Program Numbers 5727-WS1, 5727-WS6

PC Support/36 User's Guide

Office Systems Family

Personal
Computer
Software

SC21-9088-3

Program Numbers 5727-WS1, 5727-WS6

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Personal
Computer
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SC21-9088-3

Fourth Edition (June 1987)

This major revision makes obsolete SC21-9088-2. See the "Preface" for a summary of major changes to this edition.

This edition applies to Release 5, Modification Level 1, of the IBM System/36 PC Support/36 Products (Program 5727-WS1 for the 5360 and 5362 System Units, and Program 5727-WS6 for the 5364 System Unit), and to all subsequent releases and modifications until otherwise indicated in new editions. Changes are periodically made to the information herein; these changes will be incorporated in new editions of this publication. This publication contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used for an actual business enterprise is entirely coincidental.

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Contents

Preface

This manual explains how to use PC Support/36 with an IBM Personal Computer attached to an IBM System/36. The IBM Personal Computer can be any one of the following:

- IBM 5150 Personal Computer
- IBM 5155 Portable Personal Computer
- IBM 5160 Personal Computer XT[1]
- IBM 5162 Personal Computer
- IBM 5170 PERSONAL COMPUTER AT®

Throughout this manual, the term *personal computer* applies to any of these products.

This manual is intended for personal computer users, such as executives, secretaries, or anyone who has a personal computer attached to the IBM System/36. Before using PC Support/36, you should have some knowledge of the personal computer, including the IBM Personal Computer Disk Operating System (DOS), and the IBM System/36.

This manual will *not* teach you how to use your personal computer, but will refer you to the appropriate manuals for information.

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1 Trademark of IBM.

Technical information and reference information about PC Support/36, such as installation and service procedures, are contained in the *PC Support/36 Technical Reference.*

Unless your personal computer is attached as the console of a 5364 system unit, PC Support/36 requires that you have one of the following:

- 5250 Emulation Program
- Enhanced 5250 Emulation Program
- Remote 5250 Emulation Program
- IBM Token-Ring Network and IBM Token-Ring Network PC Adapter Support Interface Program

Unless specifically stated otherwise, this manual uses the term *link* to refer to these programs.

With a few exceptions, the interactive System/36-to-personal computer transfer facility program, which is part of PC Support/36, is compatible with the IBM System/36 Transfer Facility PRPQ. The exceptions are noted in Chapter 9, "Transferring Data from the System/36 to the Personal Computer."

Organization of This Manual

This manual has thirteen chapters. External tabs are provided to group related chapters into sections, and to aid you in finding information quickly. The following lists each section and a description of the chapters it contains:

- Getting started
  - Chapter 1, "Introduction," describes the functions of PC Support/36 and what you need to use those functions.
  - Chapter 2, "What You Should Know before Operating PC Support/36," describes display operation, keyboard operation, and information about files and commands to help you use PC Support/36.
  - Chapter 3, "Starting PC Support/36," describes the procedures for starting PC Support/36.
- Tutorial
  - Chapter 4, "Tutorial," helps you learn to use PC Support/36 by doing tasks with various PC Support/36 programs.
- Virtual disk
  - Chapter 5, "Using the PC Support/36 Virtual Disk Facility," describes how to start and use the PC Support/36 virtual disk facility.

- Shared folders

  - Chapter 6, "Using the PC Support/36 Shared Folders Facility," describes how to start and use the PC Support/36 shared folders facility.

- Virtual printer

  - Chapter 7, "Using the PC Support/36 Virtual Printer Facility," describes how to start and use the PC Support/36 virtual printer facility.

- Transfer facility

  - Chapter 8, "Using the PC Support/36 Transfer Facility," provides an overview of the functions of the transfer facility programs.

  - Chapter 9, "Transferring Data from the System/36 to the Personal Computer," describes how to use the interactive and automatic programs to transfer data from the System/36 to the personal computer.

  - Chapter 10, "Transferring Data from the Personal Computer to the System/36," describes how to use the interactive and automatic programs to transfer data from the personal computer to the System/36.

- Message facility
  - Chapter 11, "Using the PC Support/36 Message Facility," describes what you need to know to use the message facility on your personal computer.
- Ending
  - Chapter 12, "Ending PC Support/36," describes what you need to know to end the PC Support/36 programs when you want to use your personal computer for other work.
- Problem determination
  - Chapter 13, "Problem Determination Procedures," provides information for determining the cause of and correcting problems that may occur while you are using PC Support/36.
- Glossary
- Index

Related Publications

The following IBM publications contain related information you may find useful:

- *IBM PC Support/36 Messages Guide*, SC21-9525
- *IBM PC Support/36 Organizer*, SC21-9563
- *IBM PC Support/36 Quick Reference Card*, SX21-9846
- *IBM PC Support/36 Technical Reference*, SC21-9097
- *IBM PC Support/36 Work Station Feature User's Guide*, SC21-9564
- *IBM PC Support/36 Work Station Feature Technical Reference*, SC21-9569
- *IBM Personal Computer Guide to Operations*
- *IBM Personal Computer Disk Operating System*
- *IBM Personal Computer Disk Operating System Technical Reference*
- *IBM 5250 Emulation Program User's Guide*, *IBM Enhanced 5250 Emulation Program User's Guide*, or *IBM Remote 5250 Emulation Program User's Guide*
- *IBM System/36 Operating Your System—5360, 5362*, SC21-9452

- *IBM System/36 Operating Your System—5364*, SC21-9453
- *IBM System/36 Using Your Display Station*, SC21-9455
- *IBM System/36 Concepts and Programmer's Guide*, SC21-9019
- *IBM System/36 Getting Started with the Interactive Data Definition Utility*, SC21-8003
- *IBM System/36 System Reference*, SC21-9020
- *IBM System/36 System Messages*, SC21-7938
- *IBM System/36 Changing Your System Configuration*, SC21-9052
- *IBM System/36 System Security Guide*, SC21-9042
- *IBM Token-Ring Network PC Adapter Guide to Operations*, 6165874
- *IBM Token-Ring Network Problem Determination Guide*, GA27-0280
- *IBM Using System/36 Communications*, SC21-9082

Summary of Changes

This section lists the major changes in this revision:

- The IBM Token-Ring Network is supported as another link for PC Support/36. This change is covered in Chapter 3, "Starting PC Support/36."
- The PC Support/36 message facility has been added to allow you to send and receive messages when the IBM Token-Ring Network is operational. This change is covered in Chapter 11, "Using the PC Support/36 Message Facility."
- There is a new installation procedure that is covered in the *PC Support/36 Technical Reference.*

Data Security

PC Support/36, together with the IBM Personal Computer and the IBM System/36, is a powerful and useful tool to help you with your personal and business data processing needs. However, as with any information system, inadvertent errors may occur and information may be misused.

We suggest that when processing sensitive or valuable information, you take steps to ensure that your data and programs are protected from accidental or intentional unauthorized disclosure, modification, destruction, or misuse. Simple measures, such as removing diskettes when not in use, keeping backup copies of valuable information, or installing the equipment in a secure facility, can help to maintain the integrity and privacy of your information.

Chapter 1. Introduction

Contents

What Is PC Support/36?

PC Support/36 is a set of programs that allows you to perform the following major functions:

- Use disk storage on the System/36 the same way you would use personal computer disk storage by using the virtual disk facility.
- Use shared folders on the System/36 to store information that can be accessed and used by other System/36 and personal computer users.
- Use printers attached to the System/36 by using the virtual printer facility.
- Transfer data from the System/36 to the personal computer, and from the personal computer to the System/36 by using the transfer facility.
- Send messages to other users, and receive messages from them.
- Use personal computer and System/36 applications from a single menu.

Each of these functions of PC Support/36 is independent of the others. This means that you can use any combination of the functions provided by PC Support/36 to satisfy your own data processing needs. For example, you can use the transfer facility to retrieve data from the System/36, then print the data on a System/36 printer using the virtual printer facility.

The PC Support/36 programs communicate with the System/36 using one of the following:

- 5250 Emulation Program
- Enhanced 5250 Emulation Program
- Remote 5250 Emulation Program
- IBM Token-Ring Network and the IBM Token-Ring Network PC adapter Support Interface Program

A link must be active before you can use PC Support/36.

PC Support/36 includes a router that manages requests to and from the virtual disk facility, shared folders facility, virtual printer facility, transfer facility, and message facility. The router controls communication between these programs and the System/36 through a session. The router must be running before you can use any of the other PC Support/36 programs.

Virtual Disk Facility

The virtual disk facility allows you to use storage on the System/36 as though it were one or more personal computer fixed disks. A PC Support/36 virtual disk is a form of permanent storage on the System/36; the data on a PC Support/36 virtual disk is not lost when you power off your personal computer.

You can access up to eight virtual disks at one time. However, you can create any number of virtual disks on the System/36. Each virtual disk can be any size from 5K bytes to 32M bytes, in increments of 5K bytes.

The virtual disk facility includes interactive and automatic programs:

- The *interactive* virtual disk facility program prompts you, step-by-step, to supply information about the virtual disk or disks you want to use. The interactive virtual disk facility also allows you to create or delete virtual disks.

- The *automatic* virtual disk facility program allows you to automatically use, without going through the prompting sequence, virtual disks that were previously created using the interactive virtual disk facility.

Shared Folders Facility

The shared folders facility allows you to access and use information stored in document folders on the System/36. You access these folders as though they were on personal computer diskettes or fixed disks. The information in a shared folder on the System/36 can be used by both System/36 and personal computer users; a shared folder can be accessed by more than one System/36 or personal computer user at a time.

You access shared folders by assigning a drive letter. You can assign a drive (directory drive) to one shared folder, or you can assign a single drive (system drive) to all of the folders on the System/36.

The shared folders facility provides an easy-to-use command interface with help text; there is no interactive prompting sequence.

Virtual Printer Facility

The virtual printer facility allows you to use printers attached to the System/36 as though they were directly attached to the personal computer. The virtual printer facility allows you to specify parameters for the virtual printer, such as the number of lines to be printed per page and the number of characters per line, just as you would for the personal computer printer.

You can assign as many as three printers to be used with your personal computer. All three of these printers can be personal computer printers, virtual printers, or any combination of the two.

The virtual printer facility includes interactive and automatic programs:

- The *interactive* virtual printer facility program prompts you, step-by-step, to supply information about the virtual printers you want to use.

- The *automatic* virtual printer facility program allows you to automatically use virtual printers without going through the prompting sequence.

Message Facility

The message facility allows you to send, receive and store messages when the IBM Token-Ring Network is your link to the System/36.

You can communicate with other display stations, personal computers attached to the System/36 and other users located elsewhere on the IBM Token-Ring Network.

The message facility includes interactive and command line inputs.

- You can send messages through the interactive message command and you will be prompted for all the necessary information.
- You can send messages through the command line and you will not be prompted for the information.
- You can display received messages through the interactive command.
- You can automatically display received messages.
- You can store received messages in a file you specify.

The message facility can be started automatically by entering a command in the AUTOEXEC.BAT file. This will start the message facility prior to you receiving messages.

Transfer Facility

The transfer facility allows you to transfer data from the System/36 to the personal computer, and from the personal computer to the System/36. The transfer facility includes interactive and automatic programs:

- The *interactive* transfer facility programs prompt you, step-by-step, to supply information about the data you want to transfer. The information you supply is called a *transfer request.* A transfer request is a description of the data you want to transfer to or from the System/36. When you use the transfer request, the data is transferred to or from the personal computer.

- The *automatic* transfer facility programs allow you to use, without going through the prompting sequence, a transfer request that you previously created and saved using the interactive transfer facility program.

Because data is stored and used differently on the System/36 than it is on the personal computer, the data must be translated when it is transferred. PC Support/36 automatically translates this data for you.

Transferring Data from the System/36 to the Personal Computer

When you transfer data from the System/36 to the personal computer, the data can be sent to the personal computer display, a personal computer printer (including a virtual printer), or a personal computer disk, virtual disk, shared folder, or diskette file. All of the necessary data conversion is done when the data is transferred.

You can transfer data from any of the following:

- A System/36 file defined by interactive data definition utility (IDDU) data definitions. You can specify which records to transfer from the file, which fields to transfer from those records, and how the data should be sorted. Data conversion is done on a field-by-field basis.

- A System/36 file that is not defined by IDDU data definitions. In this case, all records are transferred. The data consists of either EBCDIC characters to be converted to ASCII, or data that is not to be converted.

- A System/36 source or procedure library member. All records from the member are transferred. The data consists of either EBCDIC characters to be converted to ASCII, or data that is not converted.

You can transfer data that is combined or joined from two to five System/36 data files. You can specify how the records in the files are to be joined when you make the transfer request.

When output is sent to a personal computer disk or diskette file, the data is converted to one of the following file types:

- ASCII text
- DOS random
- BASIC sequential
- BASIC random
- DIF[1]
- No conversion (the data is not converted)

Files sent to personal computer disk or diskette files can be used with personal computer application programs.

[1] DIF is a trademark of Lotus Development Corporation.

Transferring Data from the Personal Computer to the System/36

You can use the transfer facility to transfer data from a personal computer disk or diskette file to:

- An existing System/36 file defined by IDDU data definitions. Data conversion is done on a field-by-field basis.
- An existing System/36 file not defined by IDDU data definitions. Data consists of either ASCII characters to be converted to EBCDIC, or data that is not converted.
- A new or existing source or procedure library member. Data consists of ASCII characters to be converted to EBCDIC, or data that is not to be converted.

Data can be transferred from one of the following personal computer file types:

- ASCII text
- DOS random
- BASIC sequential
- BASIC random
- DIF
- No conversion (the data is not converted)

PC Support/36 Programming Functions

Application Program Interface

The PC Support/36 transfer facility provides an application program interface, which allows a programmer to write a personal computer application program to transfer data to and from System/36 files and libraries. This interface allows System/36 data to be integrated directly into personal computer application programs. For example, a personal computer program might receive data from a System/36 file, and use that data to create a graph to be displayed on the personal computer.

The application program interface is described in detail in the *PC Support/36 Technical Reference.*

Translation Table Utility

Because the System/36 uses only EBCDIC data and the personal computer uses only ASCII data, the data must be translated when it is transferred to and from the personal computer. PC Support/36 provides default translation tables for data translation.

Using the PC Support/36 translation table utility, you can use these default translation tables to create new ones. The translation table utility, through a series of prompts, allows the programmer to create EBCDIC to ASCII, or ASCII to EBCDIC translation tables. For more information, refer to the *PC Support/36 Technical Reference.*

System/36 PC Utility

The System/36 PC utility (PCU) allows you to do the following:

- Create, copy, and delete virtual disks from the System/36 console or from a System/36 display station (this can be a personal computer in 5250 emulation mode)
- Copy a virtual disk file to another virtual disk, System/36 file, System/36 library member, and DisplayWrite/36 (DW/36) document
- Copy a System/36 file and library member to a virtual disk file
- Copy a DW/36 document to a virtual disk file
- Modify ASCII-to-EBCDIC and EBCDIC-to-ASCII translation tables
- Create, delete, rename, or reorganize shared folders
- Create and maintain documents
- Copy a virtual disk to a shared folder

For information on how to use the System/36 PC utility, refer to the *PC Support/36 Technical Reference.*

What Is Needed to Use PC Support/36?

To set up and operate PC Support/36, you will need the following:

- IBM System/36 (any model) with Release 5 Modification Level 1 of the System Support Program installed.

- One of the following System Units:

  - IBM 5150 Personal Computer
  - IBM 5155 Portable Personal Computer
  - IBM 5160 Personal Computer XT
  - IBM 5162 Personal Computer
  - IBM 5170 Personal Computer AT

- IBM Personal Computer keyboard.

- One of the following displays:

  - IBM Monochrome Display attached to an IBM Monochrome Display and Printer Adapter card, an IBM Color/Graphics Monitor Adapter card, IBM Enhanced Graphics Adapter card, or IBM Professional Graphics Adapter card

  - IBM Color Display and IBM Enhanced Color Display that supports lines of up to 80 characters, attached to an IBM Color/Graphics Monitor Adapter card, an IBM Enhanced Graphics Adapter card, or an IBM Professional Graphics Adapter card

- One diskette drive and diskette adapter, or a fixed disk and adapter card.

- IBM Personal Computer Disk Operating System (DOS):

  - If you are running on the 5250 Emulation you need version 2.1 or a later compatible version

  - If you are running on the IBM Token-Ring Network you need version 3.2 or a later compatible version

- If you plan to run on 5250 Emulation you need one of the following:

  - IBM 5250 Emulation Adapter card and IBM Personal Computer 5250 Emulation Program Version 1.1 or later

  - Enhanced 5250 Emulation Adapter card and the Enhanced 5250 Emulation Program Version 2.1 or later

    Note: Enhanced 5250 Emulation cannot be configured as a 5292 Model 2.

  - SDLC Communications Adapter and the Remote 5250 Emulation Program

  Note: You may need the Enhanced 5250 Emulation adapter card and the Enhanced 5250 Emulation Program, Version 2.1 Service Updates, if you are using the options for Printer data type in the virtual printer facility. For information on the Printer data type options available, refer to "Setting Printer Data Type," in Chapter 7, "Using the PC Support/36 Virtual Printer Facility."

- If you plan to run on the IBM Token-Ring Network you need:
  - The System/36 IBM Token-Ring Network Attachment Feature
  - IBM Token-Ring Network PC Adapter card, or the IBM Token-Ring Network PC Adapter II card
  - The IBM Token-Ring Network PC Adapter Support Interface Program
- PC Support/36 supports, although it does not need, as locally attached printers the IBM Personal Computer Matrix printer, the IBM Personal Computer Graphics printer, the IBM Proprinter, the IBM Quietwriter, and the IBM Color Printer.

Personal Computer Storage Requirements

The personal computer storage requirements depend on the size of the PC Support/36 functions you want to use, and any other personal computer facilities you are using, such as RAM disks and communications.

In most cases, the PC Support/36 functions can be performed if your personal computer has 512K bytes of storage. However, depending on what hardware you are using and how you are using your personal computer, your storage requirements may be more or less than 512K bytes.

The amount of storage you need also depends on if you are using the IBM Token-Ring Network or not. If you are not using the IBM Token-Ring Network, you are using a locally or remotely attached personal computer. If this is your case, then proceed to the following section. If you are using the IBM Token-Ring Network, skip to the section "Storage Requirements for IBM Token-Ring Network Attached Personal Computers."

Storage Requirements for Locally and Remotely Attached Personal Computers

To determine approximately how much personal computer storage you need, you must determine how much resident storage and how much nonresident storage you will be using. The total amount of storage you require is the sum of the resident and nonresident storage required.

Resident Storage Requirements

Use the following table to determine your approximate resident storage requirements. Your total resident storage requirement is the sum of all individual requirements for the various facilities you are using.

Facility and Type or Version		Size in Bytes
DOS 2.1		25K
DOS 3.0 or 3.1		37K
DOS 3.2		46K
DOS 3.3		47K
DOS Buffers (0.5K per buffer)	Default = 3	1.5K
	Recommended = 20	10K
5250 Emulation		16K
Enhanced 5250 Emulation, Version 2.1		28K
Enhanced 5250 Emulation Program with printer emulation, Version 2.1		51K
Remote 5250 Emulation		163K
Remote 5250 Emulation with printer emulation		183K

Facility and Type or Version	Size in Bytes
Color/Graphics Adapter	12K
Virtual disk facility	24K
Shared folders facility	65K
Virtual printer facility (one virtual printer)	18K
Virtual printer facility (two virtual printers)	24K
Virtual printer facility (three virtual printers)	30K
Source transfer facility program	20K
5250 Router	38K
Other resident programs, such as RAM disks	See Note

Note: For the exact storage requirements of other resident programs, refer to the appropriate manuals for those specific products.

Nonresident Storage Requirements

Use the following table to determine your approximate nonresident storage requirements. Your total nonresident storage requirement is the largest of all of the individual requirements for the various facilities you are using.

Facility and Type or Version	Size in Bytes
Virtual disk facility	43K
Shared folders facility	25K
Virtual printer facility	64K
Transfer facility (typical usage)	147K
Transfer facility (System/36-to-personal computer transfers that interactively display more than 100 data records, or records over 2K bytes long)	159K
Organizer	26K
Organizer Text Assist	100K
Other personal computer applications being run while PC Support/36 is active, such as an editor	See note

Note: For the exact storage requirements of other nonresident programs, refer to the appropriate manuals for those specific products.

Total Storage

Add the resident storage requirements to the nonresident storage requirements to determine the approximate total personal computer storage required to run PC Support/36 with other personal computer applications.

For example, suppose you are using a personal computer with DOS 3.2 and the Enhanced 5250 Emulation Program, Version 2.1, and you want to use the virtual disk facility and the virtual printer facility.

Your approximate total resident storage requirements would be as follows:

Program Facility	Storage Requirements in Bytes
DOS 3.2	46K
Enhanced 5250 Emulation Program, Version 2.1	28K
5250 Router	38K
Virtual disk facility	24K
Virtual printer facility (one virtual printer)	18K

The total resident storage requirement would be the sum of 46K, 28K, 38K, 24K, and 18K bytes, or 154K bytes of resident storage.

Your total nonresident storage requirements would be the largest of the following:

Program Facility	Storage Requirement in Bytes
Virtual disk facility	43K
Virtual printer facility	64K

Your total storage requirement would be the sum of the total resident storage required, 154K bytes, and the largest nonresident storage required, 64K bytes, which is 218K bytes.

Storage Requirements for IBM Token-Ring Network Attached Personal Computers

To determine approximately how much personal computer storage you need, you must determine how much resident storage and how much nonresident storage you will be using. The total amount of storage you require is the sum of the resident and nonresident storage you require.

Resident Storage Requirements

Use the following table to determine your approximate resident storage requirements. Your total resident storage requirement is the sum of all individual requirements for the various facilities you are using.

Facility and Type or Version		Size in Bytes
DOS 3.2		46K
DOS 3.3		47K
DOS Buffers (0.5K per buffer)	Default = 3	1.5K
	Recommended = 20	10K
Color/Graphics Adapter		12K
IBM Token-Ring Network Router		32K
Virtual disk facility		24K
Shared folders facility		65K

Facility and Type or Version	Size in Bytes
Virtual printer facility (one virtual printer)	18K
Virtual printer facility (two virtual printers)	24K
Virtual printer facility (three virtual printers)	30K
Source transfer facility program	20K
Message facility	18K
IBM Token-Ring Adapter Support Interface	8K
Work Station Feature with 1 display session	54K
Work Station Feature with 1 display and 1 printer session	99K
Work Station Feature with 2 displays and 1 printer session	106K
Work Station Feature with 3 displays and 1 printer session	113K
Work Station Feature with 4 displays and 1 printer session	120K
Other resident programs, such as additional buffers	See note

Note: For the exact storage requirements of other resident programs, refer to the appropriate manuals for those specific products.

Nonresident Storage Requirements

Use the following table to determine your approximate nonresident storage requirements. The amount of nonresident storage you need is the largest one of the following that you use.

Facility and Type or Version	Size in Bytes
Virtual disk facility	43K
Shared folders facility	25K
Virtual printer facility	64K
Transfer facility (typical usage)	147K
Message facility	50K
Transfer facility (System/36-to-personal computer transfers that interactively display more than 100 data records, or records over 2K bytes long)	159K
PC Support/36 Organizer	26K
PC Support/36 Organizer Text Assist	100K
Other personal computer applications being run while PC Support/36 is active, such as an editor	See note

Note: For the exact storage requirements of other nonresident programs, refer to the appropriate manuals for those specific products.

Total Storage

Add the resident storage requirements to the nonresident storage requirements to determine the approximate total personal computer storage you require to run PC Support/36 with other personal computer applications.

For example, suppose you are using a personal computer connected to a System/36 by a IBM Token-Ring Network with DOS 3.2, Work Station Feature with 1 display session, the PC Support/36 Organizer, and the virtual disk facility.

Your total resident storage requirements would be as follows:

Program Facility	Storage Requirements in Bytes
DOS 3.2	46K
Work Station Feature with 1 display session	54K
IBM Token-Ring Adapter Support Interface	8K
IBM Token-Ring Router	32K
Virtual disk facility	24K
Shared folders facility	65K

Your total nonresident storage requirements would be as follows:

Program Facility	Storage Requirements in Bytes
PC Support/36 Organizer	26K
Virtual disk facility	43K
Shared folders facility	25K

Your total storage requirement would be the sum of the total resident storage required, 229K bytes, and the largest nonresident storage required, 43K bytes, which is 272K bytes of storage.

Installing PC Support/36

For detailed instructions on how to install PC Support/36, refer to the *PC Support/36 Technical Reference.*

If you are installing the PC Support/36 Expansion Feature, refer to the *IBM System/36 Changing Your System Configuration* manual for details. Installation of this feature allows you to double the number of concurrent users of PC Support/36.

Chapter 2. What You Should Know before Operating PC Support/36

Contents

Introduction

The first thing you should know about PC Support/36 is that *you should not be afraid to try it.* If you try something that does not work, you will receive an error message to help you identify what went wrong. PC Support/36 will not let you do something you should not. If you need help for a particular prompt on a display, pressing the function key F1 displays help text for that prompt.

This chapter contains information you will find helpful when operating PC Support/36. This information pertains primarily to the *interactive* PC Support/36 programs. This information includes how the display and keyboard function when you use PC Support/36, how to display help text, how to read the format of the PC Support/36 commands, and how to start the various PC Support/36 programs.

After reading this chapter, if you want to try using PC Support/36, refer to Chapter 4, "Tutorial."

Display Operation

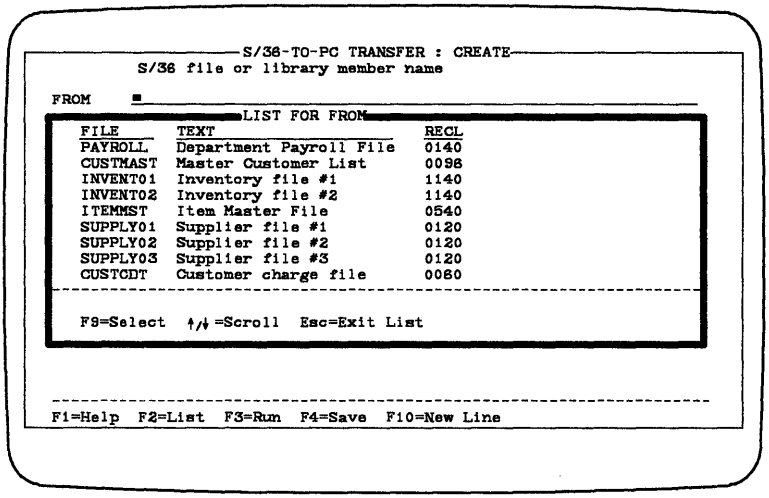
When using PC Support/36, you will need to select options and respond to prompts on the display. To do this, you need to understand the functions of:

- Windows
- OPTIONS menus
- Arrows
- Help text
- Messages
- Status indicator
- List of keys
- Prompts and input areas
- Cursor
- Highlighting

Windows

Windows display additional information, such as help text, selection lists, transferred records, and messages. When a window is displayed, it temporarily overlays a portion of the display (depending on the amount of information) either above or below the line to which it applies.

The following display shows a list window:



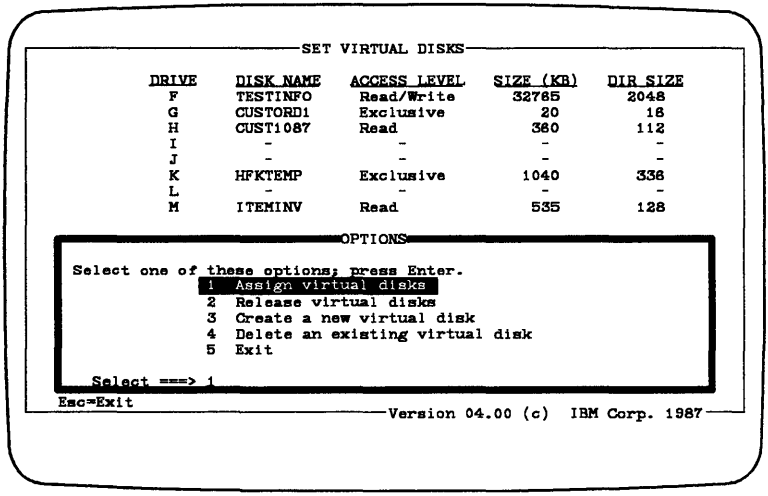
S9088604-1

You can display a window (for example, by requesting help text) or PC Support/36 sometimes automatically displays a window (for example, to show you the total number of records transferred from a System/36 file).

Refer to "Function Keys," later in this chapter, for descriptions of the function keys that allow you to page, display, and remove windows.

OPTIONS Menus

When you start any of the interactive PC Support/36 programs, an OPTIONS menu is displayed. The functions you can perform for that particular program are listed in the OPTIONS menu. For example, when you start the interactive PC Support/36 virtual disk facility, the following OPTIONS menu appears:



S9088401-5

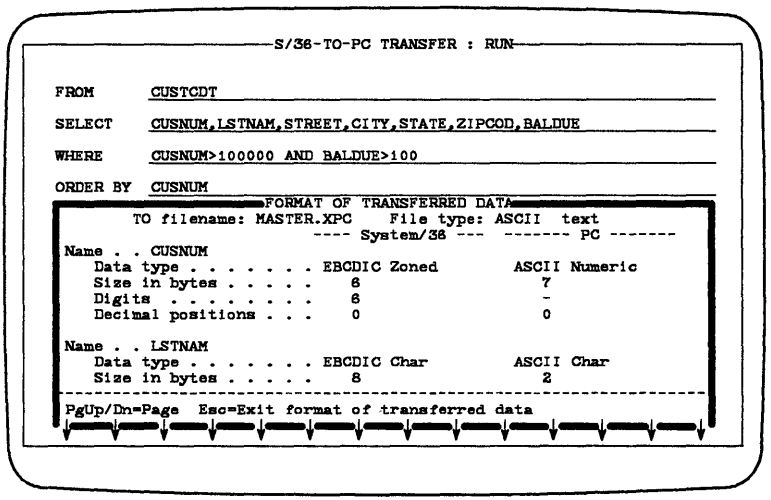
When the OPTIONS menu is displayed, the default option is highlighted. You can select any option you want by typing the number of the option in the Select input area and pressing the Enter key, or you can use the Up Arrow and Down Arrow keys to position the highlighting to the option you want and press the Enter key.

Arrows

There are times when not all of the information fits on a display or in a window at once. When this occurs, arrows on the window border show the direction of additional information.

If there is more information previous to that currently shown in the display or window, arrows appear on the top border of the display or window. If there is more information following what is currently shown in the display or window, arrows appear on the bottom border of the display or window.

For example, this display shows a window. The arrows indicate that more information follows:



S9088634-2

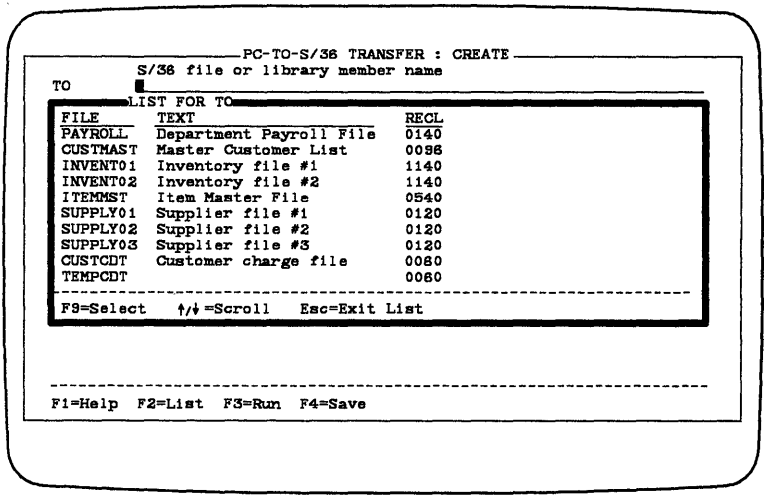
To move forward or backward one page at a time, press the Page Down key or the Page Up key. To move forward or backward one line at a time, press the Down Arrow key or the Up Arrow key.

If there is more information to the left of the window, arrows appear on the left border of the window. If there is more information to the right of the window, arrows appear on the right border of the window.

To move the window left or right one page at a time, press the Control key and the Left Arrow key or the Control key and the Right Arrow key. When transferred data records are displayed, you can move the window left or right 1-character position at a time by pressing the Left Arrow or Right Arrow key.

List of Keys

A list of keys and the functions they perform appears on the last line of the display or window. This list of keys may change as you move the cursor from one prompt to another. The following display shows a list of valid keys:



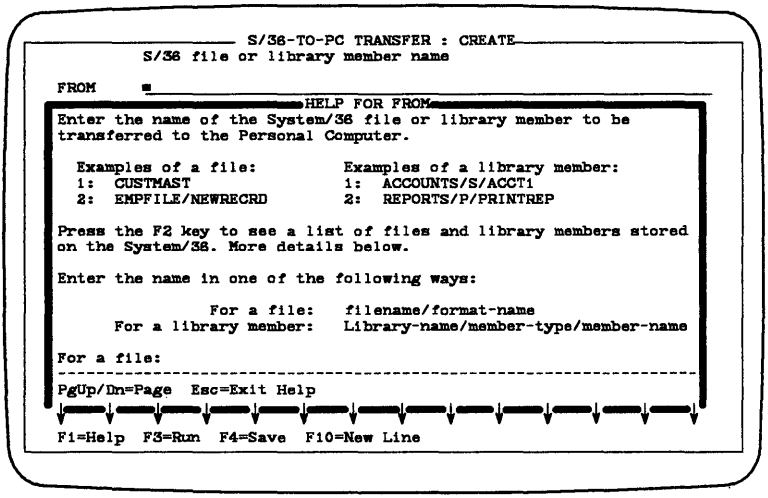
S9088639-3

For a detailed description of the functions these keys perform, refer to "Keyboard Operation" later in this chapter.

Help Text

Help text is provided to help you use PC Support/36. You can request help text by pressing the F1 key. Help is available any time you see F1 = Help in the list of keys at the bottom of the display.

For example, the help text for the transfer facility FROM prompt might appear as follows:



S9088670-1

To remove the help text window from the display, press the Escape key. To remove the help text window from the display and proceed to the next prompt, press the Enter key.

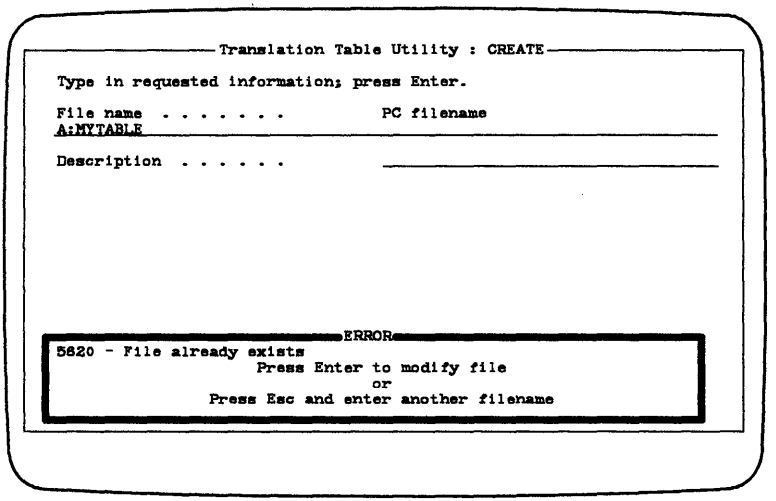
The keys that are valid while help text is displayed and the function they perform are shown on the last line of the help text window. For a detailed description of the functions these keys perform, refer to "Keyboard Operation" later in this chapter.

Messages

PC Support/36 issues two kinds of messages. There are error messages, which tell you when an error occurred and processing cannot be done or was done incorrectly, and there are informational messages, which simply tell you what is happening during or after processing.

Error Messages

Error messages are shown inside windows on the display, or on the bottom of the display. For example:

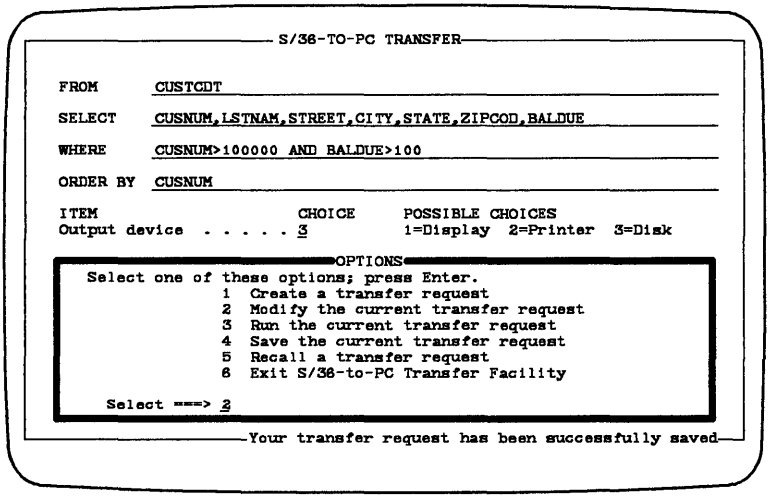


S9097703-0

If you receive an error message, you can refer to the *PC Support/36 Messages Guide* for detailed cause and recovery information.

Informational Messages

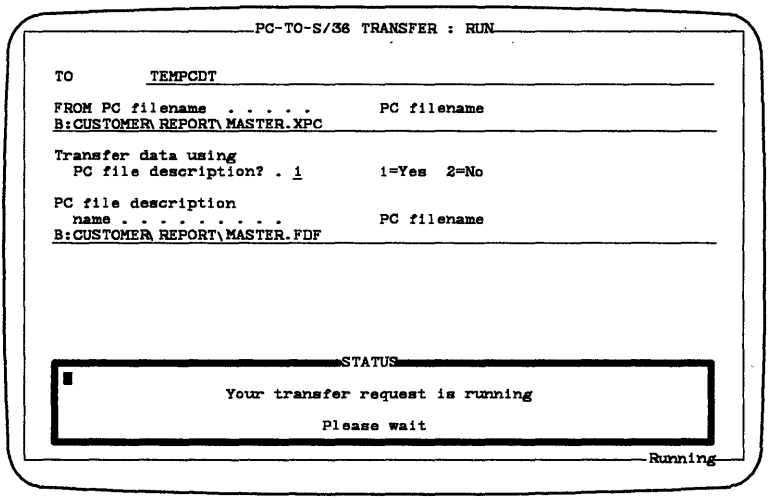
Some messages are for your information only. These messages require no recovery action. For example:



S9088663-3

Status Indicator

Some of the PC Support/36 programs use a status indicator located on the bottom right corner of the display. This indicator tells you when the PC Support/36 program is running. When the status indicator is on, the PC Support/36 program is processing your request and cannot accept input. For example:



S9088652-3

Prompts and Input Areas

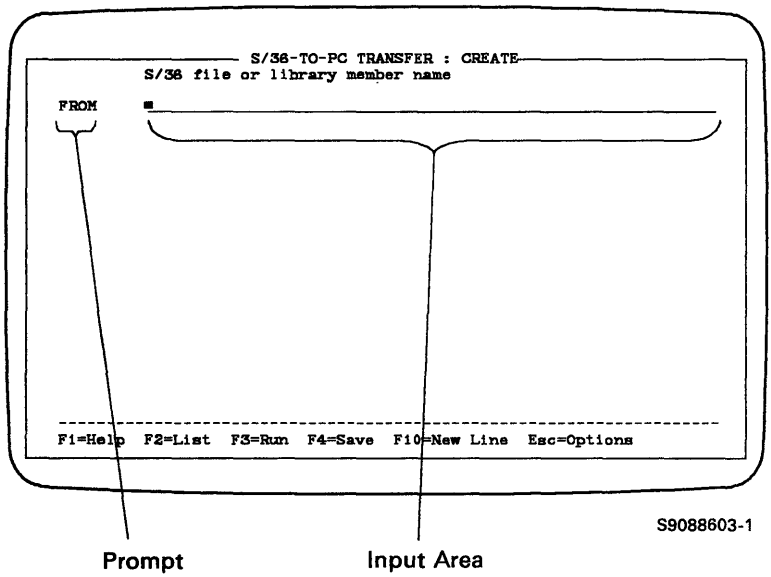
Prompts appear on the display followed by input areas. Prompts ask you for specific information. When you use the interactive PC Support/36 programs, prompts guide you through functions, such as creating a transfer request or assigning virtual disks.

Some prompts have default values. If you do not specify a value, the function uses the default value shown.

Input Areas

Input areas show where you can type information on the display. Input areas are designated by underscores (__) when shown on a display attached to a monochrome adapter, or by a contrasting shade or color when shown on a display attached to a color adapter. Values that automatically appear in the input areas are called default values. If you do not type a value, the program uses the default value shown.

The following display shows a prompt and input area:



Cursor

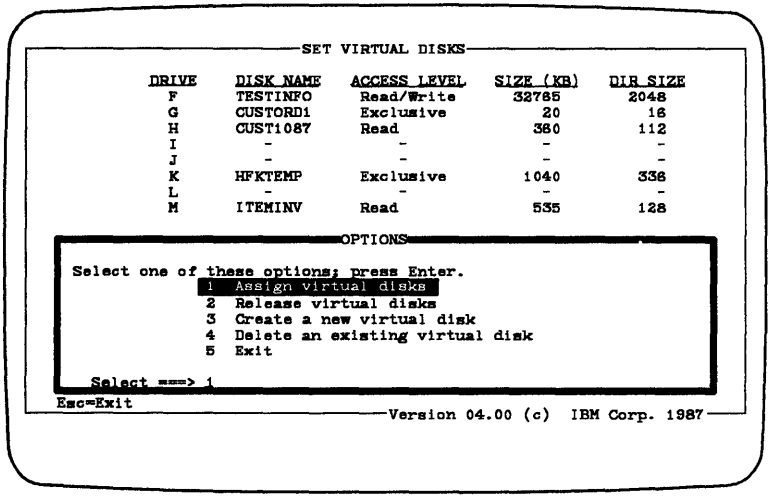
A cursor is a movable symbol on a display, used to indicate where to type the next character. When you are using PC Support/36, the cursor blinks. It can appear as a blinking rectangle occupying the bottom half of a character position or a blinking rectangle occupying a full character position.

A blinking rectangle cursor (occupying the bottom half of a character position) usually indicates that you are not in insert mode and that you can type in an input area. A blinking rectangle cursor (occupying a full character position) indicates that you are in insert mode, and can insert characters.

Highlighting

Highlighting indicates which item is to be selected in a list or OPTIONS menu. To select other items from a menu or list, you can move the highlighting by pressing the Up Arrow and Down Arrow keys.

The following display shows highlighting. If you pressed the Enter key at this display, option 1 would be selected.



S9088401-5

Note: The remaining screens in this manual do not show highlighting.

Keyboard Operation

This section describes the keyboard operation for PC Support/36.

Cursor Movement and Window Movement Keys

The following keys control cursor and window movement for PC Support/36:

Key	Function
Tab (⟶|)	Moves the cursor to the first position of the next input area. If the next input area is not on the display, the display rolls forward to the next input area, and the cursor moves to the first position of that input area.
Back Tab (|⟵)	To use the Back Tab, you must press and hold the Shift key (↑), then press the Back Tab key. When the cursor is in the first position of an input area, this key moves the cursor to the first position of the previous input area. If the previous input area is not on the display, the display rolls backward to the input area on the previous display and the cursor moves to the first position of that input area. When the cursor is not in the first position of an input area, this key moves the cursor to the first position of that input area.

Key	Function
Backspace (←—)	When the cursor is not in the first position of the input area, this key moves the cursor backwards one position and deletes the character at that position. When the cursor is in the first position of the input area, this key deletes the character at that position.
Enter (←┘)	Processes input and moves the cursor to the first position of the next input area. The next input area can be on a following display. This key can also be used to respond to an error message. If the Enter key is pressed on the last input area of a display, the information on the display is processed by the program.

Key	Function
Up Arrow (↑)	When there is an input area above the cursor, this key moves the cursor to that area. When there is no input area above the cursor on the display, but there is an input area above the cursor that is not on the display, the display rolls backward and this key moves the cursor to that input area. If a window is displayed (for example, when you are scrolling transferred records or help windows), this key rolls the window backward one line when there are arrows on the top border of the window. In a list, this key moves the highlighting up one line. If the highlighting is at the top of the window and there are arrows on the top border of the window, the window rolls backward one line.

Key	Function
Down Arrow (↓)	When there is an input area below the cursor, this key moves the cursor to that input area. When there is no input area below the cursor on the display, but there is an input area below the cursor that is not on the display, the display rolls forward and this key moves the cursor to that input area. If a window is displayed (for example, when you are scrolling transferred records or help windows), this key rolls the window forward one line if there are arrows on the bottom border of the window. In a list, this key moves the highlighting down one line. If the highlighting is at the bottom of the window, the window rolls forward one line if there are arrows on the bottom border of the window.

Key	Function
Left Arrow (←)	Moves the cursor to the left one position. If the cursor is in the first position of an input area, the cursor moves to the last position of the previous input area. If you are paging through transferred records and there is data to the left of the window, this key moves the window to the left one position.
Right Arrow (→)	Moves the cursor to the right one position. If the cursor is in the last position of an input area, the cursor moves to the first position of the next input area on the display. If you are paging through transferred records and there is data to the right of the window, this key moves the window to the right one position.

Key	Function
Home	When the cursor is in the first position of an input area, this key moves the cursor to the first position of the first input area. If the first input area is rolled off the top of the display, this key rolls the display backward to show the first input area. When the cursor is not in the first position of an input area, this key moves the cursor to the first position of the input area where the cursor is located. If a window is displayed (for example, when you are paging through transferred records, help windows, or list windows), this key rolls the window backward to the first item, unless the first item is already on the display.

Key	Function
End	Moves the cursor to the first position of the last input area. If the last input area is rolled off the bottom of the display, the key rolls the display forward to show the last input area. If a window is displayed (for example, when you are paging through transferred records, help windows, or list windows), this key rolls the window forward to the last item, if the last item is not already on the display(there are arrows on the bottom border of the display.)
Escape (Esc)	Ends the current display. If a window is displayed, this key removes the window from the display.
Page Up (Pg Up)	When there are arrows on the top border of the display, this key rolls the display backward one page and places the cursor at the first input area on that display. If a window is displayed, this key rolls the window backward one page.
Page Down (Pg Dn)	When there are arrows on the bottom border of the display, this key rolls the display forward one page and places the cursor at the first input area on that display. If a window is displayed, this key rolls the window forward one page.

Key	Function
Insert	This key starts insert mode. The cursor changes to a blinking rectangle occupying a full character position and indicates that you can insert characters. Each character inserted moves the following characters in the field one position to the right. This key also ends insert mode (when the keyboard is already in insert mode), and changes the cursor to a blinking rectangle occupying the bottom half of a character position.
Delete (Del)	This key deletes the character in the cursor position. The following characters in that field are shifted one position to the left.

Control Keys

A control key function is performed by pressing the Control (Ctrl) key in combination with another key. The following control keys are supported by PC Support/36:

Control Key	Function
Control (Ctrl) and Break	This key combination (pressing and holding the Control key, then pressing the Break key) immediately cancels the currently running program.
Control (Ctrl) and Left Arrow (←)	When there are arrows on the left border of the display, this key combination (pressing and holding the Control key, then pressing the Left Arrow key) moves the window left one page at a time.
Control (Ctrl) and Right Arrow (→)	When there are arrows on the right border of the display, this key combination (pressing and holding the Control key, then pressing the Right Arrow key) moves the window right one page at a time.
Control (Ctrl) and End	This key combination (pressing and holding the Control key, then pressing the End key), used in any input area, replaces the input area with blanks starting at the cursor position.

Function Keys

The following function keys are supported by PC Support/36:

Function Key	Function
F1	Displays help text.
F2	Displays a list.
F3	For the transfer facility, this key runs a transfer request.
F4	For the transfer facility, presents a display from which a transfer request can be saved.
F9	Selects an item from a list.
F10	Inserts an additional input line when the cursor is located on the FROM, SELECT, WHERE, JOIN BY, or ORDER BY input line of a System/36-to-personal computer transfer request. This key is not valid for a personal computer-to-System/36 transfer request.

A Few Words about Files

Personal Computer Files

A *file* is a collection of records referenced by a single name. A file is like a drawer in a file cabinet that contains folders of information pertaining to one subject.

For example, a drawer containing information about customers might be called the Customer Master File. The drawer might contain one folder (record) for each customer. Each folder, or record, would contain the same type of information, such as name, street, city, state, zip code, and so forth. Each piece of information within the record, such as name, is called a *field.*

Naming Personal Computer Files

Files require a unique identification. This identification is provided by a file name. The file name indicates how the computer refers to the file in storage.

With few exceptions, you can give your personal computer files any name you want. Your personal computer diskette file names can be 1 to 8 characters in length, and can be followed by a file name extension, which is an additional identifier from 1 to 3 characters in length.

Valid characters you can use in file names are:

- The letters A through Z
- The numbers 0 through 9
- The following special characters: $, #, &, @, !, %, (,), - (hyphen), , (comma), ' (apostrophe), _ (underscore), and ' (left single quote)

File Name Format

The following shows the format in which personal computer file names are specified:

[d:][path]*filename*[.ext]

where:

d: specifies the drive where the file resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\). The file name should be separated from the last directory name by a backslash. For example, \DIR1\DIR2\FILE1. The first backslash is optional. If used, it tells DOS to begin with the root directory.

The maximum length of the path is 63 characters. If the path name is not specified, the current directory is used.

filename specifies the name of the file. The file name can be from 1 to 8 characters.

.ext specifies the file name extension. The extension consists of a period and up to 3 characters. The extension must immediately follow the file name. This entry is optional.

For example, the Customer Master File could be named:

CUSTMAST.MST

where CUSTMAST is the file name and .MST is the file name extension.

Some PC Support/36 programs automatically supply a file name extension if you do not specify one. It is recommended that you use the supplied extensions, rather than your own.

For more information about naming personal computer files, refer to the *IBM Personal Computer Disk Operating System* manual.

System/36 Files and Libraries

The name of a System/36 file or library can be 1 to 8 characters in length. It must begin with an alphabetic character (A through Z, #, $, or @), followed by any combination of characters (numeric, alphabetic, and special, except comma [,], apostrophe ['], and blank).

For more information about System/36 files and libraries, refer to the *IBM System/36 Concepts and Programmer's Guide.*

PC Support/36 Command Format

PC Support/36 commands must be entered in a specific format. This format is the same as you use for the DOS commands. You must follow that format when you type any of these commands. The rules to follow are:

- A word in uppercase letters is a keyword and must be typed as shown. You can, however, type any combination of uppercase and lowercase letters. Lowercase letters are automatically converted to uppercase.

  Note: Lowercase letters are not automatically converted to uppercase letters when you are writing the message text for the Message command.

- Items within square brackets ([ ]) are optional. If you want to include optional information, you must not type the brackets. Type only the information inside the brackets.

- You must supply any items in lowercase italics (for example, you should enter the name of your file when *filename* is shown in the format).

- Any punctuation (for example, a slash [/], a period [.], or a colon [:]) must be typed as shown.

- An or symbol (|) means that you can use either the term on the right or on the left of the or symbol, but not both.

For example, for the following command:

[d:]SETVDSK [/*x*][/*y*]

what you might actually type is:

a:setvdsk /m/s

where:

a is the value substituted for **d**, **setvdsk**, the keyword, is typed as shown, **m** is the value substituted for *x*, and **s** is the value substituted for *y*.

Using the Correct Display Attributes

The interactive PC Support/36 programs use different display attributes, depending on what monitor adapter card you are using. These programs check whether you are using a monochrome or color/graphics adapter card, then choose the display attributes to use accordingly. When the wrong display attributes are used, the display is difficult to read.

The following adapters will all work properly with PC Support/36:

- IBM Monochrome Display and Printer Adapter (MDPA)
- Color Graphics Adapter (CGA)
- Enhanced Graphics Adapter (EGA)
- Professional Graphics Controller (PGC)

If the adapter is determined to be an MDPA or EGA, PC Support/36 will automatically use high speed display writing. All other adapters will be set automatically to slow speed display writing. However, your adapter and display combination may be able to handle writing at the higher speed. You can specify which display writing speed you want to use by using /H or /S as described on the following pages.

Note: If you are using an adapter that is not listed and you notice that there are random dashes or snow appearing on your display, you should specify slow speed display writing.

To specify the display attributes, you do the following:

- Specifying the type of monitor

  - Type a /M or /C after the command you use to start any of the interactive PC Support/36 programs. Use /M if you are using a monochrome monitor, or /C if you are using a color monitor.

- Specifying the writing speed of the display

  - Type a /H or /S after the command you use to start any of the interactive PC Support/36 programs. Use /H for high speed display writing, or /S for slow speed display writing.

  Note: M or C can be used in combination with H or S (M, C, H, and S can be either upper or lower case) when entering the interactive PC Support/36 program commands.

For example, the following command tells the SETVDSK program that you are using a monochrome monitor attached to a color/graphics adapter card and using slow speed display writing:

SETVDSK /M/S

- Use the DSPL parameter in the PC Support/36 configuration file, CONFIG.S36, instead of specifying a /M or /C, or a /H or /S each time you start this program. Refer to the *PC Support/36 Technical Reference* for details.

  Note: If both the DSPL and either the /M, /C, /H and/or /S parameters are used, the corresponding DSPL parameter will be ignored.

It is important to specify the type of monitor you are using only if you are using a monochrome monitor attached to a color/graphics adapter card. (This is typically the case if you are using the IBM 5155 Portable Personal Computer.) If you are using a color monitor, you can use the default (color). If you are using a Monochrome Display and Printer Adapter card, this parameter is ignored.

Chapter 3. Starting PC Support/36

Contents

Introduction

Before you try to operate PC Support/36, you should do the following:

- Make sure the PC Support/36 programs were installed on the System/36.
- Make sure you have a personal computer diskette containing the installation procedure.
- Run the installation procedure to install the PC Support/36 PC programs on your personal computer. See the installation chapter in the *PC Support/36 Technical Reference.*
- Find out how to access the PC Support/36 programs you want to use. If you are the person responsible for installing PC Support/36, refer to Chapter 1, "Installation" in the *PC Support/36 Technical Reference* for details on how to access the PC Support/36 programs you require. You can also see your Personal Computer Technical Coordinator.

If all of the previous conditions are met, you should be able to use the PC Support/36 programs you require.

Running the PC Support/36 Programs

You can now start the PC Support/36 program or programs you wish to use (virtual disk, shared folders, virtual printer, transfer facility programs, organizer, Work Station Feature or message facility). To do this:

1. Do one of the following:

   - If you have installed PC Support/36 on a personal computer diskette, insert the diskette in an available diskette drive.

   - If you installed PC Support/36 on your fixed disk, change the directory to the directory that contains the LINK36 programs.

2. After the DOS prompt, type **LINK36**. This does one of the following:

   - If you are using the IBM Token-Ring Network, LINK36 will:

     - Start the IBM Token-Ring Network PC Adapter Support Interface (unless it has already been started by your AUTOEXEC.BAT)

     - Start the IBM Token-Ring Network PC Support/36 Router

     - Assign the PC Support/36 program virtual disk (#IWPCLD2) to drive I

- If you are using one of the 5250 emulation programs, LINK36 will:

  - Start the desired 5250 emulation program (unless it has already been started by your AUTOEXEC.BAT, or your diskette does not contain the Enhanced 5250 Emulation Program)

  - Start the 5250 Emulation PC Support/36 Router

  - Assign the PC Support/36 program virtual disk (#IWPCLD2) to drive I

For a summary of the commands and their formats you can use the *PC Support/36 Quick Reference Card.* For details on which command to enter and the format of that command, refer to the appropriate section of this manual. For example, if you want to start the virtual disk facility, refer to Chapter 5, "Using the PC Support/36 Virtual Disk Facility."

Summary of PC Support/36 Commands

Virtual Disk Facility Commands

The following table shows the commands used when operating the virtual disk facility. For detailed information on these commands, refer to Chapter 5, "Using the PC Support/36 Virtual Disk Facility."

Command	Purpose
SETVDSK	Starts the interactive virtual disk facility.
CFGVDSK	Starts the automatic virtual disk facility.
ISETVDSK	Starts the router and the interactive virtual disk facility.

Shared Folders Facility Commands

The following table shows the commands used when operating the shared folders facility. For detailed information on these commands, refer to Chapter 6, "Using the PC Support/36 Shared Folders Facility."

Command	Purpose
FSPC [function] HELP	Displays help text for the FSPC command or function (ASSIGN, RELEASE, or STATUS), if specified.
FSPC ASSIGN [d:]	Assigns a system drive to the System/36.
FSPC ASSIGN [d:] path	Assigns a directory drive to a shared folder or subdirectory on the System/36.
FSPC ASSIGN [d:] [path] //System/36 name	Assigns a system drive or directory drive to the System/36 specified.
FSPC RELEASE d:	Releases a system drive or a directory drive assigned to the System/36.
FSPC RELEASE *	Releases all shared folder drives assigned to the System/36.
FSPC [STATUS]	Displays the status of drives assigned by shared folders.

Virtual Printer Facility Commands

The following table shows the commands used when operating the virtual printer facility. For detailed information on these commands, refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility."

Command	Purpose
VPRT	Loads the resident portion of the virtual printer facility.
SETVPRT	Starts the interactive virtual printer facility.
CFGVPRT	Starts the automatic virtual printer facility.
ISETVPRT	Starts the router and the interactive virtual printer facility.

Transfer Facility Commands

The following table shows the commands used when operating the transfer facility. For detailed information on these commands, refer to Chapter 9, "Transferring Data from the System/36 to the Personal Computer" or Chapter 10, "Transferring Data from the Personal Computer to the System/36."

Command	Purpose
STF	Starts the resident source transfer facility.
TOPC	Starts the router, STF, and the interactive System/36-to-PC transfer facility.
RTOPC	Starts the interactive System/36-to-PC transfer facility, as long as it's not the first time (see TOPC).
TOPCB	Starts the router, STF, and the automatic System/36-to-PC transfer facility.
RTOPCB	Starts the automatic System/36-to-PC transfer facility, as long as it's not the first time (see TOPCB).
FROMPC	Starts the router, STF, and the interactive PC-to-System/36 transfer facility.
RFROMPC	Starts the interactive PC-to-System/36 transfer facility, as long as it's not the first time (see FROMPC).
FROMPCB	Starts the router, STF, and the automatic PC-to-System/36 transfer facility.
RFROMPCB	Starts the automatic PC-to-System/36 transfer facility, as long as it's not the first time (see FROMPCB).

Message Facility Commands

The following commands are used when operating the message facility. For more detailed information, refer to Chapter 11, "Using the PC Support/36 Message Facility."

Command	Purpose
STARTMSG	Starts the message facility.
STOPMSG	Stops the message facility.
MSG	Displays the message facility menu. Sends and receives messages.
RCVMSG	Stores messages in a specified file.

Miscellaneous PC Support/36 Commands

The following table shows the commands used for miscellaneous PC Support/36 operations. For detailed information on these commands, refer to the *PC Support/36 Technical Reference.*

Command	Purpose
LINK36	Starts communication to the System/36 and assigns the PC program virtual disk to drive I.
STARTRTR	Starts the PC router and changes the default connection environments.
STARTRTR /D	Displays status of active connections.
STOPRTR	Ends the PC router, inactivating PC Support/36.
STARTMNU	Starts the router, assigns a system drive to the System/36, and displays the Organizer menu on the System/36.
PCO	Displays the Organizer menu on the System/36 again, after the first time it is displayed using STARTMNU.

Command	Purpose
PCU	Starts the PC utility program. (This is a System/36 command; it must be issued from a System/36 session screen.) This command: • Allows you to work with shared folders and documents. • Copies the entire contents of a virtual disk to a shared folder. • Copies a virtual disk file to another virtual disk, System/36 file, System/36 library member, or DW/36 document. • Copies a System/36 file and library member to a virtual disk file. • Copies a DW/36 document to a virtual disk file. • Creates and deletes virtual disks. • Installs 3278 Device Emulation on an IBM personal computer. • Modifies ASCII-to-EBCDIC and EBCDIC-to-ASCII translation tables.
TRTABLE	Starts the translation table utility.

Command	Purpose
COPYVDSK	Copies programs necessary to run the virtual disk facility.
COPYVPRT	Copies programs necessary to run the virtual printer facility.
COPYTTO	Copies programs necessary to run the System/36-to-PC transfer facility.
COPYTFR	Copies programs necessary to run the PC-to-System/36 transfer facility.
COPYMENU	Copies programs necessary to run the PC Support/36 Organizer.
COPYFSPC	Copies programs necessary to run the shared folders facility.
COPYMSG	Copies programs necessary to run the message facility.

Chapter 4. Tutorial

Contents

Introduction

This chapter contains examples of how you might use PC Support/36. You can use this chapter to practice using PC Support/36, or as a guide when you are using PC Support/36.

You are not required to follow all of the examples in this chapter. You can choose those best suited to your needs, and ignore the others.

The examples in this chapter assume that the PC Support/36 LINK36 programs were installed on a personal computer diskette or fixed disk for your use.

If you do not have a personal computer diskette or fixed disk containing the LINK36 support, contact your Personal Computer Technical Coordinator. If you are responsible for the installation, refer to Chapter 1, "Installation" in the *PC Support/36 Technical Reference* for instructions.

The PC Support/36 programs you require may have been copied from the System/36 to one or more personal computer diskettes or a fixed disk. If this is the case, you can skip the first section, "Setting Up PC Support/36," and continue with any of the examples later in this chapter that help you learn to use the PC Support/36 programs you require. However, except for "Using the PC Utility," the examples in this chapter assume that you are accessing and running the PC Support/36 programs from the virtual drive I.

Setting Up PC Support/36

To use PC Support/36, you must establish a link from your personal computer to the PC Support/36 programs installed on the System/36. To do this, you must load DOS then run the LINK36 support.

The LINK36 support establishes your link, starts the PC Support/36 router and assigns a virtual disk, named #IWPCLD2, to your virtual drive I. This virtual disk contains all of the PC Support/36 programs.

You can run any of the PC Support/36 programs directly from the I drive, or you can copy these programs to personal computer diskettes or a fixed disk. (Refer to Chapter 1, "Installation" in the *PC Support/36 Technical Reference* for instructions on how to copy the PC Support/36 programs.)

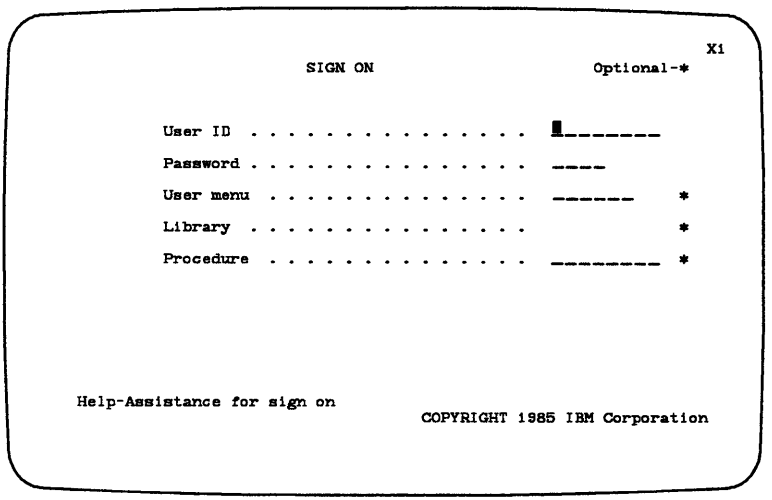
If you have not already done so, load DOS now.

After the DOS prompt, type the following command and press the Enter key:

LINK36

LINK36 will do one of the following:

- If you are using 5250 emulation, and you are not signed on, then the System/36 sign-on display appears:



S9097301-4

Sign on the System/36 by typing your user ID and password (if any) and pressing the Enter key you chose to use in 5250 emulation mode.

- If you are using the IBM Token-Ring Network you will be prompted for your user ID and password. If password security is not active on the System/36 you can press the Enter key without entering a password.

After providing your user ID and password the LINK36 procedure continues.

While the LINK36 support is running, you should receive a message telling you that the virtual disk #IWPCLD2 was successfully assigned to drive I. The default drive is changed to I. When the LINK36 support runs, it establishes a link between your personal computer and the System/36. You are now ready to run any of the PC Support/36 programs.

If you want, you can display the directory contents of the virtual disk in drive I. All of the PC Support/36 programs are contained in this directory. To do this, type:

DIR

and press the Enter key.

For more details on installing PC Support/36, refer to Chapter 1, "Installation" in the *PC Support/36 Technical Reference.*

When you want to end the PC Support/36 link (for example, if you want to do the "Using the PC Utility" example), you must remember to release all virtual disks and virtual printers you have assigned before you power off or restart your personal computer, and end the PC Support/36 link. (To release a virtual disk, enter the SETVDSK command and select option 2. To release a virtual printer, enter the SETVPRT command and select option 2, or use the batch file.)

If you want to do one or more of the examples in this chapter, do not end the PC Support/36 link at this time.

To end the PC Support/36 link, type:

STOPRTR

and press the Enter key.

Using the Virtual Disk Facility

This example shows you how to create a virtual disk. You will use the interactive virtual disk facility to assign one of these virtual disks to a virtual drive.

The virtual disk you create is an example only, and you should delete it after you complete the examples in this chapter. You should record the name of this virtual disk as a reminder. You must use the interactive virtual disk facility program to delete virtual disks.

Note: Whenever you see F1=Help on the display, you can press the F1 key to display help text about that display.

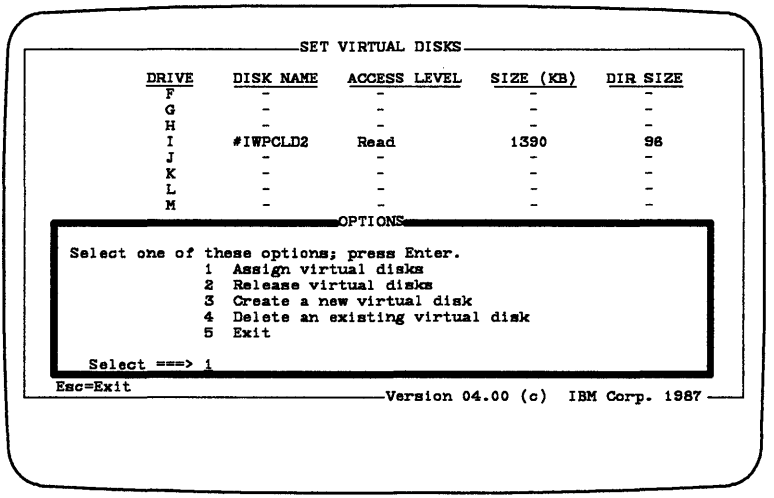
For more details on how to use the virtual disk facility, refer to Chapter 5, "Using the PC Support/36 Virtual Disk Facility."

This example assumes you have already started your personal computer, loaded DOS and ran the LINK36 support as described in "Setting Up PC Support/36," earlier in this chapter.

After the I > prompt, type the following command and press the Enter key:

SETVDSK

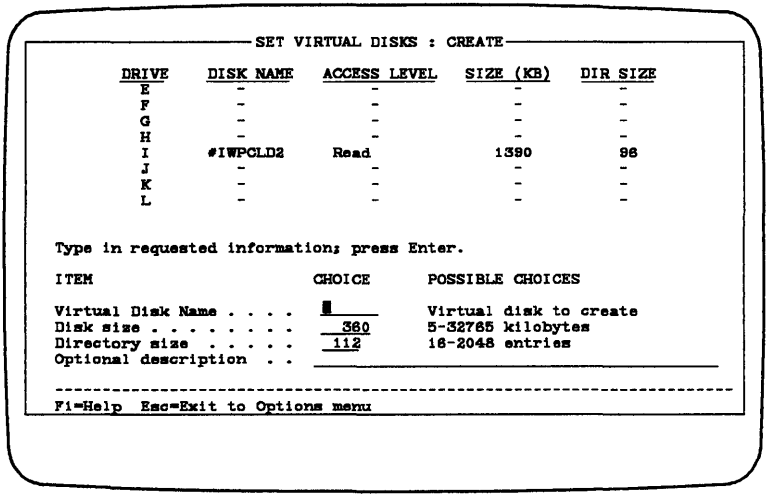
This command starts the interactive virtual disk facility. The following display should appear:



S9088450-6

The virtual drive letters shown on your display may differ.

The first thing you should do is create a virtual disk to be used in this example. Type a 3 (Create a new virtual disk) in the Select area or select option 3 by using the Down Arrow key to position the highlighting on option 3. Press the Enter key. The following display appears:



S9088671-2

Do the following:

1. Type a name of your choice in the Virtual disk name input area. This name must be 1 through 8 characters long, beginning with A through Z, #, $, or @. The remaining characters can be A through Z, 0 through 9, or the characters #, $, @, and period (.), for example:

   SMPDK.#5

2. Press the Enter key if the virtual disk name is 7 characters or less in length.

3. Leave the default disk size (360) and press the Enter key.

4. Leave the directory size at the default value (112) and press the Enter key.

5. Type a short description of your choice for the virtual disk in the Optional description input area. For example, you might type *Virtual disk created for sample.* Press the Enter key.

6. When you have completed the prompts on this display, press the Enter key. You should receive a message telling you that the virtual disk was created.

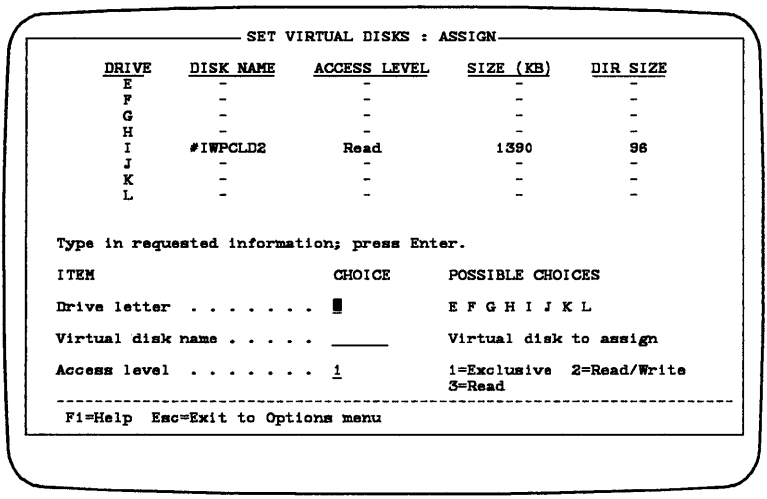
You can now create another virtual disk, if you wish.

Once you have created a virtual disk, you must assign it to a virtual drive in order to use it. To assign the virtual disk you created, do the following:

1. Press the Escape key to return to the OPTIONS menu.

2. Leave the default option (option 1, Assign virtual disks), and press the Enter key.

   The following display appears:



S9088451-2

3. For this example, assign the virtual disk to the first available drive. The list of letters in the POSSIBLE CHOICES column on the display shows the drive letters available for you to use.

4. To assign the virtual disk, do the following:

   a. In the Drive letter input area, type the first drive letter listed.

   b. In the Virtual disk name input area, type the name of the first virtual disk you created. If you cannot remember the name, you can press the F2 key for a list of virtual disks. Once the list is displayed you can use the F9 key to select a virtual disk.

   c. Leave your Access level as 1 (Exclusive).

5. When you have completed all of the prompts on this display, press the Enter key. You should receive a message telling you that the disk was assigned to the specified drive. This disk is now available for your use as a personal computer disk.

6. Press the Escape key to return to the OPTIONS menu. From this menu, you can also release or delete any virtual disks you create. When you have completed all of the examples in this chapter, you should run the SETVDSK program again, and choose option 2 to release the virtual disks, then option 4 to delete the example virtual disks you created.

7. To end the SETVDSK program, select option 5 (Exit) on the OPTIONS menu and press the Enter key, or press the Escape key. This returns you to the DOS prompt.

Using the Virtual Printer Facility

This example assumes you have already started your personal computer, loaded DOS and ran the LINK36 support as described in "Setting Up PC Support/36," earlier in this chapter.

This example shows you how to assign a printer attached to the System/36 as a personal computer printer. In this example, you will practice using the virtual printer facility by printing the directory of the diskette in your default drive on a System/36 printer.

For details on the virtual printer facility, refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility."

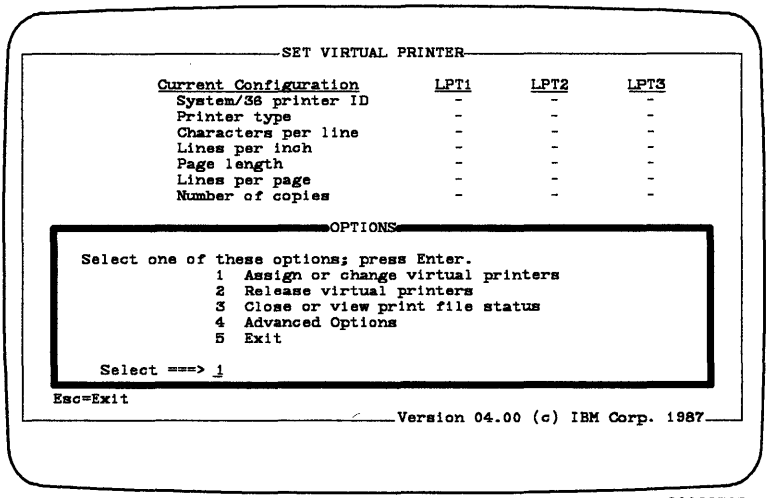
Note: Whenever you see F1=Help on the display, you can press the F1 key to display help text about that display.

1. To start the virtual printer facility, type the following commands after the DOS prompt, pressing the Enter key after each command:

   VPRT

   SETVPRT

   This causes the following display to appear:



S9088707-4

2. Type or select option 1 (Assign or change virtual printers) on the OPTIONS menu, and press the Enter key. The following display appears:

```
                    SET VIRTUAL PRINTER : ASSIGN/CHANGE

          Current Configuration          LPT1      LPT2      LPT3
            System/36 printer ID           -         -         -
            Printer type                   -         -         -
            Characters per line            -         -         -
            Lines per inch                 -         -         -
            Page length                    -         -         -
            Lines per page                 -         -         -
            Number of copies               -         -         -

Type in requested information; press Enter.

ITEM                              CHOICE    POSSIBLE CHOICES

PC printer . . . . . .            _         1=LPT1  2=LPT2  3=LPT3
System/36 printer . . . . .       __        System/36 printer ID
Characters per line . . . .       80        80, 132, 198
Lines per inch . . . . . .        6         6, 8 lines
Page length . . . . . .           66        1-127 lines
Lines per page . . . . . .        66        1-Page length
Number of copies . . . . .        1         1-255 copies
--------------------------------------------------------------------------------
F1=Help  Esc=Exit to Options
```

S9088452-0

3. Do the following:

   a. Type a 2 for printer LPT2 in the PC printer input area.

   b. Press the F2 key to list the System/36 printers available for you to use. Select any printer from the list, using the Up Arrow and Down Arrow keys to highlight the printer you want and press the F9 key. Press the Enter key.

c. Leave the default values for the remaining prompts on this display and press the End key. This takes you to the last prompt on the display.

d. Press the Enter key. The values for the printer you just assigned as a virtual printer are now displayed, and a message is displayed, telling you that LPT2 was assigned.

4. Now that you have assigned a virtual printer, press the Escape key to return to the OPTIONS menu, then press the Escape key again (or select option 5) to end the virtual printer facility.

5. To test the virtual printer, create a small virtual print file to print. You can do this by typing the following:

   DIR > LPT2

6. Press the Enter key. The directory of the diskette in the default drive is printed on the virtual printer assigned as LPT2.

Using the Message Facility

This example shows you how to send a message. You will use the interactive message facility.

This example assumes that you are connected to an IBM Token-Ring Network and have started your personal computer (loaded DOS and ran LINK36 as described in "Setting Up PC Support/36," earlier in this chapter).

To set up the message facility with the default entries type:

STARTMSG

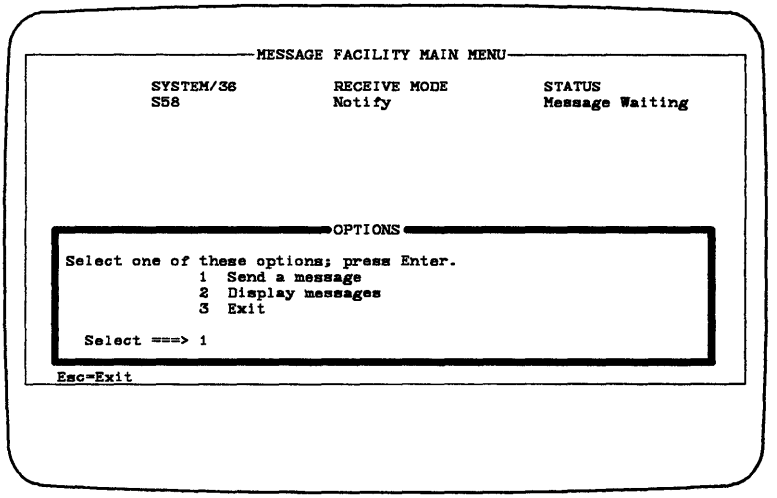
Since you have not specified a configuration file, the message facility defaults will be used.

To send the message, type:

MSG

and then press the Enter key.

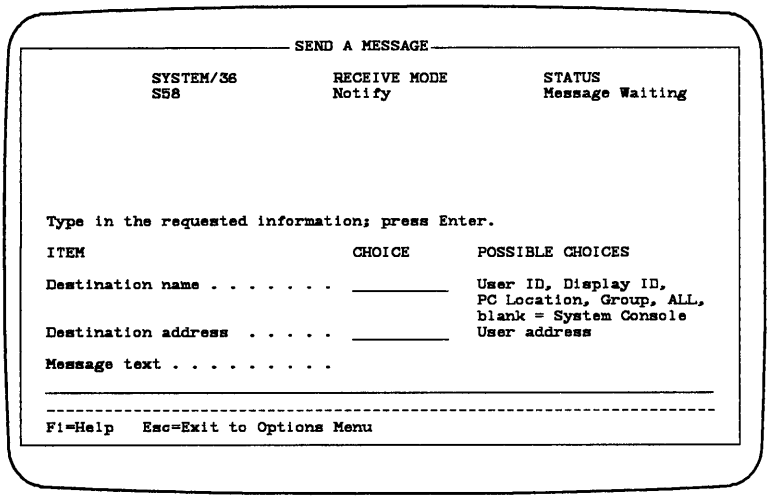
The Message Facility Main Menu appears:



S9097908-2

Select option 1 (Send a message).

The Send a Message display appears.



S9097910-3

Enter your User ID on the line after the Destination name parameter and press the Enter key. This moves the cursor to the next input field.

Press the Enter key again (you will not use the Destination address field on this example). This moves the cursor to the next input field.

On the Message text line, enter: This is a test message. Press the Enter key.

Note: Message text cannot exceed 75 characters.

The following message appears on the display:
Message successfully sent.

Note: This means that the System/36 has received the message, not that the destination has received the message.

As you are in notify mode, you will hear an audible alarm (it may take up to a minute for the alarm to sound). Press the Escape key to return to the OPTIONS menu.

Select option 2, (Display messages).

The Display Message display appears showing your test message. Press the Escape key to return to the OPTIONS menu.

Select option 3, (Exit the message facility).

For more detail refer to Chapter 11, "Using the PC Support/36 Message Facility."

This example shows you how to assign a drive, display status of personal computer drives, and release drives used to access shared folders.

For more details on how to use the shared folders facility, refer to Chapter 6, "Using the PC Support/36 Shared Folders Facility."

This example assumes you have already started your personal computer, loaded DOS, and ran the LINK36 support as described in this chapter, in "Setting Up PC Support/36."

When you type the following command, it assigns drive L to the folder named DEPT42 and the subdirectory REPORTS.

FSPC ASSIGN L: /DEPT42/REPORTS

Press the Enter key.

To display the status of all drives used to access shared folders on the System/36, type the following command.

FSPC STATUS

Press the Enter key.

Note: If you do not specify a parameter on this command STATUS is the default. For example, you could have typed FSPC with no parameter and you would display the status of all the drives used to access shared folders.

To release drive L that is assigned to the System/36, type the following command.

FSPC RELEASE L:

Now if you type FSPC, drive L will not appear on the status display.

Using the Transfer Facility

This example assumes you have already started your personal computer, loaded DOS and ran the LINK36 support as described previously, in "Setting Up PC Support/36."

For the transfer facility example, you can use a System/36 file, named CUSTCDT that contains information about customer accounts. If security is active you should get read access to the file. The file is defined by IDDU data definitions, and is installed on the System/36 when the IDDU online information is installed. You can find out from your system operator if this information was installed.

For details on the transfer facility, refer to Chapter 8, "Using the PC Support/36 Transfer Facility," Chapter 9, "Transferring Data from the System/36 to the Personal Computer," and Chapter 10, "Transferring Data from the Personal Computer to the System/36."

Note: Whenever you see F1=Help on the display, you can press the F1 key to display help text about that display.

Transferring Data to the Personal Computer

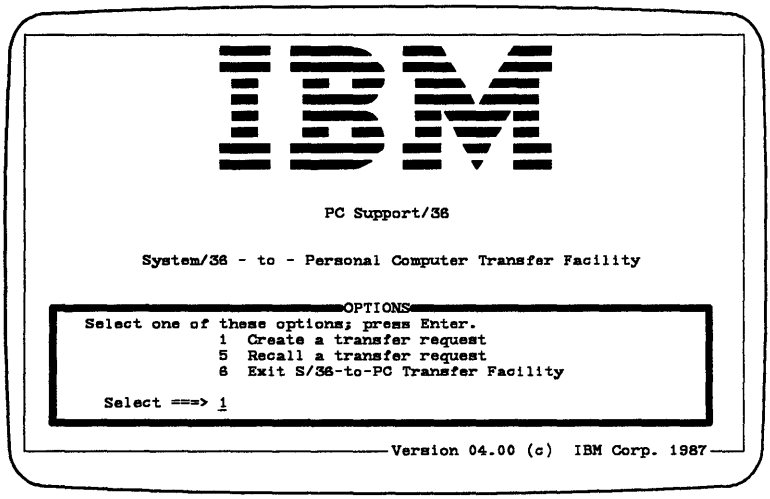
This example shows you how to transfer data from a System/36 file to a file on your personal computer. The System/36 file you will be using in this example is already created and defined using IDDU data definitions.

To transfer data from the System/36 to the personal computer, you must use the System/36-to-personal computer transfer facility.

1. To start, type the following command after the I> prompt and press the Enter key:

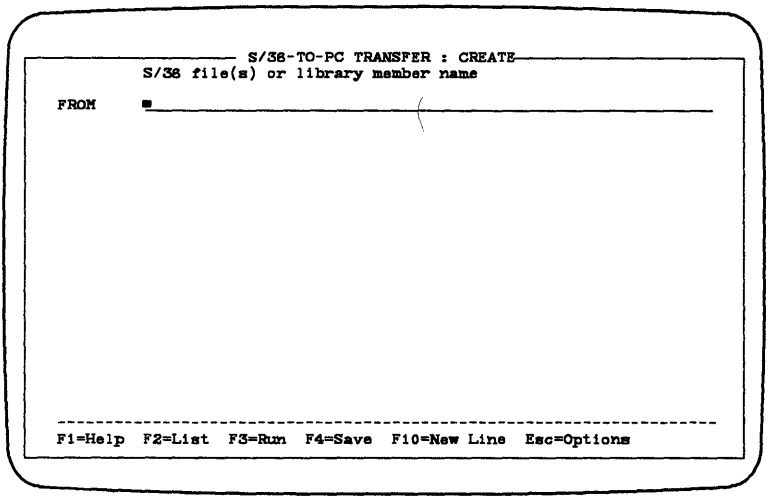
   TOPC

   The following display appears:



S9088601-5

2. Type or select option 1 on the OPTIONS menu and press the Enter key. The following display appears:



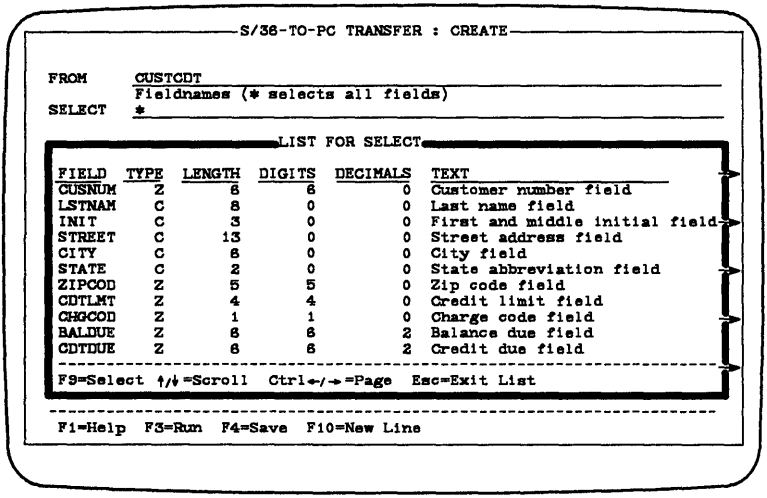
S9088667-2

3. Type the following System/36 file name after the FROM prompt, and press the Enter key.

   CUSTCDT

4. The SELECT prompt appears. The SELECT prompt input area automatically contains an asterisk (*). The asterisk is the default, and means that you want to select all fields in the file. Press the F2 key to list all of the fields in the CUSTCDT file.

The following display appears:



S9088608-1

5. The CUSNUM field is highlighted. Press the F9 key to select this field. You can now position the highlighting to any other fields you want to select; press the F9 key to select each one. The fields you select are those you want transferred to your personal computer.

6. When you press the Enter key, the WHERE prompt appears. Type the following information on the WHERE prompt line and press the Enter key:

   CUSNUM > 500000

7. This WHERE prompt limits the customer records transferred to those with customer numbers greater than 500000.

   The following display appears:

```
                    S/36-TO-PC TRANSFER : CREATE

FROM      CUSTCDT
SELECT    CUSNUM,LSTNAM,INIT,STREET,CITY,STATE,ZIPCOD
WHERE     CUSNUM>500000
          Fieldnames to sort by (optional)
ORDER BY

F1=Help  F2=List  F3=Run  F4=Save  F10=New Line  Esc=Options
```

S9088673-1

8. Type CUSNUM on the ORDER BY prompt line and press the Enter key. This causes the records to be sorted by customer number in ascending order.

9. On the next series of prompts, do the following:

   a. Type a 3 (Disk) for the Output device prompt and press the Enter key.

   b. Type A:CUFILE.S36 for the TO PC filename prompt and press the Enter key.

      Note: This assumes you have a diskette in drive A to receive the transferred data. If you want the data to be transferred to another diskette or fixed disk drive, specify that drive letter instead of A.

   c. Leave the default of 2 (No) for the Replace old file prompt and press the Enter key.

   d. Type a 2 (to select a file type of DOS random) for the PC file type prompt and press the Enter key.

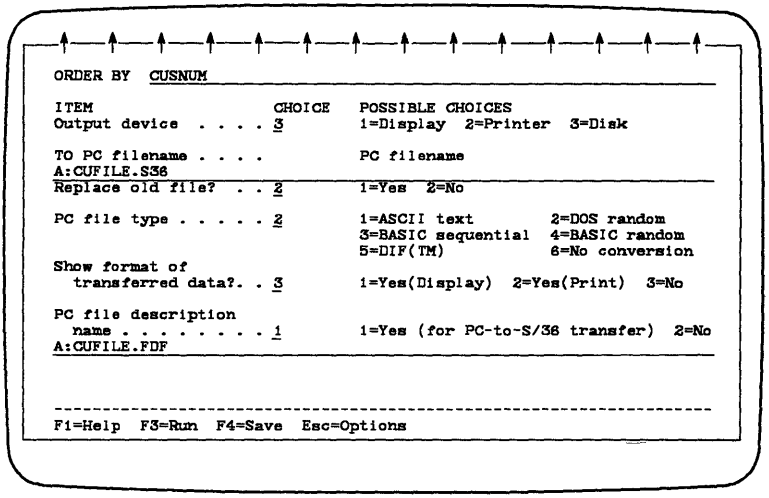
   e. Leave the default of 3 (No) for the Show format of transferred data prompt and press the Enter key.

   f. Leave the default of 1 (Yes) for the PC file description prompt and press the Enter key.

   g. Leave the default name, A:CUFILE.FDF, in the PC file description name prompt.

   Note: The file description file (A:CUFILE.FDF) you create in this example will be used to transfer data to the System/36 in the next example.

The following display shows the options you selected:



S9088672-1

10. You can now press the Enter key to return to the OPTIONS menu and select option 3 to run the transfer request, or press the F3 key to run the transfer request without returning to the OPTIONS menu.

    The selected data should be transferred from the System/36 file named CUSTCDT, and stored in file A:CUFILE.S36 on a personal computer diskette.

11. When the data is transferred, a status window shows the number of records that were transferred. Press the Escape key to return to the OPTIONS menu.

12. If you want, you can select option 2 on the OPTIONS menu and modify the transfer request (for example, to transfer different data or display the data rather than write it to a diskette), then run the transfer request again.

13. Type or select option 6 in the OPTIONS menu, and press the Enter key to end the System/36-to-personal computer transfer facility.

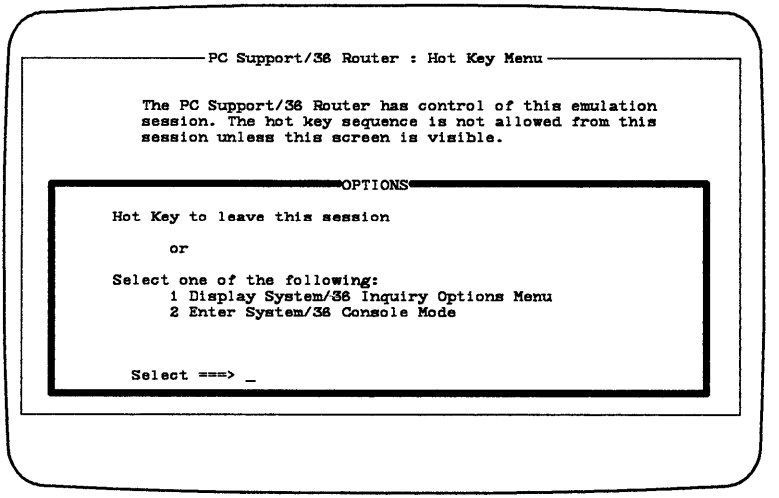
Transferring Data to the System/36

This section shows you how to transfer data from the personal computer to the System/36. It uses the data you previously transferred in "Transferring Data to the Personal Computer," and assumes that you have completed that portion of the example.

When transferring data to the System/36, the System/36 file must already be created and linked to a file definition in a data dictionary. To create a System/36 file to be used in this example, do the following:

If you are using 5250 emulation:

1. Use the hot key sequence to enter 5250 emulation mode. The following PC Support/36 Router Hot Key Menu appears:



S9097906-1

2. Select option 1 to interrupt the System/36 router and enter Inquiry mode on the System/36.

3. Select option 1 from the Inquiry options menu to display the System/36 command display. Press the emulated Enter key (usually the caps lock key). Then type the following on this display:

```
BLDFILE TEMPCDT,S,RECORDS,12,60,,T,,,NDFILE,,0
```

4. Press the emulated Enter key. This command creates an empty file named TEMPCDT on the System/36, with space for twelve 60-byte records.

5. When the System/36 command display reappears, type the following command to link the file TEMPCDT to the #IDDUSMP dictionary:

```
IDDULINK LINK,TEMPCDT,#IDDUSMP,CUSTCDT
```

6. Press the emulated Enter key.

7. Press the emulated Command key 1 (usually the F2 key and the 1 key) to end the System/36 command display and restart the System/36 router. The PC Support/36 Router display appears again.

8. Use the hot key sequence to return to personal computer mode.

If you are using the IBM Token-Ring Network, locate a personal computer that has a type of 5250 emulation.

1. Sign on the System/36 by entering your user ID and password (if needed) and press the Enter key.

2. From the System/36 command display type:

```
BLDFILE TEMPCDT,S,RECORDS,12,60,,T,,,NDFILE,,0
```

   Press the emulated Enter key. This command creates an empty file named TEMPCDT on the System/36, with space for twelve 60-byte records.

3. When the System/36 command display reappears, type the following command to link the file TEMPCDT to the #IDDUSMP dictionary:

```
IDDULINK LINK,TEMPCDT,#IDDUSMP,CUSTCDT
```

4. Press the emulated Enter key.

5. Sign off the System/36.

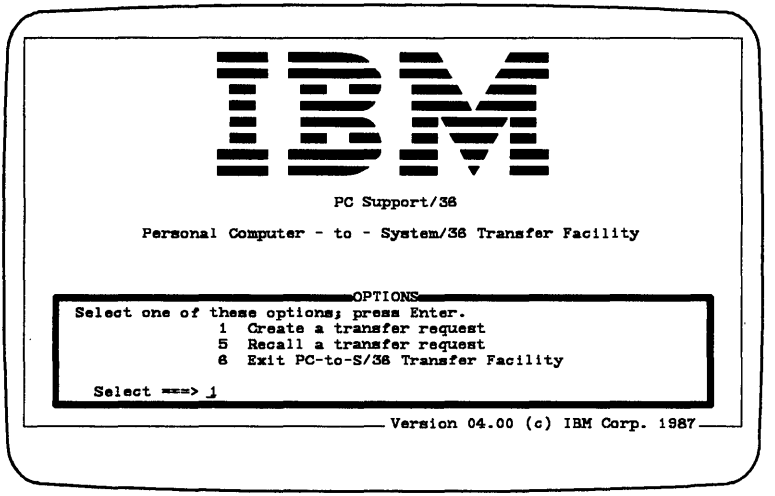
Now do the following:

1. After the I> prompt, type the following command and press the Enter key:

   FROMPC

2. This starts the personal computer-to-System/36 transfer facility.

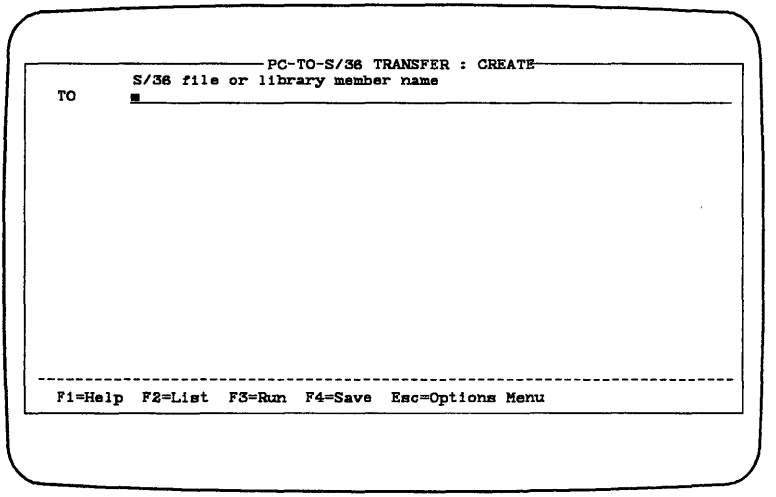
The following display appears:



S9088637-5

3. Select option 1, then press the Enter key.

The following display appears:



S9088638-1

4. After the TO prompt, type the following System/36 file name and press the Enter key.

   TEMPCDT

   Notes:

   a. *The System/36 file must have already been created and linked to a file definition before the data can be transferred to the file. You did this earlier in this example.*

   b. *If the System/36 file contains any data, it will be replaced by the file you will be transferring. Make sure you use a System/36 file designated for this use.*

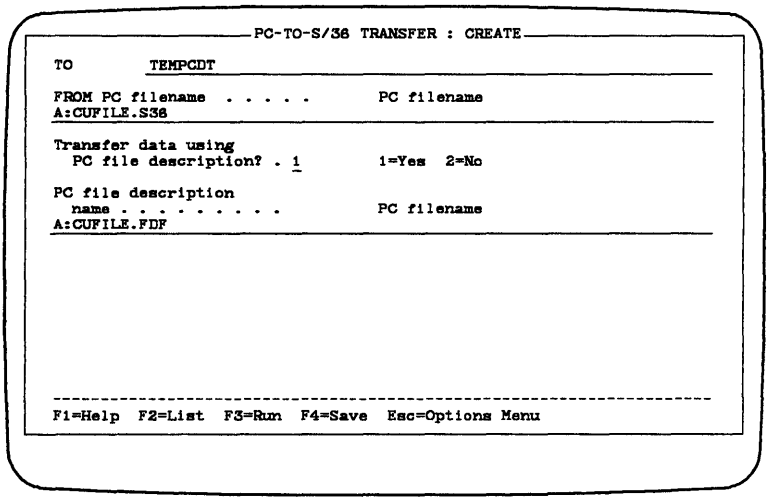
5. On the next series of prompts, type the following options:

   a. Type A:CUFILE.S36 as the FROM PC file name and press the Enter key.

   b. Type a 1 (Yes) for the Transfer data using PC file description prompt and press the Enter key.

   c. Do not change the default for the personal computer file description name (A:CUFILE.FDF).

The following display shows the options you selected:



S9088674-1

6. You can now press the Enter key to return to the OPTIONS menu and select option 3 to run the transfer request, or press the F3 key to run the transfer request without returning to the OPTIONS menu.

The data should be transferred from the personal computer file to the System/36 file, TEMPCDT.

7. When the data is transferred, a status window shows the number of records that were transferred. Press the Escape key to return to the OPTIONS menu.

8. If you want, you can select option 2 on the OPTIONS menu and modify the transfer request (for example, to transfer different data), then run the transfer request again.

9. Select option 6 on the OPTIONS menu, and press the Enter key to end the personal computer-to-System/36 transfer facility.

Note: After you have completed the examples in this chapter, you may want to go back and delete file TEMPCDT from your System/36.

Using the PC Utility

This example shows you how to use the System/36 PC utility to work with virtual disks and diskettes on the System/36. In this example, you will transfer data from a System/36 file to a virtual disk. This chapter assumes you created a virtual disk in the example "Using the Virtual Disk Facility," earlier in this chapter.

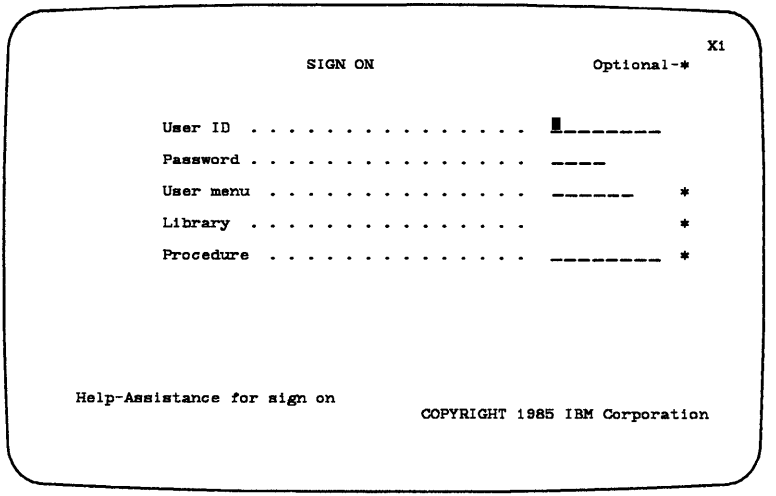
You can use the PC utility from a personal computer in 5250 emulation mode, or any System/36 display station.

If you were previously using one of the PC Support/36 programs, you should release any virtual disks (SETVDSK), virtual printers (SETVPRT) or shared folder drives you assigned.

Note: You do not need to start PC Support/36 and establish a link to the virtual disk on the System/36 to be able to use the PC utility. It can be used like any other System/36 procedure.

For details on using the PC utility, refer to Chapter 10, "System/36 PC Utility," in the *PC Support/36 Technical Reference.*

1. If you have not already done so, sign on the System/36 by typing your user identification and password (if any) on the System/36 sign-on display:



S9097301-4

2. Press the Enter key.

3. To start the PC utility, type the following command on the System/36 command line:

   PCU

   and press the Enter key.

The following display appears:

```
                                PCMENU

                    Work with IBM Personal Computers

Select one of the following:

   1. Work with shared folder utilities
   2. Work with IBM PC virtual disk utilities
   3. Install 3278 Device Emulation on an IBM PC



Cmd3-Previous menu    Cmd5-Main help menu    Cmd7-End  Home-Sign on menu

Ready for option number or command
```

S9097801-2

4. Choose option 2. The following display appears:

```
                  WORK WITH IBM PC VIRTUAL DISK UTILITIES

Type choice, press Enter.

   1)  Create a virtual disk
   2)  Delete a virtual disk

   3)  Copy a virtual disk file to another virtual disk

   4)  Copy a virtual disk file to a S/36 file
   5)  Copy a S/36 file to a virtual disk file

   6)  Copy a virtual disk file to a S/36 library member
   7)  Copy a S/36 library member to a virtual disk  file

   8)  Copy a virtual disk file to a DW/36 document
   9)  Copy a DW/36 document to a virtual disk file


   Option:

Cmd7=End                                (C) Copyright IBM Corp 1987
```

S9097101-3

5. To begin, select option 5 (Copy a S/36 file to a virtual disk file), and press the Enter key.

6. On the next series of displays, do the following:

   a. Type the name of the file you want to copy to a virtual disk file (the TEMPCDT file you created in "Transferring Data to the Personal Computer," earlier in this chapter, is suggested). Press the Tab key.

   b. Type a file name and extension for the virtual disk file (TEMPCDT.XMP is suggested). Press the Tab key.

c. Type the name of an existing virtual disk (SMPDK.#5, or the virtual disk you created in the example "Using the Virtual Disk Facility," earlier in this chapter, is recommended). Press the Tab key.

d. Leave the default values for the remaining prompts.

The following display shows the options you selected:

```
                        COPY S/36 FILE TO PC FILE
Type choices, press Enter.
 ITEM                                CHOICE          POSSIBLE CHOICES
 System/36 Input
   File name . . . . . . . . . . . . TEMPCDT_

 Personal Computer Output
   File name and extension . . . . . TEMPCDT.XMP_
   Disk or diskette name . . . . . . SMPDK.#5        Blank for list
   Subdirectory (access path). . . .

   Replace existing file . . . . . . 2               1=Yes          2=No
   Mark file as Read only. . . . . . 2               1=Yes          2=No
   Output disk access level. . . . . 1               1=Exclusive    2=Share

 Translate from EBCDIC to ACSII. . . 1               1=Yes          2=No
   Stop on a translation error . . . 2               1=Yes          2=No
   Error replacement character . . . _               Any character

Cmd3-Go back              Cmd7-End

10      11-18      SA       MW       KS       IM       II
```

S9088675-2

7. Press the Enter key.

8. After the copy is complete, press command key 3 to end this function. You can now use any of the other functions provided by the PC utility by selecting any other option on the display.

9. If you are finished using the PC utility, press command key 7.

Chapter 5. Using the PC Support/36 Virtual Disk Facility

Contents

Introduction

PC Support/36 allows you to use storage on the System/36 by assigning one or more virtual disks to virtual disk drives. A PC Support/36 *virtual disk* is permanent storage on the System/36 that you access the same way you access diskette or fixed disk storage on your personal computer. Data on a virtual disk is not lost when you power off your personal computer.

Assigning a virtual disk is similar to inserting a diskette in a designated diskette drive. The difference is that you do not have to physically handle the virtual disk – PC Support/36 handles the virtual disk.

Virtual disks are accessed through virtual disk drives. These drives are created by installing the virtual disk device driver, VDSK.SYS, when you power on or restart your personal computer.

This is done using a DEVICE entry in the personal computer configuration file (CONFIG.SYS). If you have used the INSTALL command to create the LINK36 support and run the LINK36 command to access the PC Support/36 programs through the virtual I drive, a CONFIG.SYS file has already been set up for you.

If a CONFIG.SYS file already existed, the INSTALL command will add any necessary entries not found in the file. For more information, refer to "Setting Up the CONFIG.SYS File," later in this chapter.

You can create as many virtual disks as you want on the System/36. However, you can assign virtual disks to only eight virtual disk drives at one time. Each virtual disk can be any size from 5K bytes to 32M bytes, in increments of 5K bytes.

Note: Virtual diskettes created by the System/36 File Support Utility PRPQ can be used by PC Support/36. However, virtual disks created using PC Support/36 cannot be accessed by the File Support Utility.

Installing the Virtual Disk Facility

A configuration file contains configuration commands. Each time you load DOS, DOS searches the root directory of the drive from which it was started for the configuration file named CONFIG.SYS. If the CONFIG.SYS file is found, DOS reads the file and interprets the commands within the file. If the CONFIG.SYS file is not found, DOS assigns default values for the configuration commands.

Before you can use a virtual disk, you must have a DEVICE entry for the virtual disk facility. When the PC Support/36 link code is copied to your personal computer diskette or fixed disk during installation of the personal computer portion of PC Support/36, a CONFIG.SYS file is automatically set up for you with the DEVICE=VDSK.SYS entry added.

The CONFIG.SYS file may have been created by the INSTALL command. If a CONFIG.SYS file already existed, the INSTALL command will add any necessary entries not found in the file. For more information, refer to Chapter 1, "Installation," in the *PC Support/36 Technical Reference.* However, if you do not have a CONFIG.SYS file, you must create one before you can use the PC Support/36 virtual disk facility.

Setting Up the CONFIG.SYS File

To use the virtual disk facility, you must have a CONFIG.SYS file containing a DEVICE entry.

To create a CONFIG.SYS file, type the following:

COPY CON CONFIG.SYS

To add the DEVICE entry to an existing CONFIG.SYS file, type:

COPY CONFIG.SYS+CON CONFIG.SYS

The COPY commands tell DOS to copy the information into the CONFIG.SYS file on the default drive.

Press the Enter key and type the following:

DEVICE=[d:][path]VDSK.SYS [n]

where:

d: specifies the disk or diskette drive. Type a letter followed by a colon to specify the drive. The drive is required only if VDSK.SYS is not in the default drive from which DOS was loaded.

path specifies a path of directory names. Type the directory names separated by backslashes (\). The path information is required only if VDSK.SYS is not in the same directory as CONFIG.SYS.

VDSK.SYS specifies the name of the personal computer file containing the device driver program for the virtual disk facility.

n specifies the maximum number of virtual disk drives you want to use. This can be any number from one to eight. If you do not type a number, eight drives are assumed.

When you finish typing the DEVICE entry, press the Enter key.

You can type any other configuration commands you want in the CONFIG.SYS file, pressing the Enter key after each command. Refer to the *IBM Personal Computer Disk Operating System* manual for information on other configuration commands you can enter.

When you finish typing commands, do the following:

1. Press the F6 key.

2. Press the Enter key again.

This ends the COPY command and saves the file.

You can also use a personal computer editor, such as EDLIN, to add the entry to your CONFIG.SYS file.

Processing the CONFIG.SYS File

The CONFIG.SYS file is processed when DOS is started. This means that the CONFIG.SYS file must be in the root directory of the disk or diskette from which you power on or restart your personal computer.

Note: When you add or change any of the configuration file commands, the changes are not in effect until the next time you start DOS.

Assigning Disk Drives

Like all other drives, virtual drives are accessed by a drive letter. DOS assigns drives starting with the letter A. These letters are assigned first to the configured physical drives, then to any installed device drivers. Therefore, the letters assigned depend on how many physical drives there are, and how many DEVICE entries are ahead of the DEVICE=VDSK.SYS entry in the CONFIG.SYS file.

For example, assume you have two physical diskette drives configured and one fixed disk drive. If you specify that you want a maximum of five virtual drives (using the parameter *n* on the DEVICE command), the letters assigned to the virtual drives would be D, E, F, G, and H.

The Virtual Disk Facility Programs

After DOS assigns virtual drive letters, you must set up virtual disks to use with these drives. The virtual disk facility provides two programs you can use to do this.

- The *interactive* virtual disk facility program, SETVDSK, which prompts you, step-by-step, through creating, deleting, assigning, or releasing virtual disks.

- The *automatic* virtual disk facility program, CFGVDSK, uses entries in the CONFIG.S36 file or a VDSK setup file to assign and release virtual disks. For details on the CFGVDSK program, refer to Chapter 4, "The Virtual Disk Facility" in the *PC Support/36 Technical Reference.*

Before you can use either of these programs, DOS and PC Support/36 router must be started. For information on how to load and run these programs, refer to Chapter 3, "Starting PC Support/36." VDSK.SYS must also be installed.

Running the Interactive Virtual Disk Facility

The interactive virtual disk facility program prompts you, step-by-step, through creating, assigning, releasing, or deleting virtual disks. The command to run this program is SETVDSK.

Purpose: This command starts the interactive virtual disk facility.

Format: [d:]SETVDSK[/x][/y]

Remarks: **d:** specifies the name of the disk or diskette drive, or virtual drive, where SETVDSK.COM resides. Type a letter followed by a colon to specify the drive. (For example, A represents the first drive, B represents the second.) The drive is required only if SETVDSK.COM is not in the default drive.

/x specifies the type of display you are using. This parameter is optional; it tells the program what attributes to send to your display. Values you can specify for x are an uppercase or lowercase M or C. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

/y specifies the display writing speed. This parameter is optional; it tells the program what speed your display should write at. Values you can specify for y are an uppercase or lowercase H or S. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Examples:

The following command starts the interactive virtual disk facility from the default drive, without specifying any parameters.

SETVDSK

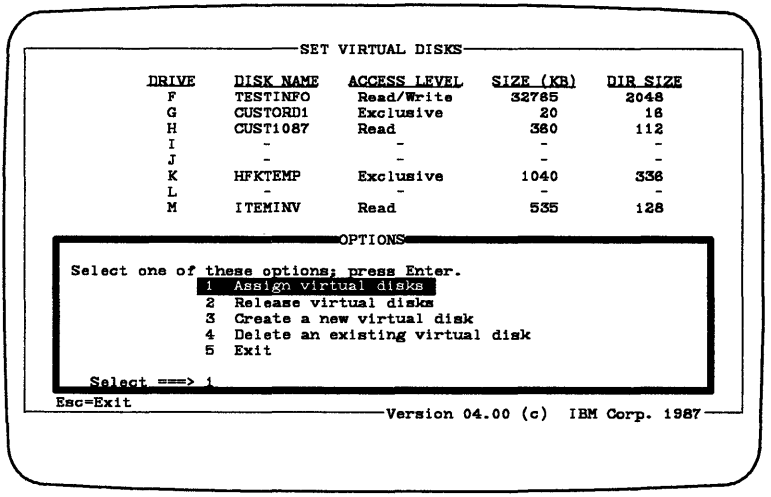
The following command starts the interactive virtual disk facility from drive A.
A monochrome display attached to a Color/Graphics Monitor Adapter card and slow speed display writing are being used.

A:SETVDSK /M/S

When you are ready to start the interactive virtual disk facility, type the SETVDSK command and press the Enter key.

If you have not started the router you can use the ISETVDSK command to start both the router and the SETVDSK program. The format for both the ISETVDSK and SETVDSK commands is the same.

DOS loads the program into storage and a display appears showing the virtual disk drive letters, the disks assigned to those drives, their access level, size in K-bytes (1K byte equals 1024 bytes), and directory size. For example:



S9088401-5

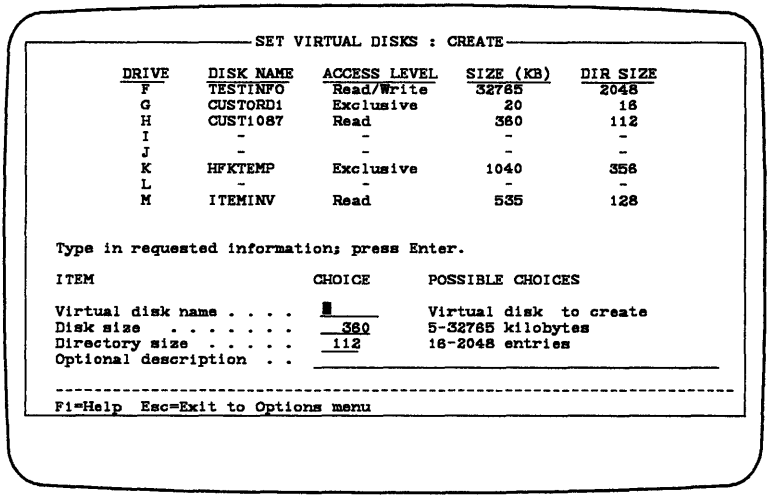
This display shows that the user has eight available virtual drives named F through M. The drives F, G, H, K, and M have virtual disks assigned to them. Drives I, J, and L do not have virtual disks assigned to them. This is similar to a physical diskette drive that has no diskette in it.

If this is the first time you ran SETVDSK.COM, the disk name, access level, disk size, and directory size fields would be blank except for drive I, which was assigned if the LINK36 command was used.

The OPTIONS menu allows you to assign, release, create, or delete virtual disks. You can use the Up Arrow and Down Arrow keys to select an option, or you can type the option number in the Select input area and press the Enter key. While the OPTIONS menu is displayed, you can end SETVDSK by pressing the Escape key, or by selecting option 5.

Creating a Virtual Disk

To create a virtual disk, type a 3 on the OPTIONS menu and press the Enter key. The following display appears:



S9088402-2

The top portion of this display shows configuration information for any currently assigned virtual disks. The bottom portion of the display contains prompts for the information you must enter to create a new virtual disk.

If you do not know what to enter for any of these prompts, you can get help by pressing the F1 key. Pressing the Escape key removes the help text window.

Virtual disk name

You must type a name to identify the virtual disk. The name must be 1 to 8 characters in length, and must begin with a letter from A through Z, #, $, or @. The remaining characters in the name can be any of the previously listed characters plus 0 through 9 or period (.). The name must not include any commas or blanks. After you complete the Virtual disk name prompt, press the Enter key.

Disk size

This prompt allows you to specify the size you want the virtual disk to be. You can enter a number from 5K to 32,765K bytes, in increments of 5K bytes. (1 K-byte equals 1,024 bytes.) If the number you enter here is not an increment of five, the number is automatically rounded to the next largest increment of five.

When you complete the Disk size prompt, press the Enter key.

Directory size

This prompt allows you to specify how many root directory entries the disk can hold. This number can be from 16 to 2,048 in increments of 16. If the number you enter here is not an increment of 16, the number is automatically rounded to the next largest increment of 16. When you complete the Directory size prompt, press the Enter key.

Note: The default sizes shown on the display for the Disk size and the Directory size prompts are the sizes of a double density 5-1/4 inch diskette.

Optional description

This prompt allows you to enter a 40-character description to help you remember what the virtual disk contains before you assign or delete it. This description is displayed when you request a list of virtual disks to assign or delete. You are not required to type a description; this prompt is optional.

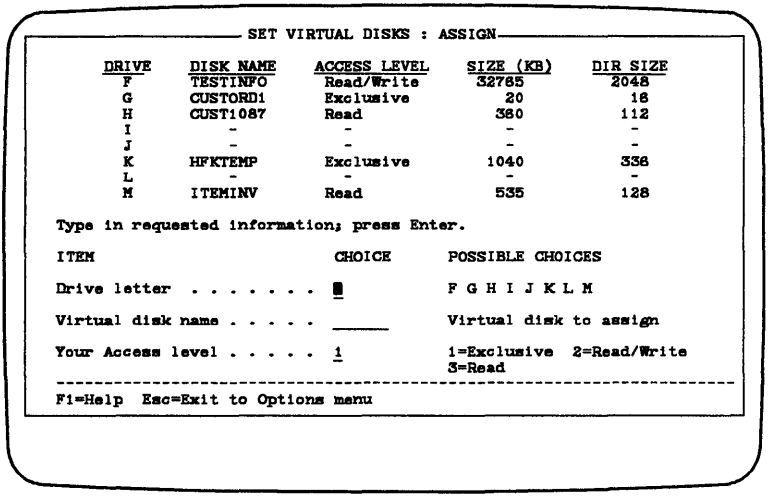
When you have completed all of the prompts, press the Enter key. The system creates the virtual disk for you. At this time, a message appears at the bottom of the display indicating that the system is processing your request. When the request is complete, you will receive a message indicating whether or not the create request was successful.

You can now create another virtual disk or press the Escape key to return to the OPTIONS menu.

Assigning a Virtual Disk

After you create a virtual disk, you need to assign it to a drive letter in order to access it. (Virtual diskettes created by the File Support Utility can also be assigned to virtual disk drives.)

To assign a virtual disk to a drive letter, type a 1 (Assign virtual disks) in the Select input area on the OPTIONS menu and press the Enter key. The following display appears:



S9088403-2

The top portion of this display shows the virtual drives already assigned. The bottom portion of this display shows prompts for changing the virtual disk drive assignment.

You can get help text for assigning a virtual disk or diskette at any time by pressing the F1 key.

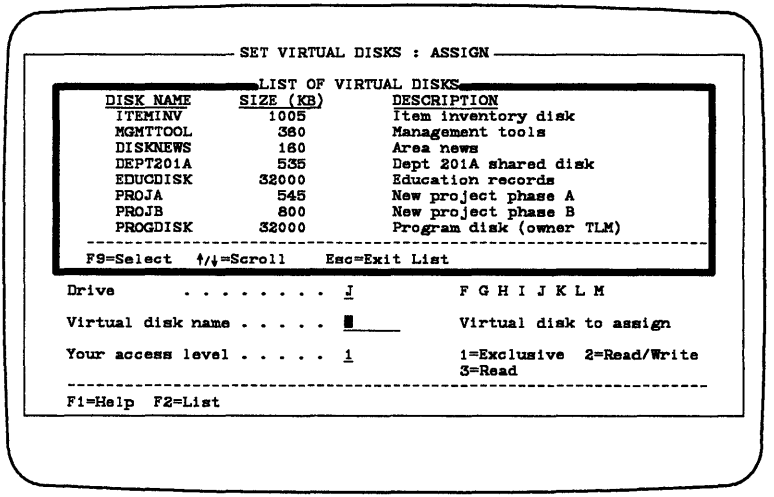
Drive letter

To assign a virtual disk or diskette, type the letter of the virtual drive to which you want to assign the virtual disk or diskette.

Virtual disk name

Next, you must enter the name of a previously created virtual disk or diskette you want to assign to this drive. You can assign the same virtual disk or diskette to more than one drive at a time.

If you do not know the name of the virtual disk, you can use the F2 key to get a list of the virtual disks you can use. This list appears in a window, temporarily overlaying part of the existing information on the display, as follows:



S9088404-2

You can limit the virtual disks listed by typing a partial virtual disk name followed by an asterisk (*) in the input area and pressing the F2 key. For example, if you type SM* in the input area and press the F2 key, a list of all virtual disks that begin with SM will be displayed.

Notes:

1. *The F2 key lists only the virtual disks created using PC Support/36. Virtual diskettes created using the File Support Utility are not listed.*

2. *When System/36 resource security is active, the F2 key does not list any virtual disks you are not authorized to read. In addition, System/36 resource security may prevent you from writing to one or more of the virtual disks listed. For details on System/36 resource security see the* ***System Security Guide****.*

To select a virtual disk from this list, use the Up Arrow and Down Arrow keys to highlight the virtual disk you want, and select it by pressing the F9 key. The disk name is automatically copied into the Virtual disk name input area, and the list is removed from the display.

If there are more names than will fit on the window at one time, you can use the Page Up and Page Down keys, or the Up Arrow and Down Arrow keys to display the names. You can also use the Home key to display the first name in the list, or the End key to display the last name in the list.

After you complete the Virtual disk name prompt, press the Enter key.

Your access level

This prompt allows you to control what you can do with the virtual disk, and how you share the virtual disk with other users. You can enter one of the following:

- 1 (Exclusive). This means that you can read and write to the virtual disk, but no other users, including yourself, can access the virtual disk as long as you have it assigned. You can assign the disk at this level only if no one else has it assigned. No other users can assign this disk until you release it.

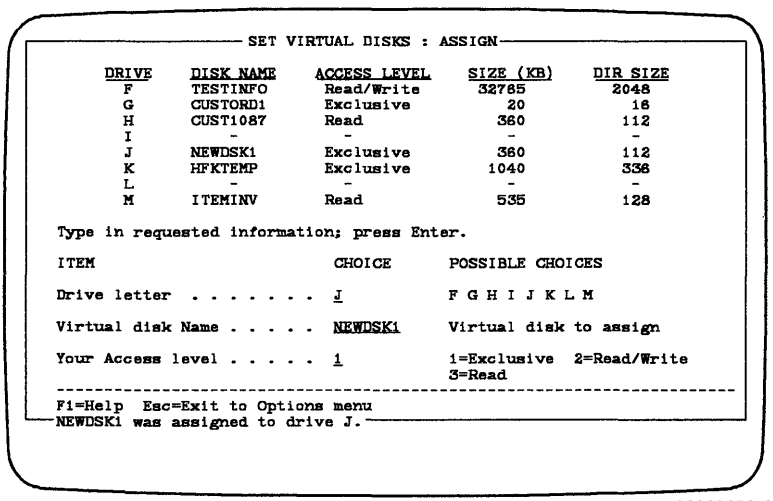
- 2 (Read/Write). This means that you can read and write to the virtual disk, but other users can only read the disk. If another user has the virtual disk assigned with an access level of Exclusive or Read/Write, you cannot assign it using an Exclusive or Read/Write access level. This level of access should be used with caution.

  Note: If one user is writing to the virtual disk (read/write access) and other users are reading the virtual disk (read access), changes made by the person writing to the virtual disk may not be seen by the users who are reading it. This can result in the users with read access receiving incorrect data from the virtual disk. For details on sharing virtual disks, refer to Chapter 4, "The Virtual Disk Facility," in the ***PC Support/36 Technical Reference****.*

- 3 (Read). This means that you can read the virtual disk, but not write to it. Another user can read and write to it. You would use this access level if you want to read information on a particular disk, but not accidentally change the information. If another user has the virtual disk assigned with an access level of Exclusive, you cannot assign it using a Read access level.

Type a 1, 2, or 3 and press the Enter key. The SETVDSK program tries to assign the virtual disk to the virtual drive.

You then receive a message telling you whether or not the virtual disk or diskette was assigned. If the virtual disk or diskette was assigned, the new configuration appears on the top portion of the display, as follows:

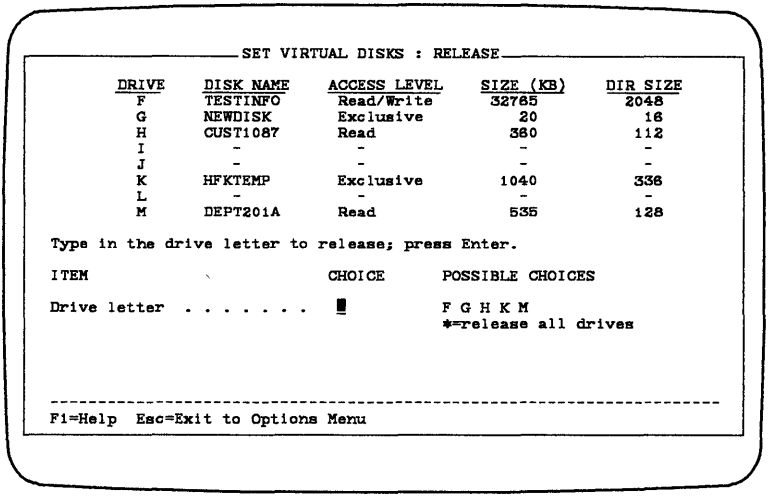


S9088676-3

You can now change another virtual disk assignment or press the Escape key to return to the OPTIONS menu.

Releasing Virtual Disk Drives

If you want to release a virtual disk and drive that are already assigned, type a 2 in the Select input area on the OPTIONS menu and press the Enter key. The following display appears:



S9088406-1

Drive letter

This prompt is required. Type the letter of the virtual disk drive you want to release, or an asterisk (*) to release all virtual drives. Press the Enter key.

A message appears at the bottom of the display, confirming that the specified virtual disk was released. When the virtual disk is released, the new configuration is shown in the top portion of the display. You can now release another virtual disk, or press the Escape key to return to the OPTIONS menu.

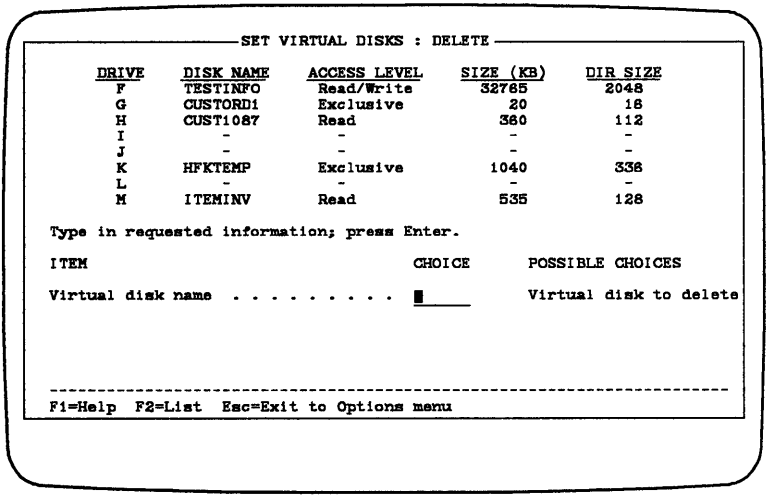
Deleting Virtual Disks or Diskettes

Before you can delete a virtual disk or diskette that is assigned to a virtual drive, you must release it from the virtual drive. Refer to "Releasing Virtual Disk Drives," earlier in this chapter.

You cannot delete a virtual disk or diskette that is currently assigned to another user.

Note: When you delete a virtual disk, any data stored on that virtual disk is permanently destroyed.

To delete a virtual disk, type a 4 on the OPTIONS menu and press the Enter key. This will display the following:



S9088408-1

The top portion of the display shows the current configuration for the virtual disks. The bottom portion of the display contains the following prompt:

Virtual disk name

Type the name of the virtual disk or diskette you want to delete in the input area.

If you want a list of virtual disks, press the F2 key. You can use the Up Arrow and Down Arrow keys or the Page Up and Page Down keys to highlight the virtual disk name you want. Pressing the Home key displays the first virtual disk in the list, and pressing the End key displays the last virtual disk in the list.

You can limit the virtual disks listed by typing a partial virtual disk name followed by an asterisk (*) in the input area and pressing the F2 key. For example, if you type SM* in the input area and press the F2 key, a list of all virtual disks that begin with SM will be displayed.

When you find the virtual disk you want, select it from the list by pressing the F9 key. The name is automatically copied into the input area.

Notes:

1. *The F2 key lists only the virtual disks created using PC Support/36. Virtual diskettes created using the File Support Utility are not listed.*

2. *When System/36 resource security is active, the F2 key does not list any virtual disks you are not authorized to read. However, System/36 resource security may prevent you from deleting one or more of the virtual disks listed.*

When you complete this prompt, press the Enter key. You will receive a warning message to confirm whether you really want to delete the virtual disk.

You can press the Escape key to cancel the request. To continue, press the Enter key.

Note: Resource security may be active on the System/36 for the virtual disk or diskette you want to delete. If so, you must have authority on the System/36 to delete the disk or diskette. Otherwise, it is not deleted, and an error message is displayed.

While the disk is being deleted, you receive a message that says the system is running. If an error occurred and the disk was not deleted, a message is displayed telling you why the virtual disk was not deleted.

Running the Automatic Virtual Disk Facility

You might want to have virtual disks automatically assigned or released. For example, you might always work with the same virtual disk or disks, and have no need to create virtual disks or change virtual disk assignments. You can have virtual disks automatically assigned and released using the automatic virtual disk facility, CFGVDSK.

The CFGVDSK program uses entries in the PC Support/36 configuration file, CONFIG.S36, or a VDSK setup file to assign and release virtual disks. For details, refer to Chapter 4, "The Virtual Disk Facility" in the *PC Support/36 Technical Reference.*

The command to start the automatic virtual disk facility is CFGVDSK.

Purpose: This command starts the automatic virtual disk facility.

Format: [d:]CFGVDSK [VDSK-setup-filename]

Remarks: **d:** specifies the disk or diskette drive where CFGVDSK.COM resides. Type a letter followed by a colon to specify the drive. (For example, A represents the first drive, B represents the second.) The drive letter is required only if CFGVDSK.COM is not in the default drive.

VDSK-setup-filename specifies the name of a file in which CFGDSK will search for VDSK entries to process. The VDSK-setup-filename is optional. If you do not specify the VDSK-setup-filename, CFGVDSK will search the PC Support/36 configuration file, CONFIG.S36, for VDSK entries.

The format of the VDSK-setup-filename is:

[c:][path]filename[.ext]

where:

c: specifies the drive where the file containing the VDSK entries resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\). The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory.

If the path name is not specified, the current directory is used.

filename specifies the name of the file that contains the VDSK entries. The filename can be from 1 to 8 characters.

.ext specifies the filename extension. The extension consists of a period and up to 3 characters. The extension must immediately follow the filename. This entry is optional.

CFGVDSK ignores any parameters after the VDSK-setup-filename parameter.

Example:

The following command starts the automatic virtual disk facility.

CFGVDSK

In this example, the automatic virtual disk facility program searches the CONFIG.S36 configuration file for virtual disk (VDSK) entries to process. Each of these entries is treated as a request to assign or release a virtual disk or diskette.

If you need to change the configuration of your virtual disks frequently, you may add the VDSK-setup-filename parameter to the CFGVDSK command. CFGVDSK will then look in the VDSK-setup-file for VDSK entries to process.

Note: If you specify the VDSK-setup-file, CFGVDSK will search only for VDSK entries in the VDSK-setup-file. Other entries, such as A2ET or E2AT, are searched for in the CONFIG.S36 file. Any VDSK entries in the CONFIG.S36 file are ignored.

When you are ready to start the automatic virtual disk facility, type the CFGVDSK command and press the Enter key.

For information on how to place entries in the CONFIG.S36 file, refer to Chapter 2, "The PC Support/36 Configuration File" in the *PC Support/36 Technical Reference.*

The format of the VDSK setup file is the same as the CONFIG.S36 file format with the following exceptions:

1. The VDSK setup file does not require the header record (Support/36) although it is recommended that you include the header record as the first record of the VDSK setup file.

2. Only VDSK entries in the VDSK setup file are processed by CFGVDSK. All other entries are ignored.

For details on how to place VDSK entries in the VDSK setup file, refer to Chapter 2, "The PC Support/36 Configuration file" in the *PC Support/36 Technical Reference.*

Virtual Disk Considerations

To use the virtual disk facility, you must have at least one physical disk or diskette drive. You cannot power on or restart your personal computer from a PC Support/36 virtual disk. This is because the virtual disk support is installed during the process of restarting your personal computer.

Virtual disks are automatically formatted when they are created. They cannot be formatted using the DOS FORMAT command. A virtual disk is formatted in much the same way as a hard disk is formatted using a DOS 2.1 FDISK command. If you are using a virtual disk that is larger than 10 megabytes, you will not be able to store as many files on the virtual disk as you could on a hard disk of the same size formatted using a DOS 3.X FDISK command.

The following DOS functions will not work for virtual disks:

DISKCOPY

DISKCOMP

SYS

You cannot change virtual disks while a personal computer application is running. All virtual disks needed by a particular application must be assigned before that application is started.

Chapter 6. Using the PC Support/36 Shared Folders Facility

Contents

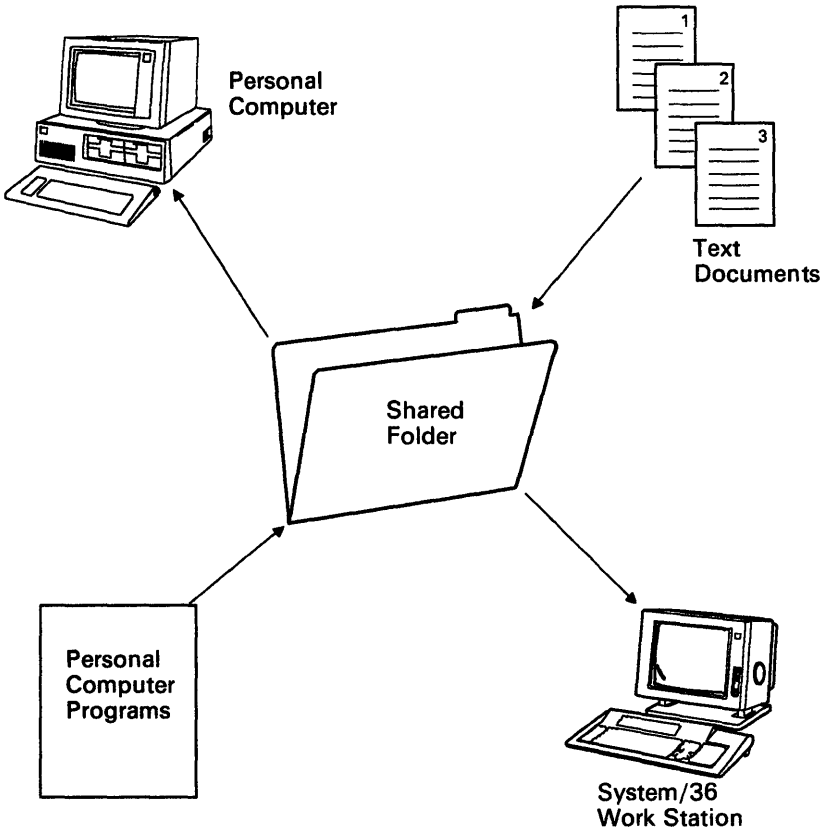
Introduction

System/36 office products use folders to store information such as text documents, mail, and data. A *folder* is like a System/36 library, except that it contains variable-length records instead of only fixed-length records. Document folders are frequently used on the System/36 to store text documents.

These documents are stored electronically in the folders on your System/36, just as you might store documents in paper folders in a file cabinet. When a document is stored in a folder, it becomes a folder *member*. PC Support/36 allows you to access and share members in document folders on the System/36. It also allows you to store personal computer files as members in document folders.

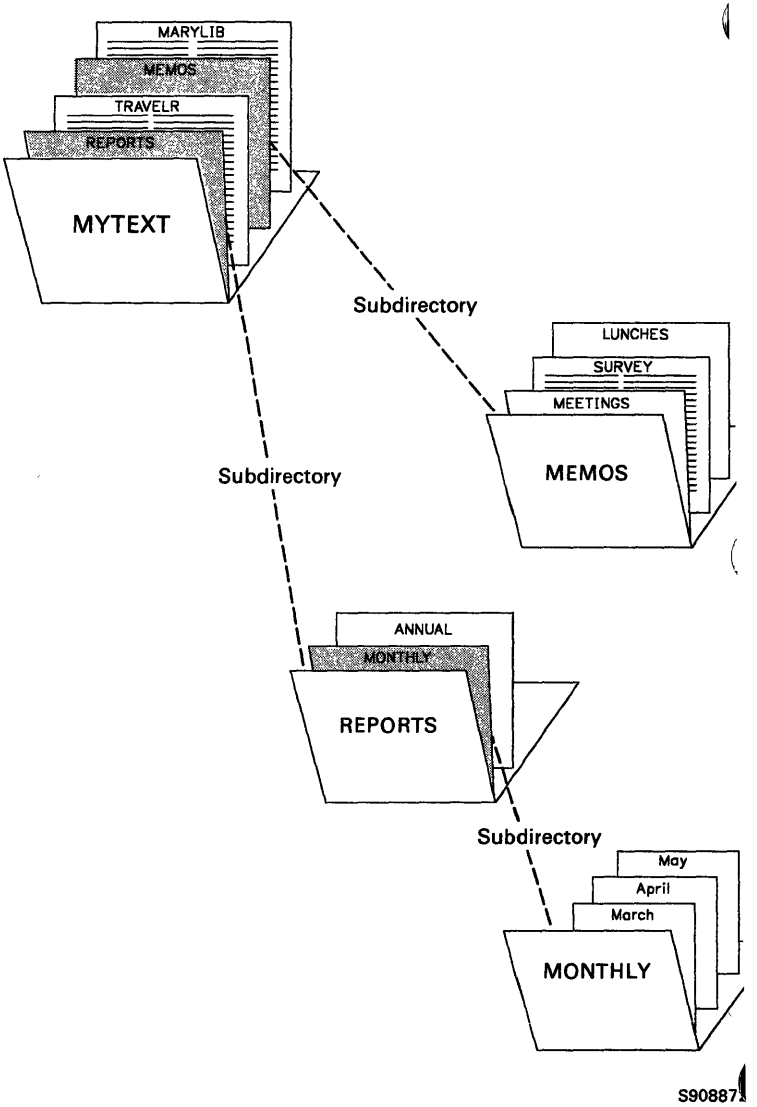
The members you store in document folders are in personal computer format, just like DOS files. You access document folders as though you were accessing a DOS drive or directory. You can also access them on the System/36 using DisplayWrite/36 or other System/36 office products.

These folders are called *shared folders* because they can be accessed and shared by System/36 and personal computer users.



ACC011-3

You can create and use subdirectories to organize and secure information within shared folders. A subdirectory is like a folder within a folder. You can have many subdirectories in the same folder, and each subdirectory can, in turn, contain several members or subdirectories.



The concept of shared folders is very similar to the concept of using virtual disks. That is, your information is stored on the System/36, but you access and use the information the way you would if you were using a personal computer fixed disk. However, shared folders provide several advantages over using virtual disks. These advantages are:

- You can directly access System/36 folders from your personal computer.
- You can access all shared folders from a single personal computer drive. (You can assign only one virtual disk at a time to a personal computer drive.)
- You can apply System/36 security to individual directories or folder members. Refer to "Securing Shared Folders" later in this chapter for details on how to use security for shared folders.
- A shared folder can be accessed and updated by several users at the same time.
- A shared folder member can be shared by several personal computer applications that support file sharing.
- A shared folder can be extended.

You can use the PC Utility to copy existing virtual disk files to shared folders. Refer to Chapter 8, "The Translation Table Utility" in the *PC Support/36 Technical Reference* for information on how to use the PC Utility.

Getting Ready to Use Shared Folders

Before you can use shared folders, you must have a CONFIG.SYS configuration file containing DEVICE entries for shared folders. The CONFIG.SYS file contains configuration commands. These commands set the configuration values that DOS will use when you power on or restart your personal computer. The CONFIG.SYS file must be in the root directory of the drive from which you power on or restart your personal computer.

Each time you load DOS, it searches the root directory of the drive from which it is started for the CONFIG.SYS file. If this file is found, DOS reads the file and interprets the commands within the file. If the CONFIG.SYS file is not found, DOS assigns default values for the configuration commands.

When you install the shared folders facility, PC Support/36 looks for the required DEVICE entries in the CONFIG.SYS file. If these entries are not in your CONFIG.SYS file they are automatically added for you when you run the INSTALL or COPYFSPC command. If you do not have a CONFIG.SYS file, it is automatically created.

Note: If you used the INSTALL command and said you were using Shared Folders to create the LINK36 support and run the LINK36 command, a CONFIG.S36 file has been set up for you.

The format of the DEVICE entries for shared folders is as follows:

DEVICE = [d:][path] FSDDX.SYS [F = ff][D = dd]
DEVICE = [d:][path] FSDD.SYS [B = bb]

where:

d specifies the name of the disk or diskette drive, or virtual drive, where FSPC resides. Type a letter followed by a colon (:) to specify the drive. For example, A represents the first drive, B represents the second. The drive is required only if FSPC is not in the default drive.

path specifies a path of directory names that tell where the shared folders device driver resides. Type the directory names separated by backslashes (\). You do not have to specify a path if the device driver is in the root directory.

F = ff specifies the maximum number of files that can be open at one time. You can specify any number from 1 to 30. If you do not specify a value for **ff**, 8 is assumed.

D = dd specifies the maximum number of drives you want to have assigned at one time. The value you specify for **dd** can be a number from 1 through 26. If you do not specify a value, 8 is assumed. If you specify a value greater than the number of drive ID's available, you will get the maximum number of drive ID's available.

B=bb specifies the buffer size in K-bytes. You can specify any number from 0K bytes to 47K bytes. If you do not specify a value, 0 is assumed.

Note: Each open file requires 40 bytes of storage on your personal computer.

Shared Folder Command

PC Support/36 provides a command, FSPC, which allows you to work with shared folders. By specifying certain values with the FSPC command, you can work with shared folders or members within those folders.

FSPC

Purpose: This command allows you to assign, release, and show status of personal computer drives used to access shared folders.

Format: FSPC function (HELP | parameters)

Remarks: **FSPC** is the command to assign, release, and show status of personal computer drives used to access shared folders.

function specifies the shared folder function you want to perform. Values you can specify for **function** are:

HELP, to display help text describing how to use the FSPC command.

ASSIGN, to assign a drive to a System/36. You can specify a path of directory names with this parameter (for example, ASSIGN E:/DIRa/DIRb/DIRc). You can use either a forward slash (/) or a backslash (\) to separate the directory names.

RELEASE, to release a drive that is assigned to a System/36 (for example, RELEASE E:).

STATUS, to display the status of all drives used to access shared folders on the System/36. If you do not specify a function on the FSPC command, STATUS is assumed.

HELP displays help text describing how to use the FSPC *command function* you specified.

Examples:

The following command displays help text for the FSPC command.

FSPC HELP

The following command assigns drive S to the System/36.

FSPC ASSIGN S:

The following command assigns drive L to the folder named DEPT42 and the subdirectory REPORTS:

FSPC ASSIGN L: /DEPT42/REPORTS

Using Help

You can request help for the FSPC command or for any of the shared folder functions. To request help, type the parameter, HELP, after the function for which you want help.

For example, if you type:

FSPC HELP

help text for the FSPC command appears. If you type:

FSPC ASSIGN HELP

help text for the ASSIGN function appears.

Accessing Shared Folders

To access shared folders on the System/36, you must assign a drive in one of the following ways:

- As a *directory drive*, which allows you to assign and use a specific directory you have authority to use on the System/36. The directory can be a shared folder or a subdirectory within the shared folder.

  For example, you could assign drive D to the directory DEPT24. When you use a directory drive, you must have a separate drive assigned for each directory you want to access.

- As a *system drive*, which allows you to access any number of directories you have authority to use. For example, you could assign drive S to the System/36. You can then use the DOS change directory command CD to change from one directory to another. The directory may be a shared folder or a subdirectory within a shared folder. You do not have to end the application you are running to assign the drive to a different directory.

- Once you have assigned a directory drive or a system drive, you can use DOS commands to work with the drive.

- You cannot use the following DOS commands with shared folders:

  - CHKDSK
  - DISKCOMP
  - DISKCOPY
  - FDISK
  - FORMAT
  - JOIN
  - LABEL
  - RECOVER
  - SUBST
  - SYS
  - Or any other command that does sector input/output

- There are restrictions on the use of the following DOS commands with shared folders:

BACKUP	Files cannot be backed up to a system drive unless a folder named BACKUP previously exists, a folder cannot be created by this command.
COPY	Files cannot be copied to the first level directory (root) of a shared folder system drive. Only folders (system drive subdirectories) can exist on the root level of a system.

MKDIR	Directories cannot be created on the first level directory of a shared folder system drive.
RESTORE	Files backed up to a shared folder can be used to restore files on a personal computer disk or diskette. The files will be restored from a folder or subdirectory named BACKUP. Files within a shared folder can be restored from a personal computer disk or diskette.
RMDIR	Directories cannot be removed from the first level directory of a shared folder system drive.
XCOPY	Files cannot be copied to the first level (root) of a shared folder system drive. Only folders (system drive subdirectories) can exist on such a drive.

Directory Considerations

You should consider the following when using shared folders:

- Personal computer applications cannot open files that are directories.

- You cannot use the DOS make directory (MKDIR) to create a shared folder. (In other words, you cannot create a directory at the root level of a system drive.) However, you can use the MKDIR command to create a subdirectory in an existing shared folder. To create a shared folder, you must use the TEXTFLDR procedure on the System/36.

- You can use the remove directory command (RMDIR) to remove only subdirectories within a shared folder. You cannot use it to remove a shared folder. To remove a shared folder, you must use the TEXTFLDR procedure on the System/36.

- When you are using a system drive, you cannot store information in the root directory. The root directory provides only directory information.

  Note: If you are using a directory drive, you can store information in the root directory.

- You cannot have more than 239 subdirectories in any one shared folder.

Using a Directory Drive

A directory drive allows you to access one directory. The directory can be a System/36 shared folder or a shared folder subdirectory you are authorized to. Once assigned, you can access any subdirectories or files you are authorized to within the directory assigned.

To assign a directory drive, use the FSPC command as follows:

FSPC ASSIGN [d:] path //System/36

where:

ASSIGN is the parameter that lets you assign a drive.

d: is the letter of the drive you want to assign. If you do not specify a drive letter, the next available drive letter is used.

path is the path to the System/36 directory you want to assign. The path must begin with a folder name. For example:

FSPC ASSIGN M: /MONTHLY/JUNE

System/36 is the corresponding link-name from the TRLI entry in the configuration file.

Once you have assigned a directory, you can use DOS commands to work with the drive. For example:

- DIR lists the directory entries of the drive you have assigned. The System/36 will not allow you to access or list entries that you are not authorized to use.
- ERASE erases the files in the directory of the assigned drive.
- CD changes the directory of the assigned drive.

Using a System Drive

A system drive allows you to access any number of directories from a single personal computer drive. To assign a system drive, use the FSPC command as follows:

FSPC ASSIGN [d:]

where:

ASSIGN is the parameter that lets you assign a drive.

d: is the letter of the drive you want to assign. If you do not assign a drive letter, the next available drive is used.

For example, the following command assigns drive L as a system drive:

FSPC ASSIGN L:

You can use the DOS commands DIR, ERASE, and CD, as described in the preceding section "Using a Directory Drive." You can also use the DOS COPY command. For example:

COPY a:*.* L :\DEPT45

would copy all of the information in the root directory of drive **a** to the directory DEPT45, which is a System/36 shared folder.

Sharing Folder Members

If the personal computer program you are using is designed for file sharing, you may use a shared folder to store your shared files. See the documentation for your program to find out if it is designed for file sharing.

File sharing is only supported between personal computer programs. Sharing with a System/36 user is not supported.

File Sharing Considerations

Shared folder will fully support the following sharing modes:

- Compatibility mode
- Deny Write
- Deny None

The sharing mode of Deny Read/Write (Exclusive) mode is supported the same as Compatibility mode.

The sharing mode of Deny Read is supported the same as Deny None.

The DOS command SHARE is not required to share files in a shared folder.

A file opened in Compatibility mode will not allow any sharing with other personal computer users.

The personal computer Byte Locking function is supported by shared folder when a file is being shared.

For more information on personal computer file sharing, refer to *Disk Operating System Technical Reference.*

Securing Shared Folders

When you use shared folders, you can take advantage of System/36 resource security to secure folders and subdirectories or members in the folder. You must use System/36 resource security procedures to secure the folders.

Once you have created a folder, you can use the System/36 procedure SECEDIT to assign the appropriate level of security. For example, from a System/36 display, you can type:

SECEDIT RESFLDR

This displays a series of menus to step you through resource security.

When you create subdirectories or members within a folder, they are automatically given the same level of security as the folder or subdirectory in which they are created. You can give a subdirectory or member within a folder a different level of security using the System/36 procedure SECEDIT. For more information on the System/36 procedure SECEDIT refer to the *IBM System/36 System Reference.*

Security Requirements

The following are the System/36 resource security levels that can be used to secure shared folders, and their meanings. They are listed here from the highest level of security (owner, which gives the most authority) to the lowest level of security (none). Resource security can be applied to the entire folder, folder members, and/or subdirectories within the folder.

Owner The owner of the folder can rename the folder and perform security functions for the folder. Only the owner can change the security levels of all subdirectories and members within the folder.

Change The user can create, or delete subdirectories within the folder.

Update The user can perform all member-related functions. These functions include update, create, delete, rename, and change. The user cannot perform these functions for subdirectories within a folder.

Read The user can read a member, do search functions, and archive members in the folder.

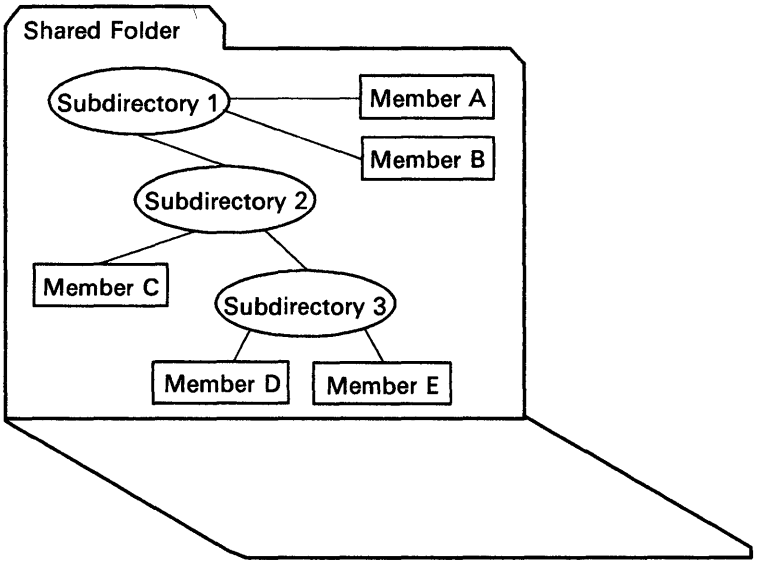
Run The personal computer user can run a program and do folder search functions.

None The user has no access to subdirectories in the folder.

Users most commonly have security levels of change, read, and update.

Levels of security are hierarchical for members within a folder. That is, a folder member cannot have a higher level of security than the subdirectory that contains it. However, security is *not* hierarchical for subdirectories. A subdirectory can have any level of security independent of the security of the folder in which it is located.

The following diagram will help you understand how the different levels of security work when applied to subdirectories and members within shared folders.



In this diagram, members A and B can have any level of security less than or equal to subdirectory 1. If a user has read authority to subdirectory 1, the user can have only read or run authority to members A and B.

Since a subdirectory can have any level of security, a user could have read authority to subdirectories 1 and 2, but could have update authority to subdirectory 3. If a user has update authority to subdirectory 3, the user can have update, read, or run authority to members D and E.

Chapter 7. Using the PC Support/36 Virtual Printer Facility

Contents

Introduction

The PC Support/36 virtual printer facility allows you to use System/36 printers from your personal computer in addition to a PC-attached personal computer printer. This allows you to take advantage of the faster speed and quality of the larger System/36 printers. The term *virtual printer* means that the printer is controlled using nearly the same commands you use for your personal computer printer, even though the printer is actually attached to the System/36.

Note: The virtual printer facility assumes that the data to be printed is intended for the IBM Personal Computer Matrix printer, the IBM Personal Computer Graphics printer, or other compatible personal computer printers, unless an alternate printer data type is specified. (Refer to "Setting Printer Data Type," later in this chapter, for details on the options available.) Printer data intended for use with other personal computer printers may not be correctly converted to the appropriate System/36 printer data stream by the virtual printer facility.

Using a personal computer printer differs from using a virtual printer in that, for a virtual printer, a print file is necessary. A *print file* allows more than one program or user to share the same printer.

Print files are not necessary for the personal computer, because the personal computer printer is intended for use by one person. However, print files are necessary when you use a virtual printer, because the output is actually printed on a System/36 printer being shared by many programs and users.

When you print on the virtual printer, a print file is opened on the System/36. This file collects all of the data to be printed. When the end of the data is reached (all the data to be printed has been collected), the print file is closed. The complete contents of the print file can then be printed. This leaves the System/36 printer available for other users to share until your complete file is ready to be printed.

For details on opening and closing print files, refer to Chapter 5, "The Virtual Printer Facility" in the *PC Support/36 Technical Reference.*

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.

Note: The virtual printer facility should not be used with any personal computer print spoolers, such as the DOS PRINT command.

However, it is recommended that the System/36 Spool utility be active if you are using a virtual printer. If the System/36 Spool utility is not active, and errors occur when the virtual printer facility is communicating with the System/36 printer, unpredictable results will occur. These unpredictable results can affect any other PC Support/36 programs you are running, including the virtual disk facility and the transfer facility.

You can use any of the following System/36 printers as a virtual printer:

System/36 Printer	Description
3262	High-speed printer
4214	Medium-speed printer
4224	IPDS printer
4234	Medium-speed matrix printer
4245	Very high-speed printer
5219 or 3812	Letter-quality printer
5224 or 5225	Matrix printer
5256 or 5262	Low/high speed printer
5553 or 5557	IGC (Ideographic Capable) printer

Before you can use a virtual printer, you must first start DOS, and the LINK36 support. To do this, refer to Chapter 3, "Starting PC Support/36."

To use a virtual printer, you must start these programs:

- LINK36, which sets up the link to the System/36.
- VPRT.COM, which sends print requests from the personal computer to the System/36 when a virtual printer is being used.
- One of the following:
  - The interactive virtual printer facility program, SETVPRT, which prompts you, step-by-step, through defining the printers you want to use as virtual printers.
  - The automatic virtual printer facility program, CFGVPRT, which automatically sets up the virtual printers for you using VPRT entries in the PC Support/36 configuration file, CONFIG.S36, or in the VPRT setup file you specified.

The ISETVPRT command will start the interactive printer facility, SETVPRT. ISETVPRT automatically loads and runs the PC Support/36 router, VPRT.COM and SETVPRT.

Starting the Virtual Printer Facility

To use the virtual printer facility, you must start the VPRT.COM program. This program must be started before you can use either the interactive virtual printer facility program or the automatic virtual printer facility program. VPRT.COM sends print requests from the personal computer to the System/36 when a virtual printer is being used.

Note: If you use the ISETVPRT command, the VPRT.COM program and the PC Support/36 router are automatically started.

Once you run the VPRT.COM program, it becomes a resident program. This means that you need to run VPRT.COM when you power on or restart your personal computer; you do not need to run VPRT.COM every time you run CFGVPRT or SETVPRT.

To start the VPRT.COM program, use the VPRT command.

VPRT

Purpose: This command starts the virtual printer facility.

Format: [d:]VPRT

Remarks: **d:** is the drive containing program VPRT.COM. You need to enter the drive information only if the program VPRT.COM is not in the default drive. After you type the command, press the Enter key.

Example:

The following command starts the virtual printer facility:

VPRT

When you are ready to start the virtual printer facility, type the VPRT command after the DOS prompt and press the Enter key.

Running the Interactive Virtual Printer Facility Program

The interactive virtual printer facility program prompts you through defining the printers you want to use as virtual printers and how the printed output should look (for example, number of lines per inch, forms length, and number of copies). You can run this program whenever you want to assign, release, or change virtual printers. To start this program, use the SETVPRT command.

SETVPRT

Purpose: This command starts the interactive virtual printer facility.

Format: [d:]SETVPRT [/x][/y]

Remarks: **d:** is the drive containing the SETVPRT program. Type a letter followed by a colon to specify the drive. (For example, A represents the first drive, B represents the second.) The drive is required only if SETVPRT is not in the default drive.

/x specifies the type of display you are using. This parameter is optional; it tells the program what attributes to send to your display. Values you can specify for x are an uppercase or lowercase M or C. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

/y specifies the display writing speed. This parameter is optional; it tells the program what speed your display should write at. Values you can specify for y are an uppercase or lowercase H or S. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Example:

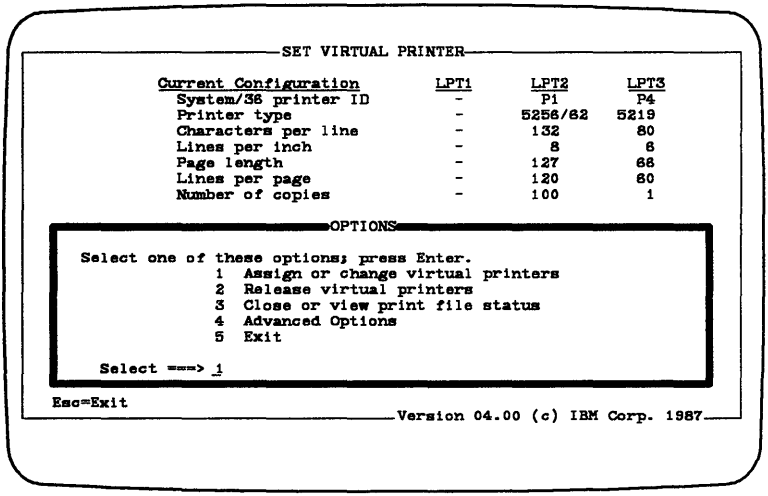
Assume that you are using a monochrome display attached to a Color/Graphics Monitor Adapter card, you want to use slow speed display writing, and the SETVPRT program is in the default drive. You might enter:

SETVPRT /M/S

When you are ready to start the interactive virtual printer facility program, type the SETVPRT command after the DOS prompt and press the Enter key.

If you have not started the router, but DOS and the 5250 Emulation Program, or the IBM Token-Ring Network, are started, you can use the ISETVPRT command. This will start the router, VPRT.COM, and the SETVPRT program. The format for ISETVPRT is the same as for the SETVPRT command.

The OPTIONS menu appears as follows:



S9088701-5

The top portion of the display shows how the printers are currently assigned (when SETVPRT or CFGVPRT was previously run). On the display shown, there are currently two virtual printers assigned:

- LPT2: Printer output sent to LPT2 is printed on the System/36 printer named P1. This printer is a 5256 or a 5262 Printer. The output printed on LPT2 is to have 132 characters per line, 8 lines per inch, and 120 lines per page on a page length of 127 lines. One hundred copies of each print file are to be printed.

- LPT3: Printer output sent to LPT3 is printed on the System/36 printer named P4. This printer is a 5219 Printer. Output printed on LPT3 is to have 80 characters per line, 6 lines per inch, and 60 lines per page on a page length of 66 lines. One copy is to be printed.

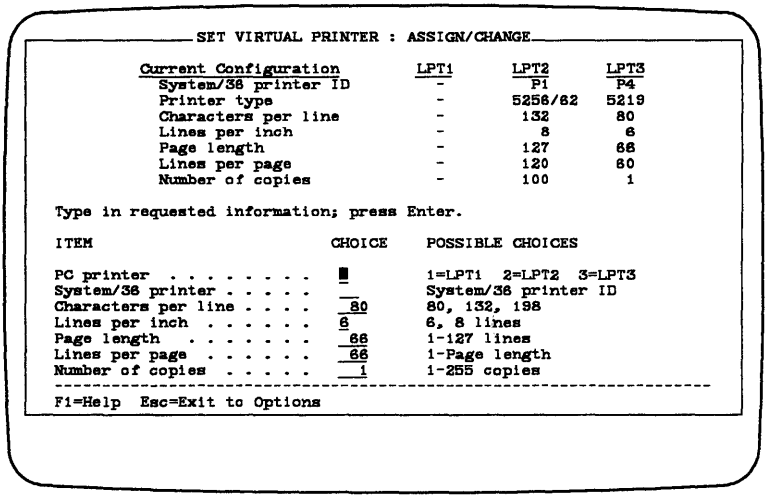
LPT1 was not assigned as a virtual printer. This means that any output sent to LPT1 is printed on the personal computer printer, if one is attached.

From the OPTIONS menu, you can set up or change the virtual printer configuration, release a virtual printer, close or view the status of a print file, select advanced options to perform, or end the SETVPRT program.

Note: If you change the printer values after a print file is opened, the changes will not take effect until after the print file is closed and then opened again.

Assigning and Changing Virtual Printer Configuration

If you want to change virtual printer assignments or assign a new virtual printer, select a 1 (Assign or change virtual printers) on the OPTIONS menu and press the Enter key. The following display appears:



S9088702-2

The top portion of the display shows the current virtual printer configuration. The bottom portion of the display shows various prompts to help you change the current configuration. The default values automatically appear in the input areas. To change a value, simply position the cursor to the input area and type over the default value.

If you need help, you can press the F1 key. You can press the Escape key at any time to return to the OPTIONS menu.

PC printer

The PC printer prompt allows you to specify the printer for which you want to change the configuration. This prompt is required. Type 1 for LPT1, 2 for LPT2, or 3 for LPT3 in the input area, and press the Enter key.

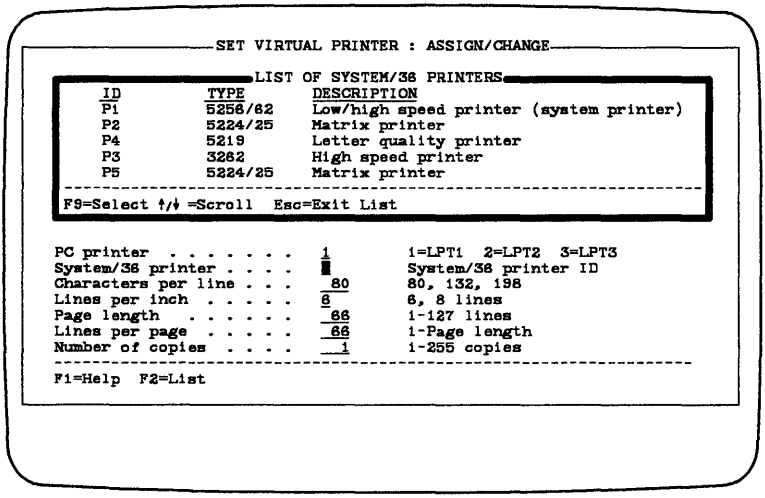
If the printer you chose is currently assigned, the current values for that printer are automatically copied into the remaining prompts. If the printer is not assigned, the default values for the prompts continue to be displayed.

You can now change the values of any of the following prompts.

System/36 printer

To assign a virtual printer, you must specify the 2-character identification of an existing System/36 printer in the input area.

If you do not know the names of the System/36 printers, press the F2 key. This displays a list of the System/36 printers as follows:



S9088703-3

The list of printers includes the printer identification, printer type, and a short description of each printer. You can use the Up Arrow and Down Arrow keys to find the identification of the printer you want, then press the F9 key to select it. The printer identification you select is automatically copied into the System/36 printer input area. To end the list without selecting a printer, press the Escape key.

When you complete the System/36 printer prompt, press the Enter key.

Characters per line

This prompt allows you to specify the number of characters per line to be printed. Values you can specify are 80, 132, or 198. If you do not specify the number of characters per line, the value displayed for this prompt is used.

When you complete this prompt, press the Enter key.

Note: You cannot specify 198 characters per line if a 3262, 4245, 5262, 5256, 5557, or 5553 Printer is being used. Printing 198 characters per line requires a character density of 15 characters per inch. The printers listed above do not support this requirement.

Lines per inch

This prompt allows you to specify the number of lines to be printed per inch. Values you can specify are 6 and 8. If you do not specify the number of lines per inch, the value displayed for this prompt is used. When you complete this prompt, press the Enter key.

Page length

This prompt allows you to specify the length of the printed page. The number you enter here depends on the forms size you are using. You can enter any number from 1 through 127. If you do not enter a page length, the value displayed for this prompt is used.

To determine the page length in lines, multiply the actual page length, in inches, by the number of lines per inch. For example, if the page length is 11 inches and the number of lines per inch is 6, the page length in lines is 66.

When you complete this prompt, press the Enter key.

Note: An error message is sent to the system console when a 5219 Printer is printing your print file if you specify a page length longer than the page length of the paper on the printer.

Lines per page

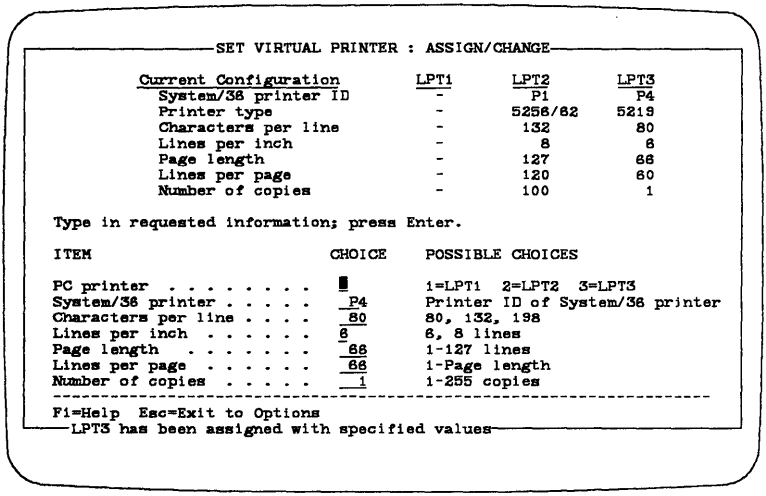
This prompt allows you to specify the number of lines to be printed on each page. The number you can enter here depends on the forms size and how many lines you want printed on each page. You can specify any number from 1 through the page length you specified in the Page length prompt. If you do not enter the number of lines per page, the value displayed for this prompt is used. When you complete this prompt, press the Enter key.

Note: If the data to be printed is already formatted (if it prints correctly on your local personal computer printer), you should specify the same value for the Page length and Lines per page prompts. Otherwise, extra form feeds may be added causing blank pages to appear in your printed output.

Number of copies

This prompt allows you to specify the number of copies of each print file to be printed. You can enter any number from 1 to 255. If you do not enter the number of copies, the value displayed for this prompt is used.

When you complete this prompt, press the Enter key. A display appears showing the new printer configuration information and an informational message, as follows:

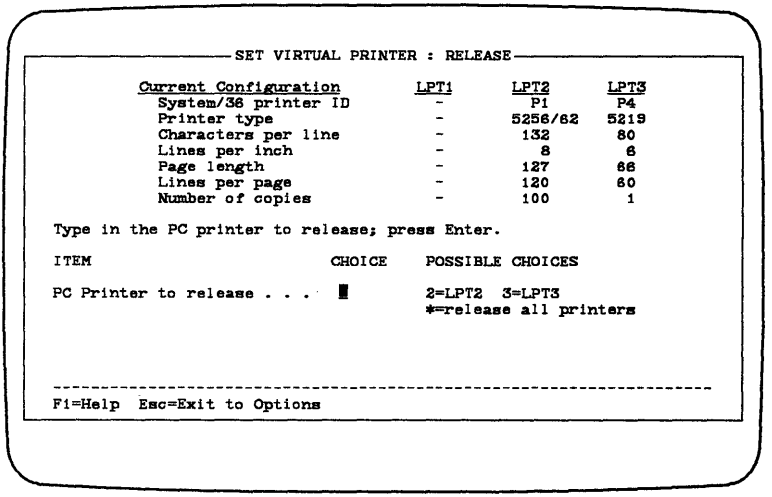


S9088704-1

From this display, you can change another printer assignment or press the Escape key to return to the OPTIONS menu.

Releasing Virtual Printers

If you want to release a virtual printer, select a 2 (Release virtual printers) on the OPTIONS menu, and press the Enter key. The following display appears:



S9088677-2

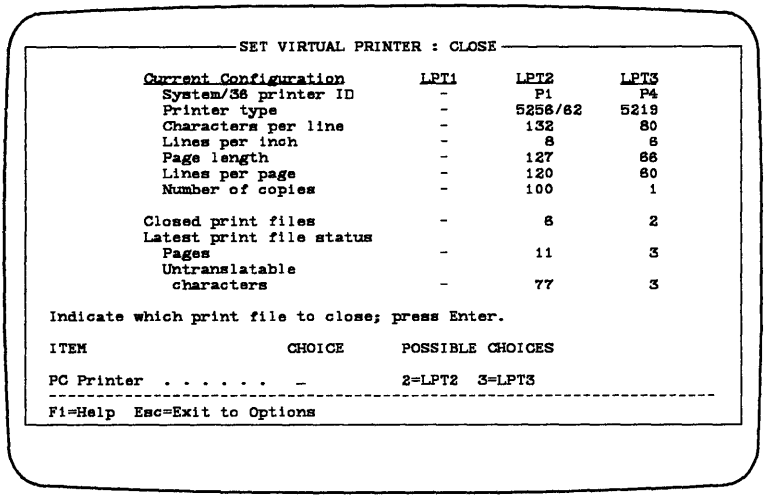
PC Printer to release

Specify the printer you want to release in this prompt. The possible choices depend on what printers you have assigned, and are listed on the display. If you want to release all printers, type an asterisk (*). Press the Enter key.

You will receive a message confirming that the specified printer was released. You can now release another printer, or press the Escape key to return to the OPTIONS menu.

Closing a Print File or Displaying Print File Status

If you want to close a print file or display the status of a print file, select a 3 (Close or view print file status) on the OPTIONS menu and press the Enter key. The following display appears:



S9088706-3

The top portion of the display shows the current virtual printer configuration and the total number of print files closed for each printer. It also shows the status of the latest print file (this is the current status if the file is still opened, or the final status if the file is closed), including the number of pages sent to the latest print file and the number of untranslatable characters found in the file.

If you do not want to close a print file, press the Escape key. This returns you to the OPTIONS menu without closing any print files.

To close a print file, you must complete the PC printer prompt on the bottom portion of the display. If you need help, you can press the F1 key. You can press the Escape key at any time to return to the OPTIONS menu.

Select the print file you want to close by typing one of the possible choices in the PC printer input area. In this example, the possible choices you could enter are 2 (printer LPT2) or 3 (printer LPT3). If no print files are open, no choices are listed.

When you have typed the number for the print file you want to close, press the Enter key. A message appears at the bottom of the display, as follows:

```
                    SET VIRTUAL PRINTER : CLOSE

          Current Configuration        LPT1      LPT2      LPT3
            System/38 printer ID         -        P1        P4
            Printer type                 -      5256/62   5219
            Characters per line          -       132       80
            Lines per inch               -         8         6
            Page length                  -       127       66
            Lines per page               -       120       60
            Number of copies             -       100        1

          Closed print files             -         7         2
          Latest print file status
            Pages                        -        11         3
            Untranslatable
             characters                  -        77         3

Indicate which print file to close; press Enter.

ITEM                      CHOICE      POSSIBLE CHOICES

PC Printer . . . . . .    2           3=LPT3
--------------------------------------------------------------------------------
F1=Help  Esc=Exit to Options
Print file for LPT2 has been closed
```

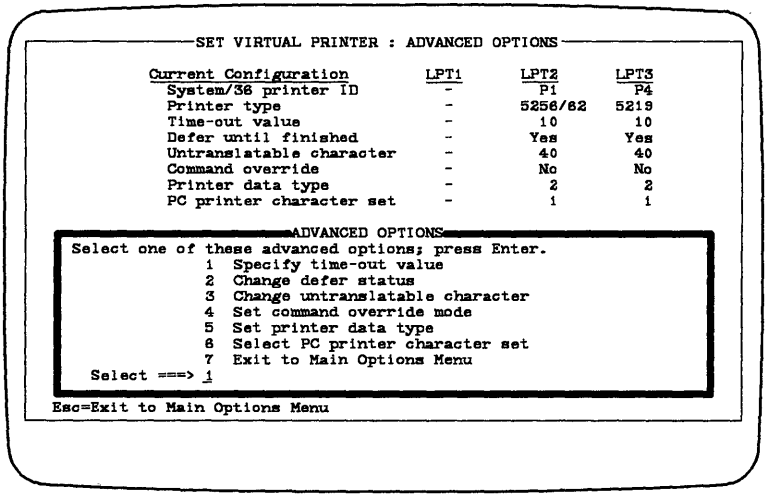
S9088678-3

You can now close another print file or press the Escape key to return to the OPTIONS menu.

Advanced Options

You can specify advanced options for the virtual printer. These options are not necessary for normal use of the virtual printer. These options are intended only for users with special virtual printer requirements.

If you want to specify the advanced options for the virtual printer, select a 4 (Advanced options) on the OPTIONS menu and press the Enter key. The following ADVANCED OPTIONS menu appears:



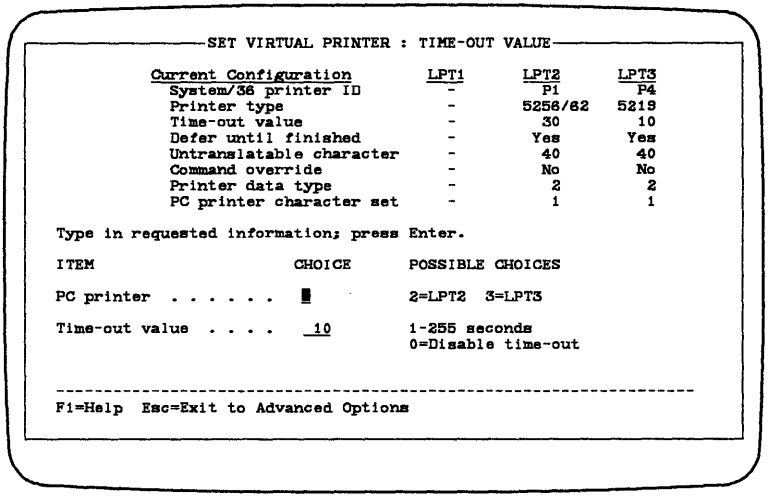
S9088708-4

The top portion of the display shows the current virtual printer configuration and advanced options specified. The bottom portion of the display shows the ADVANCED OPTIONS menu, from which you can select functions you want to perform.

Select the option you want to use and press the Enter key. You can press the Escape key at any time to return to the OPTIONS menu.

Specifying the Time-Out Value

To specify the time-out value, type a 1 (Specify time-out value) on the ADVANCED OPTIONS menu and press the Enter key. The following display appears:



S9088709-3

The *time-out* value tells the virtual printer facility to automatically close an open print file after a specified amount of time. The value you specify for the time-out prompt is the number of seconds you want the print file to remain open after the last character is sent to the virtual printer. If you do not change the time-out value, the value displayed for this prompt is used.

You can use this display to change the amount of time that a print file will remain open, or you can use it to keep the print file open until you close it using the SETVPRT program (option 3).

Note: If there is an existing print file for a virtual printer, changing the time-out value for this printer will not affect the current print file. This file will be closed based on the time-out value in effect when the print file was opened.

You can press the F1 key to display help text for this prompt.

PC Printer

The PC Printer prompt allows you to select the printer for which you want to change the time-out value. This prompt is required.

Type one of the possible choices in the PC Printer input area and press the Enter key. In this example, the possible choices you could enter are 2 (printer LPT2) or 3 (printer LPT3).

Time-out value

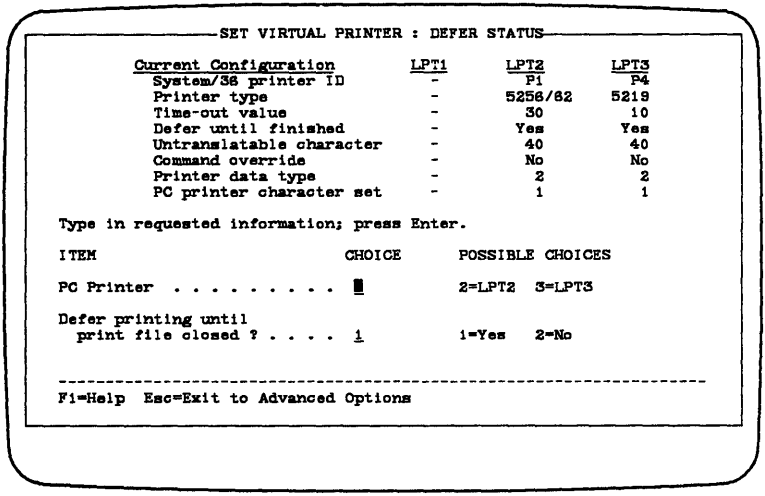
Specify the number of seconds you want the print file to remain open in the Time-out value input area. You can specify any number from 0 to 255. If you want to specify that the print file should not be automatically closed, specify a zero.

Note: If you specify zero for the time-out value, you must explicitly close the print file (for example, by using option 3, Close or view print file status, on the OPTIONS menu). Refer to Chapter 5, "The Virtual Printer Facility" in the ***PC Support/36 Technical Reference*** *for details on various ways to close a print file.*

After you type a value in the Time-out value input area, press the Enter key. A message is displayed confirming that the time-out value is set for the specified printer. You can now either set the time-out value for another printer, or press the Escape key to return to the ADVANCED OPTIONS menu.

Changing the Defer Status

To specify the defer status, type a 2 (Change defer status) on the ADVANCED OPTIONS menu and press the Enter key. The following display appears:



S9088710-5

The *defer status* for the virtual printer tells you whether or not printing is to be deferred, or not printed, until the print file is closed.

Note: The defer status is only used if the System/36 Spool utility is active.

For example, if printing is deferred, the printer waits until it receives the entire document before starting to print it. This gives others more opportunities to use the same printer. If you specify that printing is *not* to be deferred, printing begins immediately and no other file can be printed until the file being printed is closed. Your document may be printed sooner, but could cause delays for others who want to use that printer.

If you do not change the defer status, printing is deferred.

PC Printer

The PC Printer prompt allows you to select the printer for which you want to change the defer status. This prompt is required. Type one of the possible choices in the PC Printer input area and press the Enter key. For example, the possible choices on the display shown are 2 (printer LPT2) or 3 (printer LPT3).

Defer printing until print file closed?

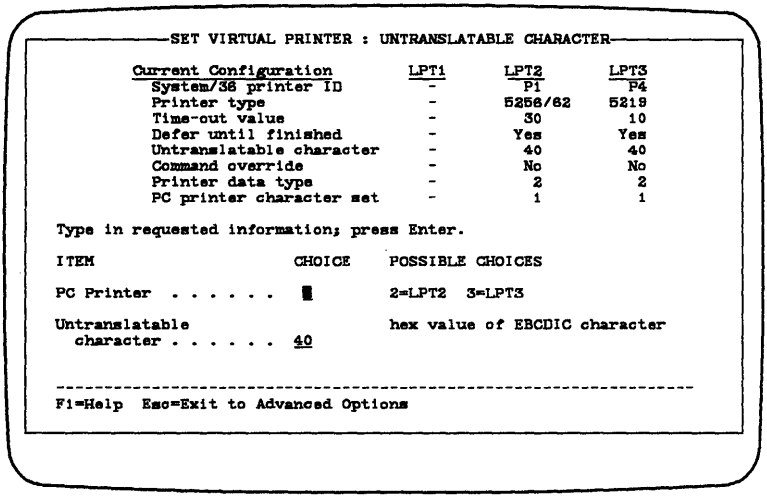
This prompt allows you to specify whether or not you want printing to be deferred (not printed) until the print file is closed. Type a 1 (Yes) or a 2 (No) and press the Enter key. The default is the value displayed for this prompt.

Note: It is recommended that you do not specify 2 (No) for this prompt if you have disabled (specified zero for) the time-out value. This could cause the System/36 printer to be allocated to you for an unlimited period of time (if you do not explicitly close the print file), and prevent others from using the printer. However, some text editors, such as DW3 V1.1, close the print file for you.

After you type a value for this prompt, press the Enter key. A message is displayed confirming that the defer status was set for the specified printer. You can now change the defer status for another printer, or press the Escape key to return to the ADVANCED OPTIONS menu.

Changing Untranslatable Characters

To change the character printed when an untranslatable character is found, type a 3 (Change untranslatable character) on the ADVANCED OPTIONS menu and press the Enter key. The following display appears:



S9088711-3

Because personal computers print ASCII data and System/36 printers accept only EBCDIC data, the virtual printer must translate each character sent from the personal computer from ASCII to EBCDIC. However, some characters cannot be translated.

When an untranslatable character is found, the virtual printer substitutes a printable EBCDIC character. The default character used is an EBCDIC blank. (For details on the EBCDIC character set, refer to Chapter 7, "The Transfer Facility" in the *PC Support/36 Technical Reference.*)

To change the character printed for untranslatable characters, you must specify the following:

PC Printer

The PC Printer prompt allows you to select the printer for which you want to change the untranslatable character. This prompt is required. Type one of the possible choices in the PC Printer input area and press the Enter key. For example, the possible choices on the display shown are 2 (printer LPT2) or 3 (printer LPT3).

Untranslatable character

This prompt allows you to specify the character to be printed in place of an untranslatable character. Refer to the *PC Support/36 Technical Reference* for information about ASCII to EBCDIC conversion tables.

The value you enter in this prompt must be a 2-byte hexadecimal value representing the EBCDIC code for the character you want to be substituted for any untranslatable character. The value you enter must be hexadecimal 40 or greater; values below hexadecimal 40 are unprintable on System/36 printers.

After you type a value for the Untranslatable character prompt, press the Enter key. The new value for the untranslatable character appears on the top portion of the display, and a message appears, confirming that the untranslatable replacement value was set for the specified printer.

You can now change the untranslatable character for another printer, or press the Escape key to return to the ADVANCED OPTIONS menu.

Notes:

1. *You can change the ASCII to EBCDIC translation table using the translation table utility. Refer to Chapter 8, "The Translation Table Utility" in the* ***PC Support/36 Technical Reference*** *for details.*

2. *You should make sure that the character you specify for the untranslatable character is a printable character on the specific System/36 printer you are using. If not, unpredictable results can occur.*

Setting Command Override Mode

Personal computer printer data streams normally have character strings imbedded within them to set and change printer values, such as lines per inch and characters per line. The Set command override mode option allows you to specify whether or not the personal computer printer data stream should override the values for the virtual printer previously specified using the SETVPRT or CFGVPRT program.

You can use the Set command override mode option to override the following parameters on the printer commands. If you override any of these parameters before you send a printable character to the virtual printer, the override takes effect.

After the current print file is closed, the parameters you previously specified using the SETVPRT or CFGVPRT programs are used.

You must specify the parameters you want to override in each of the files in which you want the overrides to take effect.

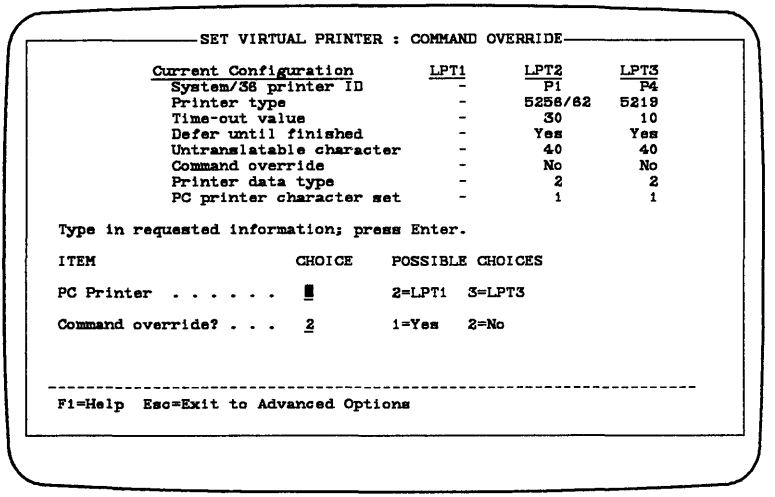
- Lines per inch: You can specify either 6 or 8 lines per inch.

- Characters per line: You can specify either compress off for 80 characters per line or compress on for 132 characters per line. However, if your Characters per line parameter is set to 198, then the compress on and compress off commands will be ignored by the virtual printer facility.

- Page length: You can specify any number from 1 through 127 lines.

- Lines per page: You can specify any number from 1 through the maximum number of lines that will fit on a page.

To set command override mode, type a 4 (Set command override mode) on the ADVANCED OPTIONS menu and press the Enter key. The following display appears:



S9088712-3

PC Printer

The PC Printer prompt allows you to select the printer for which you want to set the command override mode. This prompt is required. Type one of the possible choices in the PC Printer input area and press the Enter key. For example, the possible choices on the display shown are 2 (printer LPT2) or 3 (printer LPT3).

Command override?

This prompt allows you to specify whether or not the personal computer printer data stream should override the values previously specified for the printer. Type a 1 (Yes) or a 2 (No) and press the Enter key. If you do not type a value for this prompt, the value displayed for this prompt is used.

If you specify 1 (Yes) for the Command override parameter, any Characters per line, Lines per inch, Page length, and Lines per page parameters specified in the printer data stream override those values previously specified using SETVPRT, those in the CONFIG.S36 file, or those in the VPRT setup file you specified for the current print file. This assumes the override commands are received before a printable character is received for the current print file.

When the current print file is closed, the virtual printer continues to use the values you previously specified using the SETVPRT or CFGVPRT programs.

Note: If you use printer commands before the first print character of a print file to change any of the assigned values (lines per inch, characters per line, page length, lines per page), the values are changed only for that print file.

If you close the print file and open a new one, the original values set for the virtual printer remain in effect for the next print file. You can change the values again by sending printer commands before the first print character, or by running the SETVPRT or CFGVPRT program and changing the values for that printer.

If you specify 2 (No) for the Command override parameter, the values you specified when you created the CONFIG.S36, the VPRT setup file, or when you set or changed the virtual printer configuration using SETVPRT are used.

After you type a value for this prompt, press the Enter key. A message is displayed confirming that command override was set for the specified printer. You can now set the command override mode for another printer, or press the Escape key to return to the ADVANCED OPTIONS menu.

Setting Printer Data Type

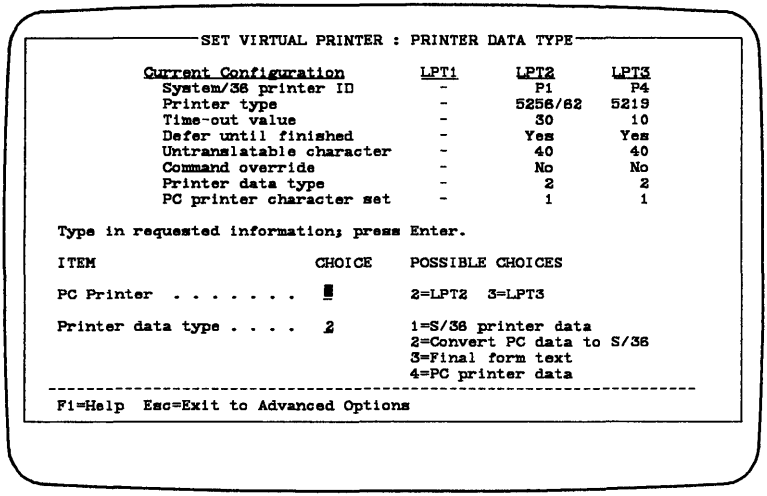
CAUTION
You should exercise caution when changing the printer data type. An incorrect choice of data type can cause unpredictable results on the printer you are sending data to. You should not attempt to change the default setting for the printer data type unless you are certain that the data is in a format that is usable by the intended printer. The default setting for the printer data type is 2 (Convert PC data to S/36). The options available for setting printer data type are described on the following pages.

The virtual printer allows a personal computer printer data stream to be converted to a printer data stream that can be used by a System/36 printer. However, certain functions of the System/36 printers are not available through the virtual printer. These functions have no personal computer equivalent. For information on these functions, refer to the *IBM System/36 Functions Reference* and the *IBM PC Support/36 Technical Reference.*

The use of the printer data type options allow the user to take advantage of printer features that are not otherwise available. A typical use of the printer data type options would be to copy a document file created in final form by DisplayWrite 3 to a 5219 Printer attached to the System/36. To do this, you would type a 3 (Final form text) for the Printer data type prompt on the display.

Note: For the example to work properly, the 5219 Printer must be set up as a virtual printer.

To set the printer data type, type a 5 (Set printer data type) on the ADVANCED OPTIONS menu and press the Enter key. The following display appears:



S9088713-4

PC Printer

The PC Printer prompt allows you to select the virtual printer for which you want to change the printer data type. This prompt is required. Type one of the possible choices in the PC Printer input area and press the Enter key. For example, the possible choices on the display shown are 2 (printer LPT2) or 3 (printer LPT3).

Printer data type

This prompt allows you to specify which printer data type option you want to use. Four options are available, option 2 is the default setting.

1. **S/36 printer data**

   Use this option to send a System/36 printer data stream, unchanged, from the personal computer to a System/36 printer. The printer data stream must be formatted for the specific printer you are sending data to. This option allows the use of System/36 printer features that are not used when the default setting, option 2 is used.

   Notes:

   a. *If the printer data stream is not correctly set up by your program, unpredictable results may occur.*
   b. *This was formerly Transparent mode = yes.*

2. **Convert PC data to S/36**

   This option is the default when a virtual printer is assigned. Use this option to send data normally sent to an IBM Matrix, IBM Graphics, or other compatible personal computer printer to a System/36 printer. The data will be converted to a printer data stream that can be used by the System/36 printer.

   Notes:

   a. *Only a subset of the capabilities of the Matrix, Graphics, or other compatible personal computer printer data streams are supported. Refer to the* ***IBM PC Support/36 Technical Reference*** *for more information.*
   b. *This was formerly Transparent mode = no.*

3. **Final form text**

Use this option to send final form text to a printer that supports final form text. The printer data stream for the final form text will be modified to take advantage of features of the printer that are not available when the default setting, option 2 is used. For example, the simulated bold print and restart capability features.

Notes:

a. *The document must be created in final form text to use this option. If not, unpredictable results may occur.*
b. *This was formerly Transparent mode = yes.*
c. *This option is also allowed on a IPDS printer. However, the following commands are not supported:*

- *Tab*
- *Set a Character Set*
- *Justify*
- *Bell*
- *Set Printer Setup*

4. **PC printer data**

Use this option to send a personal computer printer data stream to a personal computer printer. The ASCII printer data stream is sent to the personal computer printer without any changes. This option allows the use of features on a personal computer printer which is emulating a System/36 printer that are not used when the default setting, option 2 is used and may not be available with option 3.

Note: For this option to work properly, the personal computer attached to the personal computer printer emulating a System/36 printer must have one of the following environments:

The Enhanced 5250 Emulation Program Version 2.1 Service Updates, the Enhanced 5250 Emulation Program, and the Enhanced 5250 Emulation adapter card. The Enhanced 5250 Emulation Program Version 2.1 Service Updates Program is available if you have version 2.1 of the Enhanced 5250 Emulation Program and release 5.0 of the System/36 SSP. If you already updated your Enhanced 5250 Emulation Program earlier, you do not have to do it again.

IBM Token-Ring Network and PC Support/36 Workstation Feature.

To select the option you would like to use, type a 1, 2, 3, or 4. If you do not type a value, the value currently displayed for this prompt is used. After you have made your selection, press the Enter key. The new value for printer data type appears in the top portion of the display and a message appears confirming that the printer data type was set for the specified printer. You can now set the printer data type for another printer, or press the Escape key to return to the ADVANCED OPTIONS menu.

Note: When the alternate options for printer data type are used (options 1, 3, or 4), the printer data stream dictates the printer configuration and the current virtual printer configuration is ignored.

Selecting a Personal Computer Printer Character Set

There are two printer character sets available for the IBM Personal Computer Graphics Printer. The character sets are identified as Graphics Printer Character Set 1 or Graphics Printer Character Set 2 in the *PC Support/36 Technical Reference.*

For character set 1, ASCII codes hexadecimal 80 through 9F are interpreted by the IBM Personal Computer Graphics Printer as printer commands. For character set 2, hexadecimal 80 through 9F are interpreted as printable characters.

Note: ASCII values hexadecimal 80 through 9F are interpreted by the IBM Personal Computer Matrix Printer as printer commands.

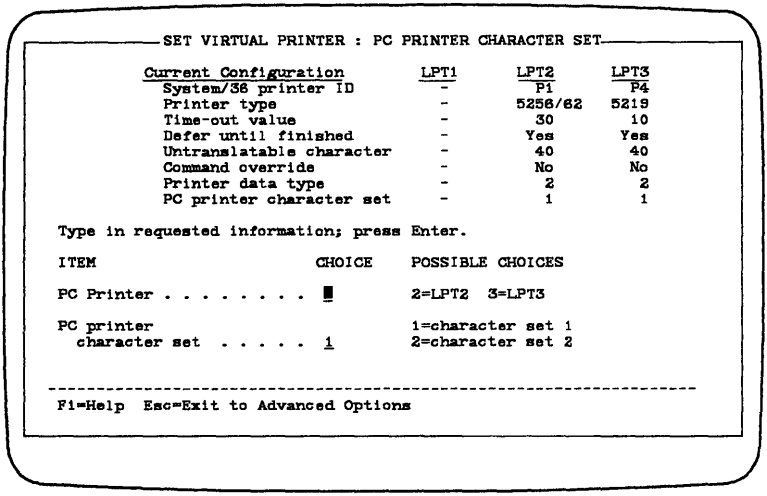
Virtual printers default to character set 1. This means that ASCII codes 80 through 9F are converted to the appropriate printer commands needed for a System/36 printer. If your application is designed for an IBM Personal Computer Graphics printer using character set 2, you should change the virtual printer from character set 1 to character set 2. ASCII codes 80 through 9F are then converted to the appropriate EBCDIC character set representation.

Note: It is also possible to select a character set by sending a command to the printer. To select character set 1, use ESC 7. To select character set 2, use ESC 6.

For example, in character set 1, hexadecimal 9B would be interpreted as the beginning of the string of characters used as a command to the printer. The 9B would normally be followed by other characters, which would define some action to be performed by the printer. For example, 9B followed by 36 (Escape 6) would change the printer to character set 2. When the virtual printer detects the 9B, it waits for the next character or characters to determine what command is to be performed.

In character set 2, hexadecimal 9B is interpreted as a character to be printed, and the virtual printer translates the 9B to the appropriate EBCDIC code.

To select character set 1 or 2, type a 6 (Select PC printer character set) on the ADVANCED OPTIONS menu and press the Enter key. The following display appears:



S9088715-4

PC Printer

The PC Printer prompt allows you to specify the virtual printer for which you want to select the character set. This prompt is required. Type one of the possible choices in the PC Printer input area and press the Enter key. For example, the possible choices on the display shown are 2 (printer LPT2) or 3 (printer LPT3).

PC printer character set

This prompt allows you to specify whether character set 1 or character set 2 is to be used. Type a 1 (character set 1) or a 2 (character set 2) and press the Enter key. If you do not type a value for this prompt, the value displayed for this prompt is used.

After you press the Enter key, the new value for the PC character set appears in the top portion of the display, and a message appears confirming the character set you selected for the specified printer. You can now select the character set for another printer, or press the Escape key to return to the ADVANCED OPTIONS menu.

Ending Advanced Options

To end the advanced options, type a 7 in the ADVANCED OPTIONS menu and press the Enter key, or press the Escape key. This returns you to the OPTIONS menu. You can then select other virtual printer options, or select option 5 to end SETVPRT.

Note: The changes take effect as soon as you end the SETVPRT program.

Running 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. This prevents you from having to step through the prompting sequence described under "Running the Interactive Virtual Printer Facility Program" earlier in this chapter.

If you want to use the same virtual printer configuration every time you power on or restart your personal computer, you can include the CFGVPRT command in a batch file, such as an AUTOEXEC.BAT. For details on creating an AUTOEXEC.BAT file to use with PC Support/36, refer to the *PC Support/36 Technical Reference.*

When the CFGVPRT program runs, it searches for entries in the PC Support/36 configuration file, CONFIG.S36, or in a VPRT setup file. For details on how to use the CFGVPRT program, refer to Chapter 5, "The Virtual Printer Facility" in the *PC Support/36 Technical Reference.*

Purpose: This command starts the automatic virtual printer facility.

Format: [d:]CFGVPRT
[VPRT-setup-filename]

Remarks: **d:** specifies the name of the disk or diskette drive where CFGVPRT.COM resides. Type a letter followed by a colon to specify the drive. You need to type the drive letter only if CFGVPRT.COM is not in the default drive.

VPRT-setup-filename specifies the name of a file in which CFGVPRT will search for VPRT entries to process. The VPRT-setup- filename is optional. If not specified, CFGVPRT will search the PC Support/36 configuration file, CONFIG.S36, for VPRT entries.

The format of the VPRT-setup-filename is:

[c:][path]filename[.ext]

where:

c: specifies the drive where the file containing the VPRT entries resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\). The filename should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory.

If the path name is not specified, the current directory is used.

filename specifies the name of the file that contains the VPRT entries. The filename can be from 1 to 8 characters.

.ext specifies the filename extension. The extension consists of a period and up to 3 characters. The extension must immediately follow the filename. This entry is optional.

CFGVPRT ignores any parameters after the VPRT-setup-filename parameter.

Example:

The following command starts the automatic virtual printer facility:

CFGVPRT

When you are ready to start the automatic virtual printer facility, type the CFGVPRT command and press the Enter key.

When you press the Enter key, the automatic virtual printer facility program searches the CONFIG.S36 configuration file for virtual printer (VPRT) entries to process. Each of these entries is treated as a request to assign or release a virtual printer.

If you need to change the configuration of your virtual printer frequently, rather than resetting the PC Support/36 configuration file (CONFIG.S36) each time, you may add the VPRT-setup-filename parameter to the CFGVPRT command. CFGVPRT will then look in the VPRT-setup-file for VPRT entries to process.

Note: If you specify the VPRT-setup-file, CFGVPRT will search only for VPRT entries in the VPRT-setup-file. CFGVPRT searches for any other entries, such as A2ET or E2AT, in the CONFIG.S36 file. Any VPRT entries in the CONFIG.S36 file are ignored.

For more information, refer to Chapter 5, "The Virtual Printer Facility"in the *PC Support/36 Technical Reference.*

The format of the VPRT setup file is the same as the CONFIG.S36 file format with the following exceptions:

1. The VPRT setup file does not require the header record (Support/36) although it is recommended that you include the header record as the first record of the VPRT setup file.

2. The only entries in the VPRT setup file processed by CFGVPRT are VPRT entries. Any other entries in the VPRT setup file are ignored.

For details on how to place VPRT entries in the VPRT setup file, refer to Chapter 2, "The PC Support/36 Configuration File" in the *PC Support/36 Technical Reference.*

Special Considerations

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 you specify 198 for the Characters per line parameter, then the following occurs.
  - Printing is done using 15 characters per inch (cpi). Only certain System/36 printers, which support 15 cpi, allow the use of the 198 Characters per line option. You cannot specify 198 characters per line if a 3262, 4245, 5262, 5256, 5557, or 5553 Printer is being used.
  - The compress on and compress off printer commands will be ignored, even if the command override option is specified.

- Compressed printing is done differently on a virtual printer than on a personal computer printer.

  - For the personal computer printer, compress mode means that 132 characters per line should be printed, rather than the normal 80 characters per line. The personal computer printer uses forms that are 8 inches wide in either case.

  - For the virtual printer, compress mode also means that 132 characters per line should be printed, rather than the normal 80 characters per line. However, printing is done using 10 characters per inch in either case. This means that wider forms must be used on the System/36 printer for the virtual printer when compress mode is specified; otherwise, an entire print line cannot be printed.

- Most System/36 printers do not support the emphasized printing available on a personal computer printer. If emphasized printing is specified for a virtual printer, the printing is done using double strike.

- Most System/36 printers do not support the double width printing available on a personal computer printer. If double width printing is specified for a virtual printer, the printing is expanded by placing a blank after each character so that the spacing is correct.

- Most System/36 printers do not support the superscript and subscript printing available on the personal computer printer. If either of these modes are specified for a virtual printer, they are ignored.

- When you are using the default printer data type (option 2, Convert PC data to S/36), only data intended for the IBM Matrix, IBM Graphics, or other compatible personal computer printers should be printed on a virtual printer. Otherwise, unpredictable results could occur.

- You cannot change the font size within a print file for a virtual printer, as you can for a personal computer printer.

- Using personal computer spoolers, such as the DOS PRINT command, will cause unpredictable results on a virtual printer.

- If the System/36 Spool utility is active on the System/36 and you specified yes for Defer status for a virtual printer, your output is not printed until the print file is closed. If print spooling is not active on the System/36, or if you specified no for Defer status, printing is started shortly after your print file is opened, and the System/36 printer cannot be used by other users until your print file is closed.

  It is recommended that the System/36 Spool utility be active when you use the virtual printer facility.

- The System/36 COPYPRT procedure cannot copy spool file entries that were created by the virtual printer facility.

Chapter 8. Using the PC Support/36 Transfer Facility

Contents

Introduction

The PC Support/36 transfer facility is a set of programs that allow you to transfer data to or from the personal computer. This chapter describes how to use these programs.

Before you can operate the transfer facility, you must start PC Support/36 following the steps in Chapter 3, "Starting PC Support/36." If you have not completed those steps, turn to that chapter and follow the instructions.

Transfer Requests

To transfer data from or to the System/36, you must create a *transfer request.* A transfer request provides the necessary information about the data you want to transfer.

When you create a transfer request, you provide answers to such questions as the following:

- Where is the data located?
- How much of the data is to be transferred?
- How should the data be sorted?
- Where do you want the data to be transferred?

The transfer facility allows you to save a transfer request so that the same information can be used the next time you want to transfer data. If you save a transfer request, you can recall and modify or run it again.

Transfer Facility Programs

Transferring data from the System/36 to the personal computer and from the personal computer to the System/36 requires separate sets of programs. There are interactive and automatic programs to transfer data to the personal computer, and interactive and automatic programs to transfer data from the personal computer.

The *interactive* transfer facility programs prompt you, step-by-step, through creating, recalling, modifying, or running a transfer request. You can save the transfer request so that it can later be recalled and used again.

The *automatic* transfer facility programs automatically run a transfer request without prompting. You must have previously created and saved the transfer request using one of the interactive transfer facility programs. You are not prompted for information; the program uses the information provided in the previously created transfer request.

These programs are described in Chapter 9, "Transferring Data from the System/36 to the Personal Computer" and Chapter 10, "Transferring Data from the Personal Computer to the System/36."

Transferring Data

On the personal computer, data can be in diskette or fixed disk files in one of six formats, suitable for the specific personal computer applications you are using. These formats are:

- ASCII text
- DOS random
- BASIC sequential
- BASIC random
- DIF
- No conversion

On the System/36, data can be in any of the following:

- Files that are defined by IDDU data definitions
- Files that are not defined by IDDU data definitions
- Library source or procedure members

Using System/36 Files Defined by IDDU Data Definitions

A System/36 file defined by IDDU data definitions consists of records, which are comprised of fields. When you transfer data from a file defined by IDDU data definitions to the personal computer, you can select which records and fields you want to transfer. This means that, in most cases, only a subset of the data in the System/36 file will be transferred to your personal computer.

Transferring Data Back to the System/36

This section contains information you should be aware of if you plan to use data from System/36 files defined by IDDU data definitions in your personal computer applications, and then transfer the data back to the System/36.

If you transfer data from more than one System/36 file to the personal computer using a join function to the personal computer, you may have to update the names of the fields in the file description file. The name of a field must not specify a file qualifier. If it does, the name of the field must be changed to match the IDDU data definition on the System/36.

When you transfer the data from the System/36 to the personal computer, you should specify that you want to save the PC file description. The PC file description describes the data to be transferred to the personal computer. This description serves the same purpose on the personal computer as an IDDU data definition does on the System/36. The file description is saved in a personal computer file to be used later when you transfer the data back to the System/36.

When you transfer data back to the System/36, you must transfer it to a System/36 file that already exists and is defined by IDDU data definitions. It is recommended that you do not transfer the data to the System/36 file from which you originally transferred the data, because this data overlays the original data in the file. (The data being transferred may be only a subset of the original data.)

Instead, you should transfer the data to a temporary System/36 file and run a System/36 application to incorporate the transferred data into the original file. To ensure that no transfer facility users transfer data to a specific System/36 file, you should use System/36 resource security.

The temporary System/36 file must be defined by IDDU data definitions, containing field definitions for each field being transferred. You can link the temporary System/36 file to the same IDDU file definition that the original System/36 file is linked to, even if that file definition contains more fields than are being transferred.

The data is transferred to the appropriate fields in the System/36 file. If the file definition contains more fields than are being transferred, the extra fields will contain default values (zeros for numeric and hexadecimal data, and blanks for character data).

When using your personal computer applications to work with data transferred from a System/36 file defined by IDDU data definitions, you must be careful not to rearrange the data in that file. For example, if you transferred the System/36 data into an ASCII text file, each field of data is located in a specific column. If, while you are editing the ASCII text file, you accidentally shift data by one or more columns, the data cannot be correctly transferred to the System/36.

You can add or delete records in your personal computer file, but you should be careful when adding new fields. Adding a new field between two existing fields changes the structure of the file.

To transfer the file to the System/36, you must:

- Use a personal computer editor to update the file description file for the data file you are using. The personal computer file description file contains an ordered list of all the fields in your personal computer file. You must insert an entry for your new field, so the transfer facility can interpret the data in your personal computer file correctly.

Refer to Chapter 7, "The Transfer Facility," in the *PC Support/36 Technical Reference* for details on the personal computer file description file.

- You must make sure that the System/36 file to receive the transferred data has the new field defined in the IDDU data definition. If you add a new field to the end of each record in the personal computer file, you should consider the following:

  - If your personal computer file is an ASCII text, BASIC sequential, or DIF file, you can transfer the original fields to the System/36 file. However, the new field will not be transferred unless you define it in your personal computer file description file, and in the IDDU data definitions for the System/36 file.

  - If your personal computer file is a DOS random, BASIC random, or No conversion file, you must define the new field in the personal computer file description file, and in the IDDU data definition, just as if you added the new field between two existing fields.

System/36 Files Not Defined by IDDU Data Definitions or Library Members

This section contains information you should be aware of if you plan to transfer data to and from System/36 files that are not defined by IDDU data definitions or from library members.

A System/36 file not defined by IDDU data definitions or a library member can be viewed as a file consisting of fixed-length records of character data. There are no fields.

When you transfer data from such a file or library member to the personal computer, you must transfer entire records. You must also transfer all of the records. The file on the personal computer will be exactly the same as the original System/36 file or library member.

If you plan to use your personal computer applications to work with the data from a System/36 file not defined by IDDU data definitions or from a System/36 library member, and then transfer the data back to the System/36, you should consider the following:

- A System/36 file or library member has a specific record length. If you change the record length while working with the data on the personal computer, you may have to change the record length of the System/36 file or library member to receive the transferred data. This is true if your data is in a personal computer DOS random, BASIC random, or No conversion file.

  However, ASCII text, BASIC sequential, and DIF files support variable-length records, and the transfer facility tries to fit each record into the record length of the System/36 file or library member. If the personal computer data record is too short, the data is padded with blanks. If the record is too long, it is truncated.

- If you are transferring data to a System/36 library member, and the library member does not exist, the transfer facility creates the member. The record length will be assumed to be 96 for a source library member and 120 for a procedure member. If you want a different record length, you must create the member yourself before you transfer the data.

- The decimal point used by the transfer facility to display and print numbers and to store numbers in ASCII text files is obtained from DOS through a DOS function call. Therefore, the decimal point used by the transfer facility depends on the version of DOS you are using.

  If you are using DOS 3.0 or later, you can change the decimal point by specifying a COUNTRY command in the CONFIG.SYS file. Refer to your *IBM Personal Computer Disk Operating System User's Guide* for more information.

Reserved Words

The following keywords cannot appear in a file name or be used as field names in a transfer request:

SELECT
FROM
WHERE
ORDER
BY
AND
OR
ASC
DESC
LIKE
EXTRACT
TABLES
COLUMNS
REPLACE
INTO

Chapter 9. Transferring Data from the System/36 to the Personal Computer

Contents

Introduction

This chapter explains how to run the interactive and automatic System/36-to-personal computer transfer facility programs, and how they can be used to transfer data to the personal computer.

Before you can operate the transfer facility, you must start PC Support/36 by following the steps in Chapter 3, "Starting PC Support/36." If you have not completed those steps, turn to that chapter and follow the instructions.

Running the Interactive System/36-to-Personal Computer Transfer Facility

The interactive System/36-to-personal computer transfer facility program prompts you, step-by-step, to supply information about the data you want to transfer. The information you supply is used to create a System/36-to-personal computer transfer request.

There are two commands you can use to start the interactive System/36-to-personal computer transfer facility. These are TOPC and RTOPC. Both commands have the same format.

The TOPC command uses the IBM-supplied batch file, TOPC.BAT, to start the PC Support/36 programs required to transfer data from the System/36 to the personal computer. You should use the TOPC command to start the System/36-to-personal computer transfer facility if you are starting it for the first time since you powered on or restarted your personal computer.

You can use the RTOPC command to start the interactive System/36-to-personal computer transfer facility if you are not starting it for the first time. The RTOPC command assumes that the other programs required to run the System/36-to-personal computer transfer facility have already been started (using the TOPC command). The RTOPC command runs faster than the TOPC command.

Purpose: This command starts the interactive System/36-to-personal computer transfer facility.

Format: TOPC [transfer-request-filename] [/x][/y]

Remarks: **transfer-request-filename** specifies the name of a transfer request that was previously created and saved using this program (TOPC). The transfer-request-filename is optional.

If you specify a transfer-request-filename, it is automatically recalled so that you can modify and/or run it. If you do not specify the transfer-request-filename, the transfer facility assumes you want to create a new transfer request.

The format of the transfer-request-filename is:

[d:][path]filename.[.ext]

where:

d: specifies the drive where the file containing the transfer request resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\).

The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory. The maximum length of the path is 63 characters.

If the path name is not specified, the current directory is used.

filename specifies the name of the file that contains the transfer request. The file name can be from 1 to 8 characters.

.ext specifies the file name extension. The extension consists of a period and up to 3 characters. The extension must immediately follow the file name. This entry is optional. If you do not specify an extension, a default extension of .TTO (transfer to) is used. If you specify only a period (.) with no characters following it, no extension is used. It is recommended that you use the default extension, .TTO.

/x specifies the type of display you are using. This parameter is optional; it tells the program what attributes to send to your display. Values you can specify for x are an uppercase or lowercase M or C. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

/y specifies the display writing speed. This parameter is optional; it tells the program what speed your display should write at. Values you can specify for y are an uppercase or lowercase H or S. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Examples:

The following command starts the interactive System/36-to-personal computer transfer facility without specifying any parameters.

TOPC

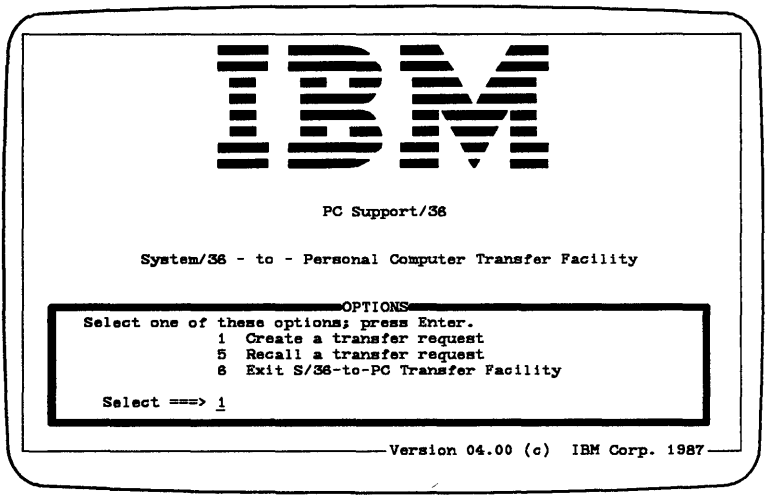
The following command starts the interactive System/36-to-personal computer transfer facility and automatically recalls the transfer request in file CUSTREQ.TTO located in drive A. A monochrome display attached to a Color/Graphics Monitor Adapter card using slow speed display writing is being used.

TOPC A:CUSTREQ/M/S

If you want to start the System/36-to-personal computer transfer facility with no parameters specified, type:

TOPC

then press the Enter key. The following display appears:

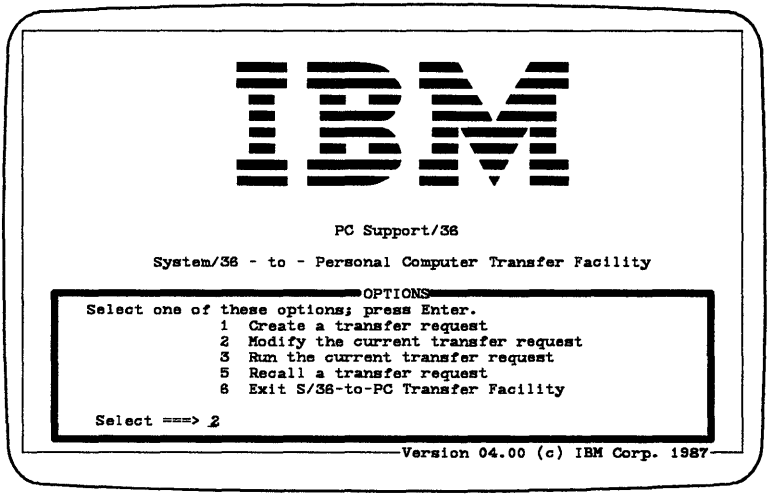


S9088601-5

This display allows you to create or recall a transfer request, or exit the System/36-to-personal computer transfer facility.

For details on how to create or recall a transfer request, refer to "Creating a System/36-to-Personal Computer Transfer Request" and "Recalling a System/36-to-Personal Computer Transfer Request," later in this chapter. For examples of how you can transfer data from the System/36 to the personal computer, refer to Chapter 4, "Tutorial."

If you want to start the System/36-to-personal computer transfer facility and work with an existing transfer request, type the TOPC command followed by the Transfer-request-filename parameter, then press the Enter key. The following display appears:



S9088602-5

The transfer request you specified on the TOPC command is automatically recalled and ready for you to use. From this display, you can create a new transfer request, modify or run the specified transfer request, or you can recall another transfer request.

For details, refer to "Creating a System/36-to-Personal Computer Transfer Request," "Modifying a System/36-to-Personal Computer Transfer Request," "Running a System/36-to-Personal Computer Transfer Request," and "Recalling a System/36-to-Personal Computer Transfer Request," later in this chapter.

For examples of how you can transfer data from the System/36 to the personal computer, refer to Chapter 4, "Tutorial."

Creating a System/36-to-Personal Computer Transfer Request

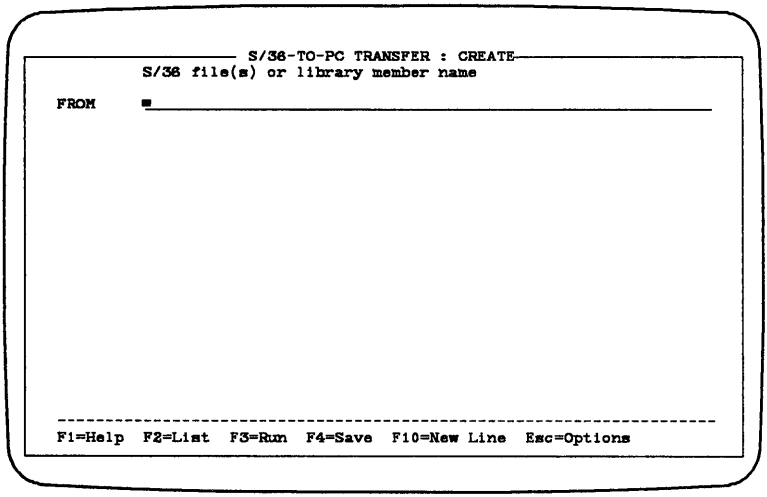
This section describes how to create a transfer request to transfer data from the System/36 to the personal computer. The transfer requests described in this section transfer data from only one System/36 file. For additional information about transferring data from more than one System/36 file, refer to "Joining Records from More Than One System/36 File" later in this chapter.

After you create a transfer request, you can use the OPTIONS menu to modify, save, or run it.

The transfer request you create remains the current transfer request until you specify 1 (Create a transfer request), 5 (Recall a transfer request), or 6 (Exit System/36-to-personal computer transfer facility).

Note: If you want to save the current transfer request, you must save it before you create or recall another transfer request or end the transfer facility. Otherwise, the current transfer request is deleted.

If you specify 1 (Create a new transfer request) from the OPTIONS menu, the following FROM prompt appears:



S9088667-2

FROM

This prompt is required. It identifies the name of the System/36 file(s) or library member from which records are to be transferred. From this display you can:

- Press the F1 key to display help text
- Press the F2 key to display a list of items for the FROM, SELECT, WHERE, JOIN BY, or ORDER BY prompt
- Press the F3 key to run the transfer request

- Press the F4 key to save the transfer request
- Press the Escape key to return to the OPTIONS menu

Specifying a System/36 File

If you want to specify a System/36 file in the FROM prompt, the format of this prompt depends on whether or not the file is defined by IDDU (interactive data definition utility) data definitions.

Specifying a File Defined by IDDU Data Definitions

If the file is defined by IDDU data definitions, you must specify the file name as follows:

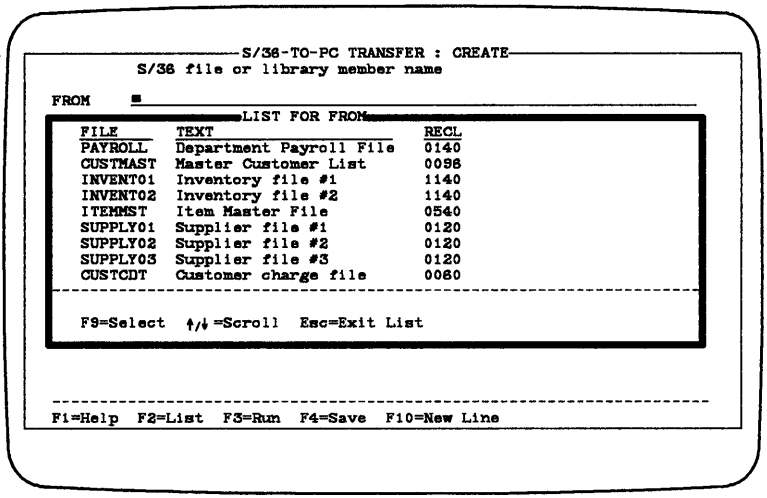
file-label[/format-name]

where:

file-label is the name of the file defined by a file definition. The file-label is required.

format-name is the name of a format definition that defines the records in the file. The format name is needed only if there is more than one format definition for the file. If you specify the format name, you must separate it from the file label with a slash (/). If you do not specify the format name, and there is more than one format definition for the file, PC Support/36 uses the first format definition in the IDDU file definition.

If you do not know the file label, you can press the F2 key while the FROM prompt is blank to display a list of all of the file labels for all System/36 files defined by IDDU data definitions. This list appears as follows:



S9088604-1

Note: The list you display will not look exactly like the one shown here. The actual file labels listed depend on the files defined on your System/36.

You can use the Up Arrow and Down Arrow keys or the Page Up and Page Down keys to find the desired file label, then press the F9 key to select it. This automatically copies the file label from the list to the FROM input area.

If you do not know what format name to specify, you can press the F2 key when the FROM prompt contains a file label. The cursor should be positioned immediately after the file label. This displays a list of all the format names for the file. You can select a format name from the list the same way you selected a file label. This automatically copies the format name to the FROM input area and separates it from the file label by a slash (/).

To end the list without selecting an item, press the Escape key.

For information about using the IDDU, refer to the System/36 manual *Getting Started with the Interactive Data Definition Utility* .

Specifying a File Not Defined by IDDU Data Definitions

If the file is *not* defined by IDDU data definitions, the file must be specified in the FROM prompt as follows:

file-label

where **file-label** is the name of the file on the System/36. The file label is required.

You cannot use the F2 key to list files that are not defined by IDDU data definitions. Pressing the F2 key lists file labels only for System/36 files defined by IDDU data definitions.

Specifying a System/36 Library Member

You can specify a System/36 library member name in the FROM prompt. The library member name must be specified as follows:

library-name/member-type/member-name

where:

library-name is the name of the System/36 library.

member-type is the type of System/36 member. You can enter either S for source or P for procedure. The member type is required, and must be separated from the library name by a slash (/).

member-name is the name of a member in the specified library. The member name is required, and must be separated from the member type by a slash (/).

When you are transferring data from a System/36 library member, you must type the name of the library in the FROM prompt. You cannot use the F2 key to list library names.

After you type the library name, you can use the F2 key to list all of the member types and member names of all source and procedure members in the library.

Pressing the F2 key after you type the library name and member type displays a list of the member names in the library having the specified member type.

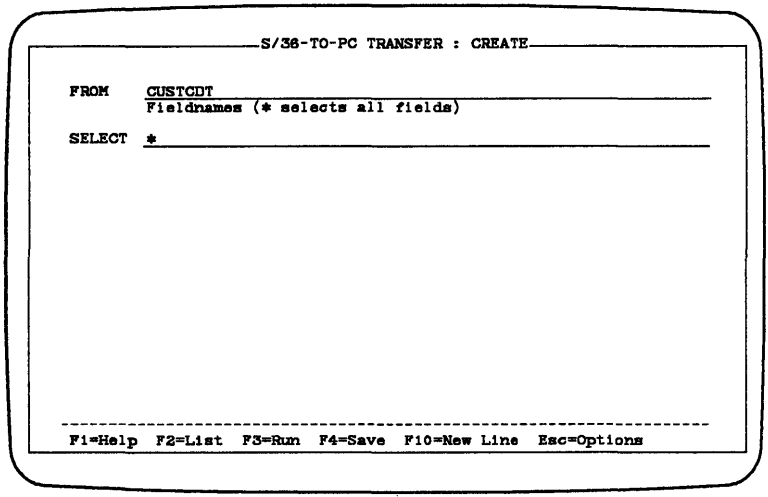
You can use the Up Arrow and Down Arrow keys or the Page Up and Page Down keys to position the highlighting on a member type and/or member name, and press the F9 key to select it. This copies the information from the list to the FROM input area and automatically separates the items by slashes (/).

Note: You can use the FROM prompt to specify more than one System/36 file. Refer to "Joining Records from More Than One System/36 File" later in this chapter for more information.

After you complete the FROM prompt, press the Enter key.

If you specified the name of a file that is not defined by IDDU data definitions, or if you specified the name of a System/36 library member, you cannot specify the SELECT, WHERE, JOIN BY, and ORDER BY prompts described in the following sections. Simply press the Enter key to skip these prompts. Then refer to "Specifying the Output Device to Receive Transferred Data" later in this section.

If you specified the name of a file defined by IDDU data definitions, the FROM prompt remains on the display and the SELECT prompt appears as follows:



S9088605-1

SELECT

This prompt is required if you chose a file defined by IDDU data definitions. It identifies which fields in the record to transfer. The fields you specify must be defined in the file definition. If the file definition contains more than one record format, the fields in the record you want to transfer must be defined by the format you previously selected in the FROM prompt.

You can specify the same field more than once, if desired. However, the maximum number of fields that you can select is 60.

If you want to transfer all the fields in the record, press the Enter key. The default value, asterisk (*), is assumed. (The asterisk specifies to transfer all the fields in the record.)

Note: You can only transfer up to 60 fields. If there are more than 60 fields defined for the file, you cannot specify the asterisk. You must specify the names of the fields you want to transfer.

If you want to transfer selected fields in the record, type the names of the fields in the order that you want them arranged. One or more blanks can be added between the names of the fields to improve readability of the SELECT prompt. However, the names must be separated by commas, as follows:

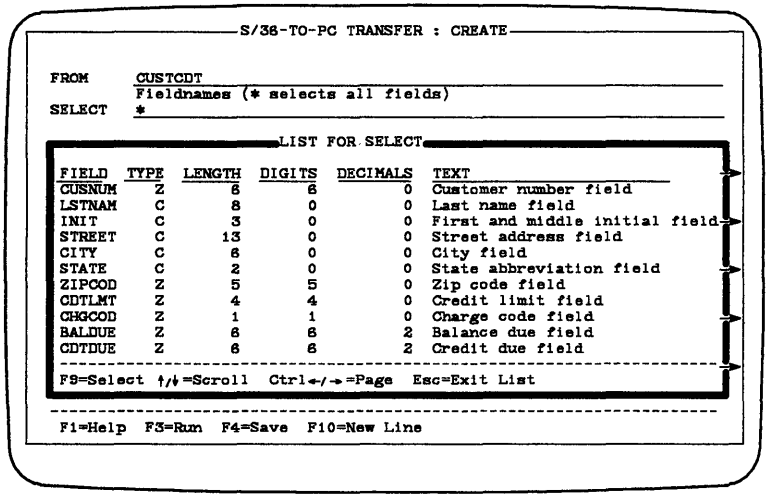
ITEMNO, QOHAND, PRICE

or

ITEMNO,QOHAND,PRICE

If all the names of the fields do not fit on one SELECT input area line, the transfer facility automatically creates another line, or you can create another line by pressing the F10 key. When continuing the SELECT prompt on another input area line, a field name must be typed entirely on one input line. A field name cannot be split between two input area lines.

If you do not know the names of the fields you want, you can press the F2 key when the cursor is in the SELECT input area to display a list of all the names of the fields in the record. For example:



S9088608-1

This display contains the following information:

FIELD This column contains the names of the fields in the records to be transferred. These names are listed in the order in which they appear in the record.

TYPE This column contains a character code that corresponds to the type of System/36 data.

The following are System/36 data codes and their corresponding data types:

B	Binary
C	EBCDIC character
H	Hexadecimal
P	Packed decimal in EBCDIC format
Z	Zoned decimal in EBCDIC format

LENGTH This column contains the length (in bytes) of the fields on the System/36.

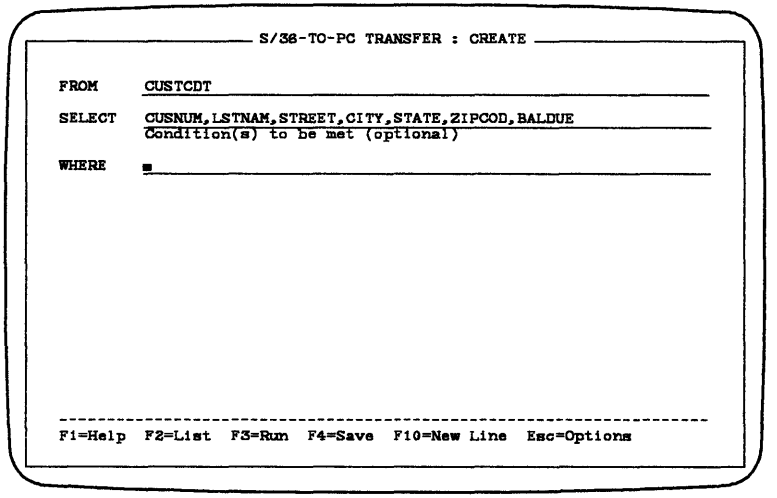
DIGITS This column contains the maximum number of digits that the field can contain. The number of digits can be from 1 through 15. The sign and decimal point are not included.

DECIMALS This column contains the number of decimal positions for binary, EBCDIC zoned, or EBCDIC packed data. The number of decimal positions can be from 0 through 9.

TEXT This column contains a description of the field for your information only.

You can use the Up Arrow and Down Arrow keys or the Page Up and Page Down keys to position the highlighting on the desired name, then press the F9 key to select it. This copies the name you select from the list to the SELECT input area. You can repeat this procedure to copy additional names. The names are copied to the SELECT prompt and automatically separated by commas.

After you complete the SELECT prompt, press the Enter key. The SELECT prompt remains on the display and the WHERE prompt appears, as follows:



S9088607-1

WHERE

This prompt is optional. It identifies which records are to be transferred. You can use this prompt to specify one or more conditions that must be met by the record in order for it to be transferred.

A *condition* specifies a test against which the records in the file are to be applied. All of the records in the file are tested against the conditions you specify, and only the records that pass the test are transferred.

If you do not specify the WHERE prompt, all of the records matching the IDDU format definition for the file are transferred.

The format of a condition is:

fieldname test value

where:

fieldname must be the name of a field defined in the IDDU data definition.

test is the type of comparison to be applied to the field. Refer to "Tests," later in this chapter, for a list of tests you can use.

value can be the name of a field or a constant. The constant can be either a number or a character string enclosed in single quotes. Numbers should not include commas.

If you specify a character field for the field name, **value** must be the name of a character field or a character string constant. If the lengths of the field and **value** are not equal, blanks are added to the rightmost end of the shorter field.

If a numeric field is specified for the field name, **value** must be the name of a numeric field or a numeric constant. The transfer facility compares numeric fields by aligning the fields on the decimal point. Zeros are added where digits are missing.

Constants

You can specify a character string or a number as a constant.

Character Strings

A character string must be enclosed in single quotes. For example:

'JOHN'

To represent an apostrophe within a character string, use two single quotes. For example:

'JOHN''S'

Note: Although the personal computer keyboard has a left quote (') and a right quote ('), only the right quote (') is supported by the transfer facility.

If the character string is shorter than the specified field, blanks are added to the rightmost end of the string. If the character string is longer than the specified field, an error occurs. A search is made for the exact characters you specify. That is, if you specify only uppercase characters, a search is made only for uppercase letters. If you specify only lowercase characters, a search is made only for lowercase letters.

A character string can also be specified in hexadecimal notation by typing the EBCDIC hexadecimal representation of the character string enclosed in quotes, preceded by the character, X. For example:

X'D1D6C8D5'

You can use hexadecimal representation when the character string contains nondisplayable characters.

Numbers

A number may include an optional sign (+ or -) and/or an optional decimal point. The following are examples:

5
-.05
1000.00
+5.00

Numeric fields are compared by aligning the fields on the decimal point. Zeros are added where digits are missing.

Tests

The following tests are supported and can be preceded or followed by one or more blanks:

=	Equal
< > or > <	Not equal (see note 1)
>	Greater than
> =	Greater than or equal
<	Less than
< =	Less than or equal
LIKE	Field like the one specified

Notes:

1. *The personal computer keyboard does not support the NOT sign (¬) for not equal (¬=). Instead, you must type the less than and greater than symbols together (< > or > <).*

2. *All tests use the EBCDIC collating sequence.*

The LIKE test searches the field you specified in fieldname for the character pattern you specified in **value**. The specified field must be a character field.

Value must be a character string constant. The string may contain any character. The percent (%) character represents any character string of zero or more characters. The underline (_) character represents any single character.

The following examples illustrate the use of the LIKE test:

NAME LIKE '%ANNE%'

searches for any name that contains the character string ANNE, such as SUZANNE, ANNETTE, ANNE.

NAME LIKE 'ANNE%'

searches for any name that starts with the character string ANNE, such as ANNETTE.

NAME LIKE '%ANNE'

searches for any name that ends with the character string ANNE, such as ANNE, or SUZANNE.

NAME LIKE '_A%'

searches for any name that has a second letter equal to A.

If the pattern does not include the percent character (%), the length of the character string must equal the field length.

Note: A search is made for the exact characters you specify. That is, if you specify uppercase characters, a search is made only for uppercase letters. If you specify lowercase characters, a search is made only for lowercase letters.

Tests can be connected with a logical AND or OR. When both AND and OR are specified, AND comparisons are made first. For example:

MONTH=2 AND LOC='MIAMI' OR LOC='CHICAGO'

means that each record selected must satisfy the test:

MONTH=2 AND LOC='MIAMI'
or
LOC='CHICAGO'

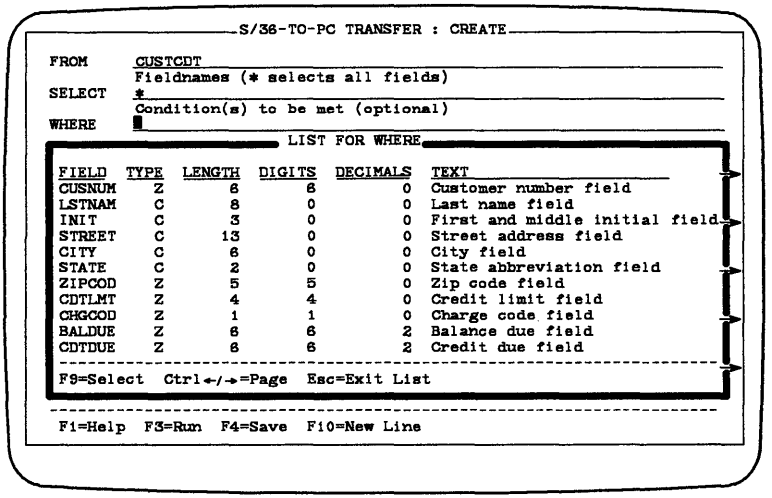
You can use parentheses to change the order of the operation. For example:

MONTH=2 AND (LOC='MIAMI' OR LOC='CHICAGO')

means that each record selected must satisfy the test:

MONTH=2
and
LOC='MIAMI' OR LOC='CHICAGO'

If you do not know the names of the fields in the record definition, you can press the F2 key. This displays a list of all the names of the fields in the record definition. For example:



S9088610-1

You can use the Up Arrow and Down Arrow keys or the Page Up and Page Down keys to find the desired field name, then press the F9 key to select it. This copies the name of the field from the list to the WHERE input area.

When **value** is a field name, you can select **value** from the list in the same way you selected the field name, or you can type the value and the test on the WHERE input area line. You must type any desired AND, OR, or parentheses.

If the entire condition does not fit on one WHERE input area line, the transfer facility automatically creates another input area line, or you can create another line by pressing the F10 key.

A comparison can begin on one line and end on the next line. However, the field name cannot begin on one line and end on the next line. The field name must be all on one line.

If the value is a character string enclosed in quotes, it can begin on one line and end on another.

After you complete the WHERE prompt, press the Enter key. The WHERE prompt remains on the display and the ORDER BY prompt appears, as follows:

```
                    S/36-TO-PC TRANSFER : CREATE

FROM        CUSTCDT

SELECT      CUSNUM,LSTNAM,STREET,CITY,STATE,ZIPCOD,BALDUE

WHERE       CUSNUM>100000 AND BALDUE>100
            Fieldnames to sort by (optional)

ORDER BY    _

F1=Help  F2=List  F3=Run  F4=Save  F10=New Line  Esc=Options
```

S9088609-1

ORDER BY

This prompt is optional. It identifies the order in which the records you request are to be sorted. Up to five fields can be specified in the ORDER BY prompt.

The records are sorted in the order they would be on the System/36 (EBCDIC order). This means that lowercase characters would appear before uppercase characters, and characters before numbers.

If you do not specify the ORDER BY prompt, the records are transferred in no special order. The order might vary each time you run the transfer request.

Records are sorted according to the first field specified. Records with duplicate values of the first field specified are, in turn, sorted by the second field specified, and so forth.

For example:

DEPT,NAME,PHONE

specifies that the records are to be sorted first by **DEPT**. Next, the records with the same **DEPT** are sorted by **NAME**. The records with the same **NAME** are then sorted by **PHONE**.

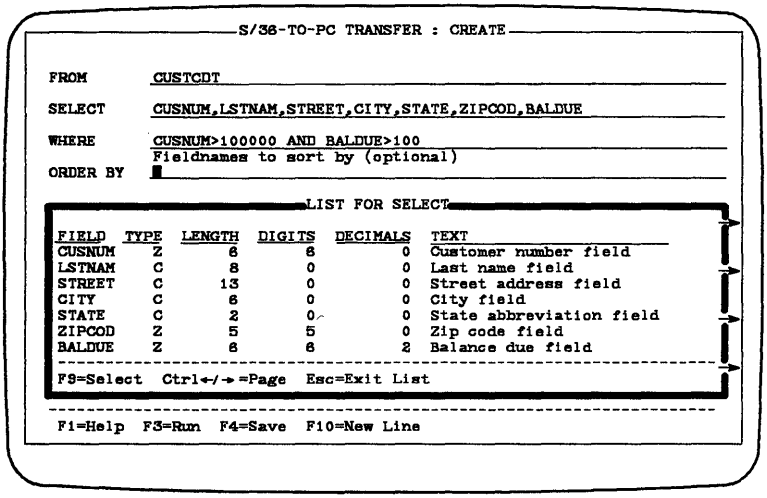
The names of fields specified in the ORDER BY prompt must also be specified in the SELECT prompt, or SELECT * must be specified.

Each field can be sorted in ascending or descending order. To do this, type the field name followed by a blank, then ASC or DESC. ASC is the default value. For example:

DEPT DESC,NAME ASC

means to sort by **DEPT** in descending order first, then by **NAME** in ascending (or alphabetical) order.

Pressing the F2 key displays a list of all the fields that you specified in the SELECT prompt. For example:



S9088628-1

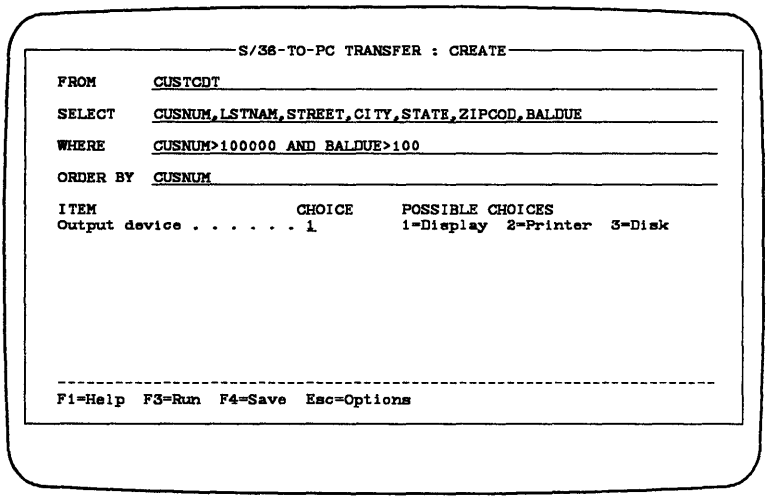
You can use the Up Arrow and Down Arrow keys or the Page Up and Page Down keys to find the desired field name, then press the F9 key to select it. The name is copied from the list to the ORDER BY input area. You can repeat this procedure to copy additional names. The names are copied to the ORDER BY input area and automatically separated by commas.

If all the names of the fields do not fit on one line, the transfer facility automatically creates another line, or you can create another line by pressing the F10 key. When continuing the ORDER BY prompt on another line, a field name must be typed entirely on one line. A field name cannot be split between two input lines.

If you want descending order, you must type a blank and DESC after the name of the field. Otherwise, the default value, ASC, is assumed. If you are continuing the ORDER BY prompt on another line, remember that the entire name of the field must be typed on one line. Likewise, ASC and DESC must be typed entirely on one line.

Specifying the Output Device to Receive Transferred Data

After you complete the FROM, SELECT, WHERE, and ORDER BY prompts, press the Enter key. The following display appears:



S9088611-1

Output device

When this display appears, you must specify the output device that you want to receive the transferred data. You can specify any of the following:

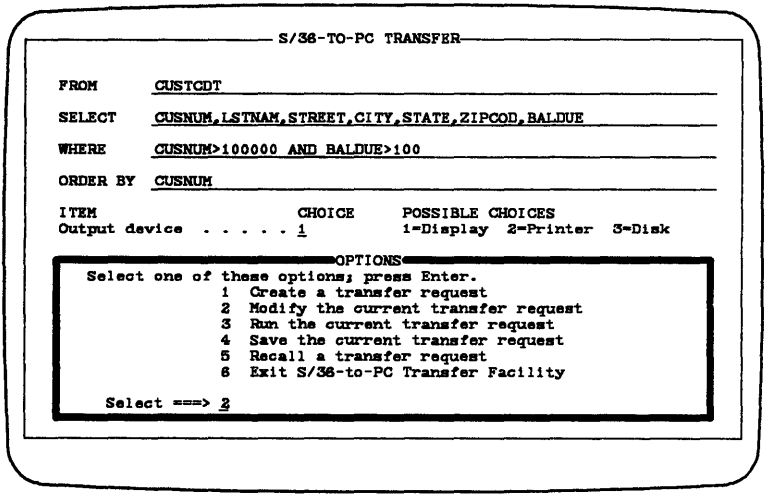
- 1 (Display) specifies that the personal computer display is to receive the output.
- 2 (Printer) specifies that a personal computer printer or a virtual printer is to receive the output.
- 3 (Disk) specifies that a personal computer disk, diskette, or a virtual disk is to receive the output.

1 (Display) is the default value.

After you type a number for the output device, press the Enter key.

Sending Output to the Display

If you specify 1 (Display) for the output device and press the Enter key the transfer request is created and the following OPTIONS menu appears:



S9088612-1

To display the output, select option 3 (Run the current transfer request), then press the Enter key. The transfer request runs, and the output appears on your personal computer display.

Sending Output to the Printer

You can send transferred data to a personal computer printer or to a virtual printer. The following prompts allow you to specify how you want the printed output to look. If you are printing the data on a virtual printer, you should consider the following when you respond to the prompts:

- You should always set the virtual printer to six lines per inch when running transfer requests.

- If you specified **no** for the command override for a virtual printer (refer to section "Setting Command Override Mode" in Chapter 7, "Using the PC Support/36 Virtual Printer Facility"):

  - The value you enter for the Line length prompt should be the same as the characters per line you specified for the virtual printer.

  - The value you enter for the Page length prompt should be the same as the page length and the number of lines per page you specified for the virtual printer. The page length and number of lines per page must be equal to each other for the virtual printer.

- If **yes** is specified for command override:

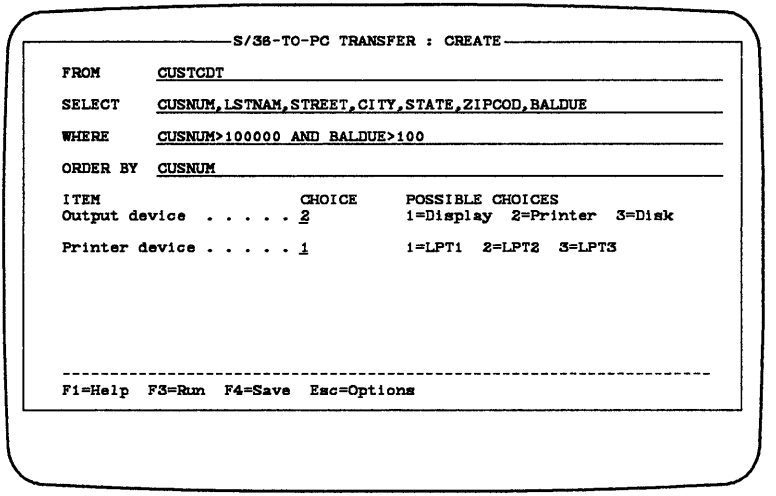
  - When the print file is initially opened, it is set to the characters per line and the page length that you specified in the transfer request.

  - If the print file remains open between running transfer requests, all requests are printed using the values for the first request.

  - If the print file is closed by a time-out after a transfer request runs, the next file that is opened will have the same values as specified for the current transfer request being run.

This ensures that the output is printed on the virtual printer just as if you had printed it on the personal computer printer.

When you specify 2 (Printer) for the Output device prompt and press the Enter key, the following display appears:



S9088613-1

Printer device

This prompt is required. It allows you to specify which of the three available printers should receive the output. One of the following must be specified:

1 (printer LPT1)

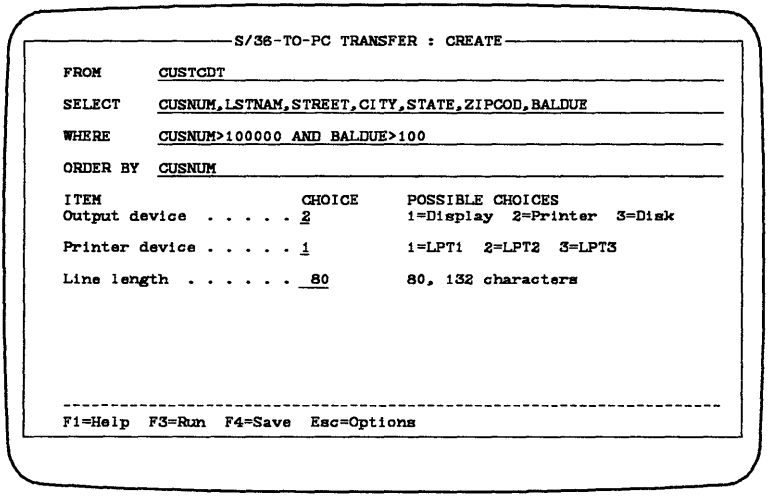
2 (printer LPT2)

3 (printer LPT3)

1 (LPT1) is the default value.

Refer to the *IBM Personal Computer Disk Operating System* manual for a description of LPT1, LPT2, and LPT3. If you are using the PC Support/36 virtual printer facility, refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility," for information on how to define printers LPT1, LPT2, and LPT3.

After you complete the Printer device prompt, press the Enter key. The Line length prompt appears, as follows:



S9088655-2

Line length

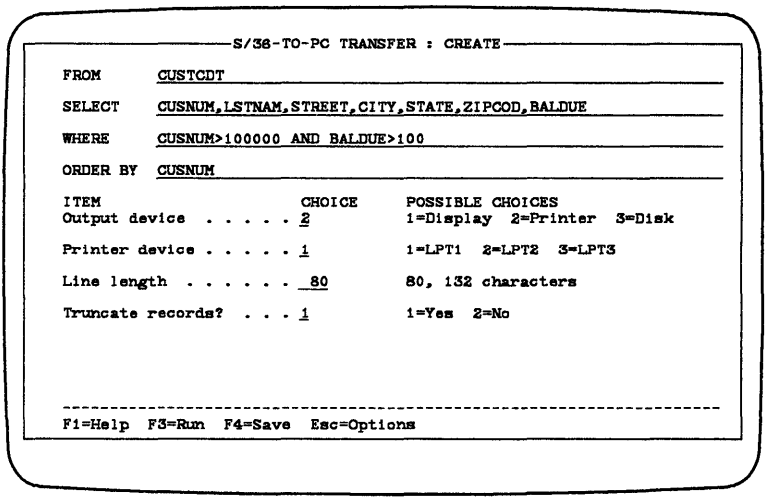
This prompt is required. It specifies the length of the print line, in characters. One of the following must be specified:

80 characters per line

132 characters per line

The default value is 80 characters per line.

After you complete the Line length prompt, press the Enter key. The Truncate records prompt appears, as follows:



S9088656-0

Truncate records?

This prompt is required. A transferred record may require more print positions than are available on one print line.

This prompt allows you to specify whether you want to print as much of the record as possible on one line and truncate the remaining information, or whether you want to print the record on more than one line.

One of the following must be specified:

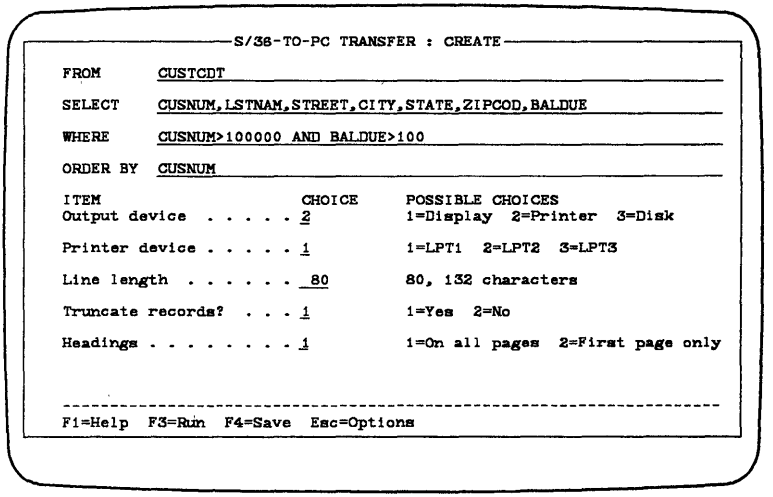
1 (Yes), if you want as much of the record as possible to print on one line, including partial fields, and have the remaining data in the record truncated

2 (No), if you want to print the entire record on multiple lines

The default value is 1 (Yes).

Note: If you specify 2 (No) and a field would not fit on the current line, the entire field is printed at the beginning of the next line. However, if the field length is greater than the length of the print line, the field is printed starting on the current line and continued across as many lines as required.

After you complete the Truncate records prompt, press the Enter key. The Headings prompt appears as follows:



S9088657-1

Headings

This prompt is required. It specifies whether column headings are to be printed. Column headings are the field names you specified in the SELECT prompt.

One of the following must be specified:

1 (On all pages), if you want headings printed on all pages

2 (First page only), if you want a heading only on the first page

The default value is 1 (On all pages).

After you complete the Headings prompt, press the Enter key. The Page length prompt appears, as follows:

```
                    S/36-TO-PC TRANSFER : CREATE

FROM      CUSTCDT
SELECT    CUSNUM,LSTNAM,STREET,CITY,STATE,ZIPCOD,BALDUE
WHERE     CUSNUM>100000 AND BALDUE>100
ORDER BY  CUSNUM

ITEM                        CHOICE     POSSIBLE CHOICES
Output device . . . . . 2              1=Display  2=Printer  3=Disk
Printer device . . . . . 1             1=LPT1  2=LPT2  3=LPT3
Line length . . . . . . 80             80, 132 characters
Truncate records? . . . 1              1=Yes  2=No
Headings . . . . . . . . 1             1=On all pages  2=First page only
Page length . . . . . . 66             1-127 lines

F1=Help  F3=Rnn  F4=Save  Esc=Options
```

S9088658-1

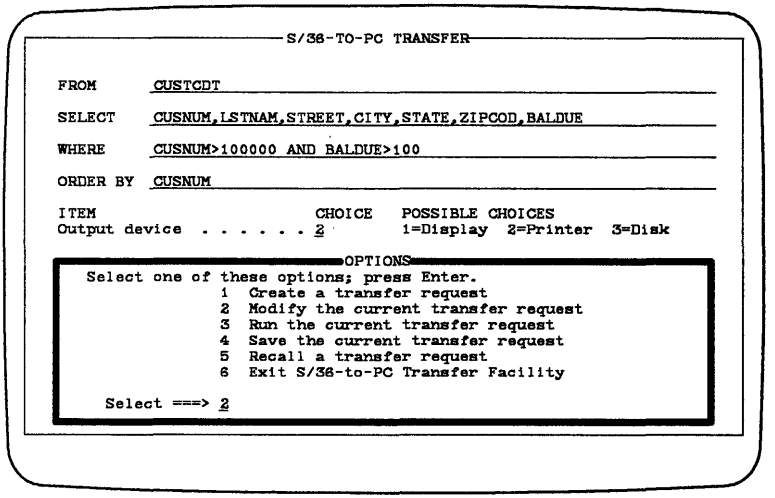
Page length

This prompt is required. It specifies the number of lines on one printed page. The page length can be from 1 to 127 lines, depending on the size of the paper.

Six lines are printed per inch. To determine the page length in lines, multiply the page length (from perforation to perforation) in inches by six. For example, if the length of a page measures 11 inches and you multiply by six, the page length is 66.

Specify a number from 1 to 127; 66 is the default value. After you complete the Page length prompt, press the Enter key.

The transfer request is created and the following OPTIONS menu appears:



S9088614-1

To send output to the printer, select option 3 (Run the current transfer request), then press the Enter key. The transfer request runs and the output is printed on the printer you specified.

Sending Output to a Disk

If you specify 3 (Disk) for the output device, and press the Enter key, the following display appears:

```
                    S/36-TO-PC TRANSFER : CREATE

FROM        CUSTCDT

SELECT      CUSNUM,LSTNAM,STREET,CITY,STATE,ZIPCOD,BALDUE

WHERE       CUSNUM>100000 AND BALDUE>100

ORDER BY    CUSNUM

ITEM                        CHOICE   POSSIBLE CHOICES
Output device . . . . .     3        1=Display  2=Printer  3=Disk

TO PC filename . . . .               PC filename
B:
Replace old file? . . 2              1=Yes  2=No




F1=Help  F3=Run  F4=Save  Esc=Options
```

S9088615-1

TO PC filename

This prompt is required. It identifies the name of the personal computer disk or diskette file to receive the transferred records.

Specify the file name using the following format:

[d:][path]*filename*[.ext]

For details on how to specify the file name, refer to "File Name Format" in Chapter 2, "What You Should Know before Operating PC Support/36."

After you complete the TO PC filename prompt, press the Enter key. The cursor moves to the Replace old file prompt.

Replace old file?

This prompt is required. It specifies whether or not you want the file specified in the TO PC filename prompt replaced with the transferred records. Specify one of the following:

1 (Yes), if the file should be replaced (if it exists)

2 (No), if the file should not be replaced

The default is 2 (No). If you specify 2 and the file exists, you are given a chance to cancel the transfer request or continue replacing the file when the transfer request is run.

If you are creating the file (it does not already exist), you should specify 1 (Yes). You might want to run this transfer request more than once. The next time you run the transfer request, the file will already exist.

After you complete the Replace old file prompt, press the Enter key. The following display appears:

```
                    S/36-TO-PC TRANSFER : CREATE

FROM        CUSTCDT

SELECT      CUSNUM,LSTNAM,STREET,CITY,STATE,ZIPCOD,BALDUE

WHERE       CUSNUM>100000 AND BALDUE>100

ORDER BY    CUSNUM

ITEM                        CHOICE   POSSIBLE CHOICES
Output device  . . . .      3        1=Display  2=Printer  3=Disk

TO PC filename . . . .               PC filename
B:CUSTOMER\REPORT\MASTER.XPC
Replace old file?  . .      2        1=Yes  2=No

PC file type . . . . .      1        1=ASCII text          2=DOS random
                                     3=BASIC sequential    4=BASIC random
                                     5=DIF(TM)             6=No conversion


F1=Help  F3=Run  F4=Save  Esc=Options
```

S9088679-1

PC file type

This prompt is required. It identifies the type of personal computer disk or diskette file to receive the transferred records.

One of the following must be specified:

1 (ASCII text), where all data is converted to ASCII characters.

2 (DOS random), where data is converted to a personal computer format suitable for many data base applications.

3 (BASIC sequential), where data is converted to character and numeric BASIC fields for sequential processing by a BASIC program.

4 (BASIC random), where all data is converted to character string, hexadecimal, integer, single-precision, or double-precision numeric BASIC fields for random processing by a BASIC program.

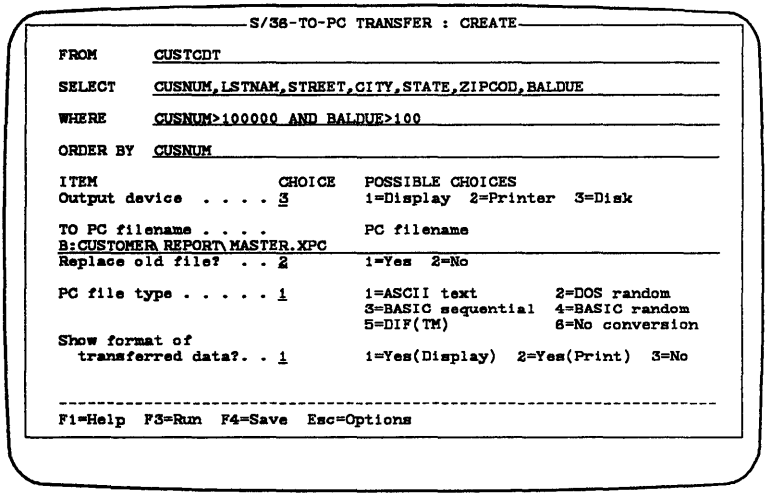
5 (DIF), where all data is converted to a format used for data interchange between spreadsheet programs and other application programs.

6 (No conversion), where no data is converted. The data is transferred exactly as it is stored on the System/36.

ASCII text is the default value.

Refer to Chapter 6, "The Transfer Facility" in the *PC Support/36 Technical Reference* for a detailed description of each file type.

After you complete the PC file type prompt, press the Enter key. The Show format of transferred data prompt appears, as follows:



S9088617-1

Show format of transferred data?

This prompt is required. It specifies whether or not you want to see the detailed format of the data records to be transferred and, if so, whether you want to see it on the personal computer display or the personal computer printer.

You must specify one of the following:

1 (Display), if you want to see the format of a transferred data record on the personal computer display

2 (Printer), if you want to see the format of a transferred data record on the personal computer printer

3 (No), if you do not want to see the format of a transferred data record

The default is 3 (No).

The format of a transferred data record shows the name of each field in the record, and the data type, size in bytes, number of digits, and number of decimal positions on the System/36 and on the personal computer. This information can be used to help you write a personal computer program to process the data in the personal computer file.

You need only display or print the format of transferred data once for each transfer request. If you change the FROM or SELECT prompt for the transfer request, you must get a new copy of the format of transferred data by specifying 1 (Display) or 2 (Printer).

If you specify 2 (Printer), the format of transferred data is printed on printer LPT1.

After you complete the Show format of transferred data prompt, press the Enter key. The Save PC file description prompt appears, as follows:

```
S/36-TO-PC TRANSFER : CREATE

SELECT    CUSNUM,LSTNAM,STREET,CITY,STATE,ZIPCOD,BALDUE

WHERE     CUSNUM>100000 AND BALDUE>100

ORDER BY  CUSNUM

ITEM                    CHOICE   POSSIBLE CHOICES
Output device  . . . .  S        1=Display  2=Printer  3=Disk

TO PC filename . . . .           PC filename
B:CUSTOMER\REPORT\MASTER.XPC
Replace old file?  . .  2        1=Yes  2=No

PC file type . . . . .  1        1=ASCII text          2=DOS random
                                 3=BASIC sequential    4=BASIC random
                                 5=DIF(TM)             6=No conversion
Show format of
  transferred data?. .  1        1=Yes(Display)  2=Yes(Print)  3=No

Save PC file
  description? . . . .  1        1=Yes (for PC-to-S/36 transfer)  2=No
-------------------------------------------------------------------------
F1=Help  F3=Run  F4=Save  Esc=Options
```

S9088618-1

Save PC file description?

This prompt is required. It specifies whether or not you want to save the personal computer file description in a personal computer file. The file description describes the transferred data, and may be needed later if you transfer the data back to the System/36.

You can specify one of the following:

- 1 (Yes), if you are transferring data from a System/36 file that is defined by IDDU data definitions. This will create a personal computer file description file when the transfer request runs.

  You need to create a personal computer file description file only once for each transfer request. After you have run the transfer request and created the file description file, you can change this value to a 2 (No). However, if you change the FROM, SELECT, or PC file type prompt, you must again specify 1 (Yes) to create a new file description file for the transfer request.

- 2 (No), if you are transferring data from a System/36 file that is not defined by IDDU data definitions, or from a library member.

The default is 1 (Yes).

If you do not plan to transfer the data back to the System/36, specify 2 (No). If you specified 1 (Yes) for this prompt, the PC file description name prompt appears, as follows:

```
S/36-TO-PC TRANSFER : CREATE

ORDER BY  CUSNUM

ITEM                    CHOICE   POSSIBLE CHOICES
Output device  . . . .  3        1=Display  2=Printer  3=Disk

TO PC filename . . . .           PC filename
B:CUSTOMER\REPORT\MASTER.XPC
Replace old file?  . .  2        1=Yes  2=No

PC file type . . . . .  1        1=ASCII text          2=DOS random
                                 3=BASIC sequential    4=BASIC random
                                 5=DIF(TM)             6=No conversion
Show format of
  transferred data?. .  1        1=Yes(Display)  2=Yes(Print)  3=No

Save PC file
  description? . . . .  1        1=Yes (for PC-to-S/36 transfer)  2=No

PC file description
name . . . . . .                 PC filename
B:CUSTOMER\REPORT\MASTER.FDF
--------------------------------------------------------------------------
F1=Help  F3=Run  F4=Save  Esc=Options
```

S9088659-1

PC file description name

This prompt is required. It appears only if you specified 1 (Yes) for the Save PC file description prompt. The PC file description name prompt specifies the name of the personal computer disk or diskette file to receive the file description.

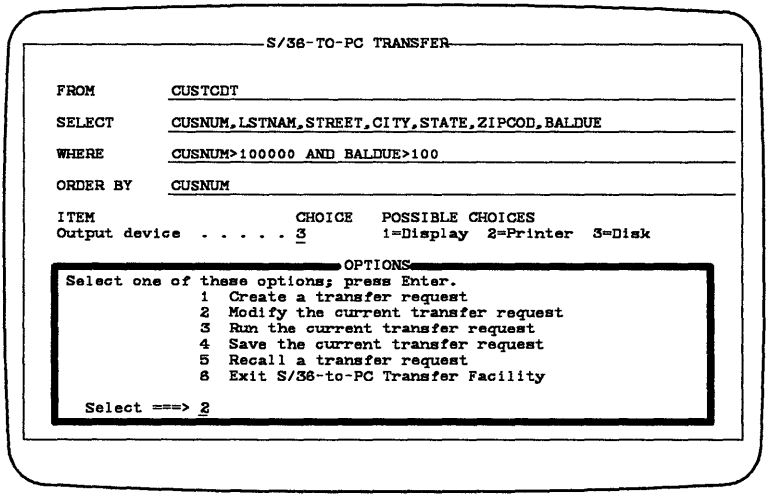
This prompt automatically contains the recommended file name, which is the same name you specified in the TO filename prompt, except that the extension .FDF has been added. The extension .FDF identifies the file as a file description file. To use the recommended file name, press the Enter key.

If you want to use your own file name, it is recommended that you use the default extension, .FDF. The file name for this prompt is specified using the same format that was used in the TO PC filename prompt, which is:

[d:][path]*filename*[.ext]

Refer to Chapter 2, "What You Should Know before Operating PC Support/36" for details on how to enter a file name.

After you specify 2 (No) for the Save PC file description prompt, or after you specify the PC file description name prompt, press the Enter key. The transfer request is created and the following OPTIONS menu appears:



S9088619-1

From this display, you can modify, save, or run the transfer request you just created. To run the current transfer request, type or select a 3 (Run the current transfer request), then press the Enter key.

Note: If you want to save the current transfer request, you must save it before you create or recall another transfer request or end the System/36-to-personal computer transfer facility. Otherwise, the current transfer request is deleted.

Joining Records from More Than One System/36 File

Sometimes the data that you want to transfer is split among more than one System/36 file. There might be relationships between these files that you can use to link or *join* them together as if the data were all in one file. Once the files have been joined together, they can be transferred to the personal computer. The System/36-to-personal computer transfer facility allows you to perform this join-and-transfer function in one step.

For example, suppose you have two System/36 files, INVENTORY and SUPPLIERS. Records in both files contain a part number field. The INVENTORY file contains inventory information for each part, while the SUPPLIERS file contains information used in purchasing and ordering each part.

Assume you want to transfer information about the parts you can order from supplier 51, including the part number, part description, and part price. The fields that you want to transfer are PARTNO (from file SUPPLIERS), DESCRIPTION (from file INVENTORY), and PRICE (from file SUPPLIERS).

The data contained in the INVENTORY and SUPPLIERS files, shows that supplier 51 supplies part numbers 221 and 231, and that these parts have a description of BOLT and NUT and a price of 30 cents and 10 cents respectively. The following summarizes this information:

Fields:	PARTNO	DESCRIPTION	PRICE
Record 1:	221	BOLT	.30
2:	231	NUT	.10

You can use the System/36-to-personal computer transfer facility to join the data from these two files and obtain this same result. To accomplish this, you need to specify both files (INVENTORY and SUPPLIERS) in the FROM prompt. In the SELECT prompt, you specify the fields you want transferred (PARTNO, DESCRIPTION, and PRICE). In the WHERE prompt, you specify which records you want transferred (records where SUPPNO = 51).

A new prompt, JOIN BY, specifies the relationship between the two files. When you worked out the result above, you first noticed by examining the SUPPLIERS file, that part number 221 was supplied by supplier 51 for a price of 30 cents. However, to determine the part description, you had to examine the INVENTORY file to find part number 221 and its description. Notice that you joined data from a record in the SUPPLIERS file and a record in the INVENTORY file, and that both records had the same part number. Thus, in order to join two records in these files, the part numbers must be equal.

In summary, specify the following to obtain the information described previously:

SUPPLIERS, INVENTORY for the FROM prompt

PARTNO = PARTNUM for the JOIN BY prompt

PARTNO, DESCRIPTION, PRICE for the SELECT prompt

SUPPNO = 51 for the WHERE prompt

PARTNO for the ORDER BY prompt

File Qualifiers

When joining records from more than one System/36 file, you may find that the same field name may be used in more than one file.

For example, suppose that PARTNO is the name of the part number field in both the INVENTORY file and the SUPPLIERS file. Whenever the PARTNO field is specified, you must identify which file contains the specific part number field you want to use. You do this using something called a *file qualifier.*

A file qualifier is an upper or lowercase *T,* followed by a 1-digit number, and separated from the field name by a period (.). In the previous join example, the PARTNO field names must be qualified with T1. and T2. T1. refers to the first file specified in the FROM prompt, and T2. refers to the second file specified in the FROM prompt.

To obtain the same information as described in the previous example, specify the following:

SUPPLIERS, INVENTORY for the FROM prompt

T1.PARTNO = T2.PARTNO for the JOIN BY prompt

T1.PARTNO, DESCRIPTION, PRICE for the SELECT prompt

SUPPNO = 51 for the WHERE prompt

T1.PARTNO for the ORDER BY prompt

T1.PARTNO refers to the PARTNO field in SUPPLIERS, and T2.PARTNO refers to the PARTNO field in INVENTORY.

The DESCRIPTION, PRICE, and SUPPNO field names do not have to be qualified because they are only found in one of the files. However, for clarity, they could also be qualified as follows: T2.DESCRIPTION, T1.PRICE, T1.SUPPNO

Joining More Than Two System/36 Files

The next section on joining two to five System/36 files covers more advanced techniques. At this point, you have enough knowledge of joining files to proceed. If you wish to learn more about joins, continue with the next section.

Joining Records with Records in the Same File

It is possible to join records with records in the same file, that is, the files that are specified in the FROM prompt can be the same. This can be used, for example, to compare information in the records of a file.

For example, in the SUPPLIERS file, there are several suppliers of the same part. You may want to know which supplier has set a price higher than another supplier for the same part. To transfer the desired information to the personal computer, you could specify the following:

SUPPLIERS, SUPPLIERS for the FROM prompt

T1.PARTNO = T2.PARTNO for the JOIN BY prompt

T1.PARTNO, T1.SUPPNO, T1.PRICE, T2.SUPPNO, T2.PRICE for the SELECT prompt

T1.PRICE > T2.PRICE for the WHERE prompt

T1.PARTNO for the ORDER BY prompt

The same file has been specified twice in the FROM prompt. The JOIN BY prompt specifies to join records having the same part number. This will produce joined records containing information about two suppliers of the same part. These joined records can be tested to identify those where one supplier's price is higher than that of the other supplier.

One record in the SUPPLIERS file is compared to every record (including itself) in the SUPPLIERS file. When the part numbers match, the two records are joined. This occurs for each record in the SUPPLIERS file.

The price of the first supplier is compared with the price of the second supplier in each record. Only records where the price of the first supplier is higher than the price of the second supplier are kept.

The final result is the following:

Fields:	T1.PARTNO	T1.SUPPNO	T1.PRICE	T2.SUPPNO	T2.PRICE
Record 1:	221	51	.30	54	.10
2:	231	54	.10	57	.04
3:	241	53	.08	54	.02
4:	241	61	.05	54	.02

Transferring Data from More Than One System/36 File

This section describes the prompts used for transferring data from more than one System/36 file to the personal computer. Before you read this section, you should be familiar with the concepts of transferring records from more than one System/36 file. For more information, refer to the section "Joining Records from More Than One System/36 File" earlier in this chapter.

Following is a summary of the prompts used for creating a transfer request that transfers data from more than one System/36 file:

- Use the FROM prompt to specify the names of all the files from which data is transferred.
- Use the JOIN BY prompt to specify how data from the files are joined or combined.

FROM

Use the FROM prompt to specify the System/36 files from which you want to transfer data. Separate the file names by commas, in the following form:

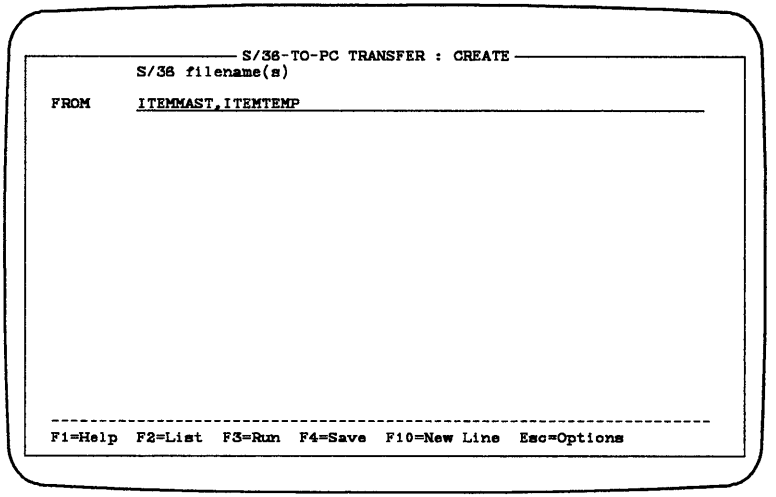
file-name[/format-name],file-name[/format-name], file-name[/format-name],...

You can specify up to five files. For more detailed information about specifying a file name, see "Creating a System/36-to-Personal Computer Transfer Request" earlier in this chapter.

If the name of a file does not fit on one FROM input area line, the transfer facility automatically creates another input line, or you can create another line by pressing the F10 key. When continuing the FROM prompt on another input area line, the name of the file must be typed entirely on one input line. The name of a file cannot be split between two input area lines.

Note: When joining files, all files specified on the FROM prompt must be externally defined by IDDU.

The following is an example of specifying two files using the FROM prompt:

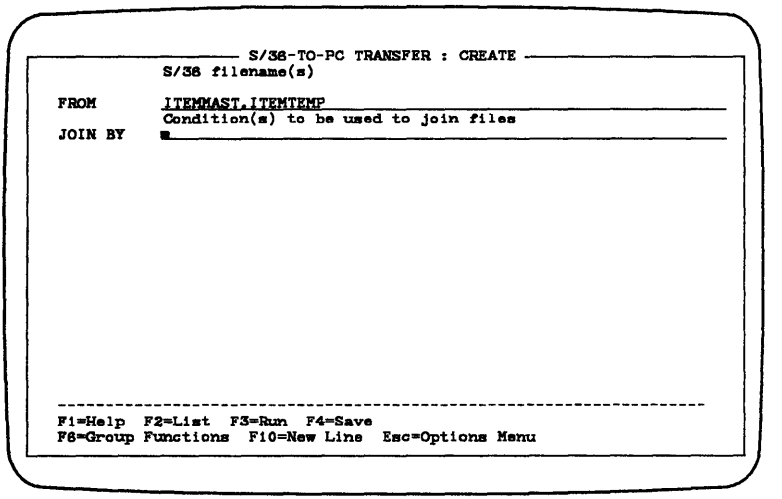


S9088718-0

When transferring records from more than one file, you can use the F2 key to show lists of available files and record formats, just as you can when you transfer records from only one file. You should, however, be aware of the following:

- If you specify a file name and a format name for the FROM prompt and press the F2 key, a list of available files appears. The transfer facility assumes you have specified a complete filename and want to specify another filename. If you select a file from the list using the F9 key, it is copied to the FROM prompt, and is separated by a comma from the previously specified filename. You can then continue using the F2 key to help you complete the next filename.

After you complete the FROM prompt (specifying at least two files from which data is to be transferred) and press the Enter key, the JOIN BY prompt appears as follows:



S9088720-0

JOIN BY

The JOIN BY prompt is required if you specify more than one file name in the FROM prompt. It appears after you complete the FROM prompt and press the Enter key. If you specify only one file name in the FROM prompt, the JOIN BY prompt is not displayed.

The JOIN BY prompt identifies how to combine or *join* records from the files specified in the FROM prompt. Each file specified in the FROM prompt must be joined to at least one other file in the FROM prompt.

Use the JOIN BY prompt to specify one or more join conditions. A join condition identifies how two files are alike and therefore which records are to be joined from the two files.

The number of join conditions specified must be one less than the number of files being joined. For example, if you are joining five files, you must specify four join conditions.

The format of a join condition is:

fieldname test fieldname |*

where:

fieldname is the name of a field defined in a record format specified in the FROM prompt. In a join condition you must specify two field names, one field from each file that is joined.

test is the type of comparison to be applied to the field.

=	Equal
< > or > <	Not equal (see note)
>	Greater than
> =	Greater than or equal
<	Less than
< =	Less than or equal

Note: The LIKE test is not valid for JOIN BY.

* joins all the files specified in the FROM prompt together. The data will consist of all the possible combinations of records from the joined files.

In the following example, two files, ITEMMAST and ITEMTEMP, are joined using the item number fields ITEMNO and ITEMNUM with the equal test:

```
ITEMNO = ITEMNUM
```

Field ITEMNO is in file ITEMMAST and field ITEMNUM is in file ITEMTEMP. In the previous example, whenever the contents of field ITEMNO equals the contents of field ITEMNUM, data is transferred from either or both records depending on the fields specified in the SELECT prompt.

The fields you specify in the JOIN BY prompt must follow these rules:

- A numeric field must be joined to a numeric field. The field lengths or types do not have to be the same.
- A character field must be joined to a character field. The lengths do not have to be the same.

If a field name you specify is defined in more than one of the record formats specified in the FROM prompt, the field name must be preceded by a file qualifier every time you use the field in any of the following prompts:

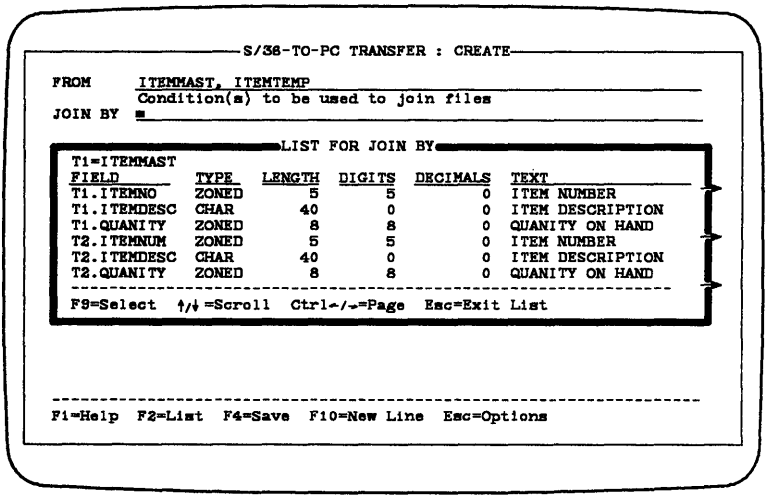
- JOIN BY
- SELECT
- WHERE
- ORDER BY

A file qualifier is the character T (upper or lowercase) followed by a 1-digit number. Use T1 for fields defined by the first record file, T2 for the fields defined by the second record file, and so on. The file qualifier and the field name are separated by a period (.).

For example, assume you want to join the files ITEMMAST and ITEMTEMP according to the contents of each file's item description field. In this case, the item description field in both files is named ITEMDESC. You must specify a file qualifier whenever you use the field ITEMDESC, like this:

```
T1.ITEMDESC = T2.ITEMDESC
```

If you do not know the names of the fields in the files specified in the FROM prompt, press the F2 key when the cursor is in the JOIN BY input area. A list of the file qualifiers and field names for each file appears as follows:



S9088719-1

The first line of the list heading identifies the file qualifier and file name for the field currently highlighted.

You can use the Ctrl-Page Up and Ctrl-Page Down keys to position the highlighting on the first field of the previous file or the first field of the next file. For additional information on using lists, refer to the SELECT prompt in "Creating a System/36-to-Personal Computer Transfer Request" in this chapter.

You must use more than one join condition if you want to join more than two files. If you need to specify more than one join condition, the conditions must be connected with AND. For example:

```
T1.EMPNO = T2.EMPNO AND T2.EMPNO = T3.EMPNO
```

means that records with the same value for EMPNO are joined from the first file and the second file specified in the FROM prompt, and then from the second and third files specified in the FROM prompt.

You can specify a maximum of four join conditions. If all of the join conditions do not fit on one input line, the transfer facility automatically creates another line, or you can create another line by pressing the F10 key. When continuing the JOIN BY prompt on another line, a field name must be typed entirely on one line. A field name cannot be split between two lines.

After you complete the JOIN BY prompt and press the Enter key, you can complete the SELECT, WHERE, and ORDER BY prompts as described in the previous section. Remember that if you reference a field name that is defined in more than one file, the field must be preceded by a file qualifier.

Modifying a System/36-to-Personal Computer Transfer Request

This section describes how to modify the current transfer request. The current transfer request is one that you previously created or recalled, and is currently on the display. After you modify a transfer request, you can use the OPTIONS menu to save or run it.

Specify a 2 (Modify the current transfer request) on the OPTIONS menu, and press the Enter key. You can modify the transfer request by moving the cursor to any field and typing the changes you want to make. Refer to "Creating a System/36-to-Personal Computer Transfer Request" earlier in this chapter for details on what you can enter.

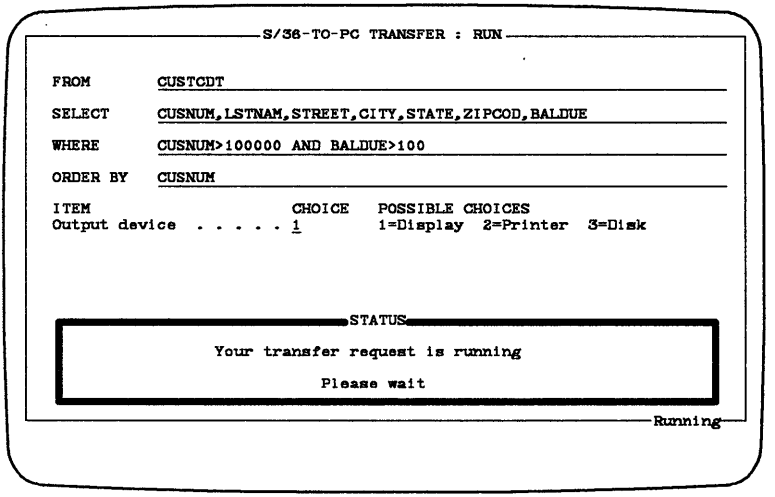
You can:

- Press the F1 key to display help text.
- Press the F2 key to display a list of items for the FROM, SELECT, WHERE, JOIN BY, or ORDER BY prompt.
- Press the F3 key to run the transfer request.
- Press the F4 key to save the transfer request.
- Press the Escape key to return to the OPTIONS menu.

Running a System/36-to-Personal Computer Transfer Request

This section describes how to run a System/36-to-personal computer transfer request. Before you run a transfer request, you must have previously created, recalled, or modified the transfer request.

To run a transfer request, specify 3 (Run the current transfer request) on the OPTIONS menu, and press the Enter key. If the OPTIONS menu is not on the display, you can run a transfer request by pressing the F3 (Run) key. The following window appears while the transfer request is running:



S9088629-1

If the transfer request runs successfully, one of the following occurs:

- If you specified 1 (Display) as the output device, the transferred records are displayed.

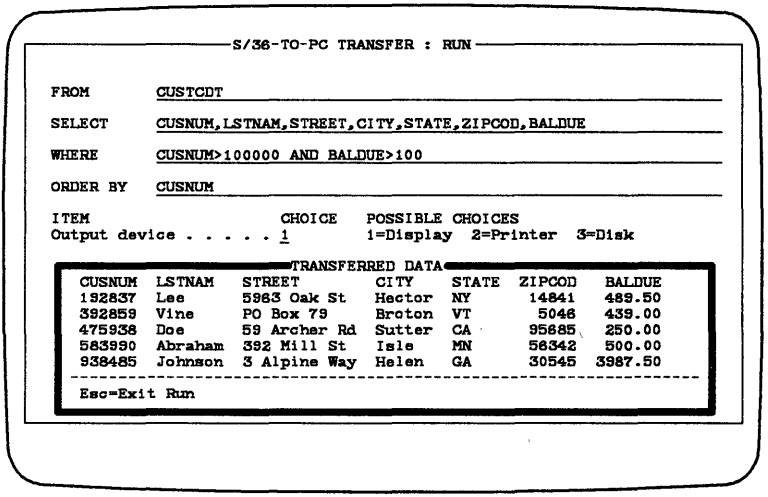
- If you specified 2 (Printer) as the output device, the transferred records are printed.

- If you specified 3 (Disk) as the output device, the format of the transferred data (if requested) is sent to the output device (display or printer) you specified for the Show format of transferred data prompt. The personal computer file description file (if requested in the Save PC file description prompt) is written to a personal computer disk or diskette file, and the transferred records are written to a personal computer disk or diskette file.

You can press the Escape key to cancel running the current transfer request at any time (except while the file description is being written to a disk or diskette). Any records remaining to be transferred are ignored. If data is being written to a personal computer disk or diskette file, the file is closed.

If you specified 1 (Display) for the Output device prompt when you created or modified the current transfer request, the transferred records are sent to the display. The records appear, one record per line, inside a window on the display.

The output is in column format. Column headings are the SELECT field names. The following shows displayed records:

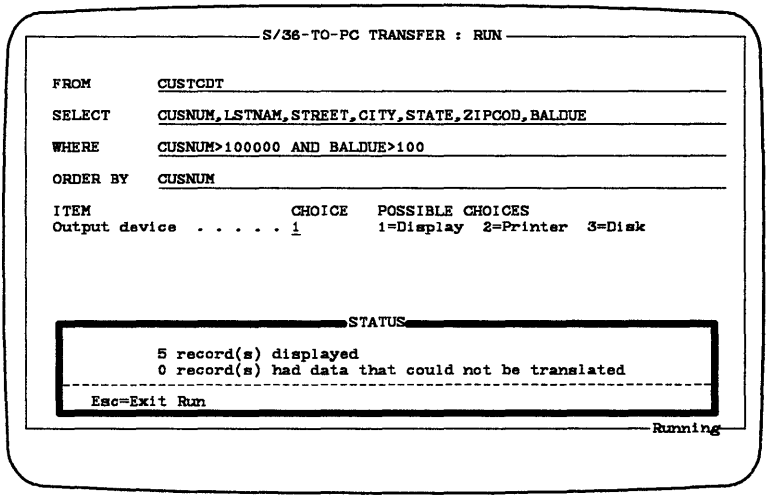


S9088630-1

Each field of a transferred record is converted from the System/36 data type to personal computer ASCII. If a field cannot be converted, the field is displayed and the character positions that could not be converted are highlighted.

Note: The personal computer receives records from the System/36 sequentially, and stores as many of them in personal computer storage as possible. If you try to page backward past the first record displayed, the transfer request may be resubmitted by the transfer facility in order to display previous records. This may impact performance.

You can press the Escape key to stop displaying the records. The display then shows the total number of records that were displayed and the number of displayed records that had data that could not be converted, as follows:

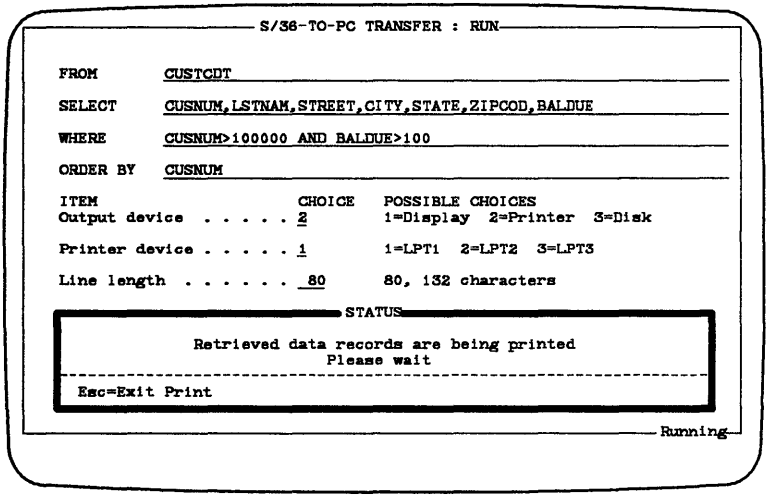


S9088680-1

You can press the Escape key again to display the OPTIONS menu. The transfer request stops running.

If you specified 2 (Printer) for the Output device prompt when you created or modified the current transfer request, the transferred records are sent to the printer. The printer is set according to the values that were specified in the transfer request.

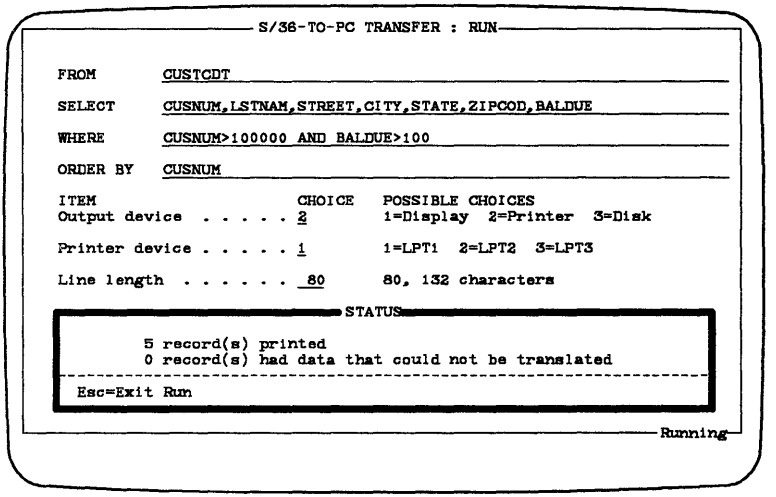
The output is in column format. Column headings are the SELECT field names. The following window appears:



S9088631-1

Each field of a transferred record is converted from the System/36 data type to personal computer ASCII. If a field cannot be converted, the field is printed with rectangles occupying the character positions that could not be converted.

If you want to stop printing the transferred records before all of the records are printed, you can press the Escape key. The display then shows the total number of records printed and the number of printed records that had data that could not be converted, as follows:



S9088661-1

If you are printing on a personal computer printer (not a virtual printer), the transfer facility resets the printer to print 80 characters per line, 66 lines per page, 6 lines per inch, and no double strike, after printing the transferred records.

If you are using a virtual printer:

- If the print file remains open between requests, the values specified for the first request are retained.

- When the print file is closed, the virtual printer uses the values initially specified for the virtual printer.

You can press the Escape key again to display the OPTIONS menu. The transfer request stops running.

If you specified 3 (Disk) for the Output device prompt when you created or modified the current transfer request, the following steps occur:

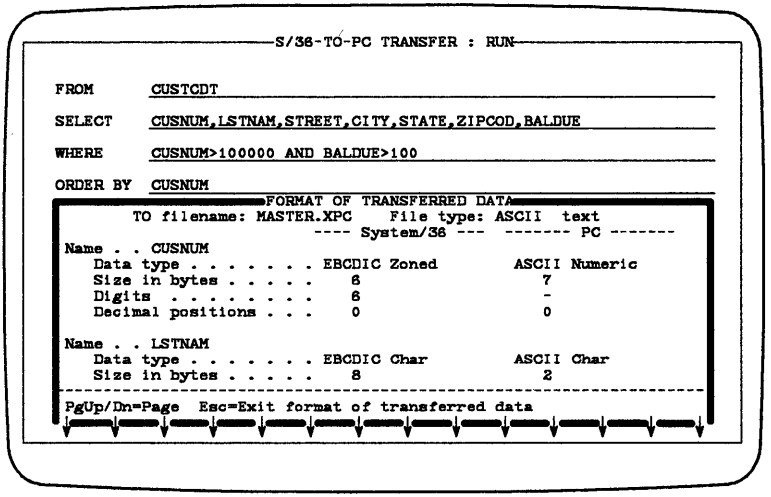
1. The format of the transferred data is displayed or printed, as requested in the Show format of transferred data prompt. (If you specified 3 [No] for the Show format of transferred data prompt, this does not take place.)

2. The personal computer file description is written to a personal computer disk or diskette file, as requested in the Save PC file description prompt. (If you specified 2 [No] for the Save PC file description prompt, this step does not take place.)

3. The transferred records are written to a personal computer disk or diskette file.

Displaying or Printing the Format of Transferred Data

If you requested that the format of the transferred data be displayed, the following display appears:



S9088634-2

The format of transferred data lists the names of the fields as they appear in the record. It contains the following information for each field that is specified in the SELECT prompt. (The fields appear in the order in which the corresponding data appears in the personal computer disk or diskette file.)

Name The name of the field in the transferred records.

Data type This identifies the System/36 data type and the personal computer data type.

The following are System/36 or personal computer data codes and their corresponding meaning:

Code	Meaning
Hexadecimal	Hexadecimal
Binary	Binary
EBCDIC Char	EBCDIC character
EBCDIC Zoned	Zoned decimal in EBCDIC format
EBCDIC Packed	Packed decimal in EBCDIC format
ASCII Char	ASCII character
ASCII Zoned	Zoned decimal in ASCII format
ASCII Packed	Packed decimal in ASCII format
BASIC SP	BASIC single-precision number
BASIC DP	BASIC double-precision number
BASIC Integer	BASIC integer
ASCII Numeric	Numeric field in ASCII format

Size in bytes This identifies the size (in bytes) of the field on the System/36 and on the personal computer.

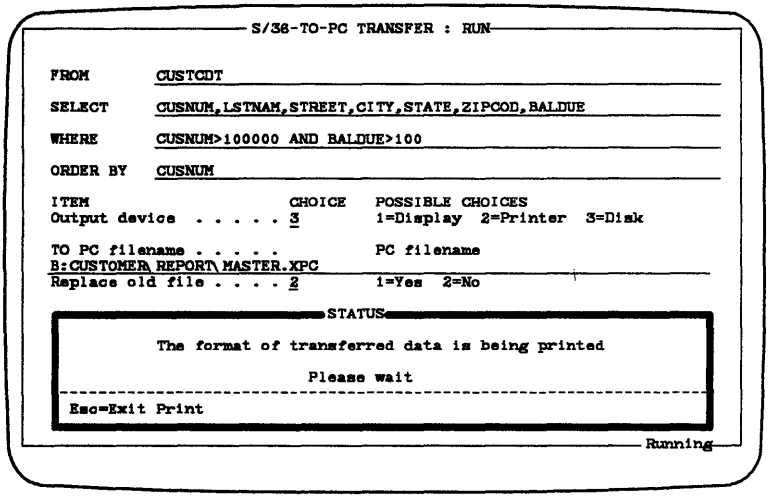
Digits For numeric fields (EBCDIC zoned, EBCDIC packed, or binary), this identifies the number of digits in the number. If the number has a decimal point, the number of digits on both sides of the decimal point are included. (**Digits** applies only to System/36 data.)

Decimal positions This identifies the number of decimal positions in a numeric field. It is shown for System/36 EBCDIC zoned, EBCDIC packed, and binary fields, and for personal computer ASCII zoned, ASCII packed, ASCII numeric, or binary fields.

Note: The decimal positions and size in bytes are not displayed for personal computer fields when the file type is BASIC sequential or DIF.

You can press the Escape key to remove the window. The transfer request continues running.

If the format of the transferred data is to be printed, the following display appears:

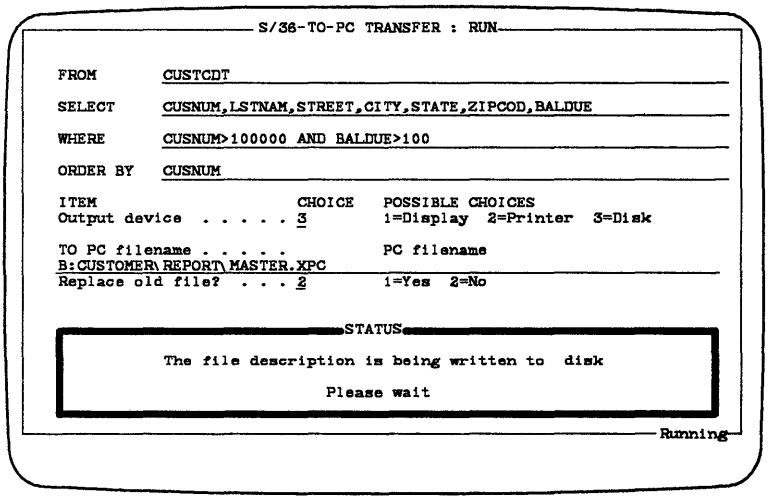


S9088635-2

If you want to stop printing the records before they are all printed, press the Escape key. After the format of transferred data is printed, the window is removed and the transfer request continues running.

Saving the Personal Computer File Description

If you specified 1 (Yes) for the Save PC file description prompt, the following display appears:

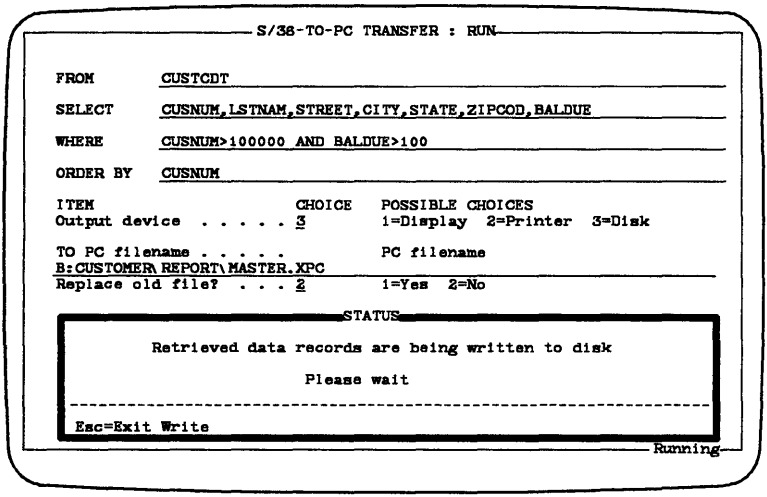


S9088662-1

The personal computer file description is written to the personal computer disk or diskette file that you specified in the PC file description name prompt. After the personal computer file is written, the transfer request continues running.

Writing Transferred Records

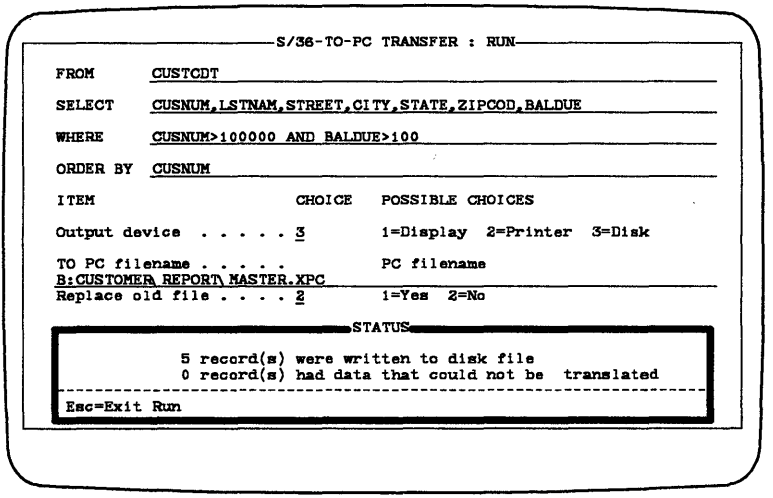
When the transferred records are written to a personal computer disk or diskette file and the following window appears:



S9088632-1

If you want to stop writing records to the file before the transfer request is finished running, you can press the Escape key.

After the records are transferred, the following display appears:



S9088633-1

This display shows the total number of records written to the personal computer disk or diskette file, and the number of records that contained data that could not be converted.

You can press the Escape key to stop running the transfer request and display the OPTIONS menu.

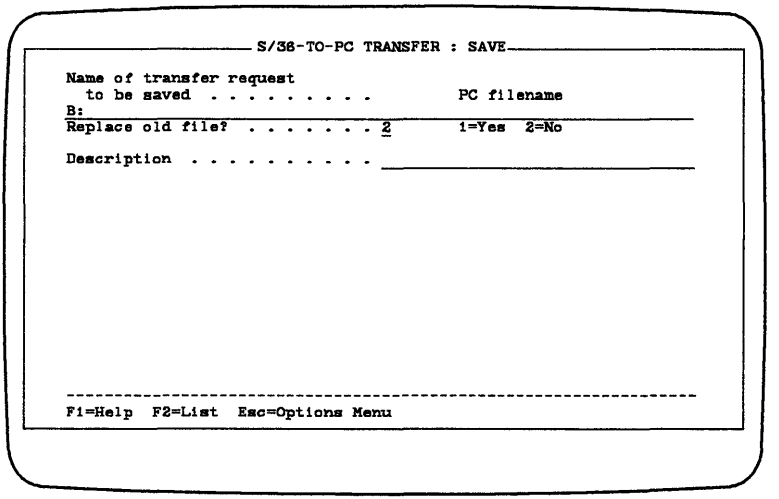
Saving a System/36-to-Personal Computer Transfer Request

This section describes how to save the current transfer request. The current transfer request is a transfer request you previously created and/or modified, and is currently on the display. After you save a transfer request, you can recall, modify, or run it.

You can also run a saved transfer request using the automatic System/36-to-personal computer transfer facility. Refer to "Running a System/36-to-Personal Computer Transfer Request" later in this chapter for details.

You should save a transfer request if you need to transfer the same information often. Saving a transfer request prevents you from having to create a transfer request each time you want this information.

To save a transfer request, enter a 4 (Save the current transfer request) on the OPTIONS menu and press the Enter key. If the OPTIONS menu is not on the display, you can save the transfer request by pressing the F4 (Save) key. The following display appears:



S9088626-1

Using the following format, type in the name of the disk or diskette file in which you want to save the transfer request:

[d:][path]*filename*[.ext]

The DOS default disk drive, followed by a colon, is automatically typed in for you. However, you can specify another drive, if you wish.

For details on how to specify the file name, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

If you want a list of all the transfer request file names on the disk or diskette, press the F2 key. You can also specify part of a transfer request file name (by using DOS global file name characters, * or ?), on the Transfer request name input area, to limit the number of names listed. In this case, pressing the F2 key lists all of the transfer request names that match the characters you entered.

You can use the Up Arrow and Down Arrow keys, and the Page Up and Page Down keys, to find the transfer request name you want, then press the F9 key to select it. This automatically copies the name from the list to the Transfer request name input area.

If you do not specify an extension, the transfer facility automatically limits the transfer request file names listed to those with an extension of .TTO.

For example:

- Pressing the F2 key with the Transfer request name input area containing A: lists all the transfer request file names on the diskette in drive A in the current directory that have an extension of .TTO.

- Pressing the F2 key with the value *A:TRFILE.** lists all the transfer request file names on the diskette in drive A in the current directory having a file name of TRFILE with any extension (for example, TRFILE.001, TRFILE.002, and so forth).

- Pressing the F2 key with the value *A:TR*.TTO* lists all the transfer request file names on the diskette in drive A in the current directory having TR as the first 2 characters of the file name and anything as the remaining characters of the file name with .TTO as the extension (for example, TRACCT1.TTO, TRBATCH.TTO, and so forth).

- Pressing the F2 key with the *A:**. produces a list of all transfer request file names on drive A in the current directory with no extension.

After you complete the Transfer request name prompt, press the Enter key. The cursor moves to the Replace old file prompt.

Replace old file?

This prompt is required. It specifies whether or not you want the file specified in the Transfer request name prompt replaced with the current transfer request. Specify one of the following:

- 1 (Yes), if the file should be replaced (if it exists)
- 2 (No), if the file should not be replaced

The default is 2 (No). If you specify 2 and the file exists, you will be given a chance to cancel the save operation or continue, replacing the file with the transfer request. If you are creating the file (it does not already exist), you should answer this prompt as though the file already exists.

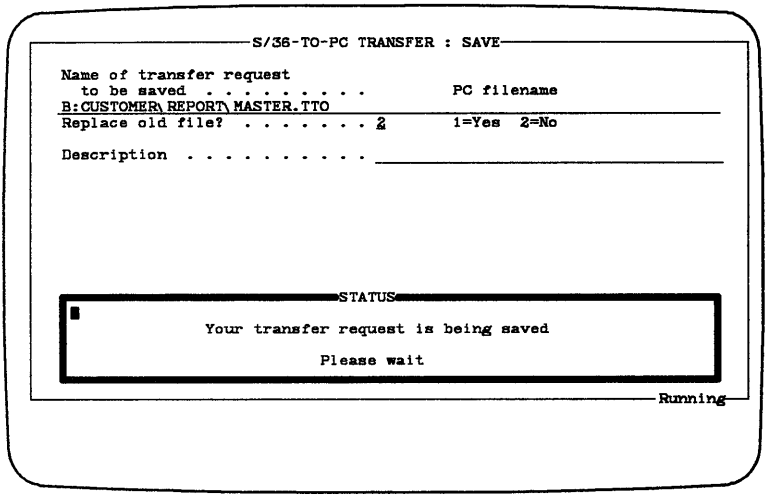
After you complete the Replace old file prompt, press the Enter key. The cursor moves to the Description prompt.

Description

The Description prompt is optional. It allows you to type a short description about the transfer request. The description can be up to 40 characters long. This description is not used by the program; it is saved with the transfer request so that it can be displayed when you request a list during a save or recall operation.

If you selected the transfer request name from a list, the description is automatically copied into the input area for this prompt.

After you complete the Description prompt, press the Enter key. The following display appears:

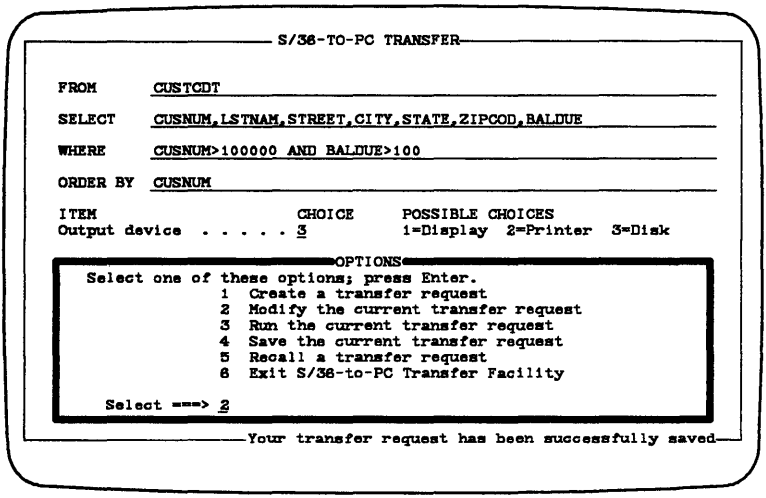


S9088627-1

The transfer request is saved in the specified personal computer disk or diskette file.

Note: The transfer request is saved in a personal computer file that is intended for use only by the transfer facility. Do not change the contents of the transfer request file. If you want to change the transfer request, you must recall it and modify it using the transfer facility.

After a transfer request is successfully saved and written to a personal computer disk or diskette file, the following OPTIONS menu appears:



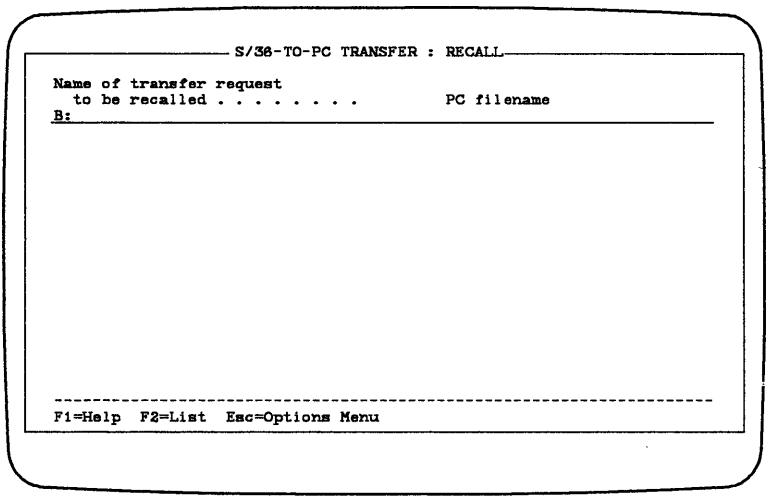
S9088663-3

The saved transfer request remains the current transfer request.

Recalling a System/36-to-Personal Computer Transfer Request

This section describes how to recall a transfer request from a personal computer disk or diskette file. You must save a transfer request before you can recall it. After you recall it, you can modify or run it.

If you specify a 5 (Recall a transfer request) on the OPTIONS menu and press the Enter key, the following display appears:



S9088620-1

Name of Transfer Request to be Recalled

This prompt is required. Type the name of the personal computer disk or diskette file that contains the transfer request you want to recall.

You must specify the transfer request file name using the following format:

[d:][*path*]*filename* [.ext]

Refer to "File Name Format" in Chapter 2, "What You Should Know before Operating PC Support/36" for information about entering a file name.

If you want a list of all the transfer request file names on the disk or diskette, press the F2 key. You can also specify part of a transfer request file name using DOS global file name characters, * or ?, to limit the number of names listed. In this case, pressing the F2 key lists all of the transfer request names that match the characters you entered.

If you do not specify an extension, the transfer facility automatically limits the transfer request file names listed to those with an extension of .TTO. If you specify only a period (.) for the extension, no extension is used.

For example:

- Pressing the F2 key with the value *A:* in the Transfer request name prompt lists all the transfer request file names on the diskette in drive A in the current directory that have an extension of .TTO.

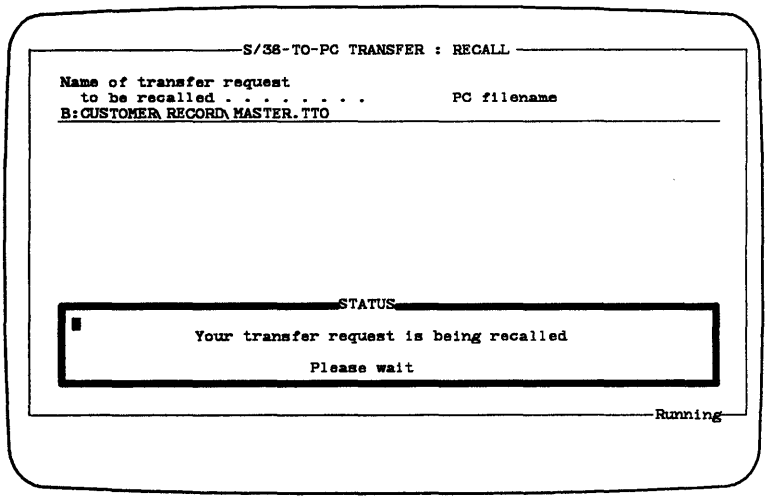
- Pressing the F2 key with the value *A:TRFILE.** lists all the transfer request file names on the diskette in drive A in the current directory having a file name of TRFILE with any extension (for example, TRFILE.001, TRFILE.002, and so forth).

- Pressing the F2 key with the value *A:TR*.TTO* produces a list of all the transfer request file names on the diskette in drive A in the current directory having TR as the first 2 characters of the file name and anything as the remaining characters of the file name with .TTO as the extension (for example, TRACCT1.TTO, TRBATCH.TTO, and so forth).

- Pressing the F2 key with the *A:*.* produces a list of all transfer request file names on drive A in the current directory with no extension.

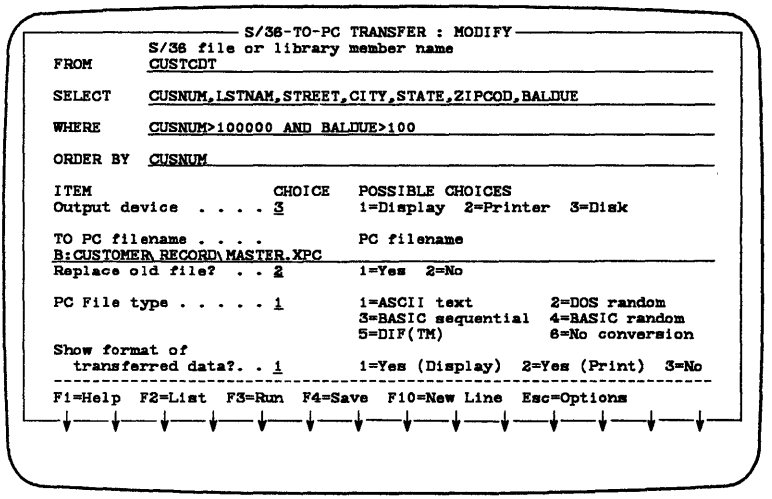
You can use the Up Arrow and Down Arrow keys, or the Page Up and Page Down keys, to find the name you want, then select the name from the list by pressing the F9 key. This automatically copies the selected name to the transfer request name input area.

After you type or select the transfer request file name, press the Enter key. The following window appears:



S9088621-1

The transfer request is read from the disk or diskette and becomes the current transfer request. The following display appears with the values for the transfer request just recalled:



S9088622-1

You can:

- Press the F3 key to run the transfer request.
- Modify the transfer request, then press the F3 key to run the transfer request.
- Press the Escape key to return to the OPTIONS menu.

Erasing a System/36-to-Personal Computer Transfer Request

If you no longer want to use a previously saved transfer request, you can erase it using the DOS ERASE command. Refer to the *IBM Personal Computer Disk Operating System* manual for more information about erasing files.

If you did not specify an extension when you saved the transfer request, the transfer facility automatically appended an extension of .TTO. Therefore, you must specify this extension when you erase the file.

Ending the System/36-to-Personal Computer Transfer Facility

You can end the System/36-to-personal computer transfer facility by entering a 6 (Exit S/36-to-PC Transfer Facility) on the OPTIONS menu and pressing the Enter key, or by pressing the Control and Break keys.

When you end the System/36-to-personal computer transfer facility, the DOS prompt returns. You can then type the command to start another PC Support/36 program, or continue with another personal computer application.

Running the Automatic System/36-to-Personal Computer Transfer Facility

The automatic System/36-to-personal computer transfer facility runs a previously created and saved System/36-to-personal computer transfer request without prompting you for information. To create and save a transfer request, you must use the interactive System/36-to-personal computer transfer facility.

You might want to use the automatic System/36-to-personal computer transfer facility when you require the same information to be transferred often from the System/36 to your personal computer.

For example, if you are required to create a daily report using current data on the System/36, you could use the automatic System/36-to-personal computer transfer facility to run the required transfer request and transfer the current data to your personal computer each day. That data could then be used by a personal computer application to generate the report you need.

The automatic System/36-to-personal computer transfer facility can be useful when you need to maintain integrity of the data being transferred. When the automatic System/36-to-personal computer transfer facility runs, no prompts or displays appear; therefore, you cannot create or change a transfer request while the automatic System/36-to-personal computer transfer facility is running.

There are two commands to run the automatic System/36-to-personal computer transfer facility. They are TOPCB and RTOPCB. Both commands have the same format.

The TOPCB command uses the batch file, TOPCB.BAT to start the batch System/36-to-personal computer transfer facility program. This file automatically starts the PC Support/36 programs required to transfer data from the System/36 to the personal computer.

The TOPCB command should be used to start the automatic System/36-to-personal computer transfer facility if you are starting it for the first time since you powered on or restarted your personal computer.

You can use the RTOPCB command to start the automatic System/36-to-personal computer transfer facility if you are not starting it for the first time. The RTOPCB command assumes that the other programs required to run the System/36-to-personal computer transfer facility have already been started (using the TOPCB command). The RTOPCB command runs faster than the TOPCB command.

Purpose: This command starts the automatic System/36-to-personal computer transfer facility.

Format: **TOPCB**
transfer-request-filename

Remarks: **transfer-request-filename** specifies the name of a transfer request that was previously created and saved. The transfer-request-filename is required. The format of the transfer-request-filename is:

[d:][path]*filename*[.ext]

where:

d: specifies the drive where the file containing the transfer request resides. Type the letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\). The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory. The maximum length of the path is 63 characters. If the path name is not specified, the current directory is used.

filename specifies the name of the file that contains the transfer request. The file name can be from 1 to 8 characters.

.ext specifies the transfer-request-filename extension. This extension consists of a period and up to 3 characters immediately following the file name. The extension is optional.

If you do not specify an extension, the default extension, .TTO (transfer to) is used. If you specify only a period (.) with no characters following it, no extension is used.

Example:

TOPCB A:SALERPT.TTO

To automatically run a transfer request using the automatic System/36-to-personal computer transfer facility, type the TOPCB command with a transfer-request-filename specified and press the Enter key.

For example, to start the automatic System/36-to-personal computer transfer facility with the transfer request in file CUSTREQ.TTO in drive A specified, you would type:

TOPCB A:CUSTREQ

Then you would press the Enter key. The following messages would appear:

PC Support/36
System/36-to-PC Transfer Facility
Version 04.00 (c) IBM Corp. 1987

While the transfer request is being recalled, the following message is displayed:

Your transfer request is being recalled

While the transfer request is running, the following message is displayed:

Your transfer request is running

After the transfer request runs, the transferred records are sent to the output device specified in the transfer request.

If you specified 1 (Display) for the Output device prompt, the transferred records are sent to the display. Each record is shown using one or more lines of the display, depending on the length of the record. Column headings are the SELECT field names.

Each field of a transferred record is converted from a System/36 data type to personal computer ASCII. If a field cannot be converted, the field is displayed with rectangles occupying the character positions that could not be converted.

You can press Control key and the Numeric Lock (Num Lock) key to interrupt displaying the records. To continue displaying the records, press any other key.

You can press the Escape key to stop displaying the records. The display then shows the total number of records that were displayed, and the total number of records that had data that could not be translated. For example:

9 record(s) displayed
0 record(s) had data that could not be translated

If you specified 2 (Printer) for the Output device prompt, the transferred records are sent to the printer. The output is printed according to the values specified in the transfer request. The output is in column format. Column headings are the SELECT field names.

Each field of a transferred record is translated from a System/36 data type to personal computer ASCII. If a field cannot be translated, the field is printed with rectangles occupying the character positions that could not be translated.

If you want to stop printing the transferred records before all of the records are printed, you can press the Escape key. The display then shows the total number of records printed, and the number of records that had data that could not be translated. For example:

9 record(s) printed
0 record(s) had data that could not be translated

If you are printing on a personal computer printer (not a virtual printer), the transfer facility resets the printer to print 80 characters per line, 6 lines per inch, 66 lines per page, and no double strike, after printing the transferred records.

If you are using a virtual printer:

- If the print file remains open between requests, the values specified for the first request are retained.
- When the print file is closed, the virtual printer uses the values initially specified for the virtual printer.

If you specified 3 (Disk) for the Output device prompt, one of the following occurs:

- If you specified that the format of the transferred data is to be displayed, the display appears as described in "Running a System/36-to-Personal Computer Transfer Request" earlier in this chapter.

  While the format of the transferred data is displayed, you can press the Control key and the Numeric Lock key to interrupt it, then press any key to continue displaying it.

- If you specified that the format of the transferred data is to be printed, the following message appears while the data is being printed:

  The format of transferred data is being printed

  You can press the Escape key to stop printing the format of transferred data.

- If you specified that the personal computer file description should be saved, the following message is displayed while the file description is being written to the specified disk or diskette file:

  The file description is being written to disk

The transferred records are sent directly to the personal computer disk or diskette file, and the following message is displayed:

Retrieved data records are being written to disk

If you want to stop writing records to the disk or diskette before the transfer request ends, you can press the Escape key.

After the records are transferred, the following messages are displayed showing the total number of records written to the personal computer disk or diskette file, and the number of records containing data that could not be translated. For example:

9 record(s) written to disk file
0 record(s) had data that could not be translated

Error Messages

The automatic System/36-to-personal computer transfer facility displays an error message if an error occurs while running a transfer request. For some errors, you are prompted for a response. Other errors cause the transfer request to stop running. For information on how to recover from these errors, refer to the *PC Support/36 Messages Guide.*

Incompatibilities from the Transfer Facility PRPQ

The System/36-to-personal computer transfer facility portion of PC Support/36 is intended to be as compatible to the IBM System/36 Transfer Facility PRPQ as possible. However, you should be aware of the following incompatibilities:

- The PC Support/36 transfer facility does not work with the TMS data dictionary that was used with the IBM System/36 Transfer Facility PRPQ. The TMS data dictionary must be converted to IDDU data definitions before being used with PC Support/36. (A conversion program is available.) For details, refer to the *IBM System/36 Getting Started with the Interactive Data Definition Utility* manual.

- *Queries* (known in PC Support/36 as *transfer requests*) that were created and saved using the IBM System/36 Transfer Facility PRPQ can be recalled and used with the PC Support/36 System/36-to-personal computer transfer facility. However, you may be required to make one or more of the following changes:

  - In the FROM prompt, you may have to change the file name and format name so that they conform to IDDU specifications. For details on the FROM syntax for PC Support/36, refer to "Creating a System/36-to-Personal Computer Transfer Request" earlier in this chapter.

  - In the WHERE prompt, PC Support/36 does not support the circumflex character (^) with the equal sign (=) for not equal. Instead, you must use the greater than and less than symbols together (< > or > <) or the not equal sign (¬ =) to specify not equal.

- If you created DOS redirected input files for use with the IBM System/36 Transfer Facility PRPQ, you must either change those files (the keystroke sequences are different for PC Support/36) or use the automatic System/36-to-personal computer transfer facility program to automatically run the transfer requests.

Chapter 10. Transferring Data from the Personal Computer to the System/36

Contents

Introduction

This chapter explains how to run the interactive and automatic Personal Computer-to-System/36 transfer facility programs, and how they can be used to transfer data from the personal computer to the System/36.

Before you can operate the transfer facility, you must start PC Support/36 by following the steps in Chapter 3, "Starting PC Support/36." If you have not completed those steps, turn to that chapter and follow the instructions.

Running the Interactive Personal Computer-to-System/36 Transfer Facility

The interactive personal computer-to-System/36 transfer facility program prompts you, step-by-step, to supply information about the data you want to transfer. The information you supply is used to create a personal computer-to-System/36 transfer request.

There are two commands to start the interactive personal computer-to-System/36 transfer facility. They are FROMPC and RFROMPC. Both commands have the same format.

The FROMPC command uses the IBM-supplied batch file, FROMPC.BAT, to start the PC Support/36 programs required to transfer data from the personal computer to the System/36. You should use the FROMPC command to start the personal computer-to-System/36 transfer facility if you are starting it for the first time since you powered on or restarted your personal computer.

You can use the RFROMPC command to start the interactive personal computer-to-System/36 transfer facility if you are not starting it for the first time. The RFROMPC command assumes that the other programs required to run the personal computer-to-System/36 transfer facility have already been started (using the FROMPC command). The RFROMPC command runs faster than the FROMPC command.

Purpose: This command is used to start the interactive personal computer-to-System/36 transfer facility.

Format: FROMPC
[transfer-request-filename][/x][/y]

Remarks: **transfer-request-filename** specifies the name of a transfer request that was previously created and saved using this program (FROMPC). The transfer-request-filename is optional.

If you specify a transfer-request-filename, it is automatically recalled so that you can modify or run it. If you do not specify the transfer-request-filename, the transfer facility assumes you want to create a new transfer request.

The format of the transfer-request-filename is:

[d:][path]*filename*[.ext]

where:

d: specifies the drive where the file containing the transfer request resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\).

The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory. The maximum length of the path is 63 characters.

If a path name is not specified, the current directory is used.

filename specifies the name of the file that contains the transfer request. The file name can be from 1 to 8 characters.

.ext specifies the file name extension. The extension consists of a period and up to 3 characters immediately following the file name. This entry is optional. If you do not specify an extension, a default extension of .TFR (transfer from) is used. If you specify only a period (.) for the extension, no extension is used.

/x specifies the type of display you are using. This parameter is optional; it tells the program what attributes to send to your display. Values you can specify for x are an uppercase or lowercase M or C. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

/y specifies the display writing speed. This parameter is optional; it tells the program what speed your display should write at. Values you can specify for y are an uppercase or lowercase H or S. For details on what to specify for this parameter, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Examples:

The following command starts the interactive personal computer-to-System/36 transfer facility without specifying any parameters.

FROMPC

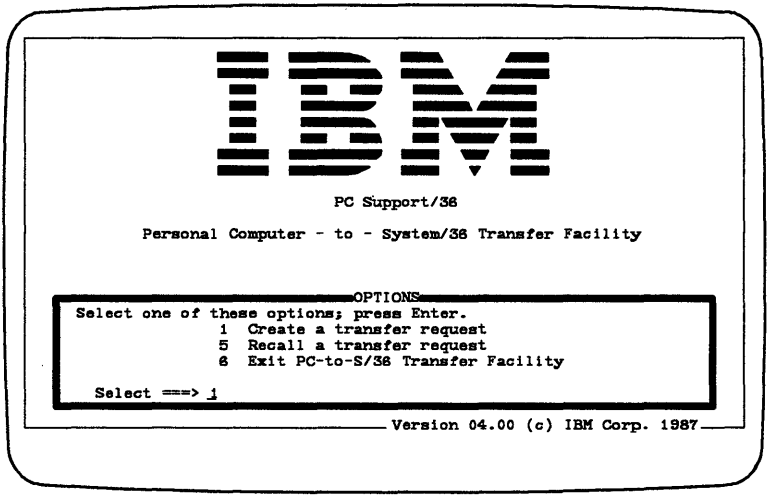
The following command starts the interactive System/36-to-personal computer transfer facility and automatically recalls the transfer request in file CUSTREQ.TFR located in drive A. A monochrome display attached to a Color/Graphics Monitor Adapter card using slow speed display writing is being used.

FROMPC A:CUSTREQ/M/S

If you want to start the personal computer-to-System/36 transfer facility with no parameters specified, type:

FROMPC

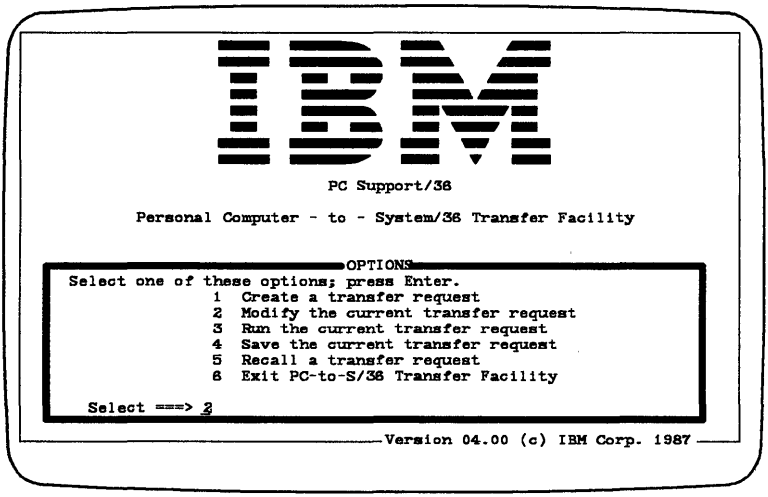
then press the Enter key. The following display appears:



S9088637-5

This display allows you to create or recall a personal computer-to-System/36 transfer request.

If you want to start the personal computer-to-System/36 transfer facility and recall an existing transfer request, type FROMPC followed by the Transfer-request-filename parameter, then press the Enter key. The following display appears:



S9088664-5

The transfer request you specified on the FROMPC command is automatically recalled and ready for you to use. From this display, you can also modify or run the transfer request you recalled, recall another transfer request, or create a new transfer request.

Refer to "Creating a Personal Computer-to-System/36 Transfer Request," "Modifying a Personal Computer-to-System/36 Transfer Request," "Running a Personal Computer-to-System/36 Transfer Request," or "Recalling a Personal Computer-to-System/36 Transfer Request," later in this section.

For examples of how you can transfer data from the personal computer to the System/36, refer to Chapter 4, "Tutorial."

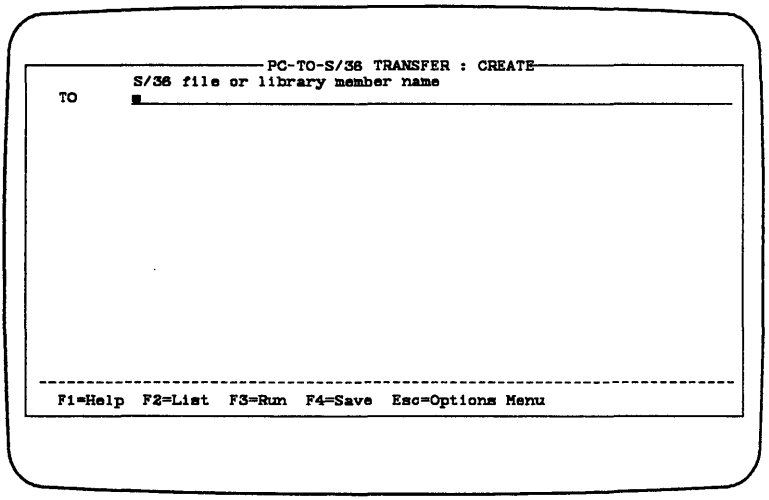
Creating a Personal Computer-to-System/36 Transfer Request

This section describes how to create a transfer request to transfer data from the personal computer to the System/36. After you create a transfer request, you can use the OPTIONS menu to modify, save, or run it.

The transfer request you create remains the current transfer request until you specify 1 (Create a transfer request), 5 (Recall a transfer request), or 6 (Exit PC-to-System/36 Transfer Facility).

Note: If you want to save the current transfer request, you must save it before you create or recall another transfer request or before you end the transfer facility. Otherwise, the current transfer request is deleted.

If you specify 1 (Create a new transfer request), the following TO prompt appears:



S9088638-1

While you are creating a transfer request, you can:

- Press the F1 key to display help text.
- Press the F2 key to display a list of items for a prompt.
- Press the F3 key to run the transfer request.
- Press the F4 key to save the transfer request.
- Press the Escape key to return to the OPTIONS menu.

TO

This prompt is required. It identifies the name of the System/36 file or library member to receive the transferred data. If you type the name of a file, the file must have been previously created on the System/36. The file you specify must be sequential, direct, or indexed, and cannot be an alternate indexed file or the parent of an alternate indexed file.

Specifying a System/36 File

If you want to specify a System/36 file in the TO prompt, the format of this prompt depends on whether or not the file is defined by interactive data definition utility (IDDU) data definitions.

Specifying a File Defined by IDDU Data Definitions

For a file defined by interactive data definition utility (IDDU) data definitions, the file name must be specified using the following format:

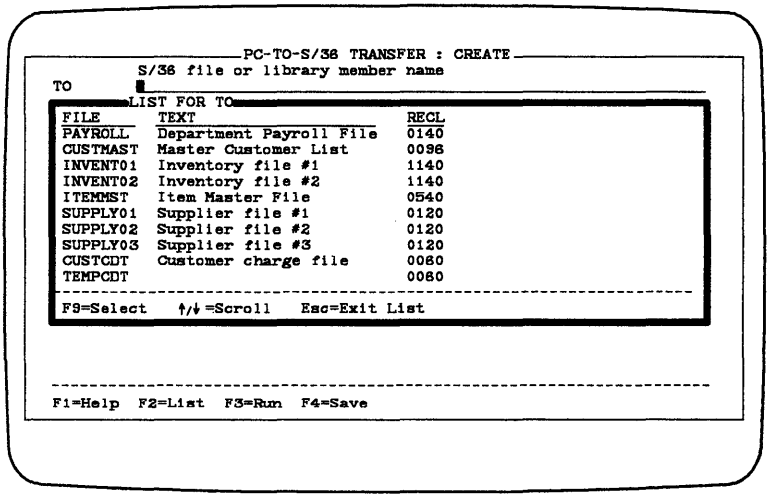
file-label[/format-name]

where:

file-label is the name of the System/36 file. The file label is required.

format-name is the name of the record format. The format name is needed only if there is more than one format definition for the file. If you specify a format name, it must be separated from the file label by a slash (/). If you do not specify a format name and more than one record format was defined for the file, PC Support/36 uses the first record format in the file definition.

If you do not know the file label, you can leave the TO prompt blank and press the F2 key to get a list of file labels for all the System/36 files that are defined by IDDU data definitions. This list appears as follows:



S9088639-3

Note: The list you display will not look exactly like the one shown here. The actual file labels listed depend on the files defined on your System/36.

You can use the Up Arrow and Down Arrow keys, or the Page Up and Page Down keys, to find the desired file label, then press the F9 key to select it. This automatically copies the file label to the TO input area.

You can list the format names for the file label you specified by pressing the F2 key. The cursor should be positioned immediately after the file label. This displays a list of all the format names for that file.

You can select a format name from the list using the Up Arrow and Down Arrow keys, or the Page Up and Page Down keys, to find the format name you want, then pressing the F9 key. This automatically copies the format name to the TO input area, and separates it from the file label by a slash (/).

Specifying a File Not Defined by IDDU Data Definitions

For a file that is not defined by IDDU data definitions, you must specify the file name using the following format:

file-label

where **file-label** is the name of the System/36 file. The file label is required.

You cannot use the F2 key to list files that are not defined by IDDU data definitions. Pressing the F2 key lists only System/36 files defined by IDDU data definitions.

Specifying a System/36 Library Member

You can specify a System/36 library member name in the TO prompt. The library member name must be specified as follows:

library-name/member-type/member-name

where:

library-name is the name of the System/36 library. This parameter is required.

member-type is the type of System/36 member. You can enter an S for source or P for procedure. The member type is required, and must be separated from the library name by a slash (/).

member-name is the name of the System/36 library member you wish to create or replace. The member name is required, and must be separated from the member type by a slash (/).

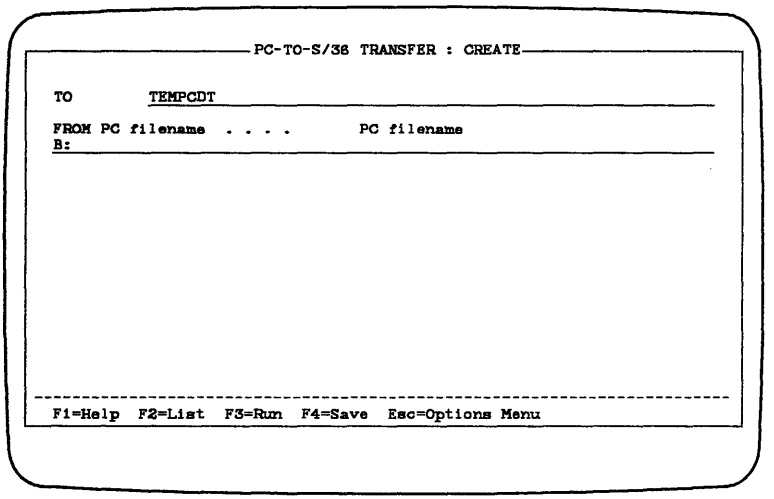
When you are transferring data to a System/36 library member, you must type the name of the library in the TO prompt. You cannot use the F2 key to list library names.

After you enter the library name, you can use the F2 key to list the member types and member names of all source and procedure members in the library.

Pressing the F2 key after you have entered the library name and member type displays a list of the member names in the library having the specified member type.

You can use the Up Arrow and Down Arrow keys, or the Page Up and Page Down keys to find the member type and/or name you want, then press the F9 key to select it. This automatically copies the member type and/or name to the TO input area and separates it from the library name by a slash (/).

After you complete the TO prompt, press the Enter key. The FROM PC filename prompt appears as follows:



S9088640-1

FROM PC filename

This prompt is required. It identifies the name of the personal computer file containing the data you want to transfer to the System/36. The format of the FROM PC filename prompt is as follows:

[d:][path]*filename*[.ext]

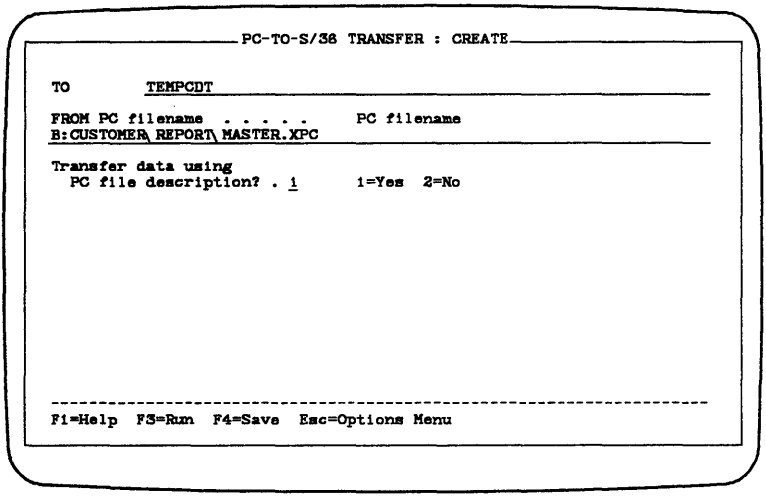
If you are entering more than one file name, the entries must be separated by a comma. Refer to Chapter 2, "What You Should Know before Operating PC Support/36."

You can press the F2 key to list the file names you can use. You can also specify a part of a file name using DOS global file name characters (* or ?) in the FROM PC filename prompt input area to limit the number of names listed. For example:

- Pressing the F2 key with the value A: produces a list of all the file names in the current directory on the diskette in drive A.
- Pressing the F2 key with the value A:SUPPLY\ produces a list of all file names on the diskette in drive A in path SUPPLY.
- Pressing the F2 key with the value B:*.DIF produces a list of all the file names in the current directory on the diskette in drive B with extension .DIF.

You can use the Up Arrow and Down Arrow keys, or the Page Up and Page Down keys, to find the file name you want, then press the F9 key to select it.

When you have completed the FROM PC filename prompt, press the Enter key. The following display appears:



S9088665-1

Transfer data using PC file description?

This prompt is required. It specifies whether or not a PC file description is to be used to transfer the data to the System/36. Specify one of the following:

- 1 (Yes), if you are transferring data to a System/36 file that is defined by IDDU data definitions
- 2 (No), if you are transferring data to a System/36 file that is not defined by IDDU data definitions, or to a System/36 library member

If you specify 1 (Yes) for this prompt, the following display appears:

```
                    PC-TO-S/36 TRANSFER : CREATE

TO        TEMPCDT

FROM PC filename . . . .        PC filename
B:CUSTOMER\REPORT\MASTER.XPC

Transfer data using
  PC file description? . 1      1=Yes  2=No

PC file description
  name. . . . . .          PC filename
B:CUSTOMER\REPORT\MASTER.FDF

F1=Help  F2=List  F3=Run  F4=Save  Esc=Options Menu
```

S9088666-1

PC file description name

This prompt appears only if you specified 1 (Yes) for the Transfer data using PC file description prompt.

This prompt is required. The PC file description name prompt specifies the name of the personal computer file description file containing the description of the data to be transferred.

The personal computer file description file can be created for you when you transfer data from the System/36 to the personal computer. (Refer to "Sending Output to a Disk" in Chapter 9, "Transferring Data from the System/36 to the Personal Computer.")

If you have not previously transferred the data from the System/36 to the personal computer, you will need to create a file description file. To do this, refer to Chapter 6, "The Transfer Facility" in the *PC Support/36 Technical Reference.*

The file description file defines the following:

- The file type of the personal computer file to be transferred. The file type can be one of the following:
  - ASCII text
  - DOS random
  - BASIC sequential
  - BASIC random
  - DIF
  - No conversion
- The field names and the order in which they appear in each data record.
- The personal computer data type of each field.
- The size and number of decimal positions of each field.

A default file description name automatically appears. This default file description name is created using the values you specified in the FROM PC filename prompt. The default extension is .FDF.

It is recommended that you use the default extension. However, you can specify your own extension. If you do not want to use any extension, specify only a period (.) after the file name.

If you do not want to use the default file description name, you can enter your own file description name using the file name format described in Chapter 2, "What You Should Know before Operating PC Support/36."

If you do not know the name of the personal computer file description file that you want to use, press the F2 key. This displays a list of all of the file description files on the default disk drive in the current directory.

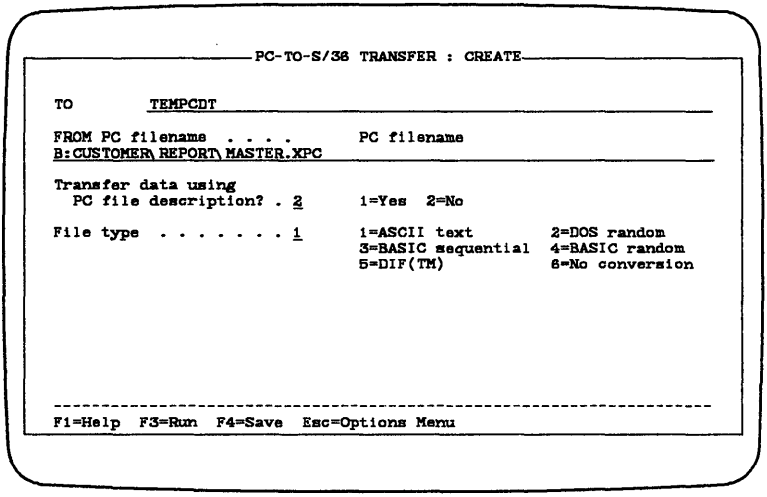
You can also enter part of the name using DOS global file name characters (* or ?) in the File description name input area, to limit the number of names listed. In this case, pressing the F2 key lists all of the file description files with names that match the characters you entered.

You can use the Up Arrow and Down Arrow keys, or the Page Up and Page Down keys, to find the file name you want, then press the F9 key to select a name from the list. This automatically copies the name to the File description name input area.

Note: If the file description file was created by a JOIN operation, it must be edited to remove the file qualifiers.

After you complete the File description name prompt, press the Enter key. The transfer request is now complete, and the OPTIONS menu appears.

If you specified 2 (No) for the Transfer data using PC file description prompt, the following display appears:



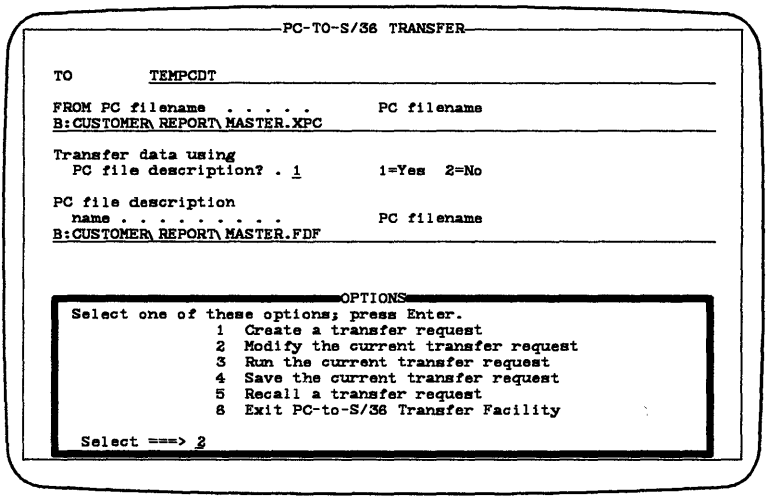
S9088642-1

File type

This prompt appears only if you specified 2 (No) for the Transfer data using PC file description file prompt.

This prompt is required. You must specify the type of personal computer file you named in the FROM PC filename prompt. The default is ASCII text. For file types 1 through 5 (ASCII text, DOS random, BASIC sequential, BASIC random, and DIF), the data file should contain records with one ASCII character field. For file type 6 (No conversion), the data file should contain data that needs no conversion.

After you complete the previous prompts and press the Enter key, the transfer request is created and the following OPTIONS menu appears:



S9088643-1

From this display, you can modify, save, or run the transfer request you just created.

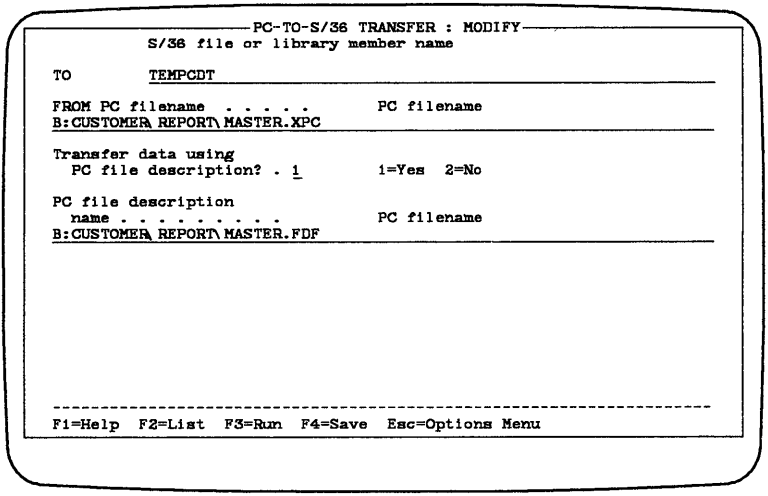
Note: If you want to save the current transfer request, you must save it before you create or recall another transfer request or end the personal computer-to-System/36 transfer facility. Otherwise, the current transfer request is deleted.

Modifying a Personal Computer-to-System/36 Transfer Request

This section describes how to modify the current transfer request. The current transfer request is one that you previously created or recalled. After you modify a transfer request, you can use the OPTIONS menu to save or run it.

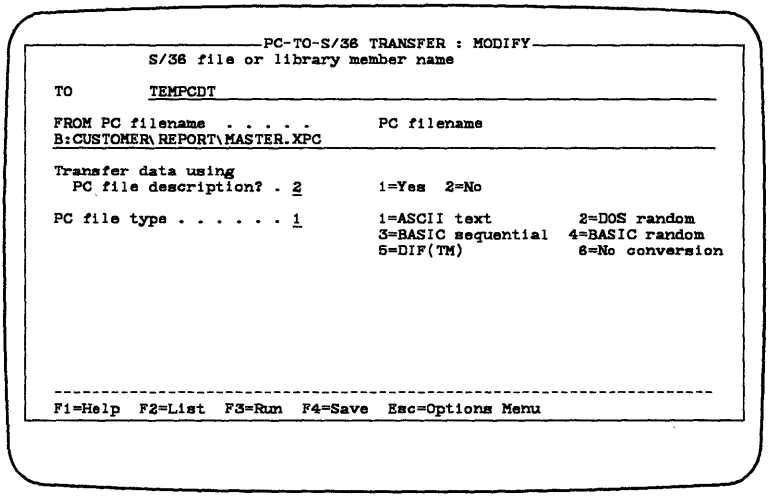
Specify a 2 (Modify the current transfer request) on the OPTIONS menu and press the Enter key.

If you specified 1 (Yes) for the Transfer data using PC file description prompt, the following display appears:



S9088647-1

If you specified 2 (No) for the Transfer data using PC file description prompt, the following display appears:



S9088648-1

You can modify the transfer request by moving the cursor to any field and typing the changes you want to make. Refer to "Creating a Personal Computer-to-System/36 Transfer Request" earlier in this chapter for details on what you can enter.

While you are modifying the transfer request, you can:

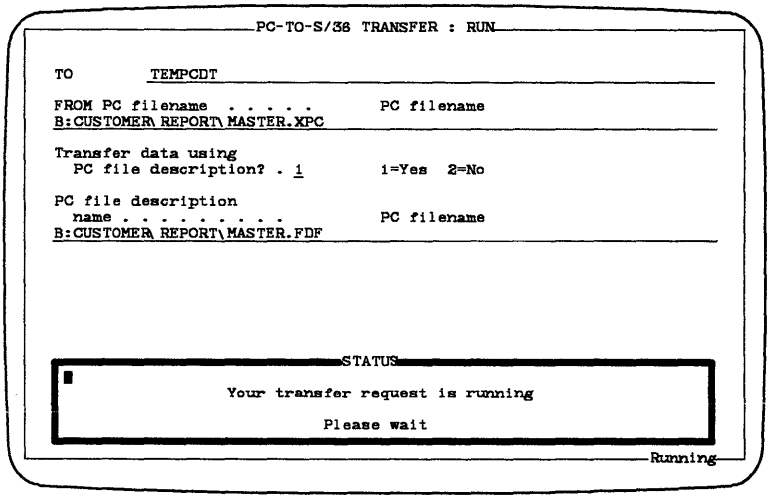
- Press the F1 key to display help text.
- Press the F2 key to display a list of items for a prompt.
- Press the F3 key to run the transfer request.
- Press the F4 key to save the modified transfer request.
- Press the Escape key to return to the OPTIONS menu.

Running a Personal Computer-to-System/36 Transfer Request

This section describes how to run a personal computer-to-System/36 transfer request. Before you run a transfer request, you must have previously created, recalled, or modified the transfer request.

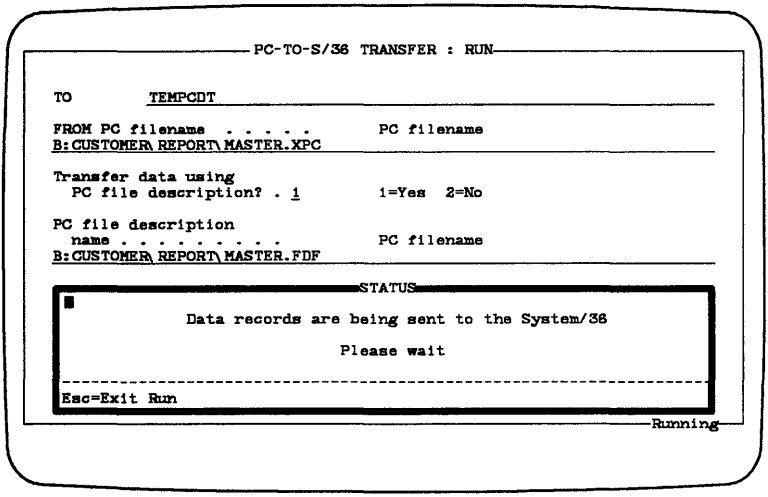
Note: You should be aware that, when data is transferred from the personal computer to the System/36, any data in the existing System/36 file is replaced by the data being transferred.

Specify a 3 (Run the current transfer request) on the OPTIONS menu and press the Enter key. If the OPTIONS menu is not on the display, you can run a transfer request by pressing the F3 (Run) key. The following window appears while the transfer request is running:



S9088652-3

While the transfer request is running, the PC file description file (if specified) is read from the disk or diskette and processed. The System/36 and personal computer exchange information while getting ready to transfer the data. When this exchange is complete, the following display appears while the data records are being sent to the System/36:

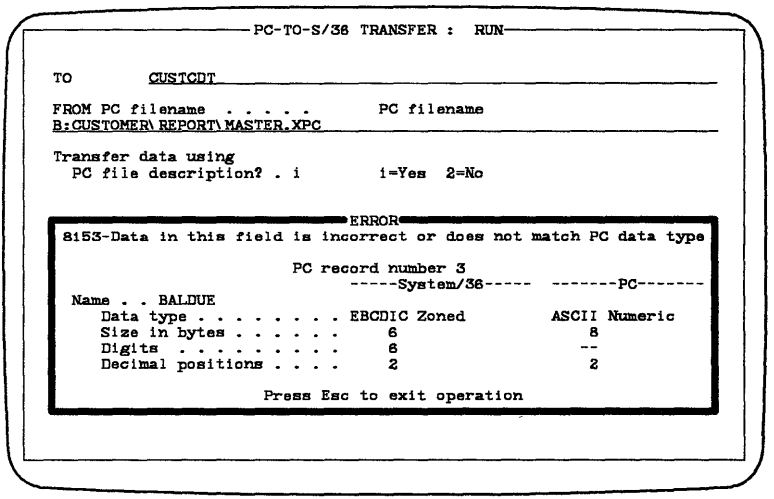


S9088653-1

The personal computer sends the records, one at a time, from the file specified in the FROM PC filename prompt. The records are converted and stored on the System/36 in the file or library member specified in the TO prompt.

During this conversion process, it is possible that conversion errors may occur. For example, a number in the personal computer file may need to be rounded in order to fit into the System/36 field, or the length of a record in the personal computer file is not the same as what the System/36 is expecting.

For these errors, you will receive an error message, the number of the record in the personal computer file in which the error occurred, and, in some cases, information about the specific field in the record containing the error. The following display shows an example of a conversion error:



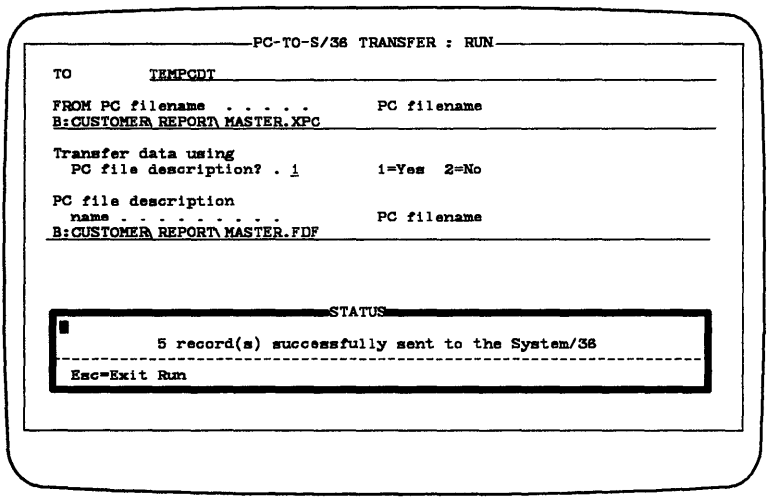
S9088669-1

A severe conversion error can stop the data from being transferred. In this case, you must stop the transfer request, correct the error, and run the transfer request again.

On less severe errors, you will have an option to continue transferring data. If you choose to continue transferring data, and the error occurs in the same place in another record, you will not receive another message. In this case, the transfer facility automatically continues running the transfer request. When the transfer request ends, the transfer facility displays the number of records that had errors.

You can end the transfer at any time by pressing the Escape key. Any records already sent to the System/36 remain in the file or library member and the file is closed.

When the transfer request stops running (the data was sent to the System/36 or you pressed the Escape key to end the run), a display similar to the following appears:



S9088654-1

If there were any conversion errors while the transfer request was running, you will see additional messages in the STATUS window. These messages tell you the number of records that had a particular conversion error. The following status messages can occur (*n* is the number of records affected):

- **n record(s) had data that was padded:** Error message 8154 occurred, and you chose to continue running the transfer request. This status message shows the number of records that had this error.

- **n record(s) had data that was truncated:** Error message 8155 occurred, and you chose to continue running the transfer request. This status message counts the number of records that had this error.

- **n record(s) had data that was rounded:** Error message 8152 occurred, and you chose to continue running the transfer request. This status message counts the number of records that had this error.

- **n record(s) had data that was lost:** Error message 8158 occurred, and you chose to continue running the transfer request. This status message counts the number of records that had this error.

- **n record(s) had data that was missing:** Error message 8157 occurred, and you chose to continue running the transfer request. This status message counts the number of records that had this error.

- **n record(s) had numeric data with too many digits:** Error message 8156 occurred, and you chose to continue running the transfer request. This status message counts the number of records that had this error.

- **n record(s) had extra data not transferred:** Error message 8171 occurred, and you chose to continue running the transfer request. This status message counts the number of records that had this error.

- **n record(s) had data that could not be translated** or **n bytes could not be translated:** These messages occur when character data could not be translated from ASCII to EBCDIC. The number of records that had data that could not be translated or the number of bytes is shown. Each character that could not be translated was set to hexadecimal 00 and transferred to the System/36.

  To reduce the number of untranslatable characters, you can change the ASCII to EBCDIC translation table used by the transfer facility. To do this, use the translation table utility and the PC Support/36 configuration file (CONFIG.S36). Refer to Chapter 2, "The PC Support/36 Configuration File" in the *PC Support/36 Technical Reference* for details.

- **n bytes was the longest record in the PC file:** This status message occurs when you transfer data from a personal computer ASCII text file without a personal computer file description, and one or more of the records had extra data that was not truncated.

For more details on error messages, refer to the *PC Support/36 Messages Guide.*

After you finish with the status information, press the Escape key to return to the OPTIONS menu.

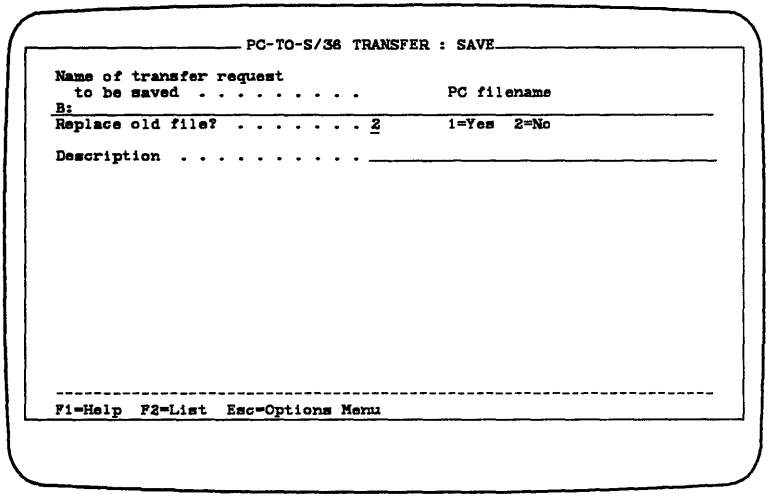
Saving a Personal Computer-to-System/36 Transfer Request

This section describes how to save the current transfer request. The current transfer request is the transfer request you previously created, modified, or recalled. After you save a transfer request, you can use the OPTIONS menu to recall, modify, or run it.

You can also automatically run the saved transfer request using the automatic personal computer-to-System/36 transfer facility. For details, refer to "Running a Personal Computer-to-System/36 Transfer Request" later in this chapter.

You should save a transfer request if you need to transfer the same information often. Saving a transfer request prevents you from having to create a transfer request each time you want to transfer this information.

To save a transfer request, enter a 4 (Save the current transfer request) on the OPTIONS menu and press the Enter key. If the OPTIONS menu is not on the display, you can save a transfer request by pressing the F4 (Save) key. The following display appears:



S9088649-1

Name of transfer request to be saved

Using the following format, enter the name of the personal computer disk or diskette file in which you want to save the transfer request:

[d:][path]*filename*[.ext]

The DOS default disk drive, followed by a colon, is automatically typed in.

Refer to "File Name Format" in Chapter 2, "What You Should Know before Operating PC Support/36" for details on how to enter a file name.

If you want a list of all the transfer request names on the disk or diskette, you can press the F2 key. You can also specify part of a name using DOS global file name characters (* or ?) in the Transfer request name input area, to limit the number of names listed. In this case, pressing the F2 key lists all of the transfer request names that match the characters you entered.

If you do not specify an extension, the transfer facility automatically limits the transfer request file names listed to those with an extension of .TFR. If you specify only a period (.), no extension is used.

For example:

- Pressing the F2 key with the transfer request name input area containing A: lists all the transfer request file names on the diskette in drive A in the current directory that have an extension of .TFR.

- Pressing the F2 key with the value *A:TRFILE.** lists all the transfer request file names on the diskette in drive A in the current directory having a file name of TRFILE with any extension (for example, TRFILE.001, TRFILE.002, and so forth).

- Pressing the F2 key with the value *A:TR*.TFR* lists all the transfer request file names on the diskette in drive A in the current directory having TR as the first 2 characters of the file name and anything as the remaining characters of the file name with .TFR as the extension (for example, TRACCT1.TFR, TRBATCH.TFR, and so forth).

- Pressing the F2 key with the *A:*.* produces a list of all transfer request file names on drive A in the current directory with no extension.

You can use the Up Arrow and Down Arrow keys to find the transfer request name you want, then you can press the F9 key to select it. This automatically copies the name from the list to the Transfer request name input area.

After you complete the Transfer request name prompt, press the Enter key. The cursor moves to the Replace old file prompt.

Replace old file?

This prompt is required. It specifies whether or not you want the file you specified in the Name of transfer request to be saved prompt replaced with the current transfer request. Specify one of the following:

1 (Yes), if the file should be replaced (if it exists)

2 (No), if the file should not be replaced

The default is 2 (No). If you specify 2 and the file exists, you are given a chance to cancel the save operation or continue, replacing the file with the transfer request.

If you are creating the file (it does not already exist), you should complete this prompt as though the file already exists.

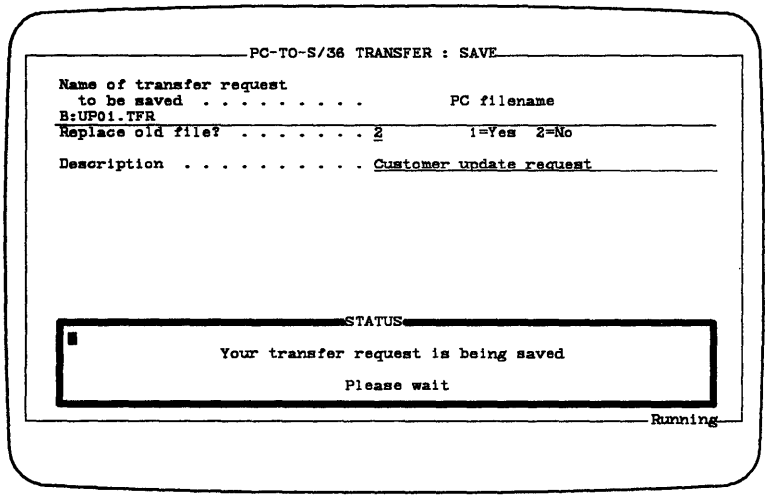
After you complete the Replace old file prompt, press the Enter key. The cursor moves to the Description prompt.

Description

The Description prompt is optional. It allows you to type a short description of the transfer request. The description can be up to 40 characters long. This description is saved with the transfer request so that it can be displayed the next time a list is requested during a save or recall operation.

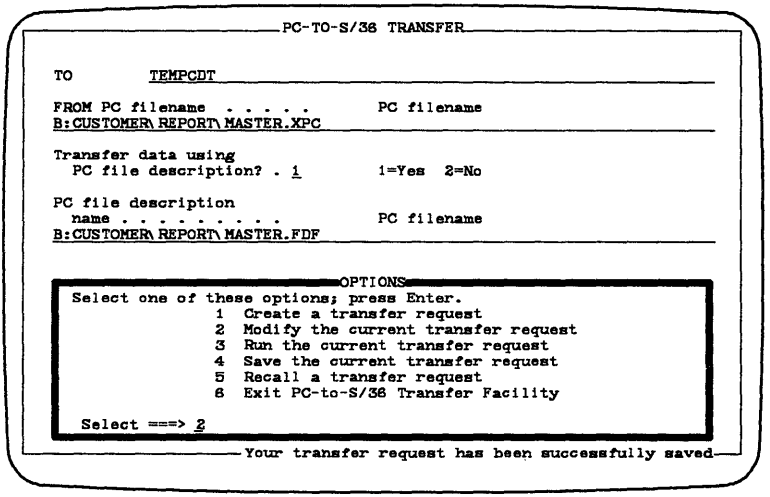
If you selected the transfer request name from a list, the description is automatically copied into the input area for this prompt.

After you complete the Description prompt, press the Enter key. The following display appears:



S9088650-1

The transfer request is saved in the specified personal computer disk or diskette file. When the transfer request is successfully saved, the following display appears:



S9088651-1

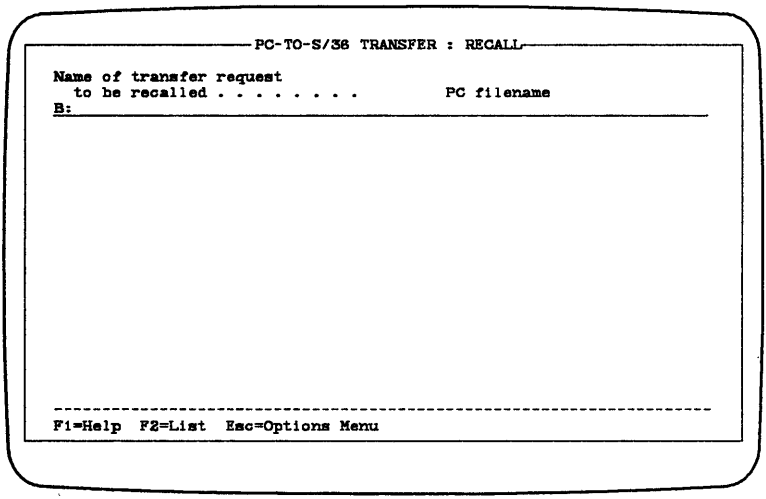
The saved transfer request remains the current transfer request.

Note: The transfer request is saved in a personal computer file that is intended for use only by the transfer facility. Do not change the contents of this file. If you want to change the transfer request, you must recall the request and modify it using the transfer facility.

Recalling a Personal Computer-to-System/36 Transfer Request

This section describes how to recall a transfer request from a personal computer disk or diskette file. You must save a transfer request before you can recall it. After you recall it, you can modify or run it.

If you specify a 5 (Recall a transfer request) on the OPTIONS menu and press the Enter key, the following display appears:



S9088644-1

Name of transfer request to be recalled

Type the name of the personal computer disk or diskette file that contains the transfer request to be recalled. This prompt is required.

You must specify the transfer request using the following format:

[d:][path]*filename*[.ext]

The DOS default disk drive followed by a colon is automatically typed in.

Refer to "File Name Format" in Chapter 2, "What You Should Know before Operating PC Support/36" for details on how to enter a file name.

If you want a list of all the transfer request file names on the disk or diskette, press the F2 key. You can also specify part of a name using DOS global file name characters (* or ?) to limit the number of names listed. In this case, pressing the F2 key lists all the transfer request names that match the characters you entered.

If you do not specify an extension, the transfer facility automatically limits the transfer request file names listed to those with an extension of .TFR. If you specify only a period (.) for the extension, no extension is used.

For example:

- Pressing the F2 key with the transfer request name input area containing A: lists all the transfer request file names on the diskette in drive A in the current directory that have an extension of .TFR.

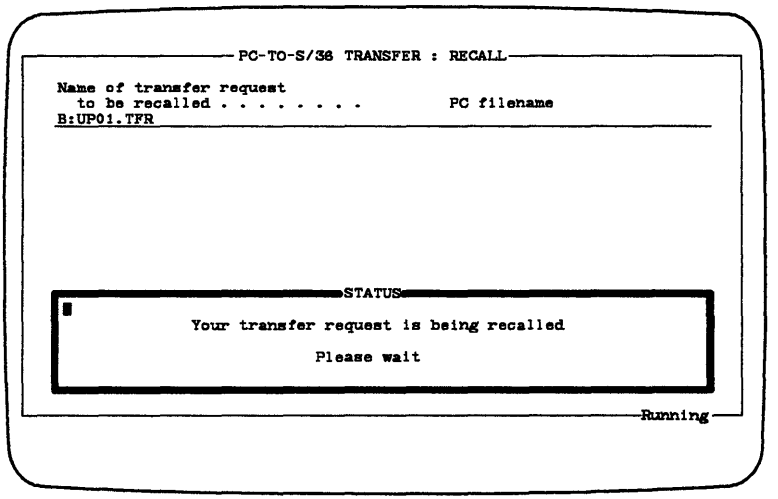
- Pressing the F2 key with the value *A:TRFILE.** lists all the transfer request file names on the diskette in drive A in the current directory having a file name of TRFILE with any extension (for example, TRFILE.001, TRFILE.002, and so forth).

- Pressing the F2 key with the value *A:TR*.TFR* lists all the transfer request file names on the diskette in drive A in the current directory having TR as the first 2 characters of the file name and anything as the remaining characters of the file name with .TFR as the extension (for example, TRACCT1.TFR, TRBATCH.TFR, and so forth).

- Pressing the F2 key with the *A:**. produces a list of all transfer request file names on drive A in the current directory with no extension.

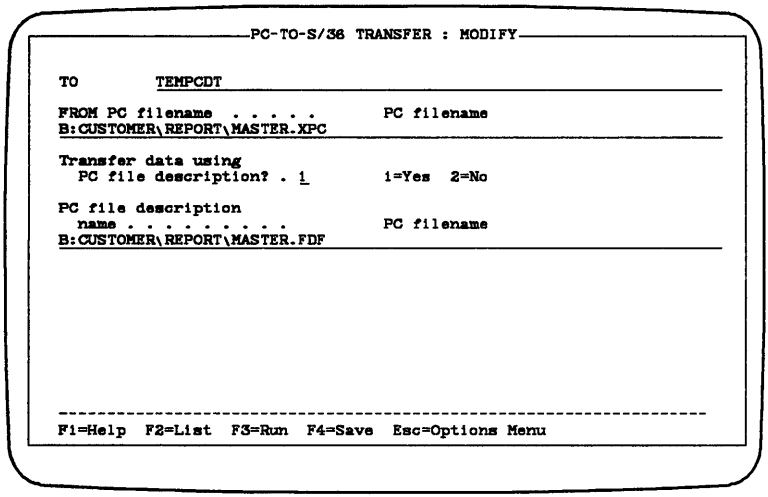
You can use the Up Arrow and Down Arrow keys, or the Page Up and Page Down keys to find the name you want, then select the name from the list by pressing the F9 key. This automatically copies the selected name to the Transfer request name input area.

After you type the transfer request name, press the Enter key. The following window appears:



S9088645-1

The transfer request is read from the disk or diskette and becomes the current transfer request. A display then appears containing the values of the transfer request just recalled:



S9088646-1

You can:

- Press the F1 key to display help text.
- Press the F2 key to display a list of items for a prompt.
- Press the F3 key to run the transfer request.
- Modify the transfer request, then press the F3 key to run the transfer request.
- Press the Escape key to return to the OPTIONS menu.

Erasing a Personal Computer-to-System/36 Transfer Request

If you no longer want to use a previously saved transfer request, you can erase it using the DOS ERASE command. Refer to the *IBM Personal Computer Disk Operating System* manual for more information about erasing files.

If you did not specify an extension when you saved the transfer request, the transfer facility automatically uses the default extension, .TFR. Therefore, you must specify the extension .TFR when you erase the file.

Ending the Personal Computer-to-System/36 Transfer Facility

You can end the personal computer-to-System/36 transfer facility by selecting or typing a 6 (Exit PC-to-S/36 Transfer Facility) on the OPTIONS menu and pressing the Enter key, or by pressing the Control and Break keys.

When you end the personal computer-to-System/36 transfer facility, the DOS prompt returns. You can then type the command to start another PC Support/36 program, or continue with another personal computer application.

Running the Automatic Personal Computer-to-System/36 Transfer Facility

The automatic personal computer-to-System/36 transfer facility runs a previously created and saved personal computer-to-System/36 transfer request without prompting you for information. To create and save a transfer request, you must use the interactive personal computer-to-System/36 transfer facility.

You might want to use the automatic personal computer-to-System/36 transfer facility when you require the same information to be transferred to the System/36 from your personal computer often.

For example, if you are required to send new customer account information to a System/36 file daily, you could use the automatic personal computer-to-System/36 transfer facility to run the required transfer request and transfer the current data to the System/36 each day. That data could then be used to update a customer master file.

The automatic personal computer-to-System/36 transfer facility can be useful when you need to maintain integrity of the data being transferred. When the automatic personal computer-to-System/36 transfer facility runs, no prompts or displays appear; you cannot create or change a transfer request while the automatic personal computer-to-System/36 transfer facility is running.

There are two commands you can use to run the automatic personal computer-to-System/36 transfer facility. They are FROMPCB and RFROMPCB. Both commands have the same format.

The FROMPCB command uses the batch file, FROMPCB.BAT to start the batch personal computer-to-System/36 transfer facility program. This file automatically starts the PC Support/36 programs required to transfer data from the personal computer to the System/36.

The FROMPCB command should be used to start the automatic personal computer-to-System/36 transfer facility if you are starting it for the first time since you powered on or restarted your personal computer.

You can use the RFROMPCB command to start the automatic personal computer-to-System/36 transfer facility if you are not starting it for the first time. The RFROMPCB command assumes that the other programs required to run the personal computer-to-System/36 transfer facility have already been started (using the FROMPCB command). The RFROMPCB command runs faster than the FROMPCB command.

Purpose: This command starts the automatic personal computer-to-System/36 transfer facility.

Format: **FROMPCB**
transfer-request-filename

Remarks: ***transfer-request-filename*** specifies the name of a transfer request that was previously created and saved. The transfer-request-filename is required. The format of the transfer-request-filename is:

[d:][path]*filename*[.ext]

where:

d: specifies the drive where the file containing the transfer request resides. Type the letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\). The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory. The maximum length of the path is 63 characters. If the path name is not specified, the current directory is used.

filename: specifies the name of the file that contains the transfer request. The file name can be from 1 to 8 characters.

.ext specifies the transfer-request-filename extension. This extension consists of a period and up to 3 characters immediately following the file name.

The extension is optional. If you do not specify an extension, the default extension, .TFR (transfer from) is used. If you specify only a period (no characters following it), no extension is used.

Example:

FROMPCB A:CUSTRPT.TFR

To automatically run a transfer request using the automatic personal computer-to-System/36 transfer facility, type the FROMPCB command with a transfer-request-filename specified and press the Enter key.

For example, to start the automatic personal computer-to-System/36 transfer facility with the transfer request in file CUSTREQ.TFR in drive A, you would type:

FROMPCB A:CUSTREQ

Then you would press the Enter key. The following messages would appear:

PC Support/36
PC-to-System/36 transfer facility
Version 04.00 (c) IBM Corp. 1987

While the transfer request is being recalled, the following message is displayed:

Your transfer request is being recalled

While the transfer request is running, the following message is displayed:

Your transfer request is running

While the transferred records are being sent to the System/36, the following message appears:

Data records are being sent to the System/36

The data records are read, one at a time, from the personal computer file. The records are converted, then stored on the System/36 in the file or library member specified in the TO prompt when the transfer request was created or modified.

You can end the transfer request at any time by pressing the Escape key. Any records already sent to the System/36 remain in the file or library member, and the file is closed.

When the transfer request stops running (either all the data was sent or you pressed the Escape key), the following status message is displayed:

n record(s) successfully sent to the System/36

where **n** is the number of records successfully transferred.

In addition, one or more status messages might appear, showing the number of records that contained data that was padded, truncated, rounded, lost, missing, or too long, and the number of records that contained untranslatable characters.

For more information on the messages that might be displayed when a transfer request is run, refer to "Running a Personal Computer-to-System/36 Transfer Request" earlier in this chapter.

If no file description file was specified when the transfer request was created or modified, and extra data was found in one or more records while being transferred from a personal computer ASCII text file, the length of the longest record in the personal computer file is displayed.

Error Messages

The automatic personal computer-to-System/36 transfer facility displays an error message if an error occurs while running a transfer request. For some errors, you are prompted for a response. Other errors cause the transfer request to stop running. For information on how to recover from these errors, refer to the *PC Support/36 Messages Guide.*

If an error occurs in a specific field in a record, a message is displayed showing the record number, field name, and field information for the field in error. If the same error occurs on the same field in another record, you will not receive another error message.

The transfer facility automatically continues running the transfer request. When the transfer request ends, the transfer facility displays the number of records that contained errors.

Chapter 11. Using the PC Support/36 Message Facility

Contents

Introduction

The PC Support/36 message facility allows you to communicate with other display stations and personal computers located in the IBM Token-Ring Network.

This facility is provided to you if you are connected to a System/36 via a IBM Token-Ring Network. If you are connected to a System/36 via a 5250 Emulation Program you can use the Message command that the System/36 currently supports.

The PC Support/36 message facility consists of three components that are used in addition to the IBM Token-Ring Network PC Adapter Support Interface and the IBM Token-Ring Network Router. These components are:

- An optional resident message *receiver* to receive or notify of incoming messages.
- A user executable message application program which can send and receive messages.
- A user executable message receive program that retrieves messages queued for the user or personal computer by the System/36, and stores them in a message file on the personal computer.

Installation

All of the code necessary for the PC Support/36 message facility will be on your virtual disk when you complete the PC Support/36 installation. Refer to Chapter 1, "Installation" of the *PC Support/36 Technical Reference.*

Configuration

To use the PC Support/36 message facility you can add or change identifiers in CONFIG.S36 or create an alternate configuration file. If no message facility identifiers are found in CONFIG.S36 or your alternate configuration file the default values will be used. A detailed description of the message facility identifiers can be found in Chapter 2, "The PC Support/36 Configuration File," of the *PC Support/36 Technical Reference.*

Note: For the remainder of this chapter, reference will be made to the configuration file. This term will be used to mean either CONFIG.S36 or the alternate configuration file you specified on the STARTMSG command.

Setup CONFIG.S36

To add identifiers to the CONFIG.S36 file, type:

COPY CONFIG.S36 + CON CONFIG.S36

This COPY command tells DOS to copy the information into the CONFIG.S36 file on the default drive. Press the Enter key and type each identifier and its parameters that you want to change or add, press the Enter key after each identifier.

Note: If you are creating a CONFIG.S36 file, the first entry in the file must be SUPPORT/36.

When you have entered all of the identifiers and parameters you wish to change or add do the following:

1. Press the F6 key.

2. Press the Enter key again.

This ends the COPY command and saves the file.

When you add or change any of the configuration file commands or identifiers, the changes are not in effect until the next time you enter STARTMSG.

Creating an Alternate Configuration File

If you are planning to use an alternate configuration file with the STARTMSG command you can create the file using an editor (such as EDLIN) or the DOS COPY command. This section describes how to create a configuration file using the DOS COPY command directly from the standard input device.

Follow these steps to create an alternate configuration file using the DOS COPY command.

1. At the DOS prompt, type:

   COPY CON filename.ext

   The format of the filename is:

   [d:][path]filename[.ext]

   where:

   d: specifies the drive where the file resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

   path specifies a path of directory names. Type the directory names, separated by backslashes (\). The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory.

If the path name is not specified, the current directory is used.

filename specifies the name of the file. The filename can be from 1 to 8 characters.

.ext specifies the filename extension. The extension consists of a period and up to 3 characters. This entry is optional. If used, the extension must immediately follow the filename.

2. Press the Enter key.

3. Type the message identifier and parameter you want in the file. Press the Enter key after you type each identifier and its parameter.

4. When you have finished typing all of the identifiers press the F6 key and then the Enter key. This ends the COPY CON command and saves the file.

This configuration file will not be effective until you enter the STARTMSG command with the alternate configuration file name parameter.

Starting the Message Facility

The message facility can be started automatically by entering the STARTMSG command in an AUTOEXEC.BAT file. If you choose to use the STARTMSG command in a .BAT file, the message facility will be loaded using the identifiers in the CONFIG.S36 file or the alternate configuration file you specify on the STARTMSG command. If your CONFIG.S36 file or your alternate configuration file does not contain message facility identifiers, the defaults for these identifiers will be used. A configuration file is not necessary for the message facility. If a configuration file is not found, the default values for the identifiers will be used. For more information about the message facility configuration identifiers, refer to Chapter 2, "The PC Support/36 Configuration File," of the *PC Support/36 Technical Reference.*

Message Facility Commands

There are four commands that are valid when you are using the message facility. These commands are:

- STARTMSG
- MSG
- RCVMSG
- STOPMSG

These commands are not valid if you have a 5250 Emulation Program operational on your personal computer. If you have a 5250 Emulation Program operational and you issue a message facility command an error message is issued and the command is terminated.

STARTMSG

This command starts or changes the resident receive function, and sets up the translate tables for the other message facility commands. This command is optional. The format is:

d: STARTMSG [configuration file][/x][/y]

where:

d: specifies the name of the disk or diskette drive, or virtual drive, where STARTMSG resides. Type a letter followed by a colon to specify the drive. For example, A represents the first drive, B represents the second. The drive is required only if STARTMSG is not on the default drive.

configuration file is the name of the alternate configuration file you are using instead of CONFIG.S36.

The format of the STARTMSG configuration file is:

[c:][path]filename[.ext]

where:

c: specifies the drive where the file containing the STARTMSG entries resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\). The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory.

If the path name is not specified, the current directory is used.

filename specifies the name of the file that contains the STARTMSG entries. The filename can be from 1 to 8 characters.

.ext specifies the filename extension. The extension consists of a period and up to 3 characters. This entry is optional. If used, the extension must immediately follow the filename.

Note: If you specify an alternate configuration file, all of the identifiers in the alternate configuration file will be used instead of the entries in CONFIG.S36.

x specifies the type of monitor being used. It is either an uppercase or lowercase C for a color display or an uppercase or lowercase M for a monochrome display. If this value is entered, it overrides the value specified on the DSPL identifier in the configuration file.

y specifies the display write speed. It is either an uppercase or lowercase H for high speed display writing or an uppercase or lowercase S for slow speed display writing. If the speed parameter is not specified, slow speed display writing will be used with all graphic adapter cards except the Enhanced Graphics Adapter. If this value is entered, it overrides the value specified on the DSPL identifier in the configuration file.

For more information on using the correct display attributes, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Use of an Alternate Configuration File for STARTMSG

STARTMSG allows the user to specify an alternate configuration file. This configuration file can be used to set or change the configuration for automatically receiving messages. For example:

- Specify the System/36 that you send messages to and receive messages from
- Specify the mode for automatically receiving messages
- Specify the length of the message window timeout
- Specify the interval of checking with the System/36 for messages

For example if you want to be automatically notified when messages are received by the default System/36, then no entries need to be added to the CONFIG.S36 file. The default System/36 with message receive interval (MMRI) of 60 seconds will be used.

To automatically start message notification after starting or restarting your personal computer, then add the following line to the AUTOEXEC.BAT file:

STARTMSG

Since an alternate configuration file was not specified, then the CONFIG.S36 file in the default drive and current directory is used.

However, if you occasionally would like to have your messages automatically displayed, then set up one alternate configuration file to receive messages in immediate mode. To do this you need to add the following entry to an alternate configuration file:

MDEF ,2

This causes messages from the default System/36 to be displayed automatically in a window. Defaults of 60 seconds for message window timeout (MTIM) and message receive interval (MMRI) will be used.

Additionally, if you would like to change the message window timeout value, or the message receive interval, then add the following entries to the alternate configuration file:

MTIM 300

MMRI 600

This would change the message window timeout to 5 minutes and the message receive interval to 10 minutes.

Note: If you are using a personal computer that has two monitors and you are automatically displaying messages, the messages will be displayed on the monitor that was active when the STARTMSG command was issued. If you switch active monitors, the message window will still be displayed on the monitor that was active when the STARTMSG command was issued. If you want to change the monitor that displays the messages, issue another STARTMSG on the monitor you want to display the messages.

There are two methods of entering the MSG command. They are the interactive MSG command and the command line MSG command.

Interactive MSG Command

This function is provided by a menu to send or display messages. To obtain the menu display you type:

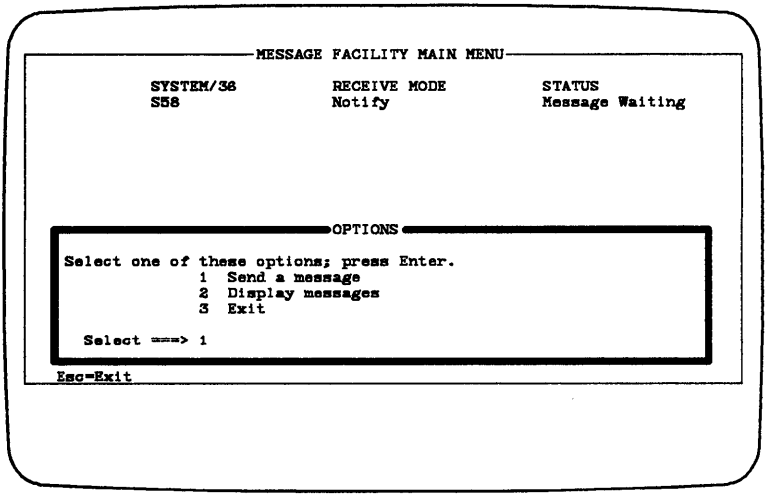
d:MSG [/x][/y]

where:

d: specifies the name of the disk or diskette drive, or virtual drive, where MSG resides. Type a letter followed by a colon to specify the drive. For example, A represents the first drive, B represents the second drive. This drive is required only if MSG is not on the default drive.

x and **y** are display attributes, refer to Chapter 2, "What You Should Know before Operating PC Support/36," for details on these parameters.

After entering this command the following display appears:



S9097908-2

where:

SYSTEM/36 is the name of the System/36 that is being used to send and receive messages.

Note: *For more information on the relationship of this name to link name and remote system name refer to the sections on multiple systems and pass-through in Chapter 3, "The PC Support/36 Routers" of the* ***PC Support/36 Technical Reference.***

RECEIVE MODE

- Blank indicates that a STARTMSG has not been done or is not currently communicating with the System/36 because of a STOPMSG or an error.

- Notify mode, you will receive an audible tone indicating that you have messages at the System/36. You must run a MSG or RCVMSG command to display the messages.

- Immediate mode, you will receive an audible tone that you have messages at the System/36 and they will automatically be displayed.

For more detailed information on notify and immediate mode refer to the *PC Support/36 Technical Reference.*

STATUS shows if you have messages waiting.

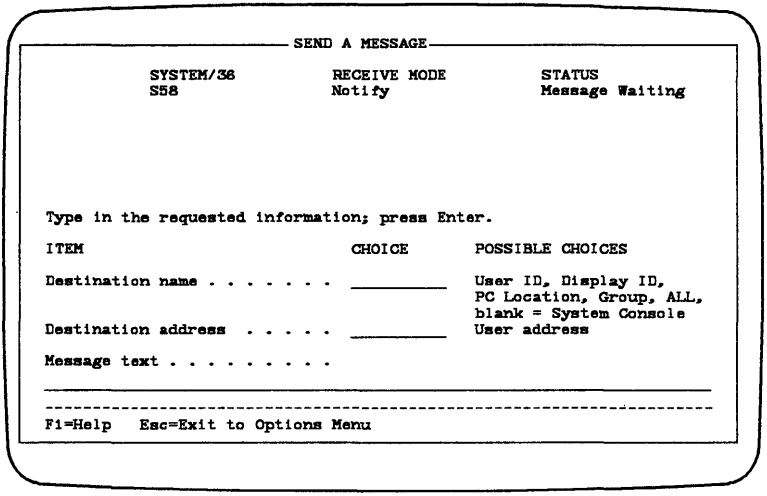
OPTIONS

1. Send a message

2. Display messages

3. Exit

If you take option 1 on this menu the Send a Message display will appear.



S9097910-3

where:

The format of the line displayed across the top of the display does not change. You will still see SYSTEM/36, RECEIVE MODE, and STATUS. However, the STATUS information may change to the latest information that was communicated from the System/36.

To send a message you must type the following information:

Destination Name: This identifies to whom you wish to send the message. The recipient may be a User ID, Display ID, PC Location, Group Name, or ALL.

- User ID is the user ID used by the recipient to sign on the System/36, or the first part of the user ID as identified in the system directory. The user may be on the local System/36 or a user on another system.

- Display ID is the 2-character work station ID where you want the message sent on the System/36.

- PC Location is the location of another personal computer on any IBM Token-Ring Network connected to the System/36. The PC Location can be attached to the local System/36 or attached to another System/36.

- Group Name is the identifier from the System/36 directory that identifies a group of users in the SNA network. This parameter can only be used if the Distributed System Node Executive - Network Distribution (DSNX-ND) is operational on your System/36.

- ALL means send the message to all locally active work stations and personal computer locations with active message receive sessions connected to the System/36.

Destination Address: This is the recipient's address. This can be used in conjunction with the data in the Destination Name field to identify an entry in the System/36 directory. By using the directory entries you can send messages to User Groups, users at other systems, and PC Locations at other systems. You can only use the Destination Name/Destination Address combination if DSNX-ND is operational on your System/36.

Any time the destination name/destination address combination is used it must be a valid entry configured in the directory on the host System/36.

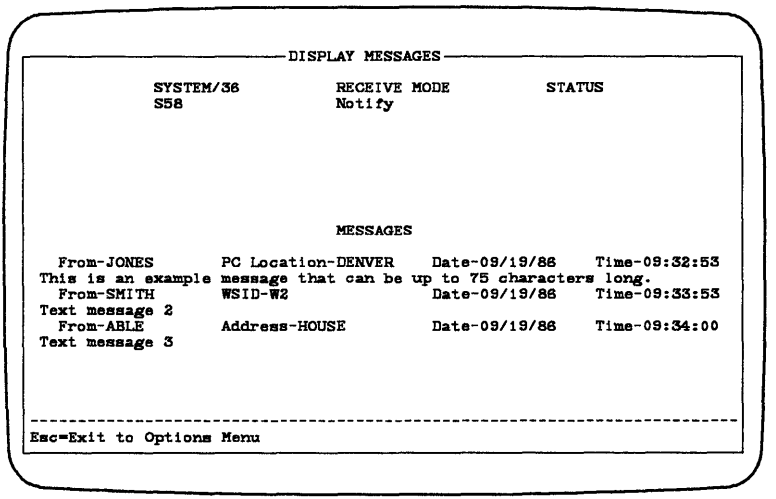
If Destination Name and Destination Address are both blank the message will be sent to the console operator. The message text must be preceded by a comma if you leave this parameter blank.

Message Text: This is the data that is to be delivered to the identified recipient. There can be up to 75 characters in the message text.

Help text for this display may be displayed by pressing the F1 key.

If you take option 2 of the Message Facility Main menu the Display Messages display will appear.

Note: This option cannot be used to display messages stored in the file created by the RCVMSG command.



S9097911-3

The format of the line displayed across the top of the display does not change. You will still see SYSTEM/36, RECEIVE MODE, and STATUS. However, the STATUS information may change to the latest information that was communicated from the System/36.

After you select this option, up to three messages will appear on your display. The following information is displayed:

From: This is the name and address of the sender.

PC Location: This is the location of the sender.

WSID: This is the work station ID of the sender.

Address: This is the address of the sender.

Date: This is the date the host system received the message.

Time: This is the time the host system received the message.

Message Text: Up to 75 characters of the message text will be displayed. If the original message contains more than 75 characters, the message will be divided into multiple messages. Words will not be divided between messages.

Once you display a message it is no longer available to be displayed again. You do not have the facility to save messages and use this option to display them.

If there are more than three messages to be displayed press the PgDn key to display the rest of the messages. Any messages moved off the display cannot be displayed again.

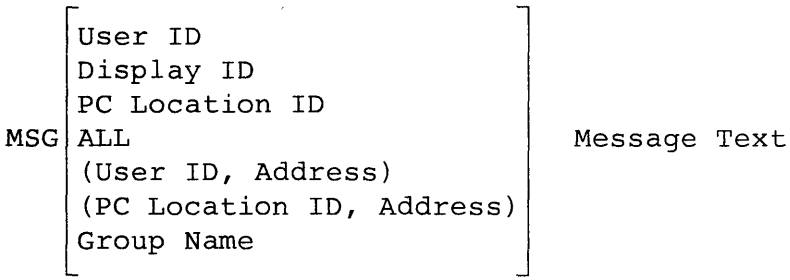
Messages can be printed from the display by pressing the PRTSC key.

If you select option 3 on the Message Facility Main menu, EXIT, you will return to the display where you entered the MSG command. For example, if you entered the MSG command on a DOS display and you take option 3 on this menu you will return to the DOS display. You can also exit the display by pressing the ESC key.

Command Line MSG Command

If you want to send a message without going through the Message Facility Main menu and subsequent displays you can enter the MSG command and its associated parameters from the DOS command line.

The format for this is:



where:

- User ID is the user ID used by the recipient to sign on the System/36, or the first part of the user ID as identified in the system directory.
- Display ID is the 2-character work station ID where you want the message sent on the System/36.
- PC Location ID is the location of another personal computer on any Token-Ring Network connected to the System/36, or the first part of the user ID as identified in the system directory.

- Group Name is the identifier from the System/36 directory that identifies a group of users in the SNA network.

- ALL means send the message to all locally active work stations and personal computer locations with active message receive sessions connected to the System/36.

  Any combination of User ID/Address, PC Location/Address, or the Group parameter can only be used if the Distributed System Node Executive - Network Distribution is operational on your System/36.

  Any time the destination name/destination address combination is used it must be a valid entry in the directory on the System/36.

  If both parameters are left blank the message will be sent to the console operator. The message text must be preceded by a comma if you leave this parameter blank.

- Message Text is the data that is to be delivered to the identified recipient. There can be up to 75 characters in the message text.

Note: Characters used to identify parameters to DOS or the MSG command cannot be used in the user ID, address, or message text of the command line MSG command. These characters can also not be used in the user ID or address of the interactive MSG command. These characters can be used in the message text of the interactive MSG command.

RCVMSG

This command is used to receive messages and place them in a specified file.

The format is:

d:RCVMSG [message file name]

where:

d: specifies the name of the disk or diskette drive, or virtual drive, where RCVMSG resides. Type a letter followed by a colon to specify the drive. For example, A represents the first drive, B represents the second drive. This drive is required only if RCVMSG is not on the default drive.

message file name is the name of an alternate file you want to use to hold your messages, instead of MESSAGE.S36.

The format of the RCVMSG message file name is:

[c:][path]filename[.ext]

where:

c: specifies the drive where the RCVMSG file resides. Type a letter followed by a colon to specify the drive. If the drive is not specified, the default drive is assumed.

path specifies a path of directory names. Type the directory names, separated by backslashes (\). The file name should be separated from the last directory name by a backslash (for example, \DIR1\DIR2\FILE1). The first backslash is optional. If used, it tells DOS to begin with the root directory.

If the path name is not specified, the current directory is used.

filename specifies the name of the file that contains the received messages. The filename can be from 1 to 8 characters.

.ext specifies the filename extension. The extension consists of a period and up to 3 characters. This entry is optional. If used, the extension must immediately follow the filename.

If you do not specify an alternate file and MESSAGE.S36 cannot be found, it will be created for you on the current drive, in the current directory, before the messages are received.

If no alternate file is specified and a message file does exist on the current drive, the messages will be appended to the file.

This command presents no interactive interface. All parameters are expected to be found in the CONFIG.S36 file. Any identifiers that are not found in the configuration file will use the default value.

After the messages have been received and stored in this file they can be viewed using the DOS TYPE or DOS PRINT commands. Alternatively, you can develop a procedure to retrieve and display or print these messages. You cannot use the Display Message option on the Message Facility Main menu to display this file.

STOPMSG

This command is used to stop either automatic display of messages or notification that there are messages waiting. Issuing this command does not halt the use of the MSG and RCVMSG commands. When this command is issued all message sessions are stopped. No resident storage is freed by this command. The format is:

d:STOPMSG

where:

d: specifies the name of the disk or diskette drive, or virtual drive, where STOPMSG resides. Type a letter followed by a colon to specify the drive. For example, A represents the first drive, B represents the second drive. This drive is required only if STOPMSG is not on the default drive.

Chapter 12. Ending PC Support/36

Contents

Overview

When you finish using the PC Support/36 programs and want to power off or restart your personal computer, or if you want to use the session for other work, you should end all PC Support/36 programs and the PC Support/36 router.

Ending the PC Support/36 Programs

To end the PC Support/36 programs you are using, do the following:

- If you are running the System/36-to-personal computer transfer facility or the personal computer-to-System/36 transfer facility, select option 6 (Exit S/36-to-PC Transfer Facility or Exit PC-to-S/36 Transfer Facility) on the OPTIONS menu and press the Enter key. This returns you to the DOS prompt.

- If you are using the shared folders facility, you must release any folders you currently have assigned. You can do this using the FSPC Release command. Refer to Chapter 6, "Using the PC Support/36 Shared Folders Facility" for details on how to release shared folders.

- If you are using the virtual printer facility, you must release all virtual printers you currently have assigned. You can do this using the SETVPRT program or CFGVPRT program. Refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility" for details on how to release virtual printers.

  If the SETVPRT program is still running, you must end the virtual printer facility by pressing the Escape key on the OPTIONS menu, or by entering a 5 (Exit) on the OPTIONS menu and pressing the Enter key. This returns you to the DOS prompt.

- If you are using the virtual disk facility, you must release any virtual disks you currently have assigned. You can do this using the SETVDSK program or CFGVDSK program. Refer to Chapter 5, "Using the PC Support/36 Virtual Disk Facility" for details on how to release virtual disks.

If the SETVDSK program is still running, you must end the virtual disk facility by pressing the Escape key on the OPTIONS menu, or by entering a 5 (Exit) on the OPTIONS menu and pressing the Enter key. This returns you to the DOS prompt.

- If you are running the IBM PC Support/36 message facility, you need to run the STOPMSG command. Refer to Chapter 11, "Using the PC Support/36 Message Facility," for details on how to run the STOPMSG command.

Ending the PC Support/36 Router

To end the router, the STOPRTR command should be typed after the DOS prompt.

Purpose: This command ends the System/36 router and frees the session (or sessions) so that it can be used for other applications.

Format: **[d:]STOPRTR [/F]**

Remarks: **d:** specifies the name of the disk or diskette drive, or virtual drive, where STOPRTR resides. Type a letter followed by a colon to specify the drive. (For example, A represents the first drive, B represents the second.) The drive is required only if STOPRTR is not in the default drive.

/F is the Force Stop option. This is an optional parameter. The router verifies that all personal computer applications using the router have ended. For example, it makes sure that all the virtual disks and virtual printers have been released. If the /F option is specified and there are applications still using the router, the personal computer router program ends the System/36 router program.

Note: *If you have virtual printers assigned when you enter the STOPRTR command, it is not recommended that you force the router conversations to end. It is possible that data remains in the buffers, and this data is not yet sent to the System/36 printer.*

To ensure that all of the data is sent to the printer and the print file is closed, you must use the SETVPRT command to release the virtual printers, then enter the STOPRTR command again.

If the /F parameter is not specified and the personal computer applications using the router have not ended, an error message is displayed. This gives you the option to end the personal computer application anyway by pressing the Enter key or to cancel the STOPRTR command by pressing the Escape key.

If you press the Escape key, the STOPRTR command is ignored. You can then use the SETVDSK program to release virtual disks, the SETVPRT program to release virtual printers, the FSPC Release command to release the shared folders, and the STOPMSG command to stop the message facility.

Once the STOPRTR program ends, PC Support/36 is inactive and the personal computer can be restarted, powered off, or used for other purposes.

The IBM Token-Ring Network Router can also be stopped abnormally by using the Disable command. However, this is not the recommended way to stop the router. It is possible that data remains in the buffers that has not been sent to the System/36. Refer to *Using System/36 Communications* for more information on how to abnormally stop the router.

Chapter 13. Problem Determination Procedures

Contents

Introduction

CAUTION
If you detect smoke, excessive heat, or unusual odors coming from your personal computer, immediately position the system unit switch to Off, disconnect the power cord, and have the unit serviced.

Before following these problem determination procedures, perform the actions described for messages in the *PC Support/36 Messages Guide.*

This chapter can help you solve a problem with PC Support/36. Check to see if any of the symptoms describe your problem, and take the corrective action described.

Problems may occur in one of the following problem types:

- Personal computer or PC Support/36 stopped
- Output not as expected
- Communications problems

Personal Computer or PC Support/36 Stopped

This section describes those times when the personal computer is not responding as it should.

First, look for some indication of processor activity to verify that a stopped condition does exist. Then, attempt to isolate the problem to the System/36, personal computer, or communications data link. Finally, proceed with the appropriate recovery procedure. The following descriptions may assist you in problem determination.

Virtual Printer Stopped

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:

- A large file may take several minutes to print. Be sure you allow enough time.
- You may have sent the data to a local personal computer printer that is not turned on. Turn on the local printer and the data may start printing.
- If you are not using the time-out method of closing a print file, you may need to use the SETVPRT program to close the print file.

You may have a communications problem; refer to "Communications Problems" later in this chapter.

Interactive Virtual Printer Program (SETVPRT) Stopped

Problem:

The interactive virtual printer program (SETVPRT) appears to have stopped. It may have stopped at one of the following times:

- After the F2 key was pressed to get a list
- After the list was displayed, and after pressing the Up Arrow, Down Arrow, Page Up, Page Down, Home, or End key
- After the Enter key was pressed, when the cursor was in the last input area on the display

Action:

- If the SETVPRT program is not displaying a *Running* indicator, the personal computer is waiting for you to do something.
- If the *Running* indicator is displayed, allow enough time for the operation to complete.
- Refer to "Communications Problems," later in this chapter, to determine if you have a communications problem.

If the System/36 is functioning properly, this is probably a personal computer problem. Run personal computer diagnostics. If no problem is found and this application is still not working, contact the System/36 system operator for help. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

Display Problems

Problem:

The display is difficult to read when using the interactive virtual printer facility.

Action:

If you are using a monochrome monitor attached to a Color/Graphics Monitor Adapter Card, you must specify /M after the command you used to start SETVPRT, or put a DSPL entry in the CONFIG.S36 file. For details, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Printer Input/Output Problems

Problem:

While trying to print to a virtual printer, the following DOS message is displayed:

```
Write fault error writing device LPTx
Abort, Retry, Ignore?
```

Action:

1. You may have sent the data to a local personal computer printer that is out of paper, offline, or not available. Correct the error and retry the operation.

2. Run SETVPRT or CFGVPRT to display an error message. Correct the problem and reassign the printers if necessary.

Virtual Disk Stopped

Problem:

The personal computer was transferring information to or from a virtual disk; the transfer of information appears to have stopped and there are no messages.

Action:

A large file may take several minutes to transfer. Make sure you allow enough time.

You may have a communications problem; refer to "Communications Problems" later in this chapter.

Interactive Virtual Disk Program (SETVDSK) Stopped

Problem:

The interactive virtual disk program (SETVDSK) appears to have stopped. It may have stopped at one of the following times:

- After the F2 key was pressed to get a list
- After the list was displayed, and after pressing the Up Arrow, Down Arrow, Page Up, Page Down, Home, or End key
- After the Enter key was pressed when the cursor was in the last input area on the display

Action:

- If the SETVDSK program is not displaying a *Running* indicator, the personal computer is waiting for you to do something.

- If the *Running* indicator is displayed, allow enough time for the operation to complete.

- Refer to "Communications Problems," later in this chapter, to determine if you have a communications problem.

  If the System/36 is functioning properly, this is probably a personal computer problem. Run personal computer diagnostics. If no problem is found and this application is still not working, contact the System/36 system operator for help. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

Output Problems

Problem:

The display is difficult to read when using the interactive virtual disk facility.

Action:

If you are using a monochrome monitor attached to a Color/Graphics Monitor Adapter Card, you must specify /M after the command you used to start SETVDSK, or put a DSPL entry in the CONFIG.S36 file. For details, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

If the monitor you are using has random dashes or snow appearing on the display, you should specify /S for slow speed display writing after the command you used to start SETVDSK, or put a DSPL entry in the CONFIG.S36 file. For details, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Transfer Facility Stopped

Transfer Facility to System/36 Communications Problems

Problem:

The transfer of data between the System/36 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, or TO prompts are displayed and:
  - After the F2 key was pressed to get a list
  - After the list is displayed and after pressing an Up Arrow, Down Arrow, Page Up, Page Down, Home, or End key
- While the *Your transfer request is running* message is displayed

- While a System/36-to-personal computer transfer request with the display specified as the output device is running

  - After pressing an Up Arrow, Down Arrow, Page Up, Page Down, Home, or End key, while the Transferred Data window is being displayed

  - While the records are being displayed by the automatic System/36-to-personal computer transfer facility program

- While a System/36-to-personal computer transfer request with the printer specified as the output device is running, and the *Retrieved data records are being printed* message is being displayed

- While a System/36-to-personal computer transfer request with disk specified as the output device is running, and the *Retrieved data records are being written to disk* message is being displayed

Action:

1. If the interactive transfer facility is not displaying a *Running* message on the message line, the personal computer is waiting for you to do something.

2. If *Running* is on the message line or you are using the automatic transfer facility, allow enough time (possibly several minutes) for the operation to complete.

   - If you have used the JOIN BY or ORDER BY prompt and the *Your transfer request is running* message is being displayed, allow more time for this operation.

   - If you have pressed the End key while a list is being displayed or while transferring data to the display, additional time may be required to complete the transfer request.

   - If you are transferring data to a virtual disk or printer, or from a virtual disk, additional time may be required.

3. Refer to "Communications Problems" later in this chapter to determine if you have a communications problem.

   If the System/36 is functioning properly, the problem is probably on the personal computer. Run personal computer diagnostics. If no problem is found while running the diagnostics, and this application is still failing, contact the System/36 site for assistance. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

4. 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.

5. If the output device is either the printer or disk and the output is directed to a virtual printer or disk, perform problem determination for the virtual printer or disk.

Disk Input/Output Problems

Problem:

Disk problems may have occurred at one of the following times:

- When the Name of transfer request to be saved, Name of transfer request to be recalled, FROM PC filename, or File description name prompts are displayed and:
  - After the F2 key was pressed to get a list
  - After the list is displayed and after pressing an Up Arrow, Down Arrow, Page Up, Page Down, Home, or End key
- While saving a transfer request and the *Your transfer request is being saved* message is being displayed
- While recalling a transfer request and the *Your transfer request is being recalled* message is being displayed
- While the *File description is being written to disk* message is being displayed
- While the *Retrieved data records are being written to disk* message is being displayed

Action:

1. If the interactive transfer facility is not displaying a *Running* message on the message line, the personal computer is waiting for you to do something.

2. If *Running* is on the message line or you are using the automatic transfer facility, allow enough time for the operation to complete.

   - If you have pressed the End key while a list is being displayed, a long time may be required for this operation.

   - If you are working with a virtual disk, allow several minutes for the transfer to complete.

3. If the output is being directed to a virtual disk, perform problem determination for a virtual disk. Refer to "Communications Problems," later in this chapter, for more information.

4. If the output is being directed to a personal computer disk, run personal computer diagnostics. If no problem is found while running the diagnostics and this application is still failing, contact the System/36 site for assistance. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

Printer Input/Output Problems

Problem:

Printer problems may have occurred at one of the following times:

- While the *Retrieved data records are being printed* message is being displayed
- While the *Format of transferred data is being printed* message is being displayed

Action:

1. If the interactive transfer facility is not displaying a *Running* message on the message line, the personal computer is waiting for you to do something.
2. If *Running* is on the message line or you are using the automatic transfer facility or a virtual printer, allow enough time for the operation to complete.
3. If the output is being directed to a virtual printer, perform problem determination for a virtual printer. Refer to "Virtual Printer Stopped" earlier in this chapter.

4. If the output is being directed to a personal computer printer, make sure the personal computer printer is supported by the transfer facility. Refer to "What Is Needed to Use PC Support/36?" in Chapter 1, "Introduction" to find out what printers are supported.

5. If the output is being directed to a personal computer printer that is supported by the transfer facility, run personal computer diagnostics. If no problem is found while running the diagnostics and this application is still failing, contact the System/36 site for assistance. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

6. 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 is consistent with the way DOS works. 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.

Output Not as Expected

The information printed, displayed, or in output disk files is missing, incomplete, not in the format that you expected, or is not readable.

Virtual Printer

Problem:

No output received.

Action:

- You may have attempted 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. Be sure you have run VPRT. Then, enter the SETVPRT or CFGVPRT command to activate the virtual printer.

- If the virtual printer was set up to defer printing, (this is the default), it does not start printing until the file is closed. The file is automatically closed when the time interval you selected expires. Be sure you have waited long enough for the file to be closed.

  If you are running certain applications (such as BASIC), it is possible that the file will not close, even after the specified time interval has expired, until a key is pressed. Press any key or return to DOS and the file will be closed.

If you selected a time interval of zero, the file must be closed using the SETVPRT or CFGVPRT command. (Refer to "Using the Virtual Printer Facility" for information about the SETVPRT and CFGVPRT commands). However, if there is an End Document or Begin Document command at the end of your data string this is not necessary. (Refer to Chapter 5, "The Virtual Printer Facility" in the *IBM PC Support/36 Technical Reference* for information about the End and Begin Document commands).

- If an error message appears on the System/36 console associated with the System/36 printer, ask the system operator to respond to any error messages and make the System/36 printer ready.

- If the print file was closed and no messages appear on the System/36 console, there may be a problem with the System/36 Spool utility. (For example, the spool writer may have been stopped.) Ask your System/36 operator if this could be the reason your output is not being printed. If so, ask the System/36 operator to help you resolve the problem.

- If each of the procedures listed above are followed, and still no output is received, you may have a hardware problem. Run personal computer and printer diagnostics. If no error is found, contact the System/36 site for assistance. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

Problem:

Printed output started but not completed.

Action:

- You may have specified to print on the virtual printer, but it cannot print until the file is closed. The file is automatically closed when the time interval expires. Be sure you have waited long enough for the file to be closed.

  If you are running certain applications (such as BASIC), it is possible that the file will not be closed, even after the specified time interval has expired, until a key is pressed. Press any key or return to DOS and the file will be closed.

  If you selected a time interval of zero, you must use the SETVPRT or CFGVPRT command to close the file unless there is an End Document or Begin Document command at the end of your print data string. Also, the commands End Document, Begin Document, or Reset Printer in the beginning or end of a document will close the file.

- If the procedure listed above is followed, and complete output is still not received, you may have a hardware problem. Run personal computer and printer diagnostics. If no error is found, contact the System/36 site for assistance. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

  If the virtual printer does not work, test the printer locally by sending the following:

  - A System/36 file/document to it.

  - A PC file /document from a personal computer to its locally attached PC printer.

Problem:

Format of printed output is correct at first, but formatting is lost and/or changes in subsequent pages.

Action:

Certain applications take longer to reach the print file, a time-out occurs, and the job is segmented. Set a longer time-out value, or disable the time-out value.

Problem:

Output is not readable or as expected.

Action:

- You may be attempting to print data from a personal computer file that is not readable or printable.

- The translation table may be damaged. Refer to Chapter 7 "The Translation Table Utility," in the *PC Support/36 Technical Reference* manual for information about translation tables.

- You may have specified a printer data type, but the data to be printed is not in a format suitable for printing on a System/36 printer. Refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility" for information on setting printer data type.

- You may be attempting functions that are not supported by the System/36 printer (such as, superscript, double width, and so on). In this case, the output may not be the same as you expected. Refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility" for the functions that are supported.

- You may be attempting to print data for ASCII character set 2. Your virtual printer was initialized for 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.

  Refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility" to select the PC printer character set option by using the SETVPRT or CFGVPRT command. Refer to Chapter 5, "The Virtual Printer Facility" of the *PC Support/36 Technical Reference* for details on the Select character set 2 command.

- If each of the procedures listed above are followed, and the output is still not readable, you may have a hardware problem. Run personal computer diagnostics and printer diagnostics. If no error is found, contact the System/36 site for assistance. The System/36 site is responsible for contacting the service representative if an error is suspected in a System/36-supported program.

If the virtual printer does not work, test the printer locally by sending the following:

- A System/36 file/document to it.
- A PC file/document from a personal computer to its locally attached PC printer.

Problem:

The printer ejects at the wrong place.

Action:

Your virtual printer parameters and the System/36 printer configuration do not match. Change your virtual printer parameters to match the System/36 configuration. Refer to "Using the Virtual Printer Facility" for information on using the Lines per page and Page length parameters for a virtual printer.

Problem:

The MODE command was entered, but the changes failed to take effect.

Action:

- You should enter the MODE command after running SETVPRT or CFGVPRT and before printing a file.
- The print file closed before you entered the MODE command.
- You did not specify command override option in SETVPRT or CFGVPRT commands.

Problem:

Output goes to the local personal computer printer rather than the virtual printer.

Action:

- The virtual printer was not activated by either SETVPRT or CFGVPRT command.
- You tried to use the virtual printer facility after entering the STOPRTR command. You must start the router again before you can run SETVPRT or CFGVPRT.

Problem:

Attempted to print a Final Form Text/Document Content Architecture (DCA) on a virtual printer, but the output was not readable or you did not get all the output.

Action:

- The default printer data type was specified. You should use option 3 (Final form text) for the printer data type. Refer to Chapter 7, "Using the PC Support/36 Virtual Printer Facility," for information on setting printer data type.

- A /b parameter was not used to indicate a binary file when using a DOS COPY command to copy a file to a virtual printer (including the DOS end of file characters).

- The System/36 printer must be a printer that can handle a DCA level-2 document.

Problem:

Printer lines are truncated.

Action:

Personal computer printer output is either 132 or 198 characters per line. The System/36 printer paper is not wide enough to handle either 132 or 198 characters per line.

Problem:

Printer output is divided into multiple parts. There is more than one entry in the Spool Writer Status display for the job.

Action:

Time-out value specified for SETVPRT or CFGVPRT commands is too short. Refer to "Using the Virtual Printer Facility" for information on setting the time out value.

Problem:

Printer output is combined.

Action:

Time-out value specified for the SETVPRT or CFGVPRT commands is too long. Refer to "Using the Virtual Printer Facility" for more information on setting the timer interval.

Transfer Facility

Problem:

No list or an incomplete list was received for a list of personal computer file names requested for the SAVE, RECALL, or File description name prompt.

Action:

The transfer facility searches the personal computer disk for file names that have a specific extension (the extension is different for different prompts). The file names specified (if any) cannot be found on the specified disk.

You can request the transfer facility to search a specific drive for file names that have certain characteristics. This overrides the default search arguments used by the transfer facility.

The list is based on the personal computer file name you specified prior to pressing the F2 key.

Problem:

The display is difficult to read when using the interactive transfer facility.

Action:

If you are using a monochrome monitor attached to the Color Graphics Adapter, you must specify the /M parameter when you start the transfer facility or put a DSPL entry in the CONFIG.S36 file.

If the monitor you are using has random dashes or snow appearing on the display, you should specify /S for slow speed display writing after the command you used to start SETVDSK, or put a DSPL entry in the CONFIG.S36 file. For details, refer to Chapter 2, "What You Should Know before Operating PC Support/36."

Problem:

A file, defined by IDDU data definitions, is being transferred. However, the resulting data is not converted and broken into fields as expected.

Action:

The file does not have an IDDU data definition, or the wrong data definition is being used. Use IDDU on the System/36 to check the data definition. Also, make sure that the IDDU data definition is linked to the file you are transferring.

Problem:

No column headings appear on data transferred to the display or printer.

Action:

- You are transferring a file that is not defined by IDDU data definitions or a library member. No column headings should appear.
- If the file is supposed to be defined by IDDU, use IDDU on the System/36 to check the data definition. Also, make sure that the IDDU data definition is linked to the file you are transferring.

Transfer Facility Output Problems

Printing on Locally Attached PC Printer

Problem:

Printing appears to be in progress, but no output appears on the printer:

Action:

- If you try to print on LPT1, LPT2, or LPT3, and there is no adapter set up for the printer, the transfer facility acts as though it is printing, although it is not. This is consistent with the way DOS handles printing to a printer that does not exist.

- You may be printing on a virtual printer. Release the virtual printer if you wish to print on a personal computer printer defined by the same LPT number as the virtual printer.

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 is consistent with the way DOS works. 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.

Problem:

Printer out of paper message appears when the printer is not available.

Action:

DOS does not always correctly diagnose printer errors. You can still correct the actual problem and press the Enter key to continue printing.

Problem:

Part or all of a line of printing is missing.

Action:

This can happen when an error occurs and printing is restarted after the error is corrected. 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.

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.

Problem:

Printer did not go to the top of the next page at the end of the output.

Action:

If you select the ESC option on an error message and do not correct the error condition, it is possible that 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.

Problem:

For a virtual print file, output that should have appeared in separate print files appears in the same print file.

Action:

Print 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 SETVPRT.

Problem:

For a virtual print file, output is broken up into more than one part when only one continuous piece was expected.

Action:

A print 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 being broken up.

Problem:

A Status window displays *Your transfer request has been resubmitted* while you are scrolling backwards in the Transferred Data window.

Action:

This is normal. However, if this occurs often, you should increase the amount of storage on your personal computer.

Problem:

A personal computer file containing the transferred records contains incorrect data. Your application program cannot process the file.

Action:

- Verify that the personal computer file type used in the transfer request prompt is correct for the application you are running.
- If you have data in the System/36 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 System/36 file and check the IDDU data definition for that file.
- If you have transferred data to a BASIC sequential file, make sure the character data in the file does not contain any double quotation marks.

Problem:

The data displayed or printed contains substitution rectangle characters.

Action:

The rectangle characters represent data in the System/36 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 System/36 file and check the IDDU data definition for that file.

Problem:

Printed records from transferred data are truncated at the end of each print line.

Action:

Change the Truncate records prompt in the transfer request you are running to *No* so all data for each record is printed.

Determining if You Have a Communications Problem

Be sure that you have allowed enough time for the requested operation to complete. Some operations require several minutes.

Problems Using Emulation

Use the hot key sequence to try to enter emulation mode. If you are using emulation and the router is active in a session other than 1, you have to use the hot key sequence several times.

If you are using emulation, you cannot use the hot key sequence to enter the emulation session being used by the router while data is being transferred between the router and the emulation session. The emulation session being used by the router is temporarily removed from the hot key session rotation.

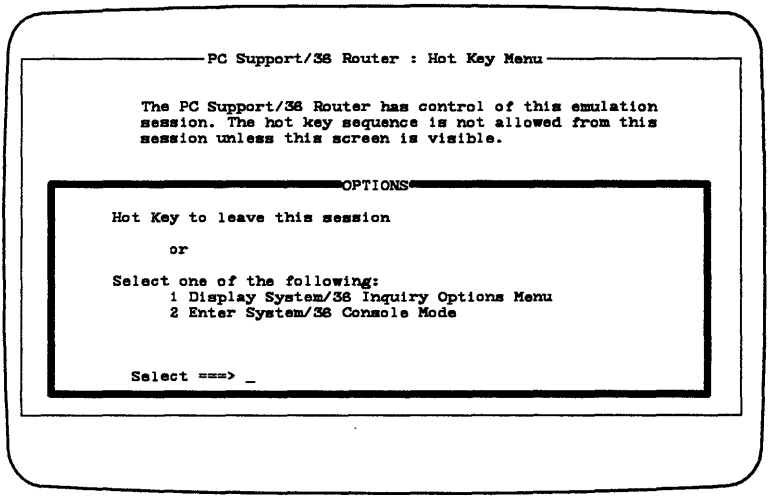
This means that, if you have two emulation sessions active (either two display sessions or one display session and one printer session), and you attempt to use the hot key sequence while the router is transferring data, you will bypass the router session and hot key directly into the next available emulation session. If you have only one emulation session active, the hot key sequence will not work until the data transfer is completed.

If you are using emulation and are unable to use the hot key sequence to enter the session being used by the router, one of the following may have occurred: you have not allowed enough time for the router to transfer the data; the System/36 processor was stopped with Alter/Display; the personal computer is waiting for another display from the System/36.

If you allowed enough time and determined that the System/36 processor was not stopped, ask the system operator to end your job. This should cause an error on your personal computer and allow you to use the hot key sequence. If no error is displayed, and you are still unable to use the hot key sequence, follow the recovery described under "Restarting Your Personal Computer" later in this chapter.

If you are using the 5250 Emulation Program (not the Enhanced 5250 Emulation Program), you should always be able to use the hot key sequence. If you cannot use the hot key sequence, the personal computer is probably in a loop and needs to be restarted. Follow the recovery described under "Restarting Your Personal Computer" later in this chapter.

If you successfully used the hot key sequence to enter 5250 emulation mode, the PC Support/36 Router Hot Key Menu will appear as follows:



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If the System/36 Router display does not appear, one of the following appears.

Indication	Action
Blank display and system available indicator is off.	Follow the recovery action described under "Recovering from a Link Failure" later in this chapter.
Message indicates a task dump was taken.	Select option 0 to the task dump message and follow the recovery action described under "Restarting the System/36 Router" later in this chapter.
Message does not indicate a task dump was taken.	Respond to the message and follow the recovery action described under "Restarting the System/36 Router" later in this chapter.
System/36 Inquiry display or Command display appears in inquiry mode.	Exit inquiry mode by pressing the emulated command key 1 or by taking option 0 on the System Inquiry menu, hot key to personal computer mode, then try the operation again.
Some other display appears.	Return to the System/36 command display, then follow the recovery action described under "Restarting the System/36 Router" later in this chapter.

If you recognize the display as the router display, the personal computer may be waiting for data to be returned from the System/36 router. The possible reasons for this condition and its recovery are shown in the following table.

Indication	Action
Response is slower than usual (System/36 processor is heavily loaded).	Allow enough time. Then, if the II indicator stays on, follow the recovery under "Terminating the System/36 Router" later in this chapter.
System/36 router is in a loop and must be canceled.	Follow the recovery action under "Terminating the System/36 Router" later in this chapter.
System/36 was stopped using Alter/Display.	Wait for the System/36 to be restarted, then hot key back to personal computer mode and continue the task you were working on.
System/36 has a processor check.	Wait for the system operator to restart the system and then follow the recovery action under "Restarting the System/36 Router" later in this chapter.

Problems Using the IBM Token-Ring Network

It is possible that the System/36 is not communicating with the personal computer for one of the following reasons:

- The System/36 processor was stopped with Alter/Display.
- An error message was generated on the System/36 and is waiting for a user response. Respond to the message and follow the recovery action that is described in "Restarting the System/36 Router" later in this chapter.
- The System/36 has a processor check. Wait for the system operator to restart the system, then follow the recovery action described in "Restarting the System/36 Router" later in this chapter.
- The System/36 is in a loop and must be canceled. Follow the recovery action described in "Terminating the System/36 Router" later in this chapter.
- The personal computer IBM Token-Ring Network router is in a loop and must be canceled. Follow the recovery action described in "Restarting Your Personal Computer" later in this chapter.
- There is a problem with the IBM Token-Ring Network. Refer to the *IBM Token-Ring Network PC Adapter Guide to Operations* and the *IBM Token-Ring Network Problem Determination Guide* to determine the cause of the network error.

Recovering from a Link Failure

You must restore the data link (connection between the personal computer and System/36) and restart the System/36 router. If you still have a problem do one of the following:

- If you are using 5250 Emulation:

  If your personal computer is locally attached to the System/36 (twinaxial cable), restore the twinaxial connection to your personal computer and respond to any messages that may be on the System/36 console. The Command or Sign On display should return. When the Command or Sign On display appears, follow the recovery action described under "Restarting the System/36 Router" later in this chapter.

  If your personal computer is remotely attached to the System/36 (5251 Model 12 Display Station, 5294 Control Unit, or Remote 5250 Emulation Feature), determine the cause of the communications failure and restore the remote connection. Ask the system operator to activate your work station and controller. The Command or Sign On display should return. When the Command or Sign On display appears, follow the recovery action described under "Restarting the System/36 Router" later in this chapter.

- If you are using the IBM Token-Ring Network:

  You must restore your link and restart the System/36 router.

  You must respond to any messages on the System/36 console. If the System/36 IBM Token-Ring router was stopped, it must be restarted. Follow the recovery action described in "Restarting the System/36 Router" later in this chapter.

  If no messages were on the System/36, then make sure that the IBM Token-Ring Network is functioning correctly. Refer to the *IBM Token-Ring Network PC Guide to Operations* and the *IBM Token-Ring Network Problem Determination Guide* for more information.

Terminating the System/36 Router

If you have determined that the System/36 router has an error from which recovery is not possible or is in a loop, then it must be ended and restarted. There are two ways to end the System/36 router. They are listed in the order in which they should be used (the most preferred first).

1. If you are in personal computer mode and your keyboard is active, enter the STOPRTR command at the DOS prompt. If there are virtual disk or virtual print sessions active, you will receive a message indicating that programs are still communicating with the router.

   If you still want to stop the System/36 router, press the Enter key to stop the active sessions. However, if you do this, and have virtual print files that are open, the data in those print files may be lost.

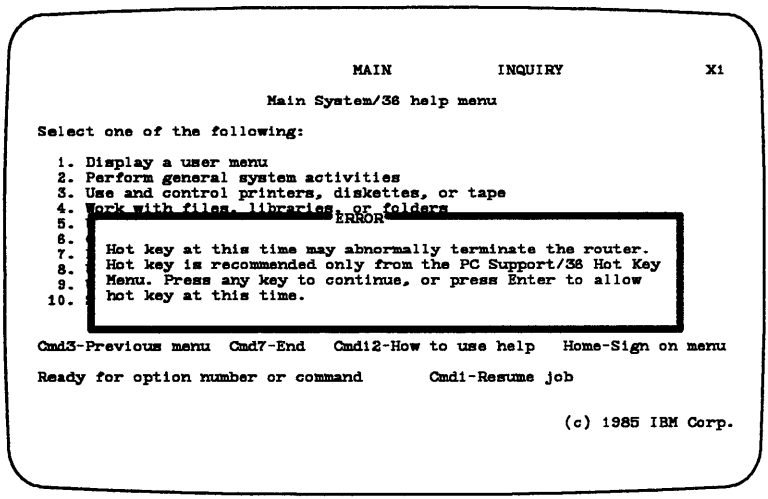
2. If you are using the 5250 Emulation communication link and you used the hot key to enter 5250 emulation mode, you can end the System/36 router as follows:

   a. Take option 1 on the Hot Key Menu.

   b. When the Inquiry options menu is displayed, take option 3 (Cancel job) and press the emulated Enter key.

   c. When the System/36 Command display appears, the router has successfully ended. You can leave the Command display active or you can sign off the System/36.

   d. Use the hot key sequence. The following window appears:



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e. Press the Enter key to remove the window.

f. Use the hot key sequence to get back into personal computer mode, and return to the DOS prompt if you are not already at the DOS prompt. If you are using the Enhanced 5250 Emulation Program, you may have to use the hot key twice to go to personal computer mode.

g. Enter the STOPRTR command from the DOS prompt. This notifies the personal computer router that the System/36 router has ended.

3. If you are using the IBM Token-Ring Network communication link you will need to ask the system operator to disable your personal computer. You must tell the system operator your personal computer location name (the TRLN entry in your PC Support/36 configuration file). Then enter the STOPRTR command from the DOS prompt. This lets the personal computer router know that the System/36 router has ended. For more information on terminating the System/36 IBM Token-Ring router see *Using System/36 Communications.*

4. If you are using the 5250 Emulation communication link ask the system operator to cancel the job for you. You must tell the system operator your work station identification or, if you do not know your work station identification, your user identification. Then enter the STOPRTR command from the DOS prompt. This notifies the personal computer router that the System/36 router has ended.

Now follow the recovery action described under "Restarting the System/36 Router" later in this chapter.

Restarting the System/36 Router

If Using Emulation

If you ended the System/36 router or it ended abnormally, you must restart it before you can run any virtual disk, virtual printer, transfer facility, or shared folders functions. If you have not already done so, you must enter the STOPRTR command from the DOS prompt to notify the personal computer router that the System/36 router has ended. You will receive an error message if there are any virtual disk, virtual printer, transfer facility sessions, or shared folders active. Take the Force option to this message to force these sessions inactive.

The personal computer router may then be restarted by entering the STARTRTR command from the DOS prompt. Any virtual disk, virtual printer, transfer facility, or shared folders sessions that were active must now be restarted before they can be used. Refer to the appropriate chapter in this manual for instructions on restarting these facilities. These programs were not aware that the router ended, they may send an error message indicating that contact with the System/36 ended when you attempt to restart them. This is normal. Simply try the operation again.

If Using IBM Token-Ring Network

If you ended the System/36 router or it ended abnormally, you must restart it before you can run any virtual disk, virtual printer, transfer facility, message facility, or shared folders functions. If you have not already done so, you must enter the STOPRTR command from the DOS prompt to notify the personal computer router that the System/36 router has ended. You will receive an error message if there are any virtual disk, virtual printer, transfer facility sessions, message facility, or shared folders active. Take the Force option to this message to force these sessions inactive.

To restart the System/36 router the System/36 operator must run the Enable procedure. Refer to the manual *Using System/36 Communications* for more information on the Enable procedure. The personal computer router may then be restarted by entering the STARTRTR command from the DOS prompt. Any virtual disk, virtual printer, transfer facility, message facility, or shared folders sessions that were active must now be restarted before they can be used. Refer to the appropriate chapter in this manual for instructions on restarting these facilities. These programs were not aware that the router ended, they may send an error message indicating that contact with the System/36 ended when you attempt to restart them. This is normal. Simply try the operation again.

Restarting Your Personal Computer

If you have encountered an error from which recovery is not possible or one of the PC Support/36 programs is in a loop, you must restart your personal computer. To restart the personal computer, press and hold the Alternate and Control keys, then press the Delete key. You can also restart your personal computer by powering it off for 5 seconds and then powering it back on.

If using emulation and the System/36 router is still running, restarting the personal computer causes the System/36 router to abnormally end.

If you are using the 5250 Emulation communication link, a message will be sent to the System/36 console. You must notify the System/36 system operator to respond to this message before you will be able to continue. However, if your System/36 is set up with automatic response capability, the message may be responded to automatically.

If you are using the IBM Token-Ring Network communication link, you may have to wait for several minutes for your connection to the IBM Token-Ring Network to timeout before you attempt to restart PC Support/36. If the System/36 Token-Ring router has terminated, it must be enabled again before you attempt to start the Token-Ring router. Refer to *Using System/36 Communications* for information on how to do this.

Once the personal computer is successfully restarted, you may run PC Support/36 programs again. Refer to the appropriate chapters in this manual for information about starting PC Support/36 programs.

LINK36.BAT Problems

Problem:

You received the message *Bad command or file name.*

Action:

The default drive and directory you specified must contain the LINK36 support programs. If the specified drive is a diskette drive, make sure that the correct diskette is in the drive.

Problem:

You received the message *5212 - 5250 Emulation is not running.*

Action:

You must start the 5250 Emulation Program before running LINK36.

Problem:

You received the message *5210 - Unable to start System/36 router.*

Action:

You must have the Sign On display or the command display available before you can start the router (make sure that you are not using a dedicated menu). If you are using a personal computer attached as the system console to a System/36 5364 System Unit, you must use the hot key sequence to enter 5250 emulation mode and sign on before you can start the router.

Problem:

You received the message *5412 - Cannot continue: VDSK not installed or not available*

Action:

You must restart your personal computer from the disk or diskette containing the LINK36 programs. VDSK.SYS and CONFIG.SYS with the DEVICE=VDSK.SYS entry must be in the root directory of the drive from which you are restarting the personal computer. If the virtual disk support was correctly installed when you restarted your personal computer, you should see the following message:

PC Support/36
Virtual Disk Device Driver
Version 4.00 (c) IBM Corp. 1987

If you are using a personal computer attached as the system console to a System/36 5364 System Unit, make sure that you have copied VDSK.SYS and CONFIG.SYS to the working PC DSKT 01 diskette or, if you already have a CONFIG.SYS file, copy the entry DEVICE=VDSK.SYS into your CONFIG.SYS file, then restart (IPL) your personal computer.

Problem:

You received the message *5416 - CONFIG.S36 could not be found.*

Action:

Make sure that the CONFIG.S36 file is in the default drive and directory.

Shared Folder Problems

Problem:

You received a message that your folder is going to be converted.

Warning: If you continue, your folder will be converted to the new Release 5 internal format and you will not be able to use it on a Release 4 system anymore. Make sure that you have backed up this folder in its Release 4 format before proceeding.

Action:

Copy this and all other folders in the Release 4 format and then convert all of them to the new Release 5 format.

Problem:

You have an error loading DisplayWrite 3 or DisplayWrite 4.

Action:

- Go to the Profile Options display and check the following prompts: Name of editor, Primary program path, and Alternate program path. To check the Name of editor prompt you key in PCEXEC and the value of the editor prompt. This should indicate the problem in executing the program. See if the primary and alternate program path point to where DisplayWrite 3 or DisplayWrite 4 can be found.

- Using the DOS command CHKDSK on your personal computer check to see if you have enough memory available. DisplayWrite 4 requires 340K bytes to load the program.

Problem:

You received a message that PCO.EXE is not active.

Action:

- Are you using a personal computer as your terminal? A personal computer is required.

- Is your emulation the proper version?

- Have you keyed STARTRTR or is it in your AUTOEXEC.BAT file?

- Is there an S2 on the right side of the bottom line on the display? If there is, you are executing in the second session.

Make the necessary changes and try the operation again.

Problem:

You are unable to load the emulator.

Action:

- Does the requested menu exist? The requested menu is specified in the System/36 user profile as the default menu or in CONFIG.S36 on HPRC MENU statement.

- Have you correctly identified the library containing the menu, if not #LIBRARY? Does the System/36 user profile have the library containing the menu or is there a HPRC SLIB entry in CONFIG.S36 on the personal computer?

Make the necessary corrections and try loading the emulator again.

Problem:

You cannot find a document.

Action:

- Are the parameters spelled correctly? If not, correct the spelling and retry the operation.

- Is the document stored in a folder? If you are using DisplayWrite 3 or DisplayWrite 4 in standalone mode, you may have stored the document in a folder or a virtual disk. If the document is stored in a virtual disk you can convert it to a folder using the PC Utility facility.

- Are you in the correct folder? You can find this out by either blanking the name parameter on the Work with Documents display which will give you a list of the folders on the system or, if you are running stand alone on the personal computer, enter FSPC ASSIGN X. After the command has completed, enter DIR and this will give you a list of the folders on the system.

- Are you in the proper subdirectory? On the Work with Documents display press the CMD14 key to see a list of the subdirectories at the current level. Selecting a subdirectory will return you to the Work with Documents display with a list of the documents in the subdirectory. If you are running standalone on the personal computer you will have to enter CHDIR followed by the name of the subdirectory and then enter DIR to see the list of documents in the subdirectory.

Problem:

You have an error when you try to enter DOS commands using PCEXEC from the HELP prompt.

Action:

Make sure you have single quotes around the DOS command. Retry the operation.

Problem:

The DOS command does not work.

Action:

Are you using a DOS command that is not supported by shared folders? Refer to Chapter 6, "Using the PC Support/36 Shared Folders Facility" for list of DOS commands not supported by shared folders.

Problem:

You cannot perform an operation on a folder because it is being used.

Action:

- If someone else is on a TEXTDOC screen using the desired shared folder, back out of TEXTDOC (work with documents/folder display).
- If someone else has issued an FSPC assigning a drive to the folder, enter an FSPC RELEASE of the drive assigned to the folder. Try to perform the operation again.

Problem:

There is a disk error on drive *n*.

Action:

Do the following:

1. At the System/36 console enter HELP CANCEL.
2. Select: Cancel Running Jobs.
3. Cancel both jobs running at Wx with the DUMP option.
4. Record the document name, folder name, and description of what you were doing.
5. Save the folder on diskette in noncompress mode.
6. Turn off the power to your personal computer. If you are using the IBM Token-Ring Network, wait 1.5 minutes and restart your personal computer. Try to access the document again.
7. Call your service representative.

Problem:

A document cannot be accessed.

Action:

Do the following:

1. Set DisplayWrite 3 or DisplayWrite 4 to a standalone environment.
2. Select the utility option.
3. Select the recovery option.

If this standalone procedure does not correct the problem, do the following:

- Enter an FSPC Release command to the drive assigned to the folder containing the document.
- Enter an FSPC Assign command to the drive, to reassign the folder to the drive.
- Repeat steps 1 through 3 of the DisplayWrite 3 or DisplayWrite 4 standalone procedure.

If the preceding procedure has not corrected the problem try the following:

- Turn off the power to your personal computer. If you are using the IBM Token-Ring Network, wait 1.5 minutes and restart your personal computer. Try to access the document again.
- Re-IPL the System/36 and try to access the document again.
- Call your service representative.

Glossary

A

access. A way or means of approach to a part or to data.

adapter. The part of a device or feature required to attach it to a processing unit.

address. The number assigned to a device or to a location in storage.

align. To bring into or be in line with another or with others. For example, to line up the numbers on the decimal point.

allocate. To assign a resource, such as a disk file or a diskette file, to perform a specific task.

alphabetic keys. The letter keys A through Z, blank, comma, period, and hyphen.

APAR. Acronym for Authorized Program Analysis Report. A request for correction of a defect in a current version of an IBM-supplied program.

application. A particular data processing task, such as an inventory control application or payroll.

application program. A program used to perform a particular data processing task such as payroll.

application program interface. A set of functions that can be accessed by an application program.

ASCII. American Standard Code for Information Interchange. A standard code using a coded character set consisting of 7-bit coded characters (8 bits including parity check), used for information interchange among data processing systems, data communications systems, and associated equipment. The IBM Personal Computer uses an extended version of ASCII.

asterisk. The character * used in printing or writing as a reference mark.

attribute. A characteristic; for example, attributes of a data file include record length (fixed-length or variable-length), file name, and creation date.

authorization. The process of giving a user either complete or restricted access.

authorize. To allow a user to communicate with or make use of an object, resource, or function.

AUTOEXEC.BAT file. A batch file that contains DOS commands or program names that are automatically executed immediately after DOS is started.

B

back space. To move back a position along a row.

back up. To copy information, usually onto a diskette for safekeeping.

BASIC. Acronym for Beginners All-Purpose Symbolic Instruction Code. A programming language developed for interactive systems.

batch file. A file containing one or more commands that DOS executes one at a time. All batch files must have the extension of .BAT.

binary. Pertaining to a numbering system with a base of 2. Valid digits are 0 (zero) and 1 (one).

buffer. A temporary storage unit that accepts data at one rate and delivers it at another rate.

byte. The amount of storage required to represent one character; a byte is 8 bits.

C

card. An adapter card that is installed in a computer to enable it to be connected to another device or to increase the size of the computer storage.

character codes. The ASCII or EBCDIC values assigned to the symbols or functions that are used by a computer.

character set. A set or style of alphabetic, numeric, and special characters that can be displayed or printed by a computer.

character string. A series of characters.

close a file. To remove a file from the program which is executing it. Contrast with *open a file.*

column. The character position within a print line or on a display. The positions are numbered from 1, by 1 starting at the leftmost character position and extending to the rightmost position.

command. A statement used to request a function of the system. A command consists of the command name, which identifies the requested function, and parameters.

command display. A display that allows a user to request a function of the system.

command key. A System/36 keyboard key that is used with the command control key (CMD) to request preassigned functions.

configuration. The group of machines, devices, and programs that make up a data processing system. See also *system configuration.*

configure. To connect the devices, work stations, programming, and the System/36 to each other by using addresses.

Control key. A keyboard key (Ctrl) that requests an action but does not display or print a character.

controller. A device used to coordinate and control the operation of one or more devices.

copyright. The exclusive right to reproduce, publish, and sell the matter and form of a material.

current transfer request. The transfer request you are working with. The transfer request remains the current transfer request until you create or recall another transfer request, or end the Transfer facility.

cursor. A movable symbol (usually a block) on the display used to indicate where to type the next character.

cursor location. The location on the display (row 1 through 25 and column 1 through 80), at which the cursor is located.

D

data. All information entered into or used by the computer.

data definition. Describes the contents and characteristics of a file.

data dictionary. Information that describes the organization of data on the System/36.

data stream. The sequence of characters being transmitted over a line.

default value. A value that is used when no other value is specified.

delete. To remove. For example, to erase a file.

device. The generic term for a piece of equipment or a mechanism; for example; the personal computer display or the personal computer attached printer.

device type. The number assigned to a unit or box in a system, such as 5150 (the IBM Personal Computer system unit).

DE5250. One of the controlling programs of the Enhanced 5250 Emulation Program. This program allows use of one or two display sessions.

DIF. Acronym for Data Interchange Format. A format that represents data in rows and columns.

digit. Any of the numbers from 0 through 9.

directory. DOS terminology for a list of the files that are contained on the diskette. A directory also contains information about the file (such as size and date of last revision).

directory drive. A personal computer drive assigned to one directory on the System/36. The directory can be a shared folder or a subdirectory within a shared folder.

disable. To prevent a unit of a data processing system from operating with the rest of the system.

display station. (1) A device that includes a keyboard from which the user can send information to the system and a display on which the user can see the information sent to or the information received from the system. (2) See also *work station.*

DOS. Disk Operating System. A program that works with the processing unit and the disk or diskette drive to control the flow of data.

double-precision number. A specification that causes a number to be stored in the long format (8 bytes).

download. To move data or programs from the System/36 to the personal computer.

DP5250. One of the controlling programs of the Enhanced 5250 Emulation Program. This program allows use of one or two display sessions or one display session and one printer session.

dump. To write the contents of storage, or of a part of storage, to an output device for debugging purposes.

E

EBCDIC. (1) An acronym for Extended Binary-Coded Decimal Interchange Code. A set of 256 eight-bit characters. (2) A set of standards for data transmission.

emulation mode. The mode of operation in which the personal computer is operated like a work station in an IBM 5250 Information Display System.

Emulation Program. This program, which allows you to imitate an IBM 5250 work station and use the functions of a host system.

emulator. A program or device that performs the functions of another program or device.

error code. A hexadecimal value that identifies a condition that interferes with normal operations.

error message. A displayed indication that an error was detected.

F

field. One or more characters of information (such as a name or an amount).

field definition. Describes each field in a record.

file. A collection of records of data that you create, group, and access by name.

file attribute. A characteristic of a file (for example, the length of records in a file).

file definition. Describes the contents and characteristics of a file. Also called data definition.

file description file. A personal computer file that contains information describing another personal computer data file. This information includes the name, data type, and length of each field and the format of the personal computer file. This information is used by the PC Support/36 Transfer facility when transferring data to the System/36.

filename. The name assigned to a file.

filename extension. A three-letter code that forms the second part of a DOS filename, and is separated from the filename by a period (.). Extensions have meanings to the programs, and are usually used to identify the type of the file.

Final form text. Text in a document that is in a fixed format and cannot be edited.

fixed disk. A non-removable disk medium used for mass storage of data.

fixed-length. A file attribute in which all of the records are the same length.

format. (1) (noun) The specific arrangement of information. (2) (verb) To prepare a diskette for use by initializing the diskette to a recording format acceptable by DOS.

function control keys. See *function keys.*

function keys. (1) Personal computer keys F1 through F10, whose functions are assigned by the operating system or application program. (2) A keyboard key that requests an action but does not display a character.

H

help text. A display aid that provides the operator with an explanation of a message that has been received or that allows an operator to request information on how to use a key, menu, or parameter.

hex. See *hexadecimal.*

hexadecimal. A numbering system with a base of 16. Valid digits range from 0 (zero) through 9 (nine) and A (ten) through F (fifteen).

home position. (1) The first input position of the first input field on the display. (2) The position (far left) to which the print head moves after the printer is turned on, after the Stop switch is pressed. (3) In a list or help window, the first item in the list or the first line of help text.

host system. (1) The System/36. (2) The primary or controlling system in a data communications configuration.

hot key sequence. A keying sequence that allows you to switch your personal computer between personal computer mode and System/36 mode.

I

IBM Token-Ring Network. The local area network designed to run on the IBM Cabling System.

IDDU. Acronym for interactive data definition utility.

identifier. A form character identifying the parameter in the configuration file that is used to describe the PC Support/36 environment.

inadvertent. By mistake, unintentional.

inhibited. Prevented from doing something.

initial program load (IPL). The process of loading the system programs and preparing the system to run jobs.

initialize. To prepare for use. For example, to format a diskette and to initialize registers, and/or program variables to the condition previously determined by a program.

input. Data to be processed.

input area. An area on the display in which an operator enters data. Input areas usually have a prompt before the input area, and are either blank or contain a default value.

insert mode. The mode of operation that allows characters to be placed between the characters already on the display when a character key is pressed. Characters are inserted at the location identified by the cursor.

integer. A positive or negative whole number or zero.

intensity. The level of brightness used to display the characters on the display.

interactive data definition utility. A part of SSP that allows you to use prompts from the display to define data.

interface. The machinery and programs that permit the exchange of information between computers or devices.

interrupt. A break in the normal sequence of instruction execution.

interrupt level. A path used to get the processing unit's immediate attention.

I/O. Input/output.

I/O address. See *device address.*

IPL. See *initial program load.*

J

join. To link together two to five System/36 files as if the data were all in one file.

K

K-byte. Kilobyte, which is 1024 bytes of information.

keyword. A symbol that identifies a parameter.

L

load. To move data or programs into storage.

local work station. A work station that is attached directly to the host system with twinaxial cable.

lowercase mode. The keyboard is in lowercase mode when the Shift keys are not pressed and the shift lock and shift toggle functions are unlocked and untoggled.

M

M-byte. Megabyte. 1,048,576 bytes of information.

machine check. An equipment error or failure.

memory. See *storage.*

message. A communication sent from one person or program to another person or program.

mode. A method of operation.

monitor. The device that is used to display information that is viewed by a computer operator.

monochrome. Made with a single color.

N

numeric. Refers to any of the numbers 0 through 9.

O

open a file. To associate a file with a program. Contrast with *close a file* .

operating system. A program that supervises the execution of user programs by the computer.

output device. A device used to receive information from a computer (for example, display, printer, or diskette).

override. To use in place of another.

P

packed decimal. A format in which a byte may contain 2 decimal digits or 1 decimal digit and a sign.

parameter. A value supplied to a program that is used as input or controls the actions of the program.

password. A code you must enter before you can access specific programs.

patch. To modify a disk or diskette sector by entering modifications from the keyboard.

PC. An IBM Personal Computer, IBM Personal Computer XT, IBM Portable Personal Computer, or IBM Personal Computer AT.

Personal Computer Technical Coordinator. The person who has personal computer expertise, responsibility for installation, and maintenance of personal computers. This person acts as a focal point for questions on the personal computer.

PC Support/36 Organizer. A part of PC Support/36 that allows you to access both personal computer and System/36 programs from a single menu.

PC Support/36 Pass-through. A part of PC Support/36 that allows PC Support/36 applications to pass through one system to another system via an APPC or APPN connection.

PC Support/36 Work Station Feature. A Licensed Program Product to support the IBM Personal Computer as a work station attached via IBM Token-Ring Network to a System/36.

PC utility. A utility provided through PC Support/36 that allows you to manage virtual disks, shared folders and documents on the System/36.

personal computer mode. The method of operation which allows the personal computer to perform independently of the host system when attached as an emulated 5250 work station.

print. To send output to a hard copy device (for example, a printer).

print file. A file created by the host system that is printed on your system.

printer. A device that provides printed output.

procedure. A set of related operation control language statements that cause a specific program or set of programs to be performed.

procedure command. A command that runs a procedure.

profile. Data file that describes the features of a user, program, or device. See also *5250 profile.*

program. A sequence of instructions for a computer.

program diskette. A diskette which contains programs to be executed on the personal computer. For example, the Enhanced 5250 Emulation Program Licensed Program Diskette.

prompt. A displayed request for information or operator action.

PTF. Acronym for program temporary fix. A temporary solution to or bypass of a defect in a current release.

R

record. A collection of related data treated as a unit.

record definition. Describes each record type in a file.

record type. The classification of records in a file.

recovery procedure. The action performed by the operator when an error message appears on the display.

register. A storage device having a specified storage capacity and usually intended for a special purpose.

remote display station. See *remote work station.*

remote work station. A work station that is attached directly or indirectly to the host system via some communication channel.

resource security. The control of access to, or use of, system resources (such as data or functions).

restart. To start again. You can restart your personal computer by powering it off and powering it back on again, or by pressing and holding the Control and Alternate keys, then pressing the Delete key. Often called IPL and boot.

return code. A value placed in the return code register at the completion of a program.

right adjust. To position a character(s) within a field to the rightmost position of the field.

root directory. The directory on a disk(ette) that contains the list of files stored on that disk(ette). If there is more than one directory on the disk(ette), the root directory can also contain the names of each of the other directories. This directory is established when the disk(ette) is formatted.

router. A set of PC Support/36 programs that run on the personal computer and the System/36 and manage communication between PC Support/36 facilities.

run. To perform a job.

S

save. To duplicate by transferring from internal storage to a diskette.

SAP. Service Access Point. A logical point in a system that provides a service for the system.

security. The control of access to, or use of, data or functions.

sequential file. A file in which records occur in the order in which they were entered.

session. (1) The period of time in which the host system and one of the devices are communicating. (2) The logical connection between the host system and a work station. The session may be established for a display station or for a printer.

shared folders. The portion of PC Support/36 that allows you to work with document folders on the System/36.

sign on (verb). To begin a session at a display station.

sign-on (noun). The action an operator uses at a display station in order to begin working at the display station.

sign-on display. The display that prompts the user to enter the appropriate sign-on command.

single-precision. A specification that causes a number to be stored in the short format (4 bytes).

source member. A member that contains information in the form in which it was entered.

special character. A character other than an alphabetic or numeric character (for example, *, %, or @).

SSP. Acronym for System Support Program Product. A group of programs that manage the running of other programs and the operation of associated devices on the System/36.

status indicator. The 25th (or bottom) row on the display of the personal computer, which is used to display the condition of the session.

storage. The devices used to store data within a computer.

syntax. The rules for the construction of a statement.

system. A computer, its devices, and programs.

system console. An I/O device from which you can keep track of and control system operation.

system drive. A personal computer drive assigned to a System/36. All directories (shared folders and subdirectories) can be accessed from this drive.

system operator. A person who uses a display station, which is designated as the system device to activate certain system functions and control and monitor system operation.

system reset. The pressing and holding of the Alt and Ctrl keys, then the pressing of the Del key. This causes the boot record to be read into storage and given control.

system unit. The part of the personal computer that contains the processing unit.

T

table. A list of data in which each item can be uniquely identified.

template. A pattern to help the user identify the location of keys on a keyboard.

terminate. Brought to an end.

termination. The end or the act of ending.

TOKREUI. IBM Token-Ring Network User Interface program. The program required to run the IBM Token-Ring Network.

transfer facility. A portion of PC Support/36 that allows you to transfer data to the personal computer from the System/36, or to the System/36 from the personal computer.

transfer request. A description of the file you want to transfer to or from the System/36.

translation table utility. The portion of PC Support/36 that allows you to create or change the translation tables used by PC Support/36.

truncate. To shorten a field to a specified length.

twinaxial cable. A cable made of two wires inside a shield.

U

update. To modify with information.

uppercase. Capital letters.

uppercase mode. The method of operation that causes alphabetic characters to be displayed as capital letters and all other keys in the typewriter area, when pressed, to be displayed as the character shown on the upper portion of these keys.

user identification. A unique string of characters that identify a user to the system. This string of characters limits the functions and information that the user is allowed to use.

V

variable-length. A file attribute in which all of the records are not of the same length.

virtual disk. A portion of a disk attached to the host system that is used to simulate a personal computer disk. A virtual disk has a capacity of up to 32 megabytes.

virtual disk drive. The concept of a simulated personal computer disk or diskette drive.

virtual disk facility. The portion of PC Support/36 that allows you to use storage on the System/36 as though it was actually personal computer storage on a personal computer fixed disk.

virtual printer. A System/36 printer being used from a personal computer as though it were a personal computer printer.

virtual printer facility. The portion of PC Support/36 that allows you to use one or more System/36 printers as though they were personal computer printers.

W

window. An area that overlays a portion of the display that is used to show additional information.

work station. An input/output device consisting of a display station and/or printer that allows you to send and receive information from a host system.

work station address. The address assigned to a work station which enables the host system to communicate with it.

Z

zoned decimal. A format in which a byte may contain a single decimal digit in one byte or a single decimal digit and a sign in one byte.

5250 profile. A table of attributes containing session numbers, device types, keyboard selection, mode selection, virtual diskette drive names, virtual diskette drive override flag, I/O address assignments, on-card address assignments, and an interrupt level.

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