used to ensure that users have the same versions of an editor and a compiler. Two subdirectories are set up as follows:

```
I:\TOOLS  
  \EDITORS  
  \COMPILER
```

The TOOLS directory also contains the following files:

UPDATE2.PCS (trigger file)

Last update - 4/9/91

EDITORS.PKG

PKGF Package file for editors
MBRF EDITORS\EDIT.EXE
MBRF EDITORS\EHELP.HLP
.
.
.

COMPILER.PKG

PKGF Package file for compilers
MBRF COMPILER\CE.EXE
MBRF COMPILER\CX.EXE
.
.
.

Each user uses the PC Support/400 configuration program to add the information:

```

                                Add update control information
                                More: ↓
Specify the information below so files for the specified application are
automatically updated each time PC Support is started.

Application Description
  [Tools folder ]

Source directory (master copy)
  [I:\TOOLS ]

Target directory (your copy)
  [C:\TOOLS ]

Update Option . . . . . ▶1. Update files
                                     2. List files to be update

Update directly without using
temporary directory. . . . . ▶1. Yes
                                     2. No

-----
Enter   Esc=Cancel  F1=Help
```

When the administrator wants to distribute a new version of these tools, the administrator must:

1. Copy the new version of the editor or compiler to the appropriate subdirectory.
2. Update the appropriate package file on the TOOLS directory if any files have been added or deleted.

3. If using the UPDATE2.PCS trigger file, edit this file so that the file has a new time and date.

The updated tools are copied to each user's personal computer when that user starts PC Support/400.

Parameters for the PC Support/400 Update Command

The parameters for the PCSUPDT command can be specified in either of two ways:

- As parameters entered with the command
- As values specified by the UPDT or ADMN identifiers in a configuration file

The PCSUPDT command is automatically placed in the STARTPCS.CMD file so it is run each time you start PC Support/400. You can also use the command by entering it at the OS/2 command prompt. The format is:

```
d:<path>PCSUPDT [source] [target] [/S] [/L] [/1]
```

or

```
d:<path>PCSUPDT [e:<path>filename] [/L]
```

where:

- | | |
|-----------------|--|
| source | Specifies the source drive and directory that contain the files to be used for updating the target. PC Support/400 uses I: which is assigned to the PC Support/400 folder on the host system. This folder contains the most current PC Support/400 programs. |
| target | Specifies the target drive and directory to be updated using the files from the specified source directory. PC Support/400 uses the PC Support/400 directory on the personal computer. If not specified, the current drive and directory are used. |
| /S | Allows the update function to update files in the subdirectories on the target directory. Files are updated only if the same subdirectories exist in both the source and target directories. |
| /L | Displays a list of the files that need updating, then allows you to specify whether to perform the updates immediately or continue without updating the files. |
| /1 | Allows the update function to update files directly from one directory to another. This parameter is used when you have the OS/2 operating system on your personal computer. |
| filename | Specifies the name of the configuration file to use for source and target information. |

All parameters are optional. If you enter the command with no parameters, the information in the CONFIG.PCS file is used.

The PC Support/400 Phase Two Update (UPDATEP2) command completes the update process when updates are applied in two steps. When PCSUPDT is run in OS/2, the updates can be placed in a temporary subdirectory called UPDATE.TMP. The next time the personal computer is started, UPDATEP2 moves the files from UPDATE.TMP to the directory that was originally meant to receive the updates.

The UPDATEP2 command is automatically placed in the CONFIG.SYS file. It is automatically run each time you start your personal computer. You can also run the command by entering it at your command prompt. The format is:

```
d:<path>UPDATEP2 [target]
```

where target specifies the directory for which the Phase Two Update process is to be performed.

If you type the command without parameters, the information needed by the command is obtained from a file in the PC Support/400 directory called UPDATEP2.DAT. This file contains a list of the directories that have been updated using a temporary subdirectory and are waiting for Phase Two Update to occur.

Batch Error Level Codes

The batch return codes are as follows:

- 0 The PC Support/400 update function completed successfully. No files were found that need updating.
- 10 The PC Support/400 update function completed successfully with informational messages. If /L was specified, files were found that need updating. If /L was not specified, the files were updated successfully.
- 20 The PC Support/400 update function completed with an error. An error message is displayed.

Considerations for Using the Update Function

When you use the update function, you should consider the following.

Update Time

When updating from one release of PC Support/400 to another, or when applying any updates that affect the attached personal computers, the PC Support/400 update function could take a relatively long time to complete. Some of the factors are:

- The speed of the connection types you are using for communications between the personal computers and the AS/400 system.
- The number of files that need updating on each personal computer.
- The number of personal computers trying to update at one time.

If you have a concern about how much time it may take to complete the updates, you can:

- Update the personal computers at a time when they are used the least. For example, if the personal computers are used mostly on week days, you could do the updates at night or during a weekend.
- Use the PC Support/400 administration function to control the updates. For instructions, see "Controlling Updates" on page 3-18.
- When upgrading to a new release, the update function runs as though you specified the /L parameter with the update command.

Chapter 19. Printing with PC Support: Example

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Setting Up a Virtual Printer: Example	19-2

Introducing the PC Support Printing Functions

You can use PC Support to satisfy many of your printing needs. PC Support provides the virtual printer function. The OS/2 communications manager program provides the Work Station Feature.

The virtual printer function allows you to print output created by PC programs on AS/400 printers. These printers are known as virtual printers. In most cases, virtual printers are not physically attached to your personal computer. Virtual printers can include:

- AS/400 printers attached to your AS/400 system
- Personal printers using the Work Station Feature.
- Personal printers attached to AS/400 displays, such as the 3477 or 3197, or to ASCII workstation controllers

Note: Before working through the virtual printer example in this chapter, you may want to use the interactive virtual printer function to familiarize yourself with the options you can select for each prompt on the configuration displays. For information about the interactive virtual printer function, refer to "Setting Up a Printer with the Interactive Virtual Printer Program" on page 13-5.

The OS/2 Work Station Feature allows you to use personal printers to print output created by AS/400 programs. Personal printers can be physically attached to your personal computer. A Work Station Feature printer is a personal printer that emulates an AS/400 printer. The following list contains examples of personal printers:

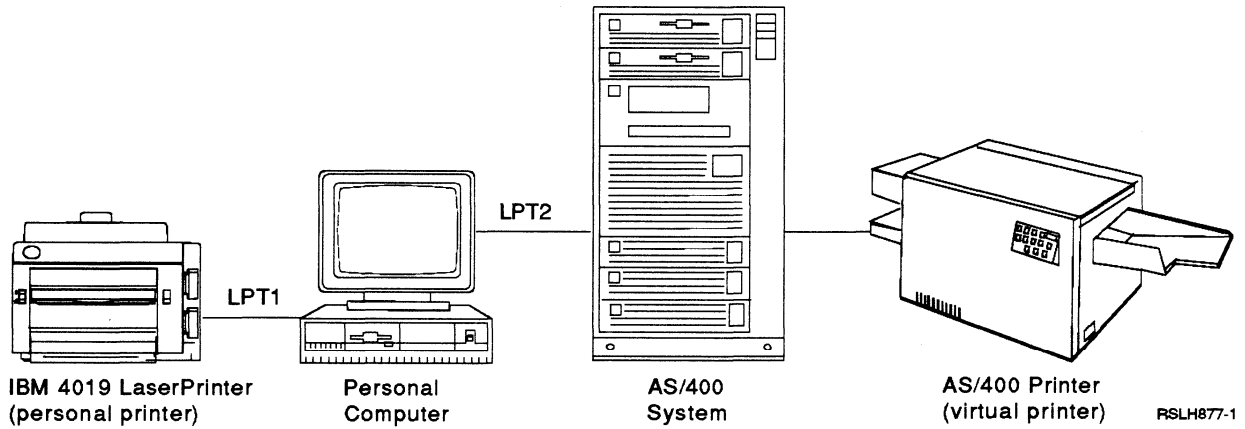
- IBM LaserPrinter, Model 4029
- IBM ExecJet*, Model 4072
- Hewlett Packard LaserJet** Series III

The following example shows you how to set up an IBM 3812 page printer as a virtual printer.

Setting Up a Virtual Printer: Example

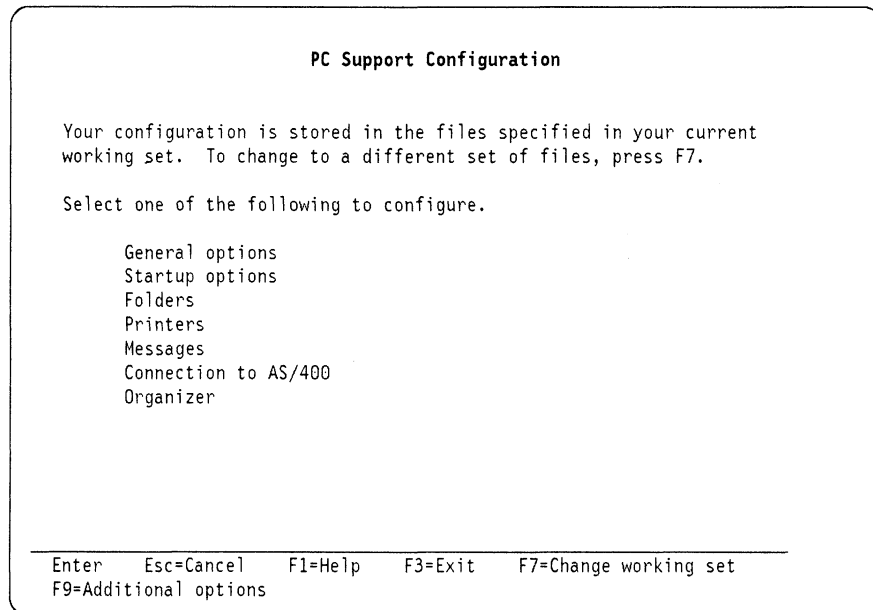
The example in this section shows you how to set up an AS/400 printer as a virtual printer. This will allow you to print output from PC programs on your AS/400 printer as if it were attached to your personal computer.

In the following example, the personal printer is an IBM 4019 LaserPrinter and the AS/400 printer is an IBM 3812 page printer. Normal PC application output can be sent to the personal printer (LPT1) or to the AS/400 printer (virtual printer assigned to LPT2).



To set up a 3812 attached to the AS/400 system as a virtual printer:

1. From the PC Support/400 main menu, select the configuration option. The following display appears:



2. Select Printers from the list of options on the PC Support Configuration menu. The following display appears:

```

Options      Exit      Help
-----
                Use Host System Printers

You can use a host system printer by assigning the desired printer to one of
your PC printer IDs (LPT1, LPT2, LPT3).

Position cursor to a printer definition and select an action above.

PC Printer      Action      Host Printer      System Name

No printers configured.

-----
Enter      Esc=Cancel      F1=Help      F3=Exit      F10=Actions

```

3. Press F10 (Actions) and select the option to add a printer definition. The following window appears:

```

                          Add printer definition
                          More: ↓
PC printer. . . . . ▶ 1. LPT1
                          2. LPT2
                          3. LPT3
System name . . . . . [      ]
Printer device. . . . . [      ]

```

4. Choose the options and enter the values for the following prompts:

PC printer

Move the cursor to LPT2 and press the spacebar. By selecting LPT2, you can avoid any conflict with a real personal printer using port LPT1.

System name

Type the name of the AS/400 system that the printer you want to use is attached to.

5. Use the Down Arrow key, Tab key, or Page Down key to move to the next set of prompts.

```

                          Add printer definition
                          More:
Printer device. . . . . [P3812  ]
Printer file library. . . . . [      ]
Printer file. . . . . [      ]
Printer data type . . . . . 1. SCS data

```

Printer device

Type the name of the AS/400 system printer you want to use as a virtual printer.

Printer file library

Type the name of the library containing the printer file you want to use. This is optional.

Printer file

Type the name of the printer file you want to use. Use a printer file when you need special values that cannot be specified with the virtual printer function. This is optional.

- 6. Use the Down Arrow key, Tab key, or Page Down key to move to the next set of prompts.

```

                                Add printer definition
                                More:
Printer data type . . . . . 1. SCS data
                                2. Convert ASCII to SCS
                                3. Final form text
                                4. ASCII data
                                5. AFPDS data
Characters per inch . . . . . [  ]

```

Printer data type

AS/400 printers are not designed to print data from personal computers. This means that in some cases the virtual printer program must convert the data from your personal computer to a data type your AS/400 printer can recognize and print.

To select, move the cursor to the option and press the spacebar.

Characters per inch

Type the number of characters per inch you need for your virtual printer. If you do not know the values that are allowed for the printer you are using as your virtual printer, refer to the printer manuals for the values that are allowed. This value is optional.

- 7. Use the Down Arrow key, Tab key, or Page Down key to move to the next set of prompts. The prompts on the following displays are optional. Default values do not appear on the configuration displays. If you leave a prompt blank, the automatic configuration program will supply a default value for the prompt. In some cases, the prompts shown by the virtual printer program depend on the printer data type you selected.

Supply values for the prompts you want changed.

```

                                Add printer definition
                                More:
Characters per line . . . . . [  ]
Lines per inch. . . . . [  ]
Page length . . . . . [  ] (1 - 255 lines)

```

Characters per line

Type the maximum number of characters per line that you want the virtual printer to print. For example, if you selected 10 characters per inch and your page is 13.2 inches wide, the maximum number of characters per line you can print is 132. If you do not know the values that are

allowed for the printer you are using as your virtual printer, refer to the printer manuals for the values that are allowed. This value is optional.

Lines per inch

Type the number of lines you want the virtual printer to print per inch. If you do not know the values that are allowed for the printer you are using as your virtual printer, refer to the printer manuals for the values that are allowed.

Page length

Type the number of lines, between 1 and 255, that fit on each page. For example, if you selected 6 lines per inch and your page is 11 inches long, your page length is 66 lines. This value is optional.

- 8. Use the Down Arrow key, Tab key, or Page Down key to move to the next set of prompts.

Add printer definition		More:
Lines per page.	[]	(1 - page length)
Number of copies.	[]	(1 - 255 copies)

Lines per page

Type the number of lines that you want the virtual printer to print on each page. This number may be between 1 and your page length. If you select a number less than your page length, the blank lines are left at the bottom of your printed page. If your data is already formatted and you select printer data type 2, set the page length equal to the lines per page to avoid extra pages ejected from the printer. This value is optional.

Number of copies

Type the number of copies that you want the virtual printer to print. For printer data types 1, 2, and 4, select a value from 1 to 255. For printer data type 3, select a value from 1 to 99. This value is optional.

- 9. Use the Down Arrow key, Tab key, or Page Down key to move to the next set of prompts.

Add printer definition		More:
Command override.	1. Yes 2. No	
PC printer character set.	1. Character set 1 2. Character set 2	

Command override

Command override allows the assigned values for line per inch, characters per inch, and page length to be replaced by printer commands in the data that you are printing. This value is optional.

To select, move the cursor to the option and press the spacebar.

Yes

The virtual printer will use the values specified for characters per inch, characters per line, lines per inch, page length, and lines per page by printer commands in your data instead of the ones you assigned. These commands work for the current output file only. The lines per inch, page length, and lines per page commands must be specified before the first printable character in the data. The commands that change the characters per line, characters per inch, superscript, or subscript may be specified anywhere in your data. Make sure that the printer you are using supports the commands that are being sent to it.

No

The virtual printer will use the values you previously assigned for the virtual printer instead of the values specified in printer commands found in the data. Commands in the data that change the characters per line, characters per inch, lines per inch, lines per page, page length, superscript, or subscript will be ignored.

PC printer character set

The printer character set determines how your virtual printer handles ASCII codes. The printer expects a command or a printable character depending on the character set that you select.

To select, move the cursor to the option and press the spacebar.

Character set 1

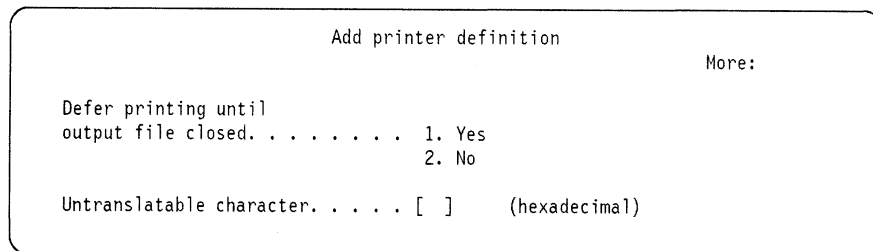
The virtual printer handles ASCII codes hexadecimal 80 through 9F as printer commands.

Character set 2

The virtual printer handles ASCII codes hexadecimal 80 through 9F as printable characters.

The default is character set 2.

10. Use the Down Arrow key, Tab key, or Page Down key to move to the next set of prompts.



Defer printing until output file closed

Select one of the following:

Yes

The virtual printer will wait until the output file is closed before it starts printing.

No

The virtual printer will start printing your data as soon as it receives the first character, without waiting for the output file to close. This can save you time if you are printing a large amount of data. However, the printer will not be able to print other output files until you close your output file.

This value is optional.

Untranslatable character

Type the EBCDIC hexadecimal code for the character you want the virtual printer to print if it finds a character it cannot translate from ASCII to EBCDIC. Normally these characters are translated to blank spaces (hexadecimal 40). When you select printer data type 2 (ASCII to SCS), the virtual printer must translate each character of data sent by the personal computer from ASCII to EBCDIC. Some characters do not translate from ASCII to EBCDIC. When an untranslatable character is found, the virtual printer substitutes a printable EBCDIC character.

11. Use the Down Arrow key, Tab key, or Page Down key to move to the next set of prompts.

Add printer definition More:

ASCII to EBCDIC
translation table filename. . . . []

ASCII to EBCDIC translation table filename

This prompt allows you to change the ASCII to EBCDIC translation table used by a virtual printer when translating personal computer printer output to AS/400 system format. You can specify a different ASCII to EBCDIC translation table for each of the virtual printers specified.

If this entry is in the CONFIG.PCS file (or alternative file) when the virtual printer program (CFGVPRT.COM) is run, the translation table found in the specified file is used instead of the supplied translation table. If you use the CONFIG.PCS file, it must be in the current drive and directory.

12. When you have completed the necessary prompts, press the Enter key.
You are returned to the Use Host System Printer display, and the printer assignment is shown.
13. Press F3 (Exit) and select option 1 (Save and exit). You are returned to the PC Support/400 Configuration menu.
14. Press F3 (Exit) and select option 1 (Exit configuration). You are returned to the place from which you started the configuration program.
15. Start your personal computer again to have the virtual printer assignment take effect.

Chapter 20. Configuring PC Support Using the Editor

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Understanding the Configuration Process

You can operate PC Support using the default values supplied by the product. However, if you have special needs or want to enhance your performance in some way, you can use the PC Support configuration program (CFGPCS.EXE) to create new values or to change the values already present in your PC Support configuration file. You can also use the PC Support editor to change your configuration.

The PC Support/400 configuration program allows you to enter information (in the form of a four-character identifier) directly into a PC Support configuration file. The editor provides prompts and help information for adding, changing, or deleting identifiers.

This chapter explains how to use the PC Support editor with the configuration program to change the way PC Support operates. If you do not want to edit your configuration files directly, see Chapter 11, "Configuring PC Support with the Configuration Program" for information about using the PC Support configuration program. Use the work sheets in "PC Support Work Sheets" on page 21-17 when you are changing existing configuration files. Use these work sheets to record the entries as you create new configuration files or create alternative configuration files.

The OS/2 Extended Edition communications manager provides the 5250 Work Station Feature. The 5250 Work Station Feature is used in place of the work station function that is used with PC Support in a DOS environment. For information about the 5250 Work Station Feature, refer to the OS/2 manuals.

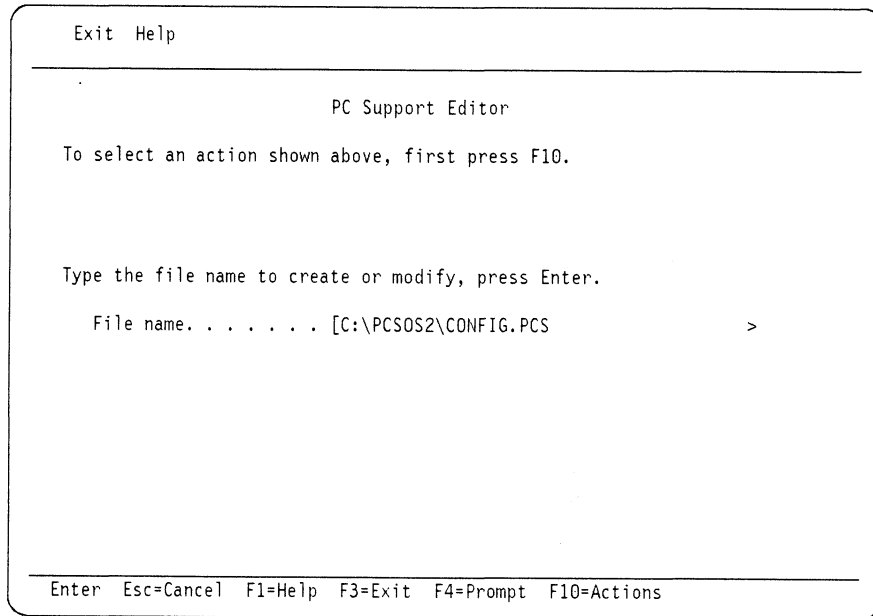
Starting the PC Support Editor

To make changes to the PC Support configuration file, you can use the PC Support configuration program (CFGPCS.EXE) as an editor.

You can use the PC Support editor with the configuration program to change the information in your PC Support configuration file.

To start the editor, do the following:

1. Display the PC Support Configuration menu. See Chapter 11, "Configuring PC Support with the Configuration Program" for information about starting the configuration program and displaying the PC Support Configuration menu.
2. Press F9 (Additional options). The Additional Options window is shown.
3. Press the Enter key to select the option PC Support editor. A display similar to the following is shown:



4. Press the Enter key to select the file shown on the display, or type the name of the file you want to edit and then press the Enter key.
When you press the Enter key, the contents of the specified file are shown on your display. If you are creating a new file, only the lines *Top-of-File* and *Bottom-of-File* are shown.
5. Use the remaining information in this chapter and the information in Chapter 21, "Identifier Information and Work Sheets" to change the identifiers in this file.

Editing a File

Once you have started the PC Support/400 configuration program and the PC Support editor, and displayed the contents of the file you want to change, you can begin editing the file. The information in this section explains how to:

- Use the options in the action list at the top of the display to:
 - Add identifiers and their parameters to the file you are editing
 - Highlight a specific group of identifiers in the file you are editing
 - Display the OS/2 command prompt
- Use the function keys at the bottom of the display to:
 - Change an existing identifier in the file you are editing
 - Mark (or unmark) text you want to move or copy
 - Move marked text
 - Copy marked text
 - Insert blank lines
 - Delete lines

Adding Identifiers to a File

Use the Identifiers option in the action list at the top of the edit display to add identifiers to the file you are editing. Some identifiers can only appear once in a file. If you try to add a second entry, you will receive an error message.

When you add an identifier using this method, it is added after the line on which the cursor rests. Be careful not to add information between the lines containing the router identifiers.

To add an identifier to the file you are editing:

1. Move the cursor to the bottom of the file you are editing.
2. Press F10 (Action).
3. Select the Identifiers option from the action list. A window is shown containing several options.
 - Select option 1 to display the router identifiers.
 - Select option 2 to display the virtual printer identifiers.
 - Select option 3 to display the message function identifiers.
 - Select option 4 to display the organizer identifiers.
 - Select option 5 to display the shared folders identifiers.
 - Select option 6 to display the update function identifiers.
 - Select option 7 (Application program support) to display the identifier for the data queues function.

Note: You must be using the extended DOS option of PC Support/400 to use this identifier. If you are using the basic DOS option, this identifier is ignored.

 - Select option 8 (Other Identifiers) to display the miscellaneous identifiers associated with the PC Support product. For example, the identifiers for changing translation tables or speed are listed here as well as the software interrupt number.

When you select an option, a new window is shown containing the identifiers and their definitions for that option.

4. Use the Arrow keys to highlight the identifier you want to add.
5. Press the Enter key. When you press the Enter key, a new window is shown containing the prompts associated with the identifier you selected.
6. Select an option or enter a value for the prompts. Press F1 (Help) for additional information about the prompts and the values you can select for each.
7. Press the Enter key. The prompt window is removed.
8. Press the Esc key to remove the list of identifiers.

Highlighting Groups of Identifiers

To help you work with the identifiers in the file you are editing, the PC Support editor highlights the file's group of identifiers associated with the function you want to configure. For example, if you are configuring the router, the editor will highlight all of the identifiers corresponding to the router function.

To highlight a group of identifiers:

1. Press F10 (Actions).

2. Select the Highlight option from the action list. A window is shown containing several PC Support functions.
3. Use the Arrow keys to select the function you want highlighted.
4. Press the Enter key. When you press the Enter key, the window is removed and all the identifiers associated with the function you selected are highlighted on the edit display.
5. To remove the highlighting, press and hold the Shift key and then press F5. The highlighting is removed.

Changing Identifiers in a File

To help you change an identifier already existing in the file you are editing, the editor displays the prompt and the parameters you can select for that identifier when you press F4 (Prompt).

To change an identifier:

1. Move the cursor to the identifier you want to change.
2. Press F4 (Prompt). A window is shown containing the prompt for that identifier.
3. Select a new option or enter a new value in the prompt.
4. Press the Enter key. When you press the Enter key, the window is removed and the new option or value is shown next to the identifier in the file.

Marking and Unmarking Text

Before you can move or copy text in a file, you have to mark it.

To mark text:

1. Move the cursor to the beginning of the text you want marked.
2. Press F5 (Mark block). The line is highlighted.
3. Move the cursor to the end of the text you want marked.
4. Press F5 again. The highlighting is extended.
5. Move the cursor to the line to come before the marked text.
6. Press F7 to move the text or F8 to copy the text.

If you mark an area of text you do not want moved or copied, press and hold the Shift key and then press F5 to unmark it.

Moving Text

You can move a line of text or a block of text to another location in the file you are editing.

To move text:

1. Mark the text you want to move, following the instructions listed in "Marking and Unmarking Text."
2. Move the cursor to the line to come before the marked text.
3. Press F7 (Move block). The lines are moved and the highlighting is removed.

Copying Text

You can copy text from one part of the file you are editing to another part. Some identifiers can only appear once in a file. You will not be able to copy them. For example, you can only have one RTYP (router type) identifier entry in a file. If you try to copy it to another part of the file, you will receive an error message.

To copy text:

1. Mark the text you want to copy, following the instructions listed in "Marking and Unmarking Text" on page 20-5.
2. Move the cursor to the line to come before the marked text.
3. Press F8 (Copy block). The text is copied and the highlighting is removed.

Inserting Blank Lines

To insert blank lines into the file you are editing:

1. Move the cursor to the line you want to come before the blank line you are inserting.
2. Press F9 (Insert line). A blank line is inserted into the file.

Deleting Lines

You can delete one line at a time from a file you are editing. If there is only one line in the file, you cannot delete it.

To delete a line:

1. Move the cursor to the line you want to delete.
2. Press the Shift key and then press the F9 key. The line is deleted and the lines following it move up in the file.

Adding an Identifier to a Configuration File: Example

The following procedure can be used to create any configuration file. Only one identifier is shown as an example.

To start the configuration program, select option 2 (Configuring PC Support/400) and then press F9, or type CFGPCS with a filename from the OS/2 command line.

Press the Enter key to edit a configuration file. An information display appears showing a drive, a path, and a file name. If this is the file you wish to create, press the Enter key. If not, type in the drive, the path, and the file name of the file you want to create.

Example: Creating a File

If you want the messages automatically displayed when certain applications are running, you include in your startup file for these applications a STARTMSG command with an alternative configuration file called CONFIG.ALT.

1. Type the name CONFIG.ALT on the input line and press the Enter key. You are shown a display that asks you if you want to create the file name shown. Press the Enter key to go to a blank Edit display.

2. Press F10 (Actions) and select Identifiers from the action list. Press the Enter key.
3. Select option 3 (Message function) from the displayed window. The Message Function Identifier Option display is shown.
4. Press the Enter key to show the MDEF Identifier display.
5. Leave the host system name blank and move the cursor to the 2 in the *Mode input* field. Press the spacebar to make the selection.
6. Press the Enter key. A MDEF identifier is entered into the file and you return to the Identifier display. Press the Esc key to return to the Edit display.

```

  Identifiers Highlight Command prompt Exit Help
  ---- Top-of-File ----
  MDEF ,2
  ---- Bottom-of-File ----

  Enter Esc=Cancel F1=Help F3=Exit F4=Prompt F5=Mark block F7=Move block
  F8=Copy block F9=Insert line F10=Actions Shift+F5=Remove marks
  Shift+F9=Delete line

```

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7. From the Edit display, press F10 (Actions) and select Exit from the action list. Press the Enter key.
8. Select option 1 (Save configuration file and return) from the displayed window. The Save File display appears, which allows you to change the drive, the path, or the file name.
9. Press the Enter key. This saves the file you created and allows you to exit the configuration program.
10. On the Information display, press F10 (Actions) and select Exit from the action list. Press the Enter key.
11. Select option 1 (Exit configuration) from the displayed window.
12. Press the Enter key. The configuration program is ended, and you are returned to the place from which you started the program.

The next time you start the message function using the STARTMSG command and specifying the CONFIG.ALT file, your messages are automatically displayed.

The identifiers and names used here are for example only. When you complete the PC Support configuration program with your identifiers and names, you should not have to run the PC Support configuration program again.

Planning PC Support Configuration

Before you can start configuring your personal computer, you may choose to use the work sheets in "PC Support Work Sheets" on page 21-17 to help you plan your changes. A few reasons why you may have to change identifiers in your files are:

- To have access to other systems
- To adjust the virtual printer operation
- To change the transfer function display attributes
- To adjust the timing of displayed messages
- To change the command the organizer sends to the AS/400 system

As you decide which identifiers need to be changed, you can record your choice on the work sheet. Changing these identifiers and their parameters affects the operation of your personal computer.

An example of a completed work sheet can be found on "Example of a Completed Configuration Work Sheet" on page 21-13.

Chapter 21. Identifier Information and Work Sheets

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Identifier Information

This chapter explains the identifiers and options that you may choose for your personal computer. As you plan, use the configuration work sheets in the section "PC Support Work Sheets" on page 21-17. To see an example of a completed configuration work sheet, refer to "Example of a Completed Configuration Work Sheet" on page 21-13.

Use the work sheet when you are changing existing configuration files. Use it when you are planning for creation of new configuration files and alternative configuration files.

The AS/400 administrator provides the AS/400 names; you provide the personal computer information, based on its hardware configuration.

Before you can start configuring your personal computer, you need to decide what needs to be changed. You may not want to leave the STARTPCS.COMD, CONFIG.SYS, or CONFIG.PCS files exactly as the PC Support installation program created them. By changing the identifier information in these files, you can change the way PC Support operates. Whether you should change these files and how you should change them depends on how you plan to use your personal computer and the PC Support functions.

You can make these decisions by using the following list of identifiers. Changing these identifiers and their parameters affects the operation of your personal computer. As you decide which identifiers need to be changed, you can record your choice on the work sheet.

The following is a list of identifiers that define how the PC Support functions operate on the AS/400 system. These identifiers are grouped by the PC Support function that uses them.

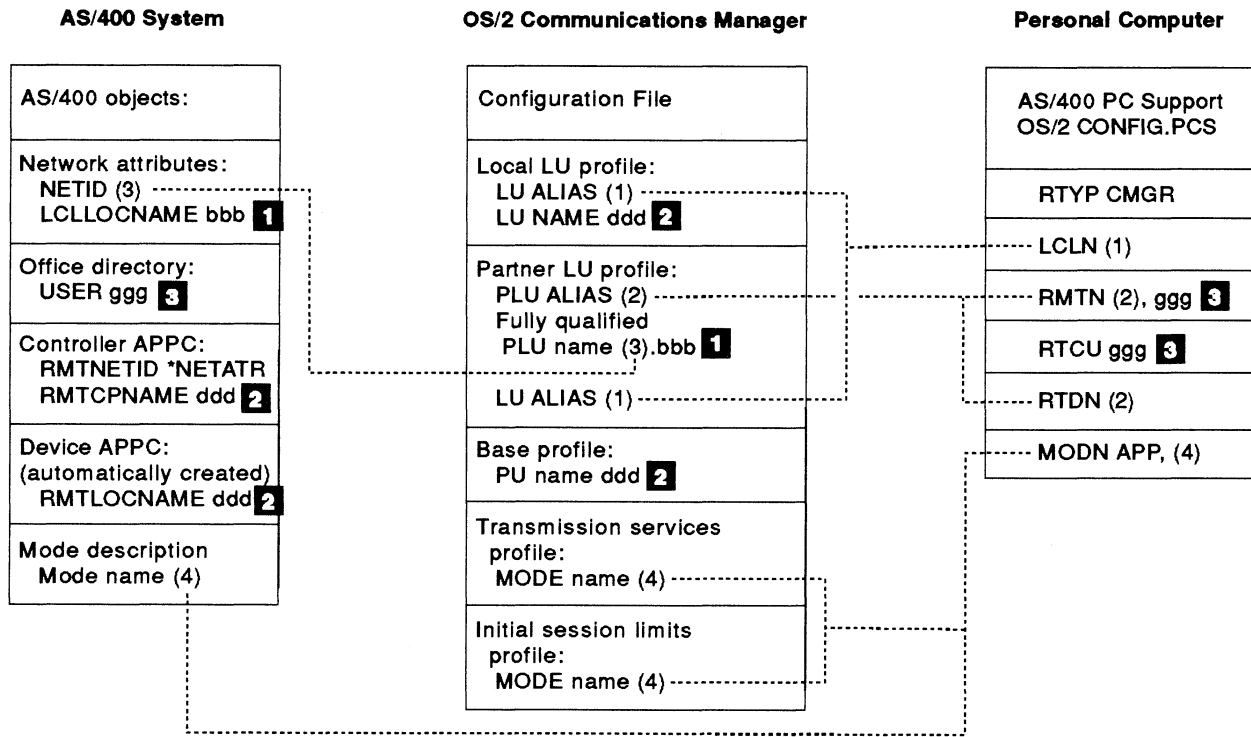
Router Identifiers

The identifiers in the router configuration file are used to control the communications between the personal computer and the host system. For more information about using the router, refer to "Using the PC Support Router" on page 17-2.

Relationship of AS/400 Commands to Identifiers

Values on specific router identifiers have a relationship to values stored on the AS/400 system. To communicate with a system, some of the router values must be the same as the values on the AS/400 system.

Communications Manager Connection



- 1** bbb = System name
- 2** ddd = PC location name
- 3** ggg = User ID

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Identifier	Parameter	Description
RTYP	Router type	The router to use when communicating with the system. The RTYP value must be CMGR for the communications manager.
RTCU	Common user ID	The user ID to be used if a user ID is not specified for a system on the RMTN identifier. This identifier is optional. If this identifier is specified, the user is prompted for the associated password. The user ID can be 1 to 10 characters. If the user ID is missing, the user receives a message stating that the RTCU entry is missing.
RTDN	Default system name	The name of the system used to start conversations if a name is not specified when using other PC Support applications. This system name must be the same as the system name on the RMTN identifier. This identifier is optional. If an identifier is not specified, the first system specified becomes the default system name.
RMTN	Remote logical unit alias	The name of the remote system. The value used for the remote system name must match a communications manager partner LU alias value. The RMTN entries are used to generate the list of systems displayed by the PC Support programs. These systems also must be configured to the OS/2 communications manager. Systems configured to the communications manager without RMTN entries are accessible, provided that a common user ID was configured to the PC Support router and this common user ID information is applicable to the system being accessed.
	User ID	The user ID can be 1 to 10 characters.
	Description	Specifies a 40-character description of the profile.

Identifier	Parameter	Description
LCLN	Local logical unit alias	The name of the local system. The value used for the local system name must match a communications manager local LU alias value.
MODN	Application mode name	Describes the system characteristics for the router. These characteristics are separated into two parameters. You can choose from one of the following: QRMTCMD: Submit remote command QFSPC: Shared folders function command QVPRT: Virtual print command QSTF: Transfer function QMSG: Message function
	APPC mode name	You may change the default mode name later by running STARTRTR with an alternative configuration file. The mode name must match the communications manager initial session limit profile and transmission service mode profile name.

Shared Folders Function Identifiers

The shared folders function for OS/2 uses the following identifiers to control the operation of shared folders function drives. For more information about the shared folders function, refer to Chapter 12, "Managing Information in Folders."

Identifier	Parameter	Description
SFLR		Specifies the drive to be assigned or released by the shared folders function configuration program (CFGFLR.EXE). For example, to assign a drive: SFLR 1,D,Folder,System To release a drive: SFLR 2,D
	Action	The action to be performed on the drive. Select 1 to assign or select 2 to release.
	Drive letter	The drive you want to assign or release. You can use the letters C through Z or leave this field blank so the program uses the next available drive.
	Folder name	The name of the folder name to be assigned. If you want to assign a system drive, leave this field blank. This field is not used for releasing a folder.
	System name	The name of the system that contains the folder you want to assign. If the folder is on the default system, leave this field blank. This field is not used for releasing a folder.
MCAO		Controls the shared folders function cache. The following are examples of valid entries: MCAO ,,1 MCAO 500 MCAO 200,,2
	Cache size	Specifies the amount of memory (in kilobytes) to use for the cache. Valid values are 0, and 64 to 8192. The default is 128. A value of 0 means that no caching is to be done. If this parameter is omitted, the default value is used.
	Unused	This parameter position is not used and should be blank. Use two commas (,,) between the first and third parameter positions.

Identifier	Parameter	Description
	Save cache	Specifies whether or not to save the cache data on the hard disk when drives are released. Valid values are 1 and 2. A value of 1 saves the cache data. A value of 2 does not save the cache data. The default is 2.

Virtual Printer Function Identifiers

The identifiers in this section are used by the virtual printer program CFGVPRT.EXE to assign virtual printers and release virtual printers. You can also change the ASCII-to-EBCDIC translation tables with the AEPx identifiers. For more information about the virtual printer function, refer to Chapter 13, "Managing Virtual Printers."

Identifier	Parameter	Description
PRNT		<p>A PRNT identifier is needed for each virtual printer you want to assign. The PRNT identifier is in the CONFIG.PCS file or your alternative configuration file. When you complete configuration, this identifier contains all of the values that control the selected virtual printer.</p> <p>If you have a CFGVPRT command in the STARTPCS.COM file, it will use these identifiers to automatically set up your virtual printers. This is done each time PC Support is started. The PC Support installation program adds CFGVPRT to the STARTPCS.COM file if you select the virtual printer function.</p> <p>The following example shows the sequence of the parameters for the PRNT identifier:</p> <pre>PRNT PCP,[SN],PD,PFL,PF,[PDT,CPI,CPL,LPI,PL, LPP,NC,TOV,CO, PCS, DFP,UC]</pre>
	PCP (PC printer)	The personal computer's name for the virtual printer you want to assign. The personal computer refers to the PC printers and virtual printers by the names LPT1, LPT2, and LPT3. Use the value 1, 2, or 3 corresponding to LPT1, LPT2, or LPT3. If you specify this value and the other values are blank, the virtual printer specified is released when you run CFGVPRT.EXE.
	SN (System name)	The name of the host system that the printer you want to use as a virtual printer is attached to. This name is optional; if you do not specify a name, the default system name is used when you run CFGVPRT.EXE.
	PD (Printer device)	The name of the printer you want to use as a virtual printer. You must select a printer device or a printer file or both.
	PFL (Printer file library)	The name of the library that contains the printer file you want to use. If you select a library, you must also select a printer file. If you select a printer file but do not select a library, the host system searches through all of the libraries defined in the AS/400 job library list (*LIBL).
	PF (Printer file)	The name of the printer file you want to use. You must select a printer device or a printer file or both. If you select a printer file but do not select a library, the host system searches all of the libraries defined in the AS/400 job library list (*LIBL).
		The AS/400 system uses printer files to control information printed on AS/400 printers. A <i>printer file</i> contains information to format and control printing. Printer files are stored in <i>libraries</i> on the AS/400 system. A library is used to group related objects on the AS/400 system and to find objects by name when they are used.

Identifier	Parameter	Description
	PDT (Printer data type)	<p>Specifies how to handle the data coming from your personal computer program. Select one of the following:</p> <ol style="list-style-type: none"> 1. SCS data <p>Select this data type if your personal computer program is supplying data that is already SCS and does not have to be translated from ASCII to SCS. You may select this option if you are using programs that supply final form text (FFT), such as DisplayWrite 5/2.</p> <p>If you select this option and the virtual printer you are using cannot print the data in the manner you request it (for example, underlined), the virtual printer does not change the data to a printable form. You receive a message instead.</p> <p>If you select this option and your printed document does not look the way you expect it to, you may want to change this parameter to option 3 (Final form text).</p> 2. Convert ASCII to SCS <p>Select this data type if your personal computer program is supplying ASCII data and you want the data to print on an SCS or IPDS printer.</p> 3. Final form text <p>Select this data type if you are using any program supplying final form text, such as DisplayWrite 5/2.</p> <p>If you select this option and the virtual printer you are using cannot print the data in the manner you request it (for example, underlined), the virtual printer changes the data to a printable form.</p> <p>When you select this option, your text data can be printed on any AS/400 printer. However, because printers vary in their capabilities, your printed document may not look the way you expect it to look. If this happens, you may want to change this parameter to option 1 (SCS data).</p> 4. ASCII data <p>Select this data type if your personal computer program is supplying ASCII data and you want the data to print on a ASCII printer that is connected to the host system.</p> 5. AFPDS <p>Select this data type if you are using personal computer programs that supply advanced function printing data stream (AFPDS) data and you want to print the data on a printer connected to your AS/400 system using AFP (advanced function printing) support.</p> <p>If this value is not specified, a value is supplied by CFGVPRT when the virtual printer is assigned.</p>
	CPI (Characters per inch)	<p>The number of characters that you want the virtual printer to print per inch. If this value is not specified, CFGVPRT supplies a default value of Yes when the virtual printer is assigned. If you do not know the values allowed for the printer you are using as your virtual printer, refer to the printer manuals for the allowed values.</p>
	CPL (Characters per line)	<p>The maximum number of characters per line that you want the virtual printer to print. If this value is not specified, CFGVPRT supplies a default value when the virtual printer is assigned. If you do not know the values allowed for the printer you are using as your virtual printer, refer to the printer manuals for the allowed values.</p>

Identifier	Parameter	Description
	LPI (Lines per inch)	The number of lines you want the virtual printer to print per inch. If this value is not specified, CFGVPRT supplies a default value when the virtual printer is assigned. If you do not know the values allowed for the printer you are using as your virtual printer, refer to the printer manuals for the allowed values.
	PL (Page length)	The length of your page in lines. If this value is not specified, CFGVPRT supplies a default value when the virtual printer is assigned. Calculate the length of your page in lines by multiplying the number of lines per inch that you selected by the length of the page in inches. For example, if you selected 6 lines per inch and your page is 11 inches long, your page length is 66 lines.
	LPP (Lines per page)	The number of lines, between 1 and your page length, that you want the virtual printer to print on each page. If this value is not specified, CFGVPRT supplies a default value when the virtual printer is assigned. If you select a number less than your page length, the blank lines will be at the bottom of your printed page. If your data is already formatted, you should use the same value as the page length value.
	NC (Number of copies)	<p>The number of copies that you want the virtual printer to print. If this value is not specified, CFGVPRT supplies a default value when the virtual printer is assigned.</p> <p>If you selected option 1 (SCS data), option 2 (ASCII to SCS), or option 4 (ASCII data) as your printer data type, you can enter any number from 1 through 255.</p> <p>If you selected option 3 (Final form text) as your printer data type, you can enter any number from 1 through 99.</p>
	TOV (Time-out value)	The time-out value position in the PRNT identifier must be present for compatibility with DOS. The virtual printer function for OS/2 ignores the time-out value.
	CO (Command override)	<p>This value is optional. This value affects the way the virtual printer handles some personal computer printer commands when the virtual printer is assigned with printer data type 2. If this value is not specified, CFGVPRT uses No for the default value when the virtual printer is assigned.</p> <ol style="list-style-type: none"> 1. Yes <p>If you select Yes, the virtual printer function uses the personal computer printer commands found in the data that change characters per inch, characters per line, lines per inch, lines per page, page length, superscript, and subscript. The values selected when the virtual printer was assigned are ignored. The printer commands are in effect only for the current output file.</p> 2. No <p>If you select No, the virtual printer function uses the values you selected when the virtual printer was assigned. The printer commands that are in the data sent to the printer are ignored.</p>

Identifier	Parameter	Description
	PCS (PC printer character set)	<p>Allows you to choose the PC character set that the virtual printer uses.</p> <ol style="list-style-type: none"> Character set 1. The virtual printer will handle ASCII codes hex 80 through 9F as printer commands. Character set 2. The virtual printer will handle ASCII codes hex 80 through 9F as printable characters. <p>For example, in character set 1, the printer handles hex 9B as the beginning of a printer command, and the printer expects the next character to be part of a command. But in character set 2, the printer translates hex 9B into a printable character. If you do not select a character set, CFGVPRT uses character set 2 for the default value when the virtual printer is assigned.</p>
	DFP (Defer printing until output file closed)	<p>This value determines when the host system printer starts printing your file or data.</p> <ol style="list-style-type: none"> Yes <ul style="list-style-type: none"> The host system printer waits until the output file is closed before it starts printing the data. No <ul style="list-style-type: none"> The host system printer starts printing your data when the first character is received, without waiting for the output file to close. <p>Note: Selecting No can save you time if you are printing a large amount of data, but other users will not be able to print their data until your output file is closed and completely printed.</p> <p>If this value is not specified, CFGVPRT supplies a default value when the virtual printer is assigned.</p>
	UC (Untranslatable character)	<p>Allows you to choose the EBCDIC hexadecimal code for the character the virtual printer prints when it finds a character it cannot translate from ASCII to EBCDIC. If this value is not specified, CFGVPRT uses hex 40 (blank) for the default value when the virtual printer is assigned.</p> <p>Because many personal computers supply ASCII data and many printers accept only EBCDIC data, the virtual printer must translate each character of data sent by the personal computer from ASCII to EBCDIC. Some characters do not translate from ASCII to EBCDIC (unless you make your own translation table). When a character that cannot be translated is found, the virtual printer substitutes a printable EBCDIC character.</p>
AEP1	Translation table filename	<p>Allows you to change the ASCII-to-EBCDIC translation tables used by the virtual printer to translate personal computer printer data to host system data. AEP1 corresponds to the virtual printer LPT1. For example,</p> <p>AEP1 filename.ext</p>
AEP2	Translation table filename	<p>Allows you to change the ASCII-to-EBCDIC translation tables used by the virtual printer to translate personal computer printer data to host system data. AEP2 corresponds to the virtual printer LPT2. For example,</p> <p>AEP2 filename.ext</p>

Identifier	Parameter	Description
AEP3	Translation table filename	Allows you to change the ASCII-to-EBCDIC translation table used by the virtual printer to translate personal computer printer data to host system data. AEP3 corresponds to the virtual printer LPT3. For example, AEP3 filename.ext For more information regarding translation table considerations, refer to "Changing the ASCII-to-EBCDIC Translation Tables" on page 13-10.

Message Function Identifiers

The identifiers in this group are used by the message function to control the sending, displaying, and receiving of messages. Identifier MDEF specifies the system that you will send messages to and receive messages from. MDEF also specifies how you will be notified that new messages have been received. Identifier MMRI specifies how often the host system will be checked for messages. For more information about the message function, refer to Chapter 16, "Managing Your Messages."

Note: If you are using Work Station Feature, message function is not necessary. If you use both Work Station Feature and message function, conflicts may arise when you use the user profile message queue on the AS/400 system.

You have the option of changing the way the message function operates. For example, you could:

- Run the message function from your personal computer or the AS/400 system.
- Start the message function automatically when you start PC Support.
- Start the message function only when you enter the STARTMSG command or start the message function from the PC Support/400 menu.
- Place the messages under the control of another host system.
- Change the message receive interval.

You can change the way the message function operates using the configuration program or the PC Support editor. When you use the configuration program, the changes you select are added for you to your CONFIG.PCS file or specified alternative configuration file. If you use the PC Support editor, you must make the changes in the configuration file yourself.

Note: The PC Support router must be running before you can start the PC Support message function.

Identifier	Parameter	Description
MDEF		Identifies the AS/400 system you want to send messages to and receive messages from. It also allows you to specify if you want your messages displayed immediately or if you want to be notified that you have messages at the host system. For example, MDEF system name, control option

Identifier	Parameter	Description
	System name	The name of the AS/400 system you want to send messages to and receive messages from. This is an optional value. This name must be the same as the system name for link identified in an ADRS, EMLI, TRLI, or SDLI value. If you do not specify an AS/400 name, the system name selected by the router as the default is used.
	Control options	<p>Specifies the message control option for the AS/400 system. This is an optional value. If the session option is specified, you must select option 1 or 2:</p> <ol style="list-style-type: none"> 1. Notify. You receive an audible alarm that you have messages waiting. 2. Immediate. The messages are displayed as they arrive. After you exit the message, you return to the current display. <p>If no option is specified, Notify is assumed. If you automatically start the message function from a STARTPCS.CMD file and there is no MDEF value in the configuration file, you communicate with the default AS/400 system using the Notify control option.</p>
MMRI	Message receive interval	<p>Allows you to specify the number of seconds in the message receive interval. This establishes how often the AS/400 system is checked for messages. This is an optional identifier. When no identifier is specified, 60 seconds is assumed. A value of 1 to 3600 seconds (1 hour) is allowed. When there is more than one MMRI entry in the configuration file, the last entry is used by your system. A small MMRI could affect the performance of other applications on your personal computer because messages are automatically checked for more frequently. If you would like messages checked often, then use a small MMRI value. If performance is a concern, then a large MMRI is recommended.</p>

Organizer Function Identifiers

The identifiers in this group are used by the organizer function on the personal computer. The PCOP identifier specifies the number of the session you want the organizer to use. You can also run AS/400 commands from this identifier. The PTIM identifier specifies the Input Inhibited time-out value. Any changes you make to the PCOP or PTIM values are updated when you start the PC Support organizer again by typing PCO at the OS/2 command prompt. If you want more information about the organizer function, refer to Chapter 15, "Managing the Organizer."

Identifier	Parameter	Description
PCOP		<p>This identifier and its values start the PC Support organizer. You can have more than one PCOP identifier in the configuration file. A group of identifiers can be used to set up a sequence of events when you start the organizer. The first PCOP identifier should contain the command STRPCO. The STRPCO command is run as a result of one of the PCOP entries. For example,</p> <p>PCOP session number, system command</p>
	Session number	<p>The PCOP entry is sent to this work station feature session number. PCOP entries may be sent to any combination of active Work Station Feature display sessions 1 through 5. If no PCOP entries are found in the configuration file, the organizer sends STRPCO and GO PCOMNU to the first display session and STRPCO to all other display sessions.</p>
	System command	<p>Any AS/400 command. This command is run immediately after you sign on the system.</p>

Identifier	Parameter	Description
PTIM	Input Inhibited time value	Allows you to specify the number of seconds the organizer waits for Input Inhibited indicator to become inactive. If Input Inhibited indicator does not become inactive in the specified time, the organizer displays a message that communication has been lost with the host system. A value of 0 specifies no time-out. The message remains until the Esc key is pressed. A value of 1 to 3600 seconds (1 hour) is allowed. When there is more than one PTIM entry in the configuration file, the last entry is used by your system. The default value for PTIM is 30 seconds.

Update Identifiers

The identifiers in this group are used by the update function on the personal computer.

Identifier	Parameter	Description
UPDT		This identifier and its values determine how the PC Support/400 update function operates. You can have multiple UPDT identifiers in the configuration file. The format is: UPDT Source,Target,S,L,1,Description For example, a typical entry for PC Support/400 might be: UPDT I:\QIWSOS2,C:\PCSOS2,S,,,PC Support/400/400
	Source	The drive, path, and directory from which the updates will be applied.
	Target	The drive, path, and directory to which the updates will be applied
	Update Subdirectories option	Specifies whether or not subdirectories should be included when applying updates. To include subdirectories, this value must be S.
	Update list option	Specifies whether files should be copied from the source to the target, or whether the files needing updating should only be listed. To list the files without copying, this value must be L. After listing the files, the update function allows you to specify whether to perform the updates immediately or continue without updating the files.
	Update directly	Specifies whether files should be copied immediately or placed in a temporary subdirectory and copied the next time you start the personal computer. To copy files immediately, this value must be 1.
	Description	Up to 40 characters describing the files you want to update.

Identifier	Parameter	Description
ADMN		<p>This identifier and its values determine how the PC Support/400 update function operates in connection with the administration function. You can have only one ADMN identifier in the configuration file. See Part 2, "Administering PC Support/400" on page 1-17 for information about using the administration function.</p> <p>The format is:</p> <p>ADMN Source,Target,S,L,1,Description</p> <p>For example, a typical entry might be:</p> <p>ADMN I:\QIWSADM\USER\JOE,C:\PCSO2,S,,1,Joe</p>
	Source	The drive, path, and directory from which the updates will be applied.
	Target	The drive, path, and directory to which the updates will be applied.
	Update subdirectories option	Specifies whether or not subdirectories should be included when applying updates. To include subdirectories, this value must be S.
	Update list option	Specifies whether files should be copied from the source to the target, or whether the files needing updating should only be listed. To list the files without copying, this value must be L. After listing the files, the update function allows you to specify whether to perform the updates immediately or continue without updating the files.
	Update directly	Specifies whether files should be copied immediately or placed in a temporary subdirectory and copied the next time you start the personal computer. To copy the files immediately, this value must be 1.
	Description	Up to 40 characters describing the files you want to update.

Other PC Support Identifiers

The identifiers in this group are used by more than one identifier group. The identifiers in this group are used to change translation tables, and identify monitor type and writing speed.

Identifier	Parameter	Description
A2ET	Translation table filename	<p>Allows you to change the ASCII-to-EBCDIC translation table used by the router, virtual printer, message function, shared folders, and transfer function. If this entry is in the specified file when STARTRTR.EXE is run, the translation table found in the file named is used instead of the default translation table. For example,</p> <p>A2ET filename.ext</p> <p>Note: When you use an A2ET identifier to change the translation table, the new translation table is used by PC Support until one of the following occurs:</p> <ul style="list-style-type: none"> • Another identifier changes the translation table. • You start the personal computer again.

Identifier	Parameter	Description
DSPL		This identifier is used to specify the attributes used by your display. Using the wrong attributes can make the display difficult to read. The PC Support programs automatically use the correct attributes (color attributes for a color display adapter, monochrome attributes for a monochrome display adapter).
	Display type	For display type, use an uppercase or lowercase C for a color display, or an uppercase or lowercase M for a monochrome display. If you specify this value on any of the interactive PC Support commands or STARTMSG.EXE, that value overrides the value specified in the configuration file. For example, DSPL display type
E2AT	Translation table filename	Allows you to change the EBCDIC-to-ASCII translation table used by the virtual printer, message function, shared folders function, and transfer function. If this entry is in the specified file when STARTRTR.EXE is run, the translation table found in the file named is used instead of the default translation table. For example, E2AT filename.ext Note: When you use an E2AT identifier to change the translation table, the new translation table is used by PC Support until one of the following occurs: <ul style="list-style-type: none"> • Another identifier changes the translation table. • You start the personal computer again.

Example of a Completed Configuration Work Sheet

Router

The following information is needed to configure the router identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
RTYP Router type	CMGR	CMGR	CMGR
RTCU Common user ID	User-defined		
RTDN Default system name	System name	First RMTN entry	
RMTN Remote logical unit alias			5250PLU
RMTN User ID			
RMTN Description			

Identifier	Possible Choices	Default Value	Write Your Choice
LCLN Local logical unit alias			5250LU
MODN Application mode name	QRMTCMD, QFSPC, QVPRT, QSTF, or QMSG		
MODN APPC mode name	QRMTCMD, QFSPC, QVPRT, QSTF, or QMSG		

Shared Folders Function

The following information is needed to configure the shared folders function identifiers on your personal computer.

Identifier	Possible Choices	Default value	Write Your Choice
SFLR Action	1 (Assign) 2 (Release)	None	1
SFLR Drive letter	C to Z	Next available	I
SFLR Folder name	User-defined	None	
SFLR System name	User-defined	None	5250PLU
MCAO Cache size	0, or 64 to 8192	128K	320K
MCAO Save cache	1. Yes 2. No	2. No	1. Yes

Virtual Printer Function

The following information is needed to configure the virtual printer identifiers on your personal computer.

Identifier	Possible Choices	Write Your Choice
PRNT PCP (PC printer)	1. LPT1 2. LPT2 3. LPT3	LPT1
PRNT SN (System name)	User-defined	DEPT
PRNT PD (Printer device)	User-defined	P1

Identifier	Possible Choices	Write Your Choice
PRNT PFL (Printer file library)	User-defined	
PRNT PF (Printer file)	User-defined	
PRNT PDT (Printer data type)		2. ASCII to SCS
PRNT CPI (Characters per inch)		10
PRNT LPI (Lines per inch)		6
PRNT PL (Page length)	1 to 255	66
PRNT NC (Number of copies)	1 to 255	1
PRNT CO (Command override)	1. Yes 2. No	2. No
PRNT DFP (Defer printing until output file closed)	1. Yes 2. No	1. Yes
PRNT UC (Untranslatable character)	User-defined	40
AEP1 Translation table filename	User-defined	
AEP2 Translation table filename	User-defined	
AEP3 Translation table filename	User-defined	

Message Function

The following information is needed to configure the message function identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
MDEF System name	User-defined	Default system	DEPT
MDEF Control options	1. Notify 2. Immediate	1. Notify	1. Notify
MMRI Message receive interval	1 to 3600	60	300

Organizer

The following information is needed to configure the organizer identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
PCOP Session number	User-defined	None	
PCOP System command	User-defined	Session 1: 1, STRPCO 1, GO PCOMNU All others: x, STRPCO	
PTIM Input inhibited time value	0, 1 to 3600	30	30

Update

The following information is needed to configure the update identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
UPDT Source	User-defined	None	
UPDT Target	User-defined	None	
UPDT Update subdirectories option	S or Blank	Blank	

Identifier	Possible Choices	Default Value	Write Your Choice
UPDT Update list option	L or Blank	Blank	
UPDT Update directly	1 or Blank	1	
UPDT Description	User-defined	None	
ADMN Source	User-defined	None	
ADMN Target	User-defined	None	
ADMN Update subdirectories option	S or Blank	Blank	
ADMN Update list option	L or Blank	Blank	
ADMN Update directly	1 or Blank	1	
ADMN Description	User-defined	None	

Other PC Support Identifiers

The identifiers in this group are used by more than one function.

Identifier	Possible Choices	Default Value	Write Your Choice
A2ET Translation table filename	User-defined	None	
DSPL Display type	M C	None	
E2AT Translation table filename	User-defined	None	

PC Support Work Sheets

You can use these blank work sheets to record the values you used when configuring PC Support.

Router

The following information is needed to configure the router identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
RTYP Router type	CMGR	CMGR	
RTCU Common user ID	User-defined		
RTDN Default system name	System name	First RMTN entry	
RMTN Remote logical unit alias			
RMTN User ID			
RMTN Description			
LCLN Local logical unit alias			
MODN Application mode name	QRMTCMD, QFSPC, QVPRT, QSTF, or QMSG		
MODN APPC mode name	QRMTCMD, QFSPC, QVPRT, QSTF, or QMSG		

Shared Folders Function

The following information is needed to configure the shared folders function identifiers on your personal computer.

Identifier	Possible Choices	Default value	Write Your Choice
SFLR Action	1 (Assign) 2 (Release)	None	
SFLR Drive letter	C to Z	Next available	
SFLR Folder name	User-defined	None	
SFLR System name	User-defined	None	

Identifier	Possible Choices	Default value	Write Your Choice
MCAO Cache size	0, or 64 to 8192	128K	320K
MCAO Save cache	1. Yes 2. No	2. No	1. Yes

Virtual Printer Function

The following information is needed to configure the virtual printer identifiers on your personal computer.

Identifier	Possible Choices	Write Your Choice
PRNT PCP (PC printer)	1. LPT1 2. LPT2 3. LPT3	
PRNT SN (System name)	User-defined	
PRNT PD (Printer device)	User-defined	
PRNT PFL (Printer file library)	User-defined	
PRNT PF (Printer file)	User-defined	
PRNT PDT (Printer data type)		
PRNT CPI (Characters per inch)		
PRNT LPI (Lines per inch)		
PRNT PL (Page length)	1 to 255	
PRNT NC (Number of copies)	1 to 255	
PRNT CO (Command override)	1. Yes 2. No	

Identifier	Possible Choices	Write Your Choice
PRNT DFP (Defer printing until output file closed)	1. Yes 2. No	
PRNT UC (Untranslatable character)	User-defined	
AEP1 Translation table filename	User-defined	
AEP2 Translation table filename	User-defined	
AEP3 Translation table filename	User-defined	
VPCP VPMAX	1 to 9	

Message Function

The following information is needed to configure the message function identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
MDEF System name	User-defined	Default system	
MDEF Control options	1. Notify 2. Immediate	1. Notify	
MMRI Message receive interval	1 to 3600	60	

Organizer Function

The following information is needed to configure the organizer identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
PCOP Session number	User-defined	1	

Identifier	Possible Choices	Default Value	Write Your Choice
PCOP System command	User-defined	Session 1: 1, STRPCO 1, GO PCOMNU All others: x, STRPCO	
PTIM Input inhibited time value	0, 1 to 3600	30	

Update Function

The following information is needed to configure the update identifiers on your personal computer.

Identifier	Possible Choices	Default Value	Write Your Choice
UPDT Source	User-defined	None	
UPDT Target	User-defined	None	
UPDT Update subdi- rectories option	S or Blank	Blank	
UPDT Update list option	L or Blank	Blank	
UPDT Update directly	1 or Blank	1	
UPDT Description	User-defined	None	
ADMN Source	User-defined	None	
ADMN Target	User-defined	None	
ADMN Update subdi- rectories option	S or Blank	Blank	
ADMN Update list option	L or Blank	Blank	
ADMN Update directly	1 or Blank	1	

Identifier	Possible Choices	Default Value	Write Your Choice
ADMN Description	User-defined	None	

Other PC Support Identifiers

The identifiers in this group are used by more than one function.

Identifier	Possible Choices	Default Value	Write Your Choice
A2ET Translation table filename	User-defined	None	
DSPL Display type	M C	None	
E2AT Translation table filename	User-defined	None	

Part 5. Analyzing Problems with PC Support/400

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Chapter 22. Personal Computer Messages

OS/2 Messages	22-2
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OS/2 Messages

The Operating System/2* (OS/2*) messages that may be displayed while you are using PC Support/400 appear in window display areas as all OS/2 messages do.

Message help is available for many system messages. To receive help information, type help and the message number. The help information describes the *cause* of the message and any *action* that should be taken to resolve related problems.

The OS/2 communications manager logs error messages that correspond to the communications errors displayed by PC Support. Therefore, you should use the communications manager's message function when a communications problem occurs. The communications manager also has status displays that provide useful communications status information. Refer to the *OS/2 Extended Edition Version 1.2 User's Guide* for more information about the communications manager.

Chapter 23. AS/400 Messages

Displaying and Printing Messages	23-2
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This chapter discusses displaying and printing AS/400 messages sent by the AS/400 system portion of PC Support/400. These messages can be identified by the prefix IWS before the message identification number and message text. Following is an example of a message issued by the AS/400 portion of PC Support/400:

IWS9819 Cannot use file &2 in library &1 at this time.

Note: In AS/400 messages, an ampersand (&) followed by a number (for example, &1) is a replacement value. When the message appears on the display, the ampersand and number will be replaced with the actual name or names to which the message applies.

For example, when message IWS9819 is displayed, it might appear as follows:

IWS9819 Cannot use file TESTDISK in library TESTLIB at this time.

Displaying and Printing Messages

Descriptions for AS/400 messages appear online only. When you are using a PC Support function, such as transfer function, and the AS/400 system sends a message to the personal computer, both the message and the cause and recovery information are displayed on the personal computer. When you are logged on to an AS/400 session, messages that are displayed show only the message itself. You can display the cause and recovery information by using the AS/400 Display Job Log (DSPJOBLOG) command or by moving the cursor to the message and pressing the Help key.

You can print the messages using the AS/400 Display Message Description (DSPMSGD) command. The DSPMSGD command prints detailed information about the messages in a message file. The descriptions of specific messages or a range of messages in one message file can be specified by their identifiers, or all messages in one message file can be specified. The printed output can be formatted or unformatted depending on the command parameters specified. Following is an example of the DSPMSGD command:

```
DSPMSGD    RANGE(IWS1650 IWS1654) MSGF(QIWS/QIWSMSG)
```

This command lists the message descriptions for those message identifiers in the file that are in the range between IWS1650 and IWS1654. For a complete description of this command, refer to the *CL Reference* manual.

Chapter 24. Getting Help for PC Support/400 Messages and Commands

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Introducing the PCSHELP Command

The PCSHELP command allows you to display the following:

- Syntax and function information for PC Support/400 commands.
- Cause and recovery information for PC Support/400 messages.

Most PC Support/400 error messages appear in a window that allows you to select Help for additional information. In some situations, however, messages cannot appear in windows. Using the PCSHELP command allows you to display the additional information available for the message.

To use the PCSHELP command, type the following at the PC command prompt:

```
[d:][path]PCSHelp [message number]
                    [command name]
```

Press the Enter key. The following describes the parameters for this command:

message number

This is the unique 4-digit number identifying the message. This number is displayed immediately before the text of the message.

command name

This is the name of the command for which you want to display information.

Using the PCSHELP command without the optional parameters displays the help for the PCSHELP command. From this display, you can choose to display either the PC Support/400 command summary or the PC Support/400 message summary.

Using the PCSHELP Command – Examples

The following examples show you specific instances of using the PCSHELP command.

Viewing Information about a PC Support/400 Command

If you want information about the function and command line parameters of the Start Router (STARTRTR) command, enter

```
PCSHelp STARTRTR
```

at the OS/2 command line. A display similar to the following appears:

```

STARTRTR
More: ↓
The Start Router (STARTRTR) command starts the PC Support router, which
controls communications with the AS/400 system.

There are two formats for the STARTRTR command. Enter the command and
any of the optional parameters.

The first format is:

d:<path>STARTRTR _____
                    |_____
                    | e:<path>filename
                    |_____
                    | /P | /Z
                    |_____

where:

filename Specifies the name of the alternative configuration file to be

Enter Esc=Cancel F1=Help F3=Exit F9=Keys help F11=Help index
Shift+F6=View help list

```

Some of the words or phrases on the display may be highlighted. If you want information about one of the highlighted words, move the cursor to the word and press the Enter key.

Viewing Information about a PC Support/400 Message

If you received the following error message while running PC Support/400:

5031 - Command processor not found

and you do not understand this error message or what actions to take to correct the problem, enter

PCSHELP 5031

at the OS/2 command line. The following display appears:

```

5031
More: ↓
Command processor not found.

Cause: A PC Support program could not find the file for the personal
computer command processor. This happens if either of the
following conditions is true:
• The environment variable COMSPEC was missing from the
environment block for the PC Support program.
• The file specified in the COMSPEC setting could not be
found.

Recovery: From the command line, type SET. If you do not see

COMSPEC = <path>command.com (for DOS)
COMSPEC = <path>command.com (for OS/2)

refer to your operating system manual for instructions on specifying
the command interpreter. If you do not see

Esc=Cancel F1=Help F3=Exit F9=Keys help F11=Help index
Shift+F6=View help list

```

Chapter 25. The PC Support/400 Error Logging Function

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- Displaying the PC Support/400 Error Log 25-2
 - Changing the Viewing Options 25-2
 - Viewing a Specific Message 25-3
- Clearing the Message Log 25-3
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Analysis

Introducing the PC Support/400 Error Logging Function

The PC Support/400 error logging function saves error messages in a personal computer file. This provides you with a history of the PC Support/400 errors that have occurred. Information saved in the error log includes:

- The date and time the message was logged
- The name of the program that generated the message
- The message text, including the message number if it is an error message

Displaying the PC Support/400 Error Log

In order to display the PC Support/400 error log, select the View PC Support/400 error log option from the PC Support/400 Group window.

The following display shows you the messages you have received while using PC Support/400:

```
View Options Exit Help
PC Support/400 Error Log
More: ↑
For additional help on error messages, position
cursor to message number, press Enter.
11-02-90 09:20:40 STARTRTR
Starting Token-Ring Network Router
Version 2.0 Release 2.0 Level 00
11-02-90 09:20:40 STARTRTR
Processing: TRLI SYSTEM10,40004010046E4,,JOE
11-02-90 09:20:56 STARTRTR
Enter password for system user ID JOE:
11-02-90 09:21:02 STARTRTR
5115 Security values can not be checked 0003 084C0000
11-02-90 09:21:02 STARTRTR
5140 Connection failed for SYSTEM10
Enter Esc=Cancel F1=Help F3=Exit F10=Actions
```

The cursor is positioned at the bottom of the list, on the last error message you received. You can use the Page Up and Page Down keys to scroll through the error log. You can also move immediately to the top or bottom of the log by selecting the appropriate option from the Options pull-down window.

To receive additional information about a specific error, move the cursor to the appropriate error message and press the Enter key. This displays specific information about the error message.

Changing the Viewing Options

The View option on the action bar allows you to select whether you want to see all the PC Support/400 messages or only messages that indicate errors.

In order to change which messages are shown, do the following:

1. Press F10 to access the action bar.

2. Use the cursor keys to move the cursor to `View`, then press the `Enter` key. A window appears.
3. Select `Error` messages if you want to view only error messages. Select `All` messages if you want to view both informational and error messages.

Viewing a Specific Message

The `View` option on the action bar also allows you to display help for a specific message, regardless of whether or not the message appears in the error log. To display a particular message, select `Specific message` from the `View` option window. A window appears asking you to enter the message number for the message you want help for.

Clearing the Message Log

When you exit the error log (either by pressing `Esc` or by selecting the `Exit` option from the action bar), you receive a menu of options. Option 2 (`Clear error log and exit`) erases all the entries in the error log before returning you to the `OS/2` prompt.

Configuring the Error Logging Function

The PC Support/400 configuration program allows you to specify whether you want to use the error logging function, and also the maximum size of the error log. When you install PC Support/400, the error logging function is automatically turned on, and the error log file will not exceed 20K. If this limit is reached, the error logging function automatically wraps log entries to the beginning of the file, replacing the oldest entries.

You should leave the error logging function on, since it is helpful when trying to diagnose PC Support/400 problems. If you have little space available on your hard disk or diskette, you should try reducing the size of the error log before you turn off the function altogether.

In order to change these defaults, do the following:

1. Select `Configure PC Support/400` from the `PC Support/400 Menu`, or enter the `CFGPCS` command at the `OS/2` prompt. The `PC Support/400 Configuration` display appears.
2. Select `General` options. The `General Options for PC Support/400` display appears.
3. Select `Error logging` options from the list of options. The following window appears:

Error Logging Options

Messages issued by PC Support functions can be stored in the PC Support error log.

Log PC Support messages ▶1. Yes
2. No

Maximum size for error log
(2 to 64 Kbytes) [20]

Enter Esc=Cancel F1=Help Spacebar

This window allows you to specify whether or not you want messages to be logged and, if so, how large you want the error log to be.

Note: If you are using the administration function to change another user's error logging options, the *Maximum size for error log* parameter is not displayed. This is because this information is stored on the user's personal computer.

4. When you are finished typing this information, press the Enter key.

Chapter 26. Personal Computer or PC Support/400 Problems

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CAUTION:

If you detect smoke, excessive heat, or unusual smells coming from your personal computer, immediately set the system unit switch to Off, disconnect the power cord, and see your system operator. (RSFTC055)

This part of the guide can help you solve a problem with PC Support/400. Check to see if any of the symptoms describe your problem, and take the corrective action described.

Before following these problem analysis procedures, do the actions described for the messages.

Use the following information for those times when your personal computer or PC Support/400 is not responding as it should. Before reading this section, you should:

- Look for some indication of processor activity to check for a stopped condition.
- Identify the problem as an AS/400 system, personal computer, or data link problem.

Identifying Installation Problems

The following description may assist you in analyzing problems with the install function.

Problem: A data error occurred while the program was trying to read a personal computer disk file.

Action: PC Support/400 programs are not able to modify files with lines that exceed 220 characters. If you are familiar with the CONFIG.SYS file and how it works, do one of the following:

- Edit the file and selectively delete unnecessary characters from the lines that are longer than 220 characters.
- Rename your CONFIG.SYS file (to CONFIG2.SYS, for example.) Install OS/2 again. The system will create a new CONFIG.SYS file for you. Look at your old CONFIG.SYS file (now called CONFIG2.SYS) and the new CONFIG.SYS file and merge the pertinent information from the old file into the new one.

If you are not familiar with the CONFIG.SYS file, see your system administrator.

Identifying Message Function Problems

The following descriptions may assist you in message function problem analysis.

Authority Errors While Sending Messages

The problem descriptions and actions for correction follow.

Problem: Authority errors occurred while you were attempting to send messages.

Action: If you are sending messages to a local user by specifying only the destination name, you must be authorized to the message queue associated with that user's work station, personal computer, or user profile. Get the correct authority from your system operator and try sending the message again.

Problem: An unexpected error occurred while you were sending or displaying messages.

Action: An error may have occurred in the message function host program. Check the job log. If any errors are listed, correct the problem. Submit the failing PC command again.

Errors While Allocating Message Queues

The problem description and actions for correction follow.

Problem: The IWS3601 or IWS3610 message is sent, indicating that an error has occurred while the system was assigning message queues.

Action: If the message function ended abnormally, a pause may occur before the system can be used because the message queues are assigned until the job finishes. Wait for a while and try the operation again, or use the Display Job (DSPJOB) or Work with Active Job (WRKACTJOB) command to check job status.

Unexpected Errors While Sending or Receiving Messages

The problem description and actions for correction follow.

Problem: You received message IWS3607 or IWS2587 indicating an error occurred, and the recovery for that message tells you to see the job log.

Action: Do the following:

1. Log on the AS/400 system using the work station function.
2. If the host message function jobs have ended, use the Work with Spooled Files (WRKSPLF) command to view the job log.
3. If the host message function jobs have not ended, use the Work with Active Jobs (WRKACTJOB) command to work with the job so that you can look at the job log.
4. Review the messages listed in the job log.
5. Determine the exact cause of those messages. (They may be preceded by the tests that will help in problem analysis.)
6. Correct the error according to the recovery for the given message.
7. Submit the operation again.

Identifying Organizer Problems

The following descriptions may assist you in organizer problem analysis.

Loading Error

The problem description and actions for correction follow.

Problem: You have an error loading your word processing function.

Action: Do the following:

- Go to the Profile Options display (CHGPCOPRF) and check the following prompts: *Name of editor*, *Primary program path*, *Temporary program path*, and *Secondary program path*. Check whether or not the primary and secondary program path points to the location of your word processing function.
- Determine the largest program that may be run in the current environment.

PCO.EXE Inactive

The problem description and actions for correction follow.

Problem: You received a message that the PCO.EXE program is not active.

Action: Make sure you:

- Are using a personal computer as your terminal
- Are using the OS/2 Work Station Feature
- Are using the appropriate session
- Have started PC Support organizer (PCO) from the command line

Missing Document

The problem description and actions for correction follow.

Problem: You cannot find a document.

Action: Check for the following errors and use the appropriate recovery procedure:

- The document name is spelled incorrectly. Correct the spelling. Submit the operation again.
- The document is not stored in a folder. If you are using your word processing function as a stand-alone, you may have stored the document in a PC drive. If so, put the document in the folder.
- The document is not stored in the correct folder. Verify the folder by doing one of the following:
 - Blank out the folder name value on the Work with Documents display. A list of the folders on the system will then appear on the display.
 - If you are running stand-alone on the personal computer, enter FSPC ASSIGN. After the command has completed, do a directory (DIR) of the drive assigned. A list of the folders on the system will then appear on your display.

Inaccessible Document

The problem description and actions for correction follow.

Problem: A document you specified cannot be read.

Action: Do the following:

1. Run STRPCCMD to stand-alone environment.
2. Run the DisplayWrite product you have, such as DW 5/2.
3. Select the Utility option in the DisplayWrite product you have.
4. Select the Recovery option within the Utility option.

If this procedure does not correct the problem, do the following:

1. Enter an FSPC Release command to the drive assigned to the folder containing the document.
2. Enter an FSPC Assign command, to reassign the folder to the drive.
3. Repeat steps 1 through 3 of your word processing function stand-alone procedure.

Note: The OS/2 system allows a document to be accessed by only one user at a time. Make sure the document is not currently being edited.

If these steps have not corrected the problem, try the following:

1. Turn off the power to your personal computer. If you are using the IBM Token-Ring Network, wait 1.5 minutes and start your personal computer again. Try to read the document again.
2. Try to access the document from another work station.
3. Do an initial program load of the AS/400 system. Try to read the document again.
4. Call your service representative if you cannot read the document after attempting to correct the problem.

Identifying Original Equipment Manufacturer (OEM) Card Problems

The following description may assist you in analyzing problems with **original equipment manufacturer** (OEM) adapter cards.

OEM refers to the original manufacturer of equipment that is marketed by another manufacturer. For instance, you might have an IBM personal computer with an adapter card that is made by another company. In this case, the original manufacturer of the card is not IBM, so the adapter card is considered to be an OEM card.

Problem: Some OEM hardware cards use port addresses that may conflict with PC Support. This causes I/O port address conflicts in a specified range on the OEM card.

Action: Remap the OEM card's range of I/O port addresses so that the defined range does not conflict with the range used by PC Support.

- If your I/O port address conflicts fall in the range of 0310x through 0320x, your OEM card is reading only the right-most 10 bits in attempting to decode

the address lines. Remap your OEM card to avoid the range 0310x through 0320x.

- If your I/O port address conflicts fall in the range of 5710x through 5720x, your OEM card is reading the full 16 bits in attempting to decode the address lines. Remap your OEM card to avoid the range 5710x through 5720x.

Identifying Shared Folders Problems

The following descriptions may assist you in shared folders problem analysis.

Installation Attempt Fails

Problem: You attempt to install PC Support/400 and receive the message Access denied.

Action: During initial installation the system security level is set to 10. Add the user profile QUSER to the system directory using the Add Directory Entry (ADDIRE) command.

PC Application Does Not Work

If your personal computer application does not work correctly with the shared folders function, use the problem description and action for correction that follow.

Problem: The result of a personal computer application is different when the application is run against a drive assigned by the shared folder function than when the application is run against a diskette or disk drive.

Action: The shared folders function does not support all personal computer commands or applications. Refer to the *PC Support/400 Technical Reference for DOS and OS/2* for the functions and types of applications that the shared folders function does not support.

Error Messages Appear in Host Job Log

Problem: Messages CPF9180 and CPF9216 appear in your host job log when running shared folders.

Action: These messages are issued as a result of normal shared folders processing. No action is required.

Number of Bytes Free Does Not Change

Problem: The number of bytes free specified when the OS/2 directory command (DIR) is issued against a shared folders drive does not change when a file is copied to the folder.

Action: The number of bytes free specified on the DIR command for a shared folders drive is the difference between the maximum storage allowed on the user profile and the actual storage used by that user. If this number is too large for the personal computer operating system to display, a number that can be displayed is used. This number remains the same until the actual number becomes small enough for the operating system to display. No action is required.

Error Level 15 from CFGFLR

Problem: One of the following:

- When configuring PC Support, drive I was not assigned to a folder on a host system.
- When configuring PC Support, drive I was assigned to a folder on a host system but the system name was not specified.
- An attempt was made to assign drive I to a folder on a host system that is not currently running.

Action: Do one of the following depending on the cause:

- Use the configurator program to assign drive I to a folder on a host system. The host system specified should be the one upon which you want to base your PC Support files.
- Use the configurator program to change the current drive I assignment so that a system name is specified. This will be the host system upon which you want to base your PC Support files.
- Wait for the host system to be fully operational and running before attempting to start PC Support again.

Different Messages Displayed for an Out-of-Space Condition

Problem: A number of different messages may be displayed, such as insufficient disk space, file creation error, unable to make directory, access denied, and general failure, as a result of running out of space on your user profile.

Action: These messages vary depending on when the error was actually detected. Check to see how much space you have by using the OS/2 directory (DIR) command. If you do not have a large amount of space free, either free up some space or have the maximum storage allowed on your user profile increased.

Identifying Transfer Function Problems

The following descriptions may assist you in problem analysis for the transfer function.

Transfer Function Stopped

The problem description and actions for correction follow.

Problem: The transfer of data between the AS/400 system and the personal computer appears to have stopped. It may have stopped at one of the following times:

- When the *From*, *Select*, *Where*, *Join By*, *Order By*, *Group By*, *Having*, *Field Reference Filename*, or *To* prompts appear, and:
 - After pressing F4 to get a list
 - After the list appears and after pressing the Up Arrow, Down Arrow, Page Up, Page Down, Ctrl+Home, or Ctrl+End key combinations
- While the
Your transfer request is running
message is displayed

- While an AS/400-to-personal computer transfer request with the display specified as the output device is running, and:
 - After pressing Up Arrow, Down Arrow, Page Up, Page Down, Ctrl+Home, or Ctrl+End key combinations, while the Transferred Data display area appears
 - While the records appear by the automatic AS/400-to-personal computer transfer function program
- While an AS/400-to-personal computer transfer request with the printer specified as the output device is running, and the Retrieved data records being printed message is displayed
- While an AS/400-to-personal computer transfer request with disk specified as the output device is running, and the Retrieved data records are written to disk message is displayed

Action: Select the appropriate recovery procedure:

- If the interactive transfer function is not displaying one of the above messages, the personal computer is waiting for you to do something.
- If one of the above messages appears or you are using the automatic transfer function, allow enough time (possibly several minutes) for the operation to complete.
 - If you have used the *Join By*, *Group By*, or *Order By* prompt and the Your transfer request is running message appears, allow more time for this operation.
 - If you have pressed the End key while a list is being displayed, or while the transfer function is transferring data to the display, the transfer request may take longer.
 - If you are transferring data to a shared folder or printer, or from a shared folder, the request may take longer.
- Refer to Chapter 27, “Communications Problems,” to determine if you have a communications problem.

If the AS/400 system is functioning properly, the problem is probably on the personal computer. Run the PC tests. If no problem is found while running tests, and this application is still failing, contact the AS/400 site for assistance.
- If you are printing the format of transferred data, you must use printer LPT1. Make sure you have an LPT1 printer or a virtual printer assigned as LPT1.
- If the output device is either the printer or shared folder and the output is directed to a virtual printer or shared folder, do problem analysis for the virtual printer or shared folder.

Disk Input/Output Problems

The problem description and actions for correction follow.

Problem: Disk problems may have occurred at one of the following times:

- When the *Name of request to be saved, From, or Description file name* prompts appear, and:
 - After pressing F4 to get a list
 - After displaying the list and pressing Up Arrow, Down Arrow, Page Up, Page Down, Ctrl+Home, or Ctrl+End key combinations
- While the transfer function is saving a transfer request and the Your transfer request is being saved message appears
- While the transfer function is recalling a transfer request and the Your transfer request is being recalled message appears
- While the transfer function is writing a file description to the disk and the File description is being written to disk message appears
- While the transfer function is retrieving data records and the Retrieved data records are being written to disk message appears

Action: Check for the following errors:

- If the interactive transfer function is not displaying one of the above messages, the personal computer is waiting for you to do something.
- If one of the above messages appears, or you are using the automatic transfer function, allow enough time for the operation to complete.
 - If you pressed the Ctrl+End key combination while a list appears, the operation may take a long time.
 - If you are working with a shared folder, allow several minutes for the transfer to complete.
- If the output is directed to a shared folder, do problem analysis for a shared folder. Refer to Chapter 27, "Communications Problems," for more information.
- If the output is directed to a PC disk, run the PC tests. If no problem is found while running the tests and this application is still failing, contact the AS/400 site for assistance.

Printer Input/Output Problems

The problem description and actions for correction follow.

Problem: Printer problems may have occurred at one of the following times:

- While the Retrieved data records are printing

message appears

- While the
Format of transferred data is printing
message appears

Action: Select the appropriate recovery procedure:

- If the interactive transfer function is not displaying one of the above messages, the personal computer is waiting for you to do something.
- If one of the above messages appears or you are using the automatic transfer function or a virtual printer, allow enough time for the operation to complete.
- If the output is directed to a virtual printer, do problem analysis for a virtual printer. Refer to "Virtual Printer Stopped" on page 26-15.
- If the output is directed to a PC printer, make sure the PC printer is supported by the transfer function. Refer to Part 4, "Configuring PC Support/400" to find out what printers are supported.
- If the output is directed to a PC printer that is supported by the transfer function, run the PC tests. If no problem is found while running the tests and this application is still failing, contact the AS/400 site for assistance. Contact your service representative if an error is suspected in an AS/400-supported program.
- You may find that it takes 30 seconds or more to get an error message for printer out of paper, printer offline, or printer not available (printer adapter card is present in the system). This delay is consistent with the way the DOS and the OS/2 operating systems work. You can correct the problem before the error message appears and printing will continue immediately, or you can correct the error after the error message appears, and then press the Enter key to continue printing.

Unexpected Transfer Function Output

The problem description and actions for correction follow.

Problem: You received an incomplete list or no list at all for a list of PC file names requested for the *Save*, *Recall*, or *Description file name* prompt.

Action: The transfer function searches the PC disk for file names that have a specific extension (the extension is different for different prompts). The function cannot find the specified file names (if any) on the specified disk.

You can request the transfer function to search a specific drive for file names with certain characteristics. This search overrides the default search values used by the transfer function.

Unclear Display

The problem description and actions for correction follow.

Problem: The display is difficult to read when using the interactive transfer function.

Action: If you are using a monochrome monitor attached to the color graphics adapter, you must specify the /M value when you start the transfer function or put a DSPL entry in the CONFIG.PCS file.

If the monitor you are using has random dashes or snow appearing on the display, specify /S for slow-speed display writing after the command you used to start the transfer function or put a display (DSPL) entry in the CONFIG.PCS file. For details, refer to Part 4, "Configuring PC Support/400."

No Printer Output

The problem description and actions for correction follow.

Problem: Printing appears to be in progress or completed, but no output appears on the printer.

Action: Check the following:

- If you try to print on LPT1, LPT2, or LPT3, and no adapter is set up for the printer, the transfer function acts as though it is printing even though it is not. This procedure is consistent with the way the DOS operating system handles printing to a printer that does not exist.
- You may be printing on a virtual printer. Release the virtual printer if you want to print on a personal computer printer defined by the same LPT number as the virtual printer.

No Printer Output — OS/2 Only

The problem description and actions for correction follow.

Problem: Printing appears to be in progress or completed, but no output appears on the printer.

Action: Check the following:

- You may find that it takes a considerably longer time for your output to reach the printer when running in the OS/2 operating system. This is because the OS/2 system uses a spooler queue that accepts output to a printer, creates an output file, and sends the data to the printer. When the spooler queue is off, the OS/2 operating system will work the same as the DOS operating system.
- If the spooler queue is on, a printer error may have occurred. When the spooler queue is on, printer error messages will not be detected by the transfer function, but will appear as system errors. When the spooler queue is off, printer error messages will be displayed by the transfer function.

Slow Printer Error Messages

The problem description and actions for correction follow.

Problem: Printer error messages take a long time to appear.

Action: You may find that it takes 30 seconds or more to get an error message for printer out of paper, printer offline, or printer not available (printer adapter card is present in the system). This delay is consistent with the way the DOS and the OS/2 operating systems work. You can correct the problem before the error message appears and printing will continue immediately, or you can

correct the error after the error message appears and press the Enter key to continue printing.

Incorrect Printer Message

The problem description and actions for correction follow.

Problem: Printer-out-of-paper message appears when the printer is not available.

Action: OS/2 does not always correctly diagnose printer errors. You can still correct the actual problem and press the Enter key to continue printing.

Missing Print Line

The problem description and actions for correction follow.

Problem: Part or all of a line of printing is missing.

Action: This problem can arise when an error occurs and, after the error is corrected, printing is started again. The printer loses the data sent for the line when it is turned off. When correcting problems, use the Offline button rather than turning the printer off, if possible.

Improper Page Eject

The problem description and actions for correction follow.

Problem: Page eject does not work properly.

Action: Turning the printer off and then back on may cause it to set a new top of form. Try to avoid turning the printer off and on again when correcting problems.

Improper Printer Page Spacing

The problem description and actions for correction follow.

Problem: Printer did not go to the top of the next page at the end of the output.

Action: If you select the Escape (ESC) option on an error message and do not correct the error condition, the final page eject may not be received by the printer. Put the printer in an offline condition and then press the form feed to complete the page eject.

Incorrect Output File Placement

The problem description and actions for correction follow.

Problem: For a virtual printer output file, output that should have appeared in separate output files appears in the same output file.

Action: Output files are not automatically closed between running transfer requests. The time-out method for closing files is used. Change the time-out value to a smaller number if too much time is elapsing between requests or close the file with the Set Virtual Printer (SETVPRT) command. Refer to "Identifying Virtual Printer Problems" on page 26-15 for additional information.

Print File Output in Multiple Parts

The problem description and actions for correction follow.

Problem: For a virtual printer output file, output is broken up into more than one part when only one continuous piece was expected.

Action: An output file may be closed before the transfer request is completed if there is a delay greater than the time-out value specified for the virtual printer. Change the time-out value to a larger number if output is breaking up.

Transfer Request Resubmitted

The problem description and actions for correction follow.

Problem: A status display area shows
Your transfer request has been resubmitted
while you are moving text lines backward in the transferred data display area.

Action: This situation is normal. However, if it occurs often, you should increase the amount of storage on your personal computer.

Incorrect Data in Transferred Records

The problem description and actions for correction follow.

Problem: A PC file containing the transferred records contains incorrect data. Your application program cannot process the file.

Action: Check for the following errors:

- Verify that the PC file type used in the *Transfer request* prompt is correct for the application you are running.
- If you have data in the AS/400 file that cannot be translated, a status message at the end of the transfer request identifies the number of records that could not be translated. If the transfer request indicates data that is not translatable, check the data in the AS/400 file and check the data definition for that file using the DSPFFD command.
- If you have transferred data to a BASIC ordered file, make sure the character data in the file does not contain any double quotation marks.

Substitution Characters in Data

The problem description and actions for correction follow.

Problem: The data displayed or printed contains substitution rectangle characters.

Action: The rectangle characters represent data in the AS/400 file that could not be translated from EBCDIC to ASCII. The status message at the end of the transfer request run identifies the number of records that could not be translated. Check the data in the AS/400 file and the data definition for that file.

Truncated Print Records

The problem description and actions for correction follow.

Problem: Printed records from transferred data are truncated at the end of each print line.

Action: Change the *Truncate* prompt in the transfer request you are running to No, so all data for each record is printed.

Identifying Virtual Printer Problems

The following descriptions may assist you in problem analysis for the virtual printer.

Virtual Printer Stopped

The problem description and actions for correction follow.

Problem: The personal computer was sending data to a virtual printer, but the transfer of information appears to have stopped and there are no messages.

Action: Check for the following errors:

- You have not allowed enough time. A large file may take several minutes to print.
- You sent the data to a local PC printer that is not turned on. Turn on the local printer and the data may start printing.
- You are using the OS/2 operating system and the output file does not close. If you are not using the time-out method of closing an output file, you may need to use the SETVPRT program to do so.
- You have a communications problem. Refer to Chapter 27, "Communications Problems," to determine the cause.
- You used the hot key sequence to access a Work Station Feature display session. This action will suspend the printer in the DOS session.

Interactive Virtual Printer Program (SETVPRT) Stopped

The problem description and actions for correction follow.

Problem: The interactive virtual printer program (SETVPRT) appears to have stopped. It may have stopped at one of the following times:

- After pressing F4 to get a list
- After displaying the list and pressing Up Arrow, Down Arrow, Page Up, Page Down, Ctrl+Home, or Ctrl+End key combinations
- After the Enter key was pressed on the assign virtual printer screen
- After the Enter key was pressed on the choose virtual printer screen

Action: Select the appropriate recovery procedure:

- If the SETVPRT program is not displaying the Please wait or Assigning the virtual printer message, the personal computer is waiting for you to do something.

- If the Please wait or Assigning the virtual printer message is displayed, allow enough time for the operation to complete.
- Refer to Chapter 27, "Communications Problems," to determine if you have a communications problem.
- If the AS/400 system is functioning properly, this is probably a PC problem. Run the PC tests. If no problem is found and this application is still not working, contact the AS/400 system operator for help. Contact the service representative if an error is suspected in a AS/400-supported program.

Display Hard to Read

The problem description and actions for correction follow.

Problem: The display is difficult to read when using the interactive virtual printer program.

Action: If you are using a monochrome monitor attached to a color graphics adapter (CGA) card, you must specify /M after the command you used to start SETVPRT, or put a DSPL entry in the CONFIG.PCS file.

Virtual Printer Output Not Received

The problem description and actions for correction follow.

Problem: No output received.

Action: Check for the following errors:

- You tried to print by using a printer name (LPT1, LPT2, LPT3) that is not a personal computer printer and is not assigned as a virtual printer. To activate the virtual printer, enter the SETVPRT or CFGVPRT command.

If you selected a time-out interval of zero, the file must close using the SETVPRT command. However, if there is an End Document or Begin Document command at the end of your data stream or your application sends a reset command to the virtual printer, this is not necessary. (The *PC Support/400 Technical Reference for DOS and OS/2* contains information about the End Document and Begin Document commands.)

- You have not waited long enough for the output file to close. If the virtual printer was set up to delay printing, it does not start printing until the output file is closed. The output file is closed when a close request is received from the application.
- If an error message appears in the message queue, ask the system operator to respond to any error messages and make the AS/400 printer ready.
- The spooled file or the spool queue may be held. Check the OS/2 Print Manager display for the status of the spooled file.
- An error may have occurred when printing. Check the OS/2 Print Manager display for error messages.
- There may be a problem with the AS/400 spool utility if the output file was closed and no messages appear on the AS/400 console. (For example, the spool writer may have been stopped.) Ask your AS/400 operator if this could be the reason your output is not printing. The AS/400 operator should be able to help you resolve the problem.

- If you follow each of the procedures just listed, and you still receive no output, you may have a hardware problem. Run the PC and printer tests. If no error is found, contact the AS/400 site for assistance.

Incomplete Printer Output

The problem description and actions for correction follow.

Problem: Printed output started but not completed.

Action: Check for the following errors:

- You have not waited long enough for the output file to close. If the virtual printer was set up to delay printing, it does not start printing until the output file is closed. The output file is closed when a close request is received from the application.
- Your print application may be running in DOS compatibility mode. In this mode, some applications do not close the spool file. Refer to the DOS compatibility information in the *OS/2 Extended Edition Version 1.2 Using the System* for further information on closing a spooled file in DOS compatibility mode.
- If you follow the procedure just described, and you still do not receive complete output, you may have a hardware problem. Run the PC and printer program to aid diagnosis. If no error is found, contact the AS/400 site for assistance.
- The Virtual Printer function expects printer data that is intended for an IBM 4201 Proprinter.* If you are trying to print using a text editor on your personal computer and the editor provides a choice of several printer drivers, configure your editor so that it uses the IBM 4201 Proprinter driver.

If the virtual printer does not work, test the printer locally by sending the following:

- An AS/400 file/document
- A PC file/document from a personal computer to the locally attached PC printer

Unreadable or Unexpected Output

The problem description and actions for correction follow.

Problem: Output is not readable or as expected.

Action: Check for the following errors:

- You are trying to print data from a personal computer file that is not readable or printable.
- The translation table is damaged. The *PC Support/400 Technical Reference for DOS and OS/2* contains information about translation tables.
- You specified an incorrect printer data type when you assigned the virtual printer. The printer data type could be incorrect for the data you are printing or for the AS/400 printer on which you are printing.
- You are trying functions that are not supported by the AS/400 printer. In this case, the output may not be the same as you expected. Refer to the PC

Support/400 Technical Reference for DOS and OS/2 for the functions that are supported.

- You are trying to print data for ASCII character set 2. Your virtual printer was assigned with character set 1 and did not receive a Select-character-set-2 command. The data was treated as a printer command for character set 1. The *PC Support/400 Technical Reference for DOS and OS/2* contains information about the Select-character-set-2 command.
- If you follow each of the procedures listed and the output is still not readable, you may have a hardware problem. Run the PC and printer program to help diagnosis. If no error is found, contact the AS/400 site for assistance. Contact your service representative if an error is suspected in an AS/400-supported program.
- The Virtual Printer function expects printer data that is intended for an IBM 4201 Proprinter. If you are trying to print using a text editor on your personal computer and the editor provides a choice of several printer drivers, configure your editor so that it uses the IBM 4201 Proprinter printer driver.

If the virtual printer does not work, test the printer locally by sending the following:

- An AS/400 file/document
- A PC file/document from a personal computer to its locally attached PC printer

Incorrect Printer Page Ejection

The problem description and actions for correction follow.

Problem: The printer ejects at the wrong place.

Action: Your virtual printer parameters and the AS/400 printer configuration do not match. Refer to Part 4, "Configuring PC Support/400" for information on using the lines-per-page and page-length parameters for a virtual printer.

MODE Command Failure

The problem description and actions for correction follow.

Problem: You entered the MODE command, but the changes failed to take effect.

Action: Check for the following errors:

- You entered the MODE command after running the SETVPRT or CFGVPRT command and before printing a file.
- The output file closed before you entered the MODE command.
- You did not specify the command-override option in the SETVPRT or CFGVPRT command.

Incorrect Printer Destination

The problem description and actions for correction follow.

Problem: Output goes to the local PC printer rather than the virtual printer.

Action: Check for the following errors:

- The virtual printer was not activated by either the SETVPRT or CFGVPRT command.
- You tried to use the virtual printer after entering the Stop Router (STOPRTR) command. You must start the router again before you can run SETVPRT or CFGVPRT.

Incorrect or Unreadable Document Content Architecture Output

The problem description and actions for correction follow.

Problem: You tried to print a Final-Form Text:Document Content Architecture document on a virtual printer, but the output was not readable or you did not get all the output.

Action: Check for the following errors:

- The default printer data type was specified. You should use printer data type 1 (SCS data) or printer data type 3 (final-form text). Refer to Part 4, "Configuring PC Support/400" for information on setting printer data type.
- You did not use a **/b** parameter to indicate a binary file when using a OS/2 COPY command to copy a file to a virtual printer (including the OS/2 end-of-file characters).
- The AS/400 printer must be a printer that can print final-form text.
- You used DisplayWrite 5/2 (DW 5/2) to create the printer file but did not use a DW 5/2 Final-Form Text:Document Content Architecture printer function table. Refer to the *DW 5/2 Technical Reference* manual for information on using printer function tables.

Truncated Printer Lines

The problem description and actions for correction follow.

Problem: Printer lines are truncated.

Action: The AS/400 printer paper is not wide enough to handle the characters-per-line specified. Refer to the *PC Support/400 User's Guide for OS/2* for information on setting the line length.

Output Queue Owner

The problem description and actions for correction follow.

Problem: The AS/400 system creates a virtual device for each work station function printer session. The virtual devices are owned by the user who signed on to the router. The Create Device Description (Printer) (CRTDEVPRT) command used to create the printer device also creates an output queue. This output queue has a default value for the AUTCHK parameter of *OWNER. This means only the owner of the output queue can use it.

Action: Correct the problem as follows: Use the Change Output Queue (CHGOUTQ) command to change the authority to check (AUTCHK) parameter of the output queue to *DTAAUT.

Identifying Work Station Feature Problems

The following problem descriptions may assist you in work station feature problem analysis.

Locating Work Station Feature Job Logs

When work station sessions are started, entries are always logged. One job log exists for each display or printer session started. When session start is unsuccessful, the job log helps you analyze the cause of the failure. Error messages will often refer you to the job log. You can read the job log as follows:

- If display station pass-through cannot be started by the work station function, a message is logged in the QSYSOPR message queue. This message queue will tell you if your personal computer was able to start communications from the personal computer to the host system or from the personal computer to the pass-through program. Use the DSPMSG QSYSOPR command to display the message queue for the operator.
- After display station pass-through is started, display station pass-through puts status and error messages in the job log, a spooled output file on the AS/400 system. Use the WRKSPLF command with the user ID you started the job with.
- You can now locate your job log by finding the session according to the date and time you tried to start the session.

Inactive System Available Indicator

The problem description and actions for correction follow.

Problem: The System Available indicator is not active. In a display session, the display is blank, the cursor is in the upper right corner, and the status line indicators appear. However, the System Available indicator is not active. Error code 0099 is displayed if you press keys other than the hot-key sequence.

Action: The personal computer may have stopped communicating with the AS/400 system. Refer to Chapter 27, "Communications Problems," to determine the cause.

Locked Keyboard

The problem description and actions for correction follow.

Problem: The input inhibited light remains on and the keyboard is locked.

Action: One of the following conditions may have caused the problem:

- The AS/400 system is busy or the operation may take a long time to complete. Allow enough time for the operation to finish.
- You have a keyboard error (identified by a flashing 4-digit number on the status line). Press the Help key for more information. Press the Reset key or the immediate-reset key sequence (Alt/Scroll Lock) to clear the error condition.

- The application program is in a loop. Press the Attn key to interrupt. You may be able to use the Attn key to resume or cancel the program. Some programs on the AS/400 system will disable the Attn key.
- The AS/400 system is waiting for a response to a message to the operator. Ask your system operator to check for messages and respond accordingly.
- The PC program is in a loop. Try to switch to another session. If the hot-key sequence does not work, the personal computer is in a loop and needs to be started again. Refer to “Starting the PC Operating System” on page 27-7 for more information.
- Your personal computer has stopped communicating with the AS/400 system. Refer to Chapter 27, “Communications Problems,” to determine the cause.

Sessions Lost after Invalid Sign-On Attempts

The problem description and actions for correction follow.

Problem: If the use is greater than the host system’s maximum number of sign-on attempts for a work station, all work station function sessions for the PC will lose system availability and the PC link to the host system will be suspended.

Action: To restore the link between the PC and the host and allow the user to sign-on again, do the following for an AS/400 connection:

- Disable the PC link at the console by entering the following:
VRYCFG controller location-name *CTL *OFF
- Ready the location by entering the following:
VRYCFG controller-location-name *CTL *ON
- Start the work station feature.
- Try to sign on using the correct user ID and password.

Sessions Do Not Produce Printed Output

The problem description and actions for correction follow.

Problem: Work station sessions do not produce printer output when a printer session profile is specified.

Action: Make sure of the following:

- The AS/400 spool writer is started and the desired output is in the output queue being processed by that spool writer.
- There are no error messages for the printer on the AS/400 system. Check all applicable message queues.

Chapter 27. Communications Problems

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When determining whether you have a communications problem, be sure you have allowed enough time for the requested operation to complete. Some operations require several minutes.

Identifying Communications Connections Problems

Communications problems which result in error messages may have several causes, and the causes may depend on the type of connection. Listed below are some common communications problems and the probable causes and recoveries for each.

Security values cannot be checked....

Message 5115

Note: There are several causes and recoveries listed for this error message. When this message appears, the connection between the personal computer and the host machine may or may not be active. Do one of the following:

- If you are running in the DOS environment, use the STARTRTR /d command to see if the communications link is active.
- If you are running in the OS/2 environment, use the advanced feature of Communications Manager to see if the communications link is active.

In either case, if the link is active, this message is informational and can be ignored. If the link is not active, this message is an error message. Check for the specific Cause and associated Recovery as follows.

Cause: The PC Support/400 router could not check your user ID and password because the STARTRTR program could not communicate with the AS/400 system program.

Recovery: The two numbers in the message are advanced program-to-program communications (APPC) primary and secondary return codes. Some of the common return codes are listed below. For return codes not listed here or for more detailed information on those that are listed, refer to the section on verb return codes in the *PC Support/400: Application Program Interface Reference*, SC41-8254 if you are running in the DOS PC Support product or to the *APPC Programmer's Guide* if you are running in the OS/2 environment.

Primary	Secondary	
0003	00000004	Allocation Failure No Retry
	00000005	Allocation Failure Retry

Cause: Unable to communicate with the AS/400 system. Possible reasons include:

- The line connection failed.
- The PC adapter failed.
- There is a configuration error.
- The controller description (on the AS/400 system) for the personal computer has the switched disconnect parameter set to 'Yes' and the line was disconnected before the user ID and password were entered.

Recovery: Run STARTRTR again. If the same error occurs, ask the AS/400 system operator to check the message queue associated with your controller for message CPF1269. The text associated with this message will indicate the reason for the failure.

Primary Secondary

0003	084C0000	Program Not Available No Retry
	084B6031	Program Not Available Retry
	10086021	Transaction Program Not Recognized Users whose host is a System/36 or an AS/400 system without DDM installed will receive this informational message. However, the communications link is still active.

Cause: The AS/400 system is not able to find or run the program that the PC Support router is trying to start.

Recovery: Ask the AS/400 system operator to check the system operator (QSYSOPR) message queue for message CPF1269. The text associated with this message will indicate the reason for the failure.

Primary Secondary

0006	00000000	Deallocate Abend Program
------	----------	--------------------------

Cause: The AS/400 system operator canceled the distributed data management (DDM) program or an error was detected by the DDM program causing it to end unexpectedly.

Recovery: Ask the AS/400 system operator to check the system operator (QSYSOPR) message queue for messages associated with your device. The text associated with these messages will indicate the reason for the failure. Also ask the AS/400 system operator to check your spooled file for your job status.

Primary Secondary

000F	00000000	Resource Failure Retry
0010	00000000	Resource Failure No Retry

Cause: A resource failure prematurely ended the conversation.

Recovery: Run STARTRTR /d to verify that your connection is still active. If your connection is not active, start the router again. If your connection is still active, ask the AS/400 system operator to check the system operator (QSYSOPR) message queue for any messages associated with your controller and device. The text associated with these messages will indicate the reason for the failure.

Primary Secondary

0014	00000000	Unsuccessful
------	----------	--------------

Cause: The Systems Network Architecture (SNA) bind failed for one of the following reasons:

- The session limit, specified in the AS/400 QPCSUPP mode description, is too small.

- The link name, specified in the token-ring link information (TRLI), emulation link information (EMLI), or SDLC or ASYNC link information (SDLI) parameter in the configuration file, is not valid.
- The system name, specified on the add remote system (ADRS) parameter in the configuration file is not correct or not known to the link you are trying to connect.

Recovery: Correct the problem and try your request again.

OS/2 Router only: The following codes are returned to the OS/2 router from the communications manager while the router is trying to check your user ID and password.

Primary Secondary

F004 0

Cause: The communications manager is not loaded.

Recovery: Start the communications manager.

Primary Secondary

0001 00000018

Cause: The communications manager does not recognize the remote system name or mode name.

Recovery: Use the configurator to change the remote system name to be the same as the PLU alias known to the communications manager; or change the mode name to be the mode name specified in your PLU profile known to the communications manager.

Note: For Extended Services 1.0, the PLU alias must be defined as upper case. If it is in lower case or mixed case, it will not be recognized.

Primary Secondary

0001 00000003

Cause: The logical unit (LU) alias is not permitted or not known to the communications manager.

Recovery: Access the communications manager configuration file and specify an LU alias to be the default LU alias; or use the configurator to specify a local name in your PC Support configuration file. The local name must be the same as that of the LU alias specified in your PLU profile.

Note: For Extended Services 1.0, the PLU alias must be defined as upper case. If it is in lower case or mixed case, it will not be recognized.

Primary Secondary

0003 00000005

Cause: The communications manager has not finished establishing the connection to the remote system.

Recovery: Try your request again.

Cause: There are no available sessions with which to establish a conversation with the remote system.

Recovery: Add more session limits to your mode configuration in the communications manager.

Cause: There is some other configuration information known to the communications manager. The communications manager knows about this remote system, but it cannot establish the connection.

Recovery: Try your request again. If you receive this message again, check to see if the entries in your communications manager configuration are valid.

Cause: The remote system is not responding because it is not available.

Recovery: Ask your AS/400 system operator for the status of the host system.

Primary Secondary

0003	084C0000	Program Not Available No Retry
	084B6031	Program Not Available Retry
	10086021	Transaction Program Not Recognized Users whose host is a System/36 or an AS/400 system without DDM installed will receive this informational message. However, the communications link is still active.

Cause: The AS/400 system is not able to find or run the program that the PC Support router is trying to start.

Recovery: Ask the AS/400 system operator to check the system operator (QSYSOPR) message queue for message CPF1269. The text associated with this message will indicate the reason for the failure.

OS/2 error [*] - not able to load and run [*].

Message 5864

Cause: An internal router program is normally run by the Start Router (STARTRTR) command. This internal program's name is shown in the message. This program must be in the same directory as the STARTRTR.EXE.

Recovery: If the program named is in a different directory, put it into the same directory as STARTRTR.EXE. If this is not the problem, determine the problem from the OS/2 error code shown and correct it. Run the Start Router (STARTRTR) command again.

Recovering from a Data Link Failure

You must restore the data link (connection between the personal computer and the AS/400 system) and start the communications manager again as described in the following manuals:

- *IBM Extended Services for OS/2: Network Administration Guide*, S04G-1001
- *IBM Extended Services for OS/2: Communications Manager Host Connection Reference*, S04G-1004

- *IBM Extended Services for OS/2: Communications Manager Configuration Guide*, S04G-1002
- *IBM Extended Services for OS/2: Programmable Configuration Reference*, S04G-1003
- *IBM Extended Services for OS/2: Programming Services and Advanced Problem Determination for Communications*, S04G-1005

Stopping and Starting the PC Support/400 Router

If you have determined that the AS/400 router has an error from which recovery is not possible or is in a loop, then it must be stopped and started again. This section explains stopping and starting procedures.

Stopping the AS/400 Router

If you are in PC operation, enter the Stop Router (STOPRTR) command at the OS/2 prompt. If PC Support sessions are active, you will receive a message indicating that programs are still communicating with the router.

If you cannot use the STOPRTR command, you must:

1. Start the PC again. This is the recommended way.
2. Ask the system operator to disable communications to your personal computer. You will need to supply the system operator with your PC location name.

Continue with "Starting the AS/400 Router."

Starting the AS/400 Router

If you ended the AS/400 router or it ended abnormally, you must start it again before you can run any virtual printer, transfer function, message function, or shared folder sessions. Do the following:

1. If you have not already done so, enter the Stop Router (STOPRTR) command at the OS/2 prompt to notify the PC router that the PC Support router has ended.
2. Start the PC router again by typing the name of your original command file (such as STARTPCS.CMD). You can also enter the Start Router (STARTRTR) command at the OS/2 prompt.
3. Start any shared folders, virtual printer, message function or transfer function sessions again that were active before you try to use them. These programs were not informed that the router ended. When you try to start them again, a message may appear indicating that contact with the PC Support/400 ended. (This is normal.) Try the operation again.
4. Start any sessions that were active.

Starting the PC Operating System

If you have encountered an error from which recovery is not possible or one of the PC Support/400 programs is in a loop, you must start the operating system again. To do this, select the *shutdown* option from the Desktop menu.

If this sequence does not start the operating system again, you can start the personal computer again by turning it off for 20 to 30 seconds and then turning it back on. Once the personal computer is successfully started again, you can run PC Support/400 programs. If you still have problems, contact your system operator.

Chapter 28. Service Procedures

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This chapter describes the information required when you need to perform one of the following functions:

- Collect information for your service representative.
- Apply a program temporary fix (PTF).

If you think your problem might require an authorized program analysis report (APAR), report it to the AS/400 operator who will then report the problem to the service representative. The service representative will decide if an APAR is required. If an APAR is necessary, the service representative will then assign an APAR number to your problem and tell you what information to collect.

Preparing an Authorized Program Analysis Report (APAR)

Before contacting support service, make sure you have read Chapter 26, "Personal Computer or PC Support/400 Problems," Chapter 27, "Communications Problems," and have contacted your service representative to help isolate the problem. If the problem is suspected to be an IBM product problem, prepare an APAR with enough information to help isolate and re-create the problem with PC Support/400.

Attach a detailed description of the problem and detailed instructions on how to re-create the problem. Do not leave out information that you feel might be obvious. Any information left out may result in an APAR that is not valid.

If the output is incorrect, explain what output you expect and what output you actually got. If the personal computer is in a wait or a loop condition, include a list of all programs that were running at the time.

Reduce the problem to its simplest form. Vary the environment to try to isolate the problem. For example, if the problem occurred while you were using the transfer function to download a file to a folder, run the same transfer request again, this time to a real disk or diskette or to the display. Find out if the problem occurs when you were requesting all fields or just one particular field. Record the results and include this information with the APAR.

PC Information

Include the following PC information when preparing an APAR:

Note: When you are asked to copy PC information to a diskette, use the OS/2 COPY command.

- *A copy of the QPTFIDX file if it exists.* Copy this file to a PC diskette and include the diskette with the information for the APAR. You can print the contents of the file to the PC printer. If a QPTFIDX file does not exist on your personal computer, and you can assign the QIWSOS2 folder, copy the QPTFIDX file from the folder and include it with the APAR. Include the QPTFIDX file from both the host and personal computer, if available.
- *A printout of the PC display.* If you have a printer attached to your personal computer, use the hot-key sequence (press and hold the Alt key; then, press the Escape key) to enter PC operation. Make sure the printer is powered on and the printer Ready light is on. Press and hold Shift. Then press the Print Screen key. The output is sent to the PC printer.
- *The PC hardware configuration.* This is a description of the hardware installed or attached to the personal computer, including information such as

total storage size, types of displays attached, type of display used when the error occurred, number of diskette drives configured, number of diskette drives actually attached, presence or absence of a corrected disk, and other installed adapters such as communications, printer, and so forth.

Most of this information can be obtained by running the PC tests. Refer to the *Operator's Guide* for more information.

- *The PC program environment.* This is a description of what (if any) other programs or application programs were running or installed in storage at the time of the failure. Also include the OS/2 version.
- *A copy of the PC Support/400 error log (PCSERR.LOG).* This file is in your PC Support/400 directory. Copy this file to a PC diskette and include the diskette with the information for the APAR.
- *The release numbers of any PC Support/400 programs that were running at the time of the failure.* When started, each PC Support/400 program displays its copyright and release number. Record the release number of the PC Support/400 programs that are running, and send this information along with the APAR. You may have to run the programs again (possibly after turning the personal computer on) before the release numbers appear again.
- *A copy of all batch files that ran before the problem occurred.* Print all batch files that were run before the problem was encountered to the PC printer. This list includes the STARTUP.CMD (if present), and the STARTPCS.CMD file.
- *A copy (or printout) of the CONFIG.SYS file if it exists.* Copy the personal computer configuration file, CONFIG.SYS, to a personal computer diskette, and include the diskette with the APAR.
- *A copy (or printout) of the CONFIG.PCS file if it exists.* Copy the PC Support/400 configuration file, CONFIG.PCS, to a personal computer diskette, and include the diskette with the APAR. If you wish, you can print the contents of the file to the PC printer.
- *A copy of any alternative configuration files being used.* Copy to a diskette or print out any alternative configuration files that were being used, and include the diskette with the APAR.
- *A copy of any translation tables that were being used.* Copy any translation tables (ASCII-to- EBCDIC or EBCDIC-to-ASCII) that you were using when the problem occurred, and include the diskette or paper copy with the APAR.
- An OS/2 communications manager trace file.
- A copy of the active OS/2 communications manager's configuration file.
- A copy of the OS/2 communications manager's message log file.
- A screen image of any OS/2 message that is displayed in conjunction with this problem.

AS/400 Information

Run the AS/400 Create APAR (CRTAPAR) command to help collect the necessary information. Include that information with the following when preparing an APAR:

- A printout of the AS/400 job log.
- *An AS/400 job dump.* Take an AS/400 job dump of the job that was running at the time of the failure, along with any jobs running in the subsystem.

- *A printout of the programming changes for the AS/400 library.* Using the AS/400 Display Program Temporary Fix (DSPPTF) command, print the programming changes for the AS/400 library QIWS.
- *Any other information.* Include any other information, such as history information, that may be useful in isolating and re-creating the problem.

Additional Information

Collect the following additional information (if applicable) and prepare it with the APAR.

Transfer Request Information

If you were running a transfer request when the problem occurred, include the following:

- *The specifications of the transfer request that failed.* This should be in the form of a saved transfer request file. It could be a computer printout of the saved transfer request file, or a print screen computer printout of all the interactive transfer function displays (with prompts filled in) used in creating the transfer request.
- *A copy of the file or files that were being transferred.* Use the AS/400 Save Object (SAVOBJ) command to copy AS/400 file or files that were being transferred at the time of the error to a AS/400 diskette. If you were transferring data from the personal computer to the AS/400 system, copy the personal computer file and its associated file description file (if any) to a PC diskette and include the diskette with the APAR.
- *A copy of the PC file description file that was being used during the transfer.* Copy the PC file description file (if any) that was being used at the time of the failure to a diskette and prepare that diskette with APAR.
- *A copy of the data dictionary that describes the file being transferred.* If you were transferring data from the personal computer to the AS/400 system, copy the data dictionary to a PC diskette and include the diskette with the APAR.

Submit Remote Command Information

If you were running a submit remote command request when the problem occurred, include either or both of the following:

- The command that was being run.
- A copy of the file of commands, if one was used.

Shared Folder

If you were using a personal computer drive letter assigned to a folder, include the following:

- *A copy of the folder.* Use the Save Document (SAVDLO) command on the AS/400 system to save the folder that was being used when the failure occurred.
- *A copy of the CONFIG.PCS file if it exists.* Copy the PC Support/400 configuration file, CONFIG.PCS, and any alternative configuration files to a PC diskette and include the diskette with the APAR. If you wish, you can print the contents of the file to the PC printer.
- *A copy of the CONFIG.SYS file.*

Organizer

If you were using the organizer, include the following:

- *A copy of the shared folder.* Use the Save Document (SAVDLO) command on the AS/400 system to save the folder that was being used when the failure occurred.
- *A copy of the CONFIG.PCS file if it exists.* Copy the PC Support/400 configuration file, CONFIG.PCS, and any alternative configuration files to a PC diskette and include the diskette with the APAR. You can print the contents of the file to the PC printer.

Virtual Printer

If you were using a virtual printer, include the following:

- *A copy of the file or the data that was being printed on a virtual printer.* Copy to a personal computer diskette the PC file or program data that was being copied to a virtual printer at the time of the failure. If incorrect virtual printer output is the problem, include a copy of the data as it should appear when printed on an actual personal computer printer as well as a copy of the incorrect output.
- *A copy of the virtual printer parameters used for each active virtual printer.* Include a copy of the virtual printer parameters that were being used at the time of the failure. If the virtual printers were assigned using the CFGVPRT program, this information is contained in the CONFIG.PCS or alternative configuration file. Include this file with the APAR. If you assigned (or changed) the virtual printers using the SETVPRT program, obtain this information by running SETVPRT again to display the status of the virtual printers.

If possible, copy the information to the printer by pressing and holding the Shift key and then pressing the Print Screen key. If you cannot print this information on a printer, write down the necessary information. Include a copy of the printer file parameters for each active virtual printer that was assigned a printer file.

Applying or Removing a Program Temporary Fix (PTF)

PTFs for PC Support/400 are distributed on an AS/400 PTF tape or through a support system. PTFs for the AS/400 portion are applied like other AS/400 PTFs, using the PTF procedure described in the *Operator's Guide*. PTFs for PC Support/400 are applied as follows:

- If you are applying the PTFs, you must sign on the system as QSECOFR or with a user ID that has a group profile of QSECOFR.
- PC Support/400 folders must not be in use while PC Support/400 PTFs are applied or removed. Users should not access the PC Support/400 folders or run INZPCS during PTF activity. To temporarily restrict access, change the folders authority to exclude the public, then restore the authority when PTF activity is finished. The CHGDLOAUT command is used to change authority.
- Apply the PTF to the AS/400 programs on the AS/400 system using the PTF procedure described in the *Operator's Guide*.
- You may receive a message indicating that the code on your personal computer needs a PTF applied. The PC Support/400 update function automatically does this when you start PC Support/400 on the personal computer.

Special Considerations for the OS/2 Version of PC Support/400

Applying a PTF to the personal computer code of the OS/2 version of AS/400 shared folders function will involve starting your personal computer again. An OS/2 file cannot be replaced while it is being used so you may have to end your PC Support/400 function before you can apply the PTF.

Part 6. Appendixes

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Appendix A. PC Support/400 Memory Requirements

PC Support/400 Memory Requirements	A-2
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Memory Needed for Continuously Running Tasks	A-2
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PC Support/400 Memory Requirements

You can determine the recommended memory requirements for your personal computer by using the information in this section along with the requirements for the OS/2 communications manager program and any application programs you plan to use. The information in this section only addresses the memory requirements for PC Support.

The following memory requirements need to be considered in order to determine the total memory required for running PC Support:

- Memory needed for the OS/2 communications manager program
- Memory needed for continuously running tasks
- Memory needed for interactive programs

Memory Needed for the OS/2 Communications Manager Program

The memory requirements listed in this section are for PC Support only. You must add the memory requirements for PC Support to the memory requirements for the OS/2 communications manager program to determine the total memory required.

See the *OS/2 Information and Planning Guide*, G360-2650, for information on memory requirements for the OS/2 communications manager program.

Memory Needed for Continuously Running Tasks

PC Support continuously running tasks are the functions that remain running in the OS/2 operating system after the program that started them has ended. Memory needed for continuously running tasks is the memory used by these tasks or functions. For example, when you start the shared folders function (STARTFLR), a continuously running task is loaded into memory. The memory used by this task is not available for use by any other program or application until the task ends, or until OS/2 does memory swapping for another task.

Memory Needed for Interactive Programs

Interactive program memory is the amount of memory used by programs or applications that return all of the memory used by the program when the program ends. For example, when you start the PC Support configuration program (CFGPCS), the configuration program is loaded in memory. The memory used by CFGPCS is available for use by other programs or applications as soon as you exit the CFGPCS program.

Personal Computer Memory Requirements

The personal computer memory requirements depend on the size of the PC Support functions you want to use and on any other personal computer function you are using.

To determine approximately how much personal computer memory you need, you must determine how much memory is used for your configuration of PC Support and any application you plan to use. The amount of memory needed is the sum of the memory required for the PC Support functions that you have configured, the memory required for OS/2 Extended Edition 1.2, and the applications you plan to use.

Memory Requirements Work Sheet

The minimum memory requirement for PC Support for OS/2 is the memory needed for the router and the shared folders function (one folder). The minimum memory requirement for PC Support is 500K.

The following work sheet is provided so that you can record the amount of memory needed for the functions you plan to use. You may make as many copies as you need of this form.

Continuously Running Tasks	Memory Required	
Message function (STARTMSG)	100K	_____
Organizer (PCO)	75K	_____
Router (STARTRTR)	75K	_____
Shared folders function (first folder)	500K	_____
Shared folders function (each additional)	20K	_____
Shared folders function (cache)	see Note	_____
Text assist (first WSF edit session)	250K	_____
Text assist (each additional)	75K	_____
Virtual printer (first printer)	50K	_____
Virtual printer (each additional)	50K	_____
Data queues	75K	_____
Total		_____

Interactive Program	Memory Required	
Configuration program (CFGPCS)	225K	_____
Administration function (PCSADM)	150K	_____
Message function (MSG)	150K	_____
PC Support menu (PCSMENU)	100K	_____
Shared folders function (FSPC)	150K	_____
Transfer function (RTOPC)	150K	_____
Transfer function (RFROMPC)	150K	_____
Virtual printer (SETPRT)	150K	_____
File checking (CHKFIL)	150K	_____
PC Support/400 help (PCSHELP)	150K	_____
PC Support/400 error logging (PCSLOG)	150K	_____
Total		_____

Note: Memory must be allocated for the shared folders cache, but the amount depends on what you specified for the cache size. The default cache size is 128K and there is a separate cache for each host system to which you assign a drive. That is,

$$\text{actual memory used} = (\text{cache size}) * (\# \text{ hosts assigned})$$

Appendix B. PC Support/400 Installation Program

Files Created or Changed for PC Support/400	B-2
AS/400 Objects	B-3
Objects Created for the PC Support User	B-3
Objects Created for the Communications Connection	B-4

The installation program will set up entries in the two configuration files, CONFIG.SYS and CONFIG.PCS, and in the STARTPCS.CMD for the functions selected when PC Support was installed. All PC Support/400 functions will be available as soon as STARTPCS is run. Some functions require further configuration after the installation is complete.

Files Created or Changed for PC Support/400

The following personal computer files can be created or changed when you run the installation program:

- Root directory files:
STARTUP.CMD
CONFIG.SYS
- PCSOS2 directory files:
CONFIG.PCS
STARTPCS.CMD

Note: You should use the PC Support configuration program (CFGPCS.EXE) to make any changes to these files.

STARTUP.CMD

The STARTUP.CMD file is a special type of command file that is automatically run when you first start the personal computer. This file is useful if you want to run certain programs or commands each time you start the personal computer.

If you select during installation to have PC Support/400 started automatically when you start your personal computer, the STARTPCS command is added to the file. If the file does not exist, the PC Support/400 installation program creates it.

CONFIG.SYS

The CONFIG.SYS file is the configuration file used by the OS/2 program to set up the personal computer.

The PC Support installation program copies the existing CONFIG.SYS file to a file named CFGSYS.BAK. If the CFGSYS.BAK file already exists, the old file is replaced with the new CFGSYS.BAK file.

The following entries are added to the CONFIG.SYS file:

```
SET EHNL=xxxx  
SET EHNP=d:\PCSOS2  
IFS=d:\PCSOS2\EHNSFLO.DLL  
RUN=d:\PCSOS2\UPDATEP2.EXE
```

The PCSOS2 directory is also added to your PATH and LIBPATH if the directory is not already in these paths.

CONFIG.PCS

The CONFIG.PCS file in the PCSOS2 directory is the configuration file used by PC Support/400 to set up the environment for PC Support. This file is created each time you run the installation program.

If a CONFIG.PCS file is on the PCS01 installation diskette, the file is used to determine default values for the installation program.

If CONFIG.PCS already exists on the hard disk, the existing CONFIG.PCS file is copied to the file CFGPCS.BAK and a new CONFIG.PCS file is created.

STARTPCS.CMD

The STARTPCS.CMD file in the PCSOS2 directory is used to start PC Support/400. The entries in the file are determined by the selections you make when you run the installation program.

If the STARTPCS.CMD file already exists, the existing file is copied to STARTPCS.BAK. If the STARTPCS.BAK file already exists, the old file is replaced with the new STARTPCS.BAK file.

You should not change this file using a normal editor. If you want to change your configuration, use the PC Support configuration program (CFGPCS).

PC Support/400 uses the following environment variables:

EHNL

Determines the active language PC Support/400 uses. For example,

```
SET EHNL=2924
```

sets the active language to English.

EHNM

Determines whether or not PC Support/400 will log messages in the PC Support/400 error log. The valid options are EHNM = A (log all messages) or EHNM = N (log no messages). See Chapter 25, "The PC Support/400 Error Logging Function" on page 25-1 for information about the PC Support/400 error log.

EHNP

Determines the drive and directory path of the PC Support/400 directory. For example,

```
SET EHNP=C:\PCS
```

sets the path to the C: drive. This environment variable is used by the error logging function and the work station function configuration program (CFGWSF.EXE).

AS/400 Objects

Installing PC Support on the AS/400 system creates the mode description QPCSUPP. This mode description identifies the attributes of the communications sessions that are established between the personal computer and the AS/400 system. You can use the Display Mode Description (DSPMODD) command to see this mode description.

Objects Created for the PC Support User

When you create a PC Support user, the AS/400 objects created depend on whether or not the user profile already exists. If the user profile already exists, the user profile is added to the system directory. If the user profile does not already exist, the following AS/400 objects are created first:

- The user profile
- An output queue
- A job description
- A message queue

Objects Created for the Communications Connection

In order for a personal computer to communicate with the AS/400 system, the following objects must exist:

- A line description
- A controller description
- A device description

If you are using automatic configuration in a local area network connection, the PC Support/400 host installation program creates a model controller. The name of this model controller is the same as the name of the line description it is associated with.

This model controller is used as a basis for creating new controllers. Changing this controller allows you to control how new controllers are created. For more information about model controllers, see the *Communications: Advanced Peer-to-Peer Networking Guide*, SC41-8188.

When you sign on to the AS/400 system, a device description is created for each session you use. Each device description is named using the PC location name and the number of the session you are using. The format for the device description is:

xxxSn

where xxx is the PC location name and n is the session number.

Appendix C. The PC Support/400 Tools Folder

Using the Tools Folder	C-2
----------------------------------	-----

When you install PC Support/400 on the AS/400 system, you have the option of installing the QIWSTOOL folder. This folder contains various PC Support/400 utilities and sample programs.

Note: The programs and related information in the folder QIWSTOOL have not been submitted to any formal IBM test and are provided on an "as is" basis without any warranty either expressed or implied. The QIWSTOOL folder is not available in all countries or languages.

Using the Tools Folder

To use the tools folder, do the following:

1. Assign a shared folders function drive to the QIWSTOOL folder. You can use the PC Support/400 configuration program (see Chapter 12, "Managing Information in Folders" for information about assigning folders), or use the FSPC command. Make the assigned drive the current drive.

For example, to assign the QIWSTOOL folder to the J drive using the FSPC command, type the following at the PC command prompt:

```
I:FSPC ASSIGN J: QIWSTOOL  
J:
```

2. Change to DOS mode. At the PC command prompt, type IWSTOOL and press the Enter key.
3. To display the abstract for a package, use the mouse or cursor to select the package and press the Enter key.
4. To use the displayed package, page down to the end of the abstract. In the input field, type the name of a valid (existing) directory or folder and press the Enter key.

The files listed in the abstract are copied to the specified directory or folder.

5. When you have finished selecting packages, press the Esc key to return to the PC prompt.
6. For information on how to use a package, change to the directory or folder and then browse or print any files with an extension of .ABS or .DOC. Some of the sample programs contain additional information at the beginning of the source file.

Appendix D. National Language Support for PC Support/400

Using PC Support/400 Language Options	D-2
Changing the Language Option Used on the Personal Computer	D-2
Language Options Available for PC Support/400	D-3
Changing the Default Keyboard Codes and Code Pages	D-3

Using PC Support/400 Language Options

PC Support/400 allows you to use any language that is installed on the AS/400 system for PC Support/400. Languages are installed from tape using the Work with Licensed Programs display on the AS/400 system. You can display this menu by typing the following on any AS/400 command prompt:

```
GO LICPGM
```

When you install PC Support/400 on the personal computer, you install for only one language. You can use the PC Support/400 configuration program to change the language that the personal computer uses.

Changing the Language Option Used on the Personal Computer

To change the language you use on the personal computer, do the following:

1. Start the PC Support/400 configuration program. See "Starting the PC Support/400 Configuration Program" on page 11-2 for instructions. The PC Support/400 Configuration display appears.
2. Select General options. The General Options for PC Support/400 display appears.
3. Select National language options. The following display appears:

National Language Options for PC Support

Active language. . . : 2925 Finnish

Listed below are the languages currently available to you. Position the cursor to the language you want to use for PC Support, then press Enter.

National Language	
2924	English
2925	Finnish
2926	Danish
2928	French

Enter Esc=Cancel F1=Help F3=Exit

This list shows you all the languages installed on the AS/400 system. The *Active language* field indicates which language you are currently using. To change active languages, move the cursor to the language you want to use and press the Enter key.

4. Press F3 (Exit). A window appears allowing you to save your changes or exit without saving.
5. If you choose to save your changes, the PC Support/400 configuration program copies the necessary files from the appropriate folder on the AS/400 system to your personal computer. The language you selected automatically becomes the active language the next time you start PC Support/400.

Language Options Available for PC Support/400

The following language options can be used with PC Support/400.

Table D-1. National Language Feature Codes

Language	Feature Code
Belgium Dutch	2963
Belgium French	2966
Brazilian Portuguese	2980
Canadian French	2981
Chinese – Traditional (double-byte)	2987
Danish	2926
Dutch	2923
English	2924
English (double-byte)	2984
English Uppercase (single-byte)	2950
English Uppercase (double-byte)	2938
Finnish	2925
French	2928
French (multi-national set)	2940
German	2929
German (multi-national set)	2939
Greek	2957
Icelandic	2958
Italian	2932
Italian (multi-national set)	2942
Japanese (double-byte)	2962
Korean (double-byte)	2986
Norwegian	2933
Portugese	2922
Portugese (multi-national set)	2996
Spanish	2931
Swedish	2937
Turkish	2956

Changing the Default Keyboard Codes and Code Pages

When you install the PC Support/400 licensed program on the AS/400 system, a folder is created that contains all your language-specific information. The system default keyboard code is used, and the ASCII code page is selected based on this keyboard code. The keyboard is determined from system value QKBDTYPE. United States keyboard styles (USB and USI) result in ASCII code page 437. Most other keyboard styles result in ASCII code page 850.

If you want to use a keyboard code or code page other than the system-selected defaults for the secondary language, you need to use the Initialize PC Support (INZPCS) command.

You can run this command by choosing option 30 from the PC Support Tasks menu:

```

PCSTSK                                PC Support Tasks

Select one of the following:

User Tasks
  1. Copy PC document to database
  2. Copy database to PC document
  3. Work with documents in folders
  4. Work with folders
  5. PC Support Organizer

Administrator Tasks
 20. Work with PC Support administrators
 21. Enroll PC Support users
 22. Configure PC connections

 30. Change keyboard and conversion tables

Selection or command
====> 30
_____
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User support
F16=System main menu

```

When you select option 30, the following display appears:

```

                                Initialize AS/400 PC Support (INZPCS)

Type choices, press Enter.

Keyboard type . . . . . *DFT          *DFT, AGB, AGI, BLI, CAB...
ASCII code page number . . . . . *DFT    *DFT, 437, 850, 851, 857...
EBCDIC code page number . . . . . *DFT    *DFT, 037, 273, 277, 278...
Language feature code . . . . . *DFT     *DFT, 2922, 2923, 2924...

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

```

This display allows you to specify what code pages and keyboard code you want to use for a particular language.

If you use multiple languages, you should use EBCDIC code page 500 on the AS/400 system and ASCII code page 850 on your personal computers if possible. This is to avoid loss of certain language-specific characters. For example, a PC Support/400 user may send a message from a US English personal computer (ASCII code page 437) to another PC Support/400 user on a Portuguese personal computer (ASCII code page 860). Because of the differences in the ASCII code pages, some of the characters in the message may be displayed incorrectly. This problem will not occur if PC Support/400 is initialized to use ASCII code page 850 and EBCDIC code page 500.

The following table shows the defaults for the language and keyboard codes when you initialize PC Support/400:

Table D-2. Default Keyboard Styles When Using Initialize PC Support/400 Command

Language or Country	Keyboard Code	International Keyboard Code
Arabic X/Basic	CLB	
Austrian/German	AGB	AGI
Belgium		BLI
Canadian	CAB	CAI
Chinese (Simplified)	RCB	
Chinese (Traditional)	TAB	
Danish	DMB	DMI
Dutch	NEB	NEI
English (United Kingdom)	UKB	UKI
English (United States)	USB	USI
Finnish	FNB	FNI
French (AZERTY)	FAB	FAI
French (QWERTY) ¹	FQB	FQI
Greek	GKB	GNB
Hebrew	NCB	
Icelandic	ICB	ICI
International	INB	INI
Italian	ITB	ITI
Japan (English)	JEB	JEI
Japan (Kanji)	JKB	
Japan (Kanji and US English)	JUB	
Japan (Katakana)	KAB	
Korea	KOB	
Latin American Spanish Speaking	SSB	SSI
Norwegian	NWB	NWI
Portuguese	PRB	PRI
Portuguese (Brazilian)	BRB	
Spanish	SPB	SPI
Swedish	SWB	SWI
Swiss/French		SFI
Swiss/German or Swiss/Italian		SGI
Thai	THB	
Turkish	TKB	

¹ If you will be using the work station function with PC Support/400, the French (QWERTY) keyboard style is not available. The codes for this style can be used, but the French (AZERTY) keyboard style will be used as the default keyboard style instead of the French (QWERTY) keyboard style.

The following table shows the language and ASCII and EBCDIC code pages when you use the INZPCS command:

Table D-3 (Page 1 of 2). ASCII and EBCDIC Values When Using Initialize PC Support/400 Command

Primary Using Country	Language	ASCII Code Pages	EBCDIC Code Pages
Arab States	Arabic X/Basic	864	420
Belgium	Dutch ¹	850, 437	500
Belgium	French ¹	850, 437	500
Brazil	Portuguese	980, 850	697, 037
	French ¹	437, 850	500
China	Chinese (Traditional)	904	037
Canada	Canadian French ¹	863, 850	500

Table D-3 (Page 2 of 2). ASCII and EBCDIC Values When Using Initialize PC Support/400 Command

Primary Using Country	Language	ASCII Code Pages	EBCDIC Code Pages
Denmark	Danish	865, 850	277
Finland	Finnish	437, 850	278
France	French	437, 850	297
Germany	German	437, 850	273
Great Britain	English	437, 850	285
Greece	Greek	851, 869	423, 875
Iceland	Icelandic	861, 850	871
International	English Upper case	437, 850	500
Israel	Hebrew	862	424
Italy	Italian	437, 850	280
Japan	Japanese	897	290
Korea	Korean	891	833
	Chinese (Simplified)	903	836
Latin America	Spanish	437, 850	284
Netherlands	Dutch	437, 850	037
Norway	Norwegian	865, 850	277
Portugal	Portuguese	860, 850	037
	Portuguese ¹	860, 850	500
Spain	Spanish	437, 850	284
Sweden	Swedish	437, 850	278
Switzerland	French ¹	437, 850	500
	German ¹	437, 850	500
	Italian ¹	437, 850	500
Thailand	Thai	874	838
Turkey	Turkish	857	1026
United States	English Upper/Lower	437, 850	037

¹ Indicates the multinational character set keyboard code for the language.

The following example selects the U.S. basic keyboard, ASCII code page 437, and EBCDIC code page 037:

```
INZPCS KBDTYPE(USB) ASCII(437) EBCDIC(037)
```

The following example selects the French (AZERTY) international keyboard, ASCII code page 850 and EBCDIC code page 500:

```
INZPCS KBDTYPE(FAI) ASCII(850) EBCDIC(500)
```

Appendix E. Ethernet Address Considerations

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Why Addresses are Reversed	E-2
How to Convert an Address	E-3
Method of Converting an Address	E-3
Example of Converting an Address	E-4
When to Use the Converted Address	E-4

Whether Reverse Addressing Affects You

If you use an Ethernet connection in your network, you may need to convert addresses before they will be properly recognized in your network. This is because the addresses transmitted will be bit-reversed before they are received.

If you follow the method in "Before You Begin – Ethernet Addresses" on page 6-2 to create all of your addresses, you do not need to worry about address conversion. If you cannot follow this method, the following chart will help you determine whether or not you need to convert the addresses:

Table E-1. Is Address Conversion Necessary?

Local Area Network Connections		Address conversion necessary?
Personal computer is on:	AS/400 system is on:	
Ethernet network	Ethernet network	<ul style="list-style-type: none"> If you use the default personal computer address assigned to the adapter card, the personal computer's addresses will be correctly recognized by the AS/400 system. However, you will need to convert the AS/400 system's address when you enter this information on the personal computer. If you override the personal computer's default adapter address, you will need to convert the addresses.
Ethernet network	Token-ring network	<ul style="list-style-type: none"> If you override the default address assigned to the personal computer's adapter card, the addresses will be correctly recognized. If you use the default address assigned to the personal computer's adapter card, the AS/400 system's address will be correctly recognized. However, you will need to convert the personal computer's address when you enter this information on the AS/400 system.
Token-ring network	Ethernet network	The addresses will need to be converted.
Token-ring network	Token-ring network	The addresses will be correctly recognized.

Why Addresses are Reversed

Every system that is attached to a local area network has a unique physical address for its attachment adapter. This address is composed of a 12-digit hexadecimal number.

When you configure the AS/400 system for communications with a personal computer, you may be asked to specify the adapter address of the personal computer. Likewise, when you install PC Support on the personal computer, you are asked to specify the adapter address of the AS/400 system. This address is used when the personal computer attempts to contact the AS/400 system. The personal computer searches the local area network for an AS/400 system with the specified adapter address. Likewise, when the AS/400 system needs to communicate with the personal computer, the AS/400 system searches the local area

network for a personal computer with the specified adapter address. For this reason, every address on the local area network must be unique.

When a system searches the local area network, it uses the destination address to locate the receiving system. While both the token-ring and Ethernet protocols use the 12-digit hexadecimal addressing scheme, the protocols transmit the addresses in a different bit order.

Since the order of the bits in each byte is changed, the address accepted by the receiving system will be different from the address sent by the transmitting system. In order for the two systems to recognize each other, you must compensate for the address reversal by converting the destination address while configuring the transmitting system.

For more details about these address formats, see the *Communications: Local Area Network Guide*, SC41-0004.

How to Convert an Address

The following method shows you how to convert the address so that it will be correctly recognized on the network.

Method of Converting an Address

1. Separate the 12-digit hexadecimal address into sets of two digits, for example:

62 89 C2 B8 7A 31

2. Reverse the positions of the characters in each of the 2-digit sets:

62 89 C2 B8 7A 31
↓ ↓ ↓ ↓ ↓ ↓
26 98 2C 8B A7 13

3. Use Table E-2 on page E-4 to bit-reverse each digit. For example:

26 98 2C 8B A7 13
↓↓ ↓↓ ↓↓ ↓↓ ↓↓ ↓↓
46 91 43 1D 5E 8C

4. After bit-reversing each digit, combine the 6 pairs into a 12-digit hexadecimal address:

4691431D5E8C

Table E-2. Bit-Reversal Table

Original Bit	Becomes	Converted Bit
0	----->	0
1	----->	8
2	----->	4
3	----->	C
4	----->	2
5	----->	A
6	----->	6
7	----->	E
8	----->	1
9	----->	9
A	----->	5
B	----->	D
C	----->	3
D	----->	B
E	----->	7
F	----->	F

Example of Converting an Address

The following example shows the entire process of converting an Ethernet address:

Beginning address	6289C2B87A31
Separate into 2-digit sets	62 89 C2 B8 7A 31
Reverse digit positions	26 98 2C 8B A7 13
Bit-reverse each digit	46 91 43 1D 5E 8C
Converted address	4691431D5E8C

When to Use the Converted Address

If Table E-1 on page E-2 indicates that the addresses in your network must be converted, you need to do the following:

- When configuring an AS/400 system for communications with a personal computer:
 - When prompted for the AS/400 system's address, use the normal, unconverted address.
 - If prompted for the personal computer's LAN address, convert the personal computer's address and enter the converted address.
- When installing PC Support on the personal computer:
 - When you specify the personal computer's LAN address in the communications manager partner LU profile, use the normal, unconverted address.
 - When prompted for the AS/400 system's address, convert the AS/400 system's address and enter the converted address.

Appendix F. Using PC Support/400 with the IBM OS/2 LAN Program and DLR

Planning Your PC Support/400 and OS/2 LAN System	F-2
Performance	F-2
Security	F-2
Limitations	F-2
Configuration Considerations	F-3
Setting Up and Operating the OS/2 LAN Server/Requester	F-4
Setting Up and Operating the DOS LAN Requester	F-4

This appendix describes using PC Support/400 with the IBM OS/2 local area network (LAN) program and the IBM DOS local area network requester (DLR). The OS/2 LAN program and the DLR are licensed programs that provide resource sharing for a network of personal computers. Through the network, the physical resources of one personal computer (disks, directories, and printers) can be shared with other personal computers. Refer to the IBM OS/2 local area network and DOS local area network program publications for additional information.

The OS/2 LAN program provides:

- Base services for sharing OS/2 LAN resources
- Extended services for administration of a set of OS/2 LAN resources
- Support for work stations without diskette or hard disk drives

Using PC Support/400 and the OS/2 LAN program provides additional resource sharing. Work station users can have access to AS/400 system resources in addition to personal computer resources from other personal computers. An example is the simultaneous use of folders (AS/400 resource) and a network drive (personal computer resource).

Planning Your PC Support/400 and OS/2 LAN System

When planning your PC Support/400 and OS/2 LAN system, consider the following:

- Performance
- Security
- Limitations

Performance

Consider performance when sharing PC Support/400 resources. For example, redirecting requests to PC Support/400 shared folders by the server will take longer than accessing the server's local resources. Personal computers should be used as the server when you are sharing PC Support/400 resources.

Security

When sharing AS/400 system resources, consider using LAN access control to ensure that AS/400 system resources are properly protected. Refer to the OS/2 LAN program publications for more security information.

Limitations

When you run PC Support/400 and the OS/2 LAN program or DLR program, the following limitations exist:

- The IBM OS/2 Extended Edition LAN server must be Version 1.2 with corrective service diskettes (CSD) WR04098 applied, or later compatible version.
- The IBM DOS LAN requester (DLR) must be Version 1.2 with corrective service diskettes (CSD) WR04064 applied, or later compatible version.
- For AS/400 Release 3.0, PC Support/400 PTF LF70655 must be applied to the OS/2 LAN server personal computer if you are sharing folders as a network resource.
- The 640KB memory may limit the use of PC Support/400 and the DLR program when they are used at the same time.

- When sharing a virtual printer as a network resource, you cannot change the characteristics of a print file if separator pages are used.
- When using DOS 3.3, the TREE command is not supported for a network device that is assigned to shared folders.
- The personal computer RESTORE command is not supported for a network device that is assigned to shared folders.
- The OS/2 LAN server holds resources on drives that it is sharing. Those resources may never be freed. The shared folders drive may never be allowed to be released after it has been shared by the OS/2 LAN server.
- When sharing a folder as a network resource, DOS applications may receive 0 bytes free when querying the available disk space. This happens because the value shared folders returns to the OS/2 server is too large to fit in the 16-bit variable which many DOS applications use. The large value is valid for OS/2 applications (the OS/2 LAN server).

To circumvent this problem, the AS/400 user profile used for the PC Support functions must be changed. Use the Change User Profile (CHGUSRPRF) command to specify a MAXSTG value that will limit the extra available storage to less than 2 gigabytes.

- The DOS LAN requester (DLR) NET USE command does not check for drives reserved by DOS device drivers (example, shared folders). The NET USE command appears to complete successfully, but DOS continues to route the requests to the device driver.
- The OS/2 LAN requester NET USE d: /D command (release a drive) will release a PC Support/400 shared folder assigned to that drive. Any attempt to reassign that drive letter to a shared folder will result in a TRAP D and the system is stopped.

Configuration Considerations

When planning your configuration, use the following guidelines:

- A work station can use AS/400 system resources and personal computer resources at the same time. An example is using a network disk and an AS/400 system virtual printer to run a spreadsheet program from a controlling personal computer server and print its output on an AS/400 printer.
- A controlling personal computer server can share both local resources (disks and printers) and AS/400 system resources (folders and printers) with work stations. An example is sharing a local disk for program loads and sharing a PC Support/400 folder for data sharing and integration with other AS/400 system users.
- To allow applications using compatibility mode open operations to use the shared folders save cache, changes can be made to the SRV Heuristics parameter in the IBMLAN.INI file on the OS/2 Server. See the *IBM Operating System/2 Local Area Network Server Version 2.0 Network Administrator Reference*, S04G-1032-00, for more information.

Setting Up and Operating the OS/2 LAN Server/Requester

When you run PC Support/400 with the OS/2 LAN server/requester, use the following setup and operational procedures:

1. If a local area network is being used for PC Support/400, ensure that the OS/2 Extended Edition communications manager configuration has enough resources configured to support both PC Support/400 and the OS/2 LAN server/requester. PC Support/400 requires the following:
 - One service access point (SAP).
 - One link station for each AS/400 system you intend to access.
2. When PC Support/400 virtual printer and shared folders are to be shared, the following procedures are required:
 - Use PC Support/400 to assign the resource and then use the OS/2 LAN server to share the resource. This prevents work stations from using network resources that are not yet assigned to the AS/400 system.
 - Use the OS/2 LAN server to stop sharing the resource and then use PC Support to release the resource. This prevents work stations from using resources that are no longer assigned to the AS/400 system.

Setting Up and Operating the DOS LAN Requester

If a local area network is being used for PC Support/400 and you run PC Support/400 with the DOS LAN requester (DLR), be sure that the required LAN program (version 1.3 or version 2.0) device driver (DXMT0MOD.SYS) is configured as follows:

- To provide at least one additional service access point SAP (ES = 1).
- To provide at least three additional link stations (EST = 3).
- To open the LAN adapter with a buffer size of 2048 (DS = 2048).

If you use the PC Support/400 TRMF router identifier to increase the token-ring maximum frame size, change the DS parameter to match the TRMF value. A 16MB token-ring environment is required to use a frame size greater than 2048.

- To open the LAN adapter at CONFIG.SYS load time (O = Y, OPEN.ON.LOAD = Y or let it default to O = Y).
- To increase the extra stations value (EST) so it matches the PC Support/400 maximum number of router links (TRRL) parameter.

Note: This is only necessary if, in an effort to connect to more than three systems, you have increased the TRRL parameter to a number greater than its default value of three.

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