The
PC Connection
Manual

Revision B

NOTICE

Every attempt has been made to make this manual complete, accurate, and up-to-date; however, all information herein is subject to change due to updates. All inquiries concerning this manual should be directed to POINT 4 Data Corporation.

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REVISION RECORD

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LIST OF EFFECTIVE PAGES

Changes, additions, and deletions to information in this manual are indicated by vertical bars in the margins or by a dot near the page number if the entire page is affected. A vertical bar by the page number indicates pagination rather than content has changed. The effective revision for each page is shown below.

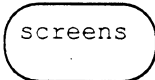| Page	Rev	Page	Rev	Page	Rev
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PREFACE

This manual is designed for users of a computer system operating under IRIS who intend to use their Personal Computer (PC) to access the IRIS system. It assumes that the user is familiar with both the PC DOS and the IRIS Operating Systems.

The manual describes hardware and software requirements, setup, and operational procedures for the PC Connection. Other documentation regarding the PC, PC DOS, POINT 4 Computer Systems, WS100 terminal, and IRIS is referenced as required.

A Glossary containing many of the technical terms used in this manual can be found in Appendix A.

Standard Writing Conventions

The following standard writing conventions are used in this manual:

<RETURN>	Angle brackets around any word refer to a specific key on the keyboard. ·
<CTRL-X>	Indicates that the control key and an alpha or a function key must be pressed (where X is any alpha or function key).
screens	Text which is displayed on your terminal's screen is printed within a round-cornered box.
"enter"	The word "enter" means type the appropriate text on the keyboard, then press <RETURN>.

Related Manuals

Information regarding the operation of the PC Connection is contained in this manual. For information specific to the PC or IRIS, the following documents should be consulted:

Title	Pub. Number
IRIS R8 Installation and Configuration Manual	SM-030-0009
IRIS R8 User Manual	SM-030-0011
Tech Memo: Special Features of the WS100 Terminal	
Lear Siegler's ADM11 Video Display User's Reference Manual	
IBM Disk Operating System Reference Manual	

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Section 1
INTRODUCTION TO THE POINT 4 PC CONNECTION

1.1 INTRODUCTION

The PC Connection is a software package that links an IBM, or IBM-compatible, personal computer (PC) to IRIS, the multi-user business system developed by POINT 4 Data Corporation.

The PC Connection allows the PC terminal to emulate a POINT 4 WS100 terminal, with or without the protected fields option, enabling the user to gain access to the many program applications and large storage capacities IRIS provides. The PC can still be used as an independent PC terminal operating under DOS and utilizing the wide variety of PC applications available.

The PC Connection gives the user the ability to move instantly from one system to the other without having to switch terminals. When the user switches from one system to the other, the program being left is paused so that the user can later return to the exact point of departure.

The PC Connection is controlled by a central program that offers the user selections from a Main Menu. The selections allow the user to transfer files between IRIS and the PC, as well as access either the DOS or IRIS operating systems.

With the PC Connection, files from the PC may be centrally stored in IRIS and accessed by other authorized terminals. The PC Connection has a special locking feature that allows the user to protect files from unauthorized access.

In addition, IRIS text files may be stored on a PC diskette providing a convenient method for their transportation.

1.2 HARDWARE REQUIREMENTS

With the addition of the hardware listed below, the PC Connection can operate on any functioning IBM, or IBM-compatible, PC with either a monochromatic or color monitor.

1.2.1 Pico-N

The existing Pico-N security device that is attached to the IRIS system hardware must be enabled by POINT 4 Data Corporation for the PC Connection.

1.2.2 Communications Board

An IBM asynchronous communications board, or compatible product, must be installed in the PC. Refer to the manufacturer's directions for installation instructions and specifications.

1.2.3 RS232 Cable

An RS232 cable which connects the PC to IRIS must be plugged into the communications board on the PC and to the POINT 4 MIGHTY MUX or MARK 3 Multiplexer on the IRIS System. The pin connectors on the RS232 cable must be wired as follows:

POINT 4 MIGHTY MUX			**MARK 3 MUX**	
	POINT 4			MARK 3
PC	310 MUX		PC	MUX
2 ——————> 2			2 ——————> 4	
3 <—————— 3			3 <—————— 1	
7 —————— 7			7 —————— 6	
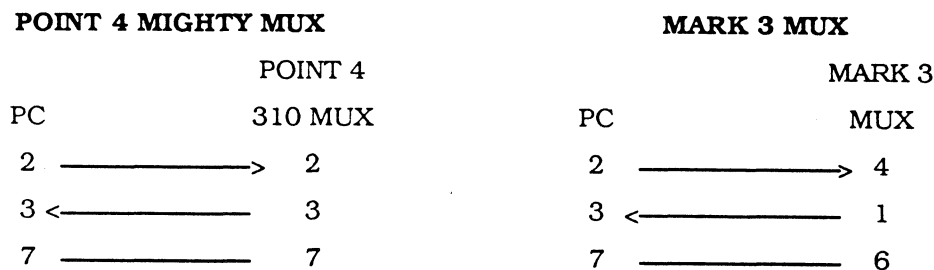
1.2.4 Modem

To establish a remote connection between the PC and IRIS, modems linking the RS232 cable and the telephone line are required at each end of the connection. Refer to the manufacturer's directions for specific installation information.

1.3 SOFTWARE REQUIREMENTS

The software required for the PC Connection is described below:

- MS DOS or PC DOS 1.0 or later

- IRIS R8.2B or later

- IRIS WS100 Terminal Translation Module (TERM.WS100)

    The WS100 Terminal Translation Module allows IRIS to communicate with a WS100 terminal, the terminal emulated by the PC in the PC Connection.

    For information on enabling the IRIS WS100 Terminal Translation Module (TERM.WS100), refer to the *IRIS R8 Installation and Configuration Manual.*

1.3.1 The PC Connection Software

The PC Connection software is delivered on a diskette for the PC side of the connection, and on a variety of media for IRIS (e.g., streamer tape, cassette tape, or disk pack). The following programs or files are included in the software package:

Program/File	Purpose	Location
WS100.COM (WS100)	The WS100 terminal emulator program. Intercepts the <CTRL-F1> signal and either emulates a WS100 terminal under IRIS or allows the user to work on standard PC applications.	PC (diskette)
PC2IRIS.EXE (PC2IRIS)	Program that controls file transmission. Allows user to transfer files between IRIS and the PC. Prompts the user for the information necessary to send and receive files.	PC (diskette)
NOTE A PC filename may have a filename extension which starts with a period and is followed by 1-3 characters. It is not necessary to enter the filename extension when executing the program.		
IRIS-SET.UP*	The file that contains the parameters established by the IRIS System Manager for the following features: • Number of IRIS systems to be connected to the PC • Name of each IRIS system • Baud rate of each IRIS system • Character length and parity of each IRIS system • Sign-on sequence for each IRIS system • Setup Password	PC (diskette)
AUTOEXEC.BATT**	File that includes the three commands necessary to start up the PC Connection automatically.	PC (diskette)
FILE.SERVE	Program that assists in file transmission. Responds to directions from PC2IRIS to transmit and receive files.	IRIS (various media)
PCUTILITY***	Program that allows the IRIS system manager to examine and lock or unlock files store . under IRIS.	IRIS (various media)
* Refer to the topic Setup in Section 3 ** Refer to the topic System Preparation - PC in Section 2 *** Refer to the topic The PCUTILITY Program in Section 3		

Section 2
SYSTEM PREPARATION AND STARTUP

2.1 HARDWARE INSTALLATION

The hardware required for the PC Connection must be installed according to the manufacturer's directions.

Figure 2-1 illustrates a typical local installation and Figure 2-2 depicts a typical remote installation.
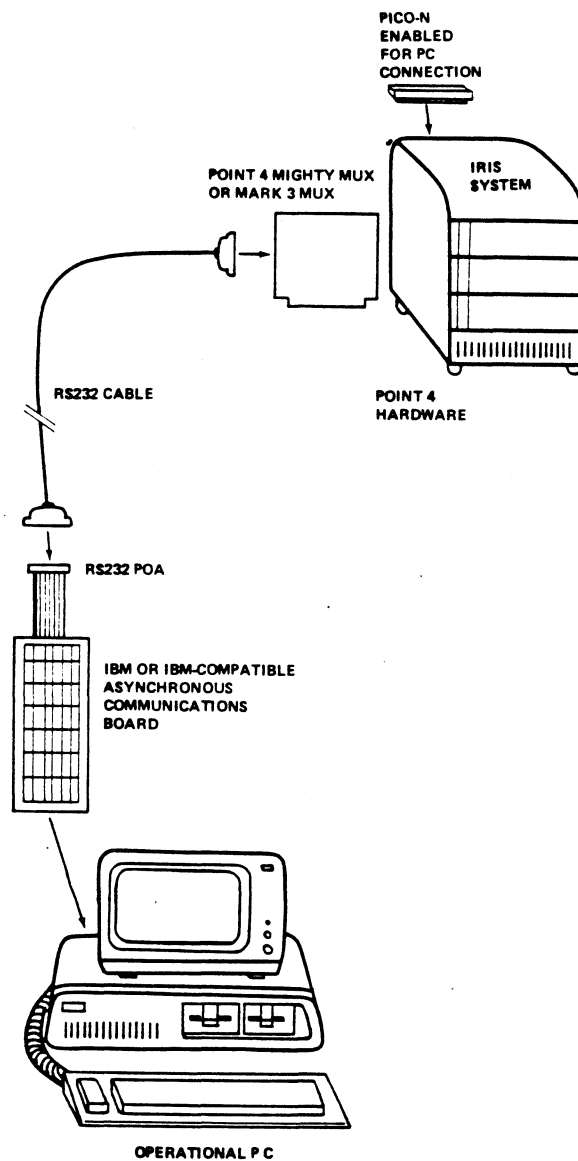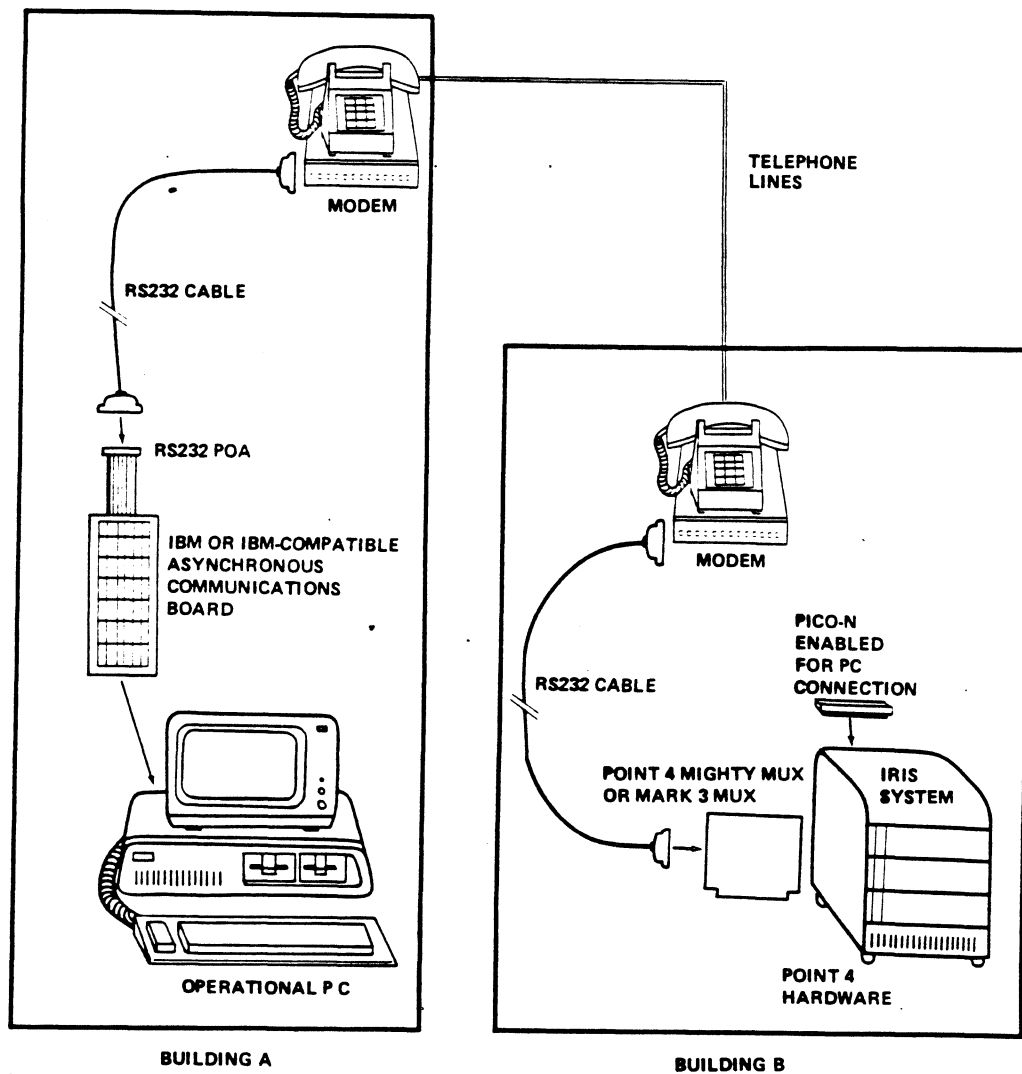

Figure 2-1. PC Connection Hardware Installation for a Local Connection

Figure 2-2. PC Connection Hardware Installation for a Remote Connection

2.2 SYSTEM PREPARATION – IRIS

Three steps are required to prepare IRIS for PC Connection operation as described in the following subsections.

2.2.1 Transfer PC Connection Files onto IRIS Disk

When transferring the PC Connection files from the delivery media onto the IRIS disk, the procedures below must be followed:

- Use the appropriate streaming tape, cassette, or disk utility to transfer the files onto a spare logical unit on the IRIS disk. (Refer to the *IRIS R8 Installation and Configuration Manual* for further information.)

- Initial Program Load (IPL) the IRIS system and verify that the WS100 Terminal Translation Module (TERM.WS100) is enabled.

- Install all logical units.

NOTE

It may be necessary to change the spare logical unit number pre-assigned by POINT 4 Data Corporation on the PC Connection Software if it conflicts with existing logical unit numbers on the system.

2.2.2 Copy FILE.SERVE onto IRIS Logical Unit(s)

The PC2IRIS program on the PC works with the FILE.SERVE program under IRIS during file transmission. Therefore, the FILE.SERVE program must be accessible to PC2IRIS.

When file transmission is run, IRIS first looks for FILE.SERVE on logical unit zero. If FILE.SERVE is not found there, the system default logical unit is searched. If still not found, IRIS searches the assigned logical unit. For file transmission to operate, FILE.SERVE must be copied from the spare logical unit onto the logical unit of each PC user accessing IRIS. As an alternative, FILE.SERVE may be copied onto the system default logical unit, in which case all accounts in the system are able to access FILE.SERVE.

Refer to the *IRIS R8 User Manual* for further information on copying programs.

2.2.2.1 SET PROTECTION LEVELS AND CHARGES

When copying FILE.SERVE onto the logical unit(s), the IRIS System Manager can set appropriate protection levels to limit unauthorized use, and enter any charges associated with the use of IRIS files.

Refer to the *IRIS R8 User Manual* for specific information and instructions regarding the setting of protection levels and charges.

NOTE

The IRIS System Manager should also verify that a sufficient number of disk blocks have been allotted to either the default or assigned logical units. Disk blocks can be added using the Manager's function ACCOUNTUTILITY described in the *IRIS R8 Installation and Configuration Manual.*

2.2.3 Copy PCUTILITY Onto System Manager's Account

The PCUTILITY program allows the IRIS System Manager to examine and change the locked or unlocked status of files stored by PC users under IRIS. Therefore, PCUTILITY should be copied <u>only</u> onto the System Manager's account.

Refer to the *IRIS R8 User Manual* for information regarding the copying of programs onto specific accounts.

2.3 SYSTEM PREPARATION - PC

The following preparations can be made at the user's discretion in setting up the most convenient arrangements at the PC.

2.3.1 Make a Copy of the PC Connection Software

It is recommended that the user make a copy of the PC Connection software diskette so that the original can be stored for safekeeping. Refer to the *IBM Disk Operating System Reference Manual* for instructions on copying the diskette.

2.3.2 The PC Connection AUTOEXEC.BAT File

The AUTOEXEC.BAT file is a special batch file. When DOS is started or re-started, the command processor in the PC searches for the AUTOEXEC.BAT file. If the file is present on the DOS diskette, DOS automatically executes the file whenever DOS is started.

The PC Connection AUTOEXEC.BAT file is supplied by POINT 4 Data Corporation on the PC Connection diskette and contains the three commands necessary to automatically start up the PC Connection. Alternatively, these commands may be entered manually from the keyboard. Each command is described below.

MODE COM1:9600 - initializes Communications Port One to operate at a rate of 9600 baud.*

   WS100.COM - loads the WS100.COM program into memory so that the PC can emulate a WS100 terminal.

   PC2IRIS.EXE - loads the PC2IRIS.EXE program into memory so that files can be transferred between the PC and IRIS. This program displays the PC Connection Main Menu.

* This rate is pre-set by POINT 4 for local transmission. For remote communication, this rate should be adjusted to one that is appropriate for the modem to be used. Refer to the manufacturer's directions for appropriate baud rates.

The user has three alternatives regarding the use of the PC Connection AUTOEXEC.BAT file:

- Copying the AUTOEXEC.BAT file onto the DOS diskette, in which case the PC Connection starts up automatically each time PC DOS is started. When copied onto the DOS diskette, the new AUTOEXEC.BAT file overwrites any existing AUTOEXEC.BAT file. Refer to the *IBM Disk Operating System User's Manual* for further information.

- Incorporating one or more of the PC Connection AUTOEXEC.BAT commands into the existing AUTOEXEC.BAT file. (Refer to the *IBM Disk Operating System Reference Manual* for instructions on editing an AUTOEXEC.BAT file.)

- Avoiding use of the PC Connection AUTOEXEC.BAT file and entering each command from the keyboard to start up the PC Connection.

2.3.3 Combine PC Connection Software and PC DOS on the PC Disk

Two workable methods for combining the PC Connection and PC DOS are:

- Copying PC DOS onto the PC Connection Software diskette.

- Copying the PC Connection files onto the PC DOS diskette or hard disk.

Refer to the *IBM Disk Operating System Reference Manual* for other alternatives.

2.4 STARTUP

To start up the PC Connection, the procedures described below must be followed. The user has the option of entering each command from the keyboard or including it in the AUTOEXEC.BAT file (refer to Section 2.3.2, PC Connection AUTOEXEC.BAT File).

- Initialize Port 1 of the Communications board by entering MODE COM1: and the appropriate baud rate. For example,

```
     MODE COM1:9600
```

- Load WS100.COM into PC memory. Once WS100.COM is loaded, the user can utilize <CTRL-F1> which allows the PC to emulate a WS100 terminal and access IRIS software applications. WS100.COM requires 8 kilobytes of memory and remains in memory until the DOS system is reloaded.

CAUTION

Once completed, the process of loading WS100.COM into memory
should not be repeated until DOS is reloaded. Each repeated load
uses another 8K of memory.

- Load PC2IRIS.EXE. Once PC2IRIS.EXE is loaded, the Main Menu is displayed and the user is able to transfer files between the PC and IRIS. It is not necessary to enter the filename extension (.EXE).

Section 3
PC CONNECTION OPERATION

3.1 ALTERNATING BETWEEN DOS AND IRIS OPERATIONS - CTRL-F1

In order to switch between IRIS and DOS operations, the user simply presses <CTRL-F1>. When the user switches from one system to the other, the program being left is paused so that the user can later return to the point of departure.

3.2 PC CONNECTION PROGRAMMABLE FUNCTION KEYS

The function keys described below are used when operating the PC Connection. If the PC keyboard is not equipped with these keys, alternate keys, as shown below, can be used.

Key	Alternate Key	Function
<F1>	<CTRL-C>	EXIT - Used to abort the current operation and return to the Main Menu. EXIT should be used only when the user wishes to stop in the middle of an operation and return to the Main Menu.
<F3>	<CTRL-]>	HELP - Used to display a help box which briefly describes the correct procedure or entry for the current option or prompt. HELP is available only on the screens associated with the GET, SND and SET options. When no help is available, the terminal bleeps.
<F4>	<CTRL-_>	DONE - Used to tell the system that an entry is complete or to enter the default parameters.

3.3 USING THE PC CONNECTION MAIN MENU

The PC Connection Main Menu provides the user with a set of options related to the transmission of files between IRIS and the PC.

To display the Main Menu, the user enters the program name, PC2IRIS, at the PC > prompt; the Main Menu is then displayed. To return to the Main Menu from one of its options, the user presses <F1> (EXIT) or its alternate key, <CTRL-C>.

The five options contained in the Main Menu are LOC (Local PC application), GET (Get a file from IRIS), SND (Send a file to IRIS), REM (Connect to Remote IRIS) and SET (Setup).

The GET and SND options enable the user to transfer files between the PC and IRIS. LOC and REM are used to terminate the file transmission process and exit to DOS or an IRIS application. Using <CTRL-F1> does not terminate the file transmission programs PC2IRIS and FILE.SERVE.

SET is the last option in the Main Menu. It allows the IRIS System Manager to establish the parameters necessary for file transmission.

For more specific information on the use of each option, refer to Section 3.4, File Transmission Functions of the Main Menu.

3.3.1 Using Arrow Keys to Make Menu Selections

The keys described below are used to position the cursor at the desired selection on the Main Menu. If the PC keyboard is not equipped with arrow keys, alternate keys, as shown below, can be used. Once the cursor is positioned at the desired selection, it is accepted by pressing <RETURN>.

Key	Alternate Key	Function
< ↑ >	<CTRL-K>	Moves the cursor up one line or to the previous prompt.
< → >	<CTRL-L>	Moves the cursor one character to the right.
< ← >	<CTRL-M>	Moves the cursor one character to the left.
< ↓ >	<CTRL-J>	Moves the cursor down one line or to the next prompt.

3.3.2 Using Mnemonics to Make Menu Selections

To make a selection from the Main Menu, the user may also enter the mnemonic (the three-character abbreviation) of the desired option at the Select line.

The mnemonic of each selection is listed in the left-hand column of the Main Menu.

3.3.3 Error Messages

When an invalid command or response is entered, the terminal bleeps and an error message is displayed at the bottom of the screen. PC-related error messages may contain a standard two-digit error code which can be referenced in a PC or MS DOS BASIC Manual. All other error messages are self-explanatory.

3.4 FILE TRANSMISSION FUNCTIONS OF THE MAIN MENU

The PC Connection Main Menu displays the following options:

```
PC Connection - Main Menu                                    P00/nnn



            LOC    Local (PC) Application

            GET    Get a file from IRIS

            SND    Send a file to IRIS

            REM    Connect to Remote IRIS

            SET    Setup

                   Select:


     Copyright 1983, 1984 POINT 4 Data Corporation
```

Each option is described in the following sections.

3.4.1 LOC - Local Mode

The selection of Local Mode returns the user to DOS and terminates the file transmission software (FILE.SERVE) in IRIS.

3.4.2 GET - Get a File From IRIS

GET allows the user to transfer a file from IRIS to the PC where it is then written to disk. When GET is selected, a second screen, which is displayed on the next page, prompts the user for information regarding the file.

The following keys may be pressed at any prompt:

<F1> EXIT - to exit the GET option and return to the Main Menu

<F3> HELP - to display a help box

<F4> DONE - to accept the entries and/or defaults and start file transmission

Before a file transmission session is initiated with the GET or SND option, any program that is currently being run on the PC's IRIS port should be terminated by the PC user in the appropriate manner. At the beginning of a file transmission session, PC2IRIS attempts to abort a program (if any), log off and automatically sign-on to IRIS using the sign-on sequence specified in the Setup file (or in the IRIS account supplied by the user), and initiate the IRIS FILE.SERVE transmission program. Once FILE.SERVE is running, it will continue until either the LOC or REM option is executed, or until it is manually terminated (see Section 3.6, Manual Exit from FILE.SERVE). For more information regarding the sign-on sequence, refer to Section 3.4.6, SET - Setup.

The data in the file is translated into PC format during transmission. Refer to Appendix B for information on this translation.

CAUTION

<CTRL-F1> should not be used during file transmission between
IRIS and the PC. Its use may cause transmission errors that could
result in unexpected termination.

```
┌─────────────────────────────────────────────────────────────────────┐
│                                                                       │
│    PC Connection - Get a file                              P01/nnn    │
│                                                                       │
│                                                                       │
│              IRIS SYSTEM:                                             │
│                                                                       │
│          IRIS Account ID:                                             │
│                                                                       │
│           IRIS file name:  _                                          │
│                                                                       │
│         Unlock IRIS file:  No                                         │
│                                                                       │
│             PC file name:                                             │
│                                                                       │
│      File exists, Replace:  No                                        │
│                                                                       │
└─────────────────────────────────────────────────────────────────────┘
```

Each prompt from the GET screen is described in the following paragraphs:

IRIS SYSTEM - Bypassed if the number of systems specified in the Setup file is one. If more than one system is specified in Setup, enter the name of the desired system. Multiple systems are not currently supported.

IRIS ACCOUNT ID - Enter a valid IRIS Account ID. This prompt is bypassed if an automatic sign-on sequence is specified in the Setup file. If the sign-on is unsuccessful, the system prompts the user for a valid IRIS Account ID. (For more information regarding the sign-on sequence, refer to Section 3.4.6, SET - Setup.)

IRIS FILE NAME - Enter the name of the file to be transmitted which must be a valid IRIS filename. If a batch of files is to be transmitted, enter a greater-than (>) sign. Refer to Section 3.5, Transferring Multiple Files Between the PC and IRIS, for more information on transmitting multiple files.

UNLOCK IRIS FILE - The PC Connection software allows files to be protected against users of other IRIS ports by preventing access to (i.e., locking) the file or by limiting access to Read Only. The user must enter one of the responses listed below or press <RETURN> to accept the system default which is the response displayed on the screen.

The PC Connection software uses this response to update the file status in the descriptor line (if any) of the file.

N - Leaves current status intact.

Y - Sets the file's status to unlocked, provided it was locked from the same port.

R - Sets the file's status to Read Only, allowing other users to access but not update the file.

PC FILE NAME - The file being transferred from IRIS must be given a filename which is valid under PC DOS.

If a batch of files is to be transmitted from IRIS, enter the name of the transmission list file. Refer to Section 3.5, Transferring Multiple Files Between the PC and IRIS, for more information on sending such a file.

FILE EXISTS, REPLACE - If an existing file is to be overwritten, enter YES. If this is a new file, enter N or <RETURN>; this instructs the system not to overwrite a file of the same name if one exists. In the event a file of the same name is found, transmission is aborted and the user is given the option to change this response if the file can be overwritten.

When all responses have been entered or <F4> is pressed to accept the data displayed, file transmission begins. During file transmission, a message similar to the following is displayed:

```
    Logging on to IRIS system, SYS 1, please wait...
```

where SYS 1 is the name assigned to Port 1 in the Setup file.

During transmission of the file, a message similar to the following is displayed:

```
    Transferring Ifile from IRIS to Pfile on the PC          nnn
```

where nnn is a byte counter indicating the transfer's progress.

When transmission is completed successfully, the system displays:

```
    Transfer complete...no errors.
```

The cursor repositions to the IRIS Filename prompt. The user may then enter the name of another file to be transferred. If no other transmission is required, the user presses <F1> (EXIT) to return to the Main Menu. The IRIS port will continue to run the file transmission program, FILE.SERVE, until either the LOC or REM option is selected.

CAUTION

Using <CTRL-F1> to return to DOS or IRIS does not terminate file transmission. The LOC or REM options must be used.

3.4.3 Log-On Failure

If a log-on failure occurs when attempting to transmit files with GET or SND, one of the conditions given below is preventing the PC from automatically logging on to IRIS.

The cursor is then repositioned at the IRIS Account ID prompt and the user has the option of exiting the function by pressing <F1> or following one of the procedures listed below to complete file transmission.

CONDITION: A program is running in IRIS that couldn't be interrupted with the <CTRL-Y><ESC> sequence.

PROCEDURE: Press <CTRL-F1> to switch to IRIS.

Exit the IRIS application that is running and sign off the IRIS system.

Press <CTRL-F1> to switch back to the PC.

Continue the file transmission procedure.

CONDITION: The sign-on sequence specified in the Setup file is invalid or missing.

PROCEDURE: Enter a valid IRIS Account ID, which overrides the Setup file.

Press <F4> to continue.

If necessary, contact the IRIS System Manager to adjust the sign-on sequence in the Setup file.

CONDITION: The PC Connection is unable to start up FILE.SERVE in IRIS.

PROCEDURE: Ask the IRIS System Manager to verify that FILE.SERVE has been copied onto the proper logical units. (For additional Information, refer to Section 2.2.2, Copy FILE.SERVE onto IRIS Logical Units.)

3.4.4 SND - Send a File to IRIS

SND allows the user to transfer a file from the PC to IRIS. When SND is selected, a second screen, which is displayed on the next page, prompts the user for information regarding the file to be sent.

The following keys may be pressed at any prompt:

<F1> EXIT   -   to exit the SND option and return to the Main Menu

<F3> HELP   -   to display a help box

<F4> DONE   -   to accept the entries and/or defaults and start file transmission

Before a file transmission session is initiated with the GET or SND option, any program that is currently being run on the PC's IRIS port should be terminated by the PC user in the appropriate manner. At the beginning of a file transmission session, PC2IRIS attempts to abort a program (if any), log off and automatically sign-on to IRIS using the sign-on sequence specified in the Setup file (or in the IRIS account supplied by the user), and initiate the IRIS FILE.SERVE transmission program. Once FILE.SERVE is running, it will continue until either the LOC or REM option is executed, or until it is manually terminated (see Section 3.6, Manual Exit from FILE.SERVE). For more information regarding the sign-on sequence, refer to Section 3.4.6, SET - Setup.

The data in the file is translated into IRIS format during transmission. Refer to Appendix B for information on·this translation.

CAUTION

<CTRL-F1> should not be used during file transmission between
IRIS and the PC. Its use may cause transmission errors that could
result in unexpected termination.

```
   PC Connection - Get a file                                    P02/nnn



            IRIS SYSTEM:

         IRIS Account ID:    .

         IRIS file name:    _____

         Lock IRIS file:  Yes

          PC file name:

    File exists, Replace:  No
```

Each prompt from the SND screen is described in the following paragraphs:

IRIS SYSTEM - Bypassed if the number of systems specified in the Setup file is one. If more than one system is specified in Setup, enter the name of the desired system. Multiple systems are not currently supported.

IRIS ACCOUNT ID - Enter a valid IRIS Account ID. This prompt is bypassed if an automatic sign-on sequence is specified in the Setup file. If the sign-on is unsuccessful, the system prompts the user for a valid IRIS Account ID. (For more information regarding the sign-on sequence, refer to Section 3.4.6, SET - Setup.)

IRIS FILE NAME - Enter the name of the file to receive the transmission. This must be a valid IRIS filename. If a batch of files is to be transmitted, enter a greater-than (>) sign. Refer to Section 3.5, Transferring Multiple Files Between the PC and IRIS, for more information on transmitting multiple files.

LOCK IRIS FILE - Enter one of the file status responses shown below or press <RETURN> to accept the default.

Y - Sets the file's status to locked, which prevents access by users on other ports until it is unlocked from the same port or accessed by the System Manager via the PCUTILITY program (refer to Section 3.5.1, The PCUTILITY Program). In addition, the default IRIS file protection applies.

N - Sets the file's status to unlocked.

R - Sets the file's status to Read Only, allowing access but no updating by users of other ports. .

PC FILE NAME - Enter the name of the PC file to be transmitted. If a batch of files is to be transmitted to IRIS, enter the name of the transmission list file. Refer to Section 3.6, Transferring Multiple Files Between the PC and IRIS, for information on sending such a file.

FILE EXISTS, REPLACE - If an existing file is to be overwritten, enter YES. If this is a new file, enter N or <RETURN>; this instructs the system not to overwrite a file of the same name if one exists. In the event a file of the same name is found, transmission is aborted and the user is given the option to change this response if the file can be overwritten.

When all responses have been entered or <F4> is pressed to accept the data displayed, file transmission begins. If this is the first file transmission executed, a message similar to the following is displayed:

```
Logging on to IRIS system, SYS 1, please wait...
```

where SYS 1 is the name assigned to Port 1 in the Setup file.

During transmission of the file, a message similar to the following is displayed:

```
Transferring PC file Pfile to Ifile on IRIS                nnn
```

where nnn is a byte counter indicating the transfer's progress.

When transmission is completed successfully, the system displays:

```
Transfer complete...no errors.
```

The cursor repositions to the IRIS filename prompt. The user may then enter the name of another file to be transferred. If no other transmission is required, the user presses <F1> (EXIT) to return to the Main Menu. The IRIS port will continue to run the file transmission program, FILE.SERVE, until either the LOC or REM option is selected.

3.4.5 REM - Remote Mode

The selection of Remote Mode allows the user to operate the PC as an IRIS terminal. REM terminates the file transmission program, FILE.SERVE, in IRIS and returns the PC system to DOS.

When REM is selected, the following message is displayed:

```
Press <CTRL-F1> for IRIS
```

Using REM and then pressing <CTRL-F1> does not automatically log the system onto IRIS. Depending upon how IRIS was being used before REM was selected, the user may have to log on from the keyboard.

3.4.6 SET - Setup

The Setup option allows the IRIS System Manager to select and initialize the following PC Connection parameters that are used when transferring files:

- Number of IRIS systems to be connected to a PC
- Name of each IRIS system
- Baud rate
- Character length and parity
- Sign-on sequence for each IRIS system
- Setup password

These parameters are stored in the IRIS-SET.UP file on the PC disk. They define the characteristics of the PC port being used for transmission and the sign-on sequence which will be invoked automatically at the start of a file transmission session.

3.4.6.1 SETUP PROCEDURES

A help box may be displayed at any prompt during setup by pressing <F3> (HELP). If no help is available, the terminal bleeps. Pressing <F1> (EXIT) at any time causes the function to abort and the Main Menu to be redisplayed. <F4> (DONE) updates the IRIS-SET.UP file with the default parameters displayed on the screen.

When the Setup option is selected, the program prompts:

```
    Enter Setup password: ·
```

The setup password is required to prevent unauthorized modification of the Setup parameters. Initially, the password is preset to X by POINT 4. The System Manager should use the password X to enter the Setup function for the first time, and then change the password when the next option screen is displayed.

If the System Manager does not enter the correct password, the following message is displayed:

```
    Invalid Setup password
```

Setup is not executed and the cursor is positioned at the select prompt.

If the correct password is entered, the Setup screen is displayed with the current settings shown as defaults.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│   PC Connection - Setup                                        P03/nnn    │
│                                                                           │
│                                                                           │
│       STATUS: Display Mode:   Yes        Number of IRIS Connections: 1    │
│                                                                           │
│              Display System:  Yes                                         │
│                                                                           │
│               Display Baud:   Yes                                         │
│                                                                           │
│               Display Char:   Yes        Setup Password: X                │
│                                                                           │
│                                                                           │
│       PORT #1       Name:  SYS 1                                          │
│                                                                           │
│                     Baud:  9600                                          │
│                                                                           │
│                     Char:  7E                                            │
│                                                                           │
│        Sign-on Sequence:   \233\\0\MANAGER\215\                          │
│                                                                           │
│                                                                           │
│       PORT #2       Name:                                                │
│                                                                           │
│                     Baud:                                                │
│                                                                           │
│                     Char:                                                │
│                                                                           │
│        Sign-on Sequence:   NOT AVAILABLE                                 │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

Each prompt from the Setup screen is described in the following paragraphs.

STATUS - The PC Connection software includes the option of displaying a status line at the bottom of the screen. The status line indicates the characteristics of the PC port currently being used. the values include: the name of the IRIS system, the baud rate and the character format. The status line will not be displayed if the IRIS System Manager enters No at the Display Mode prompt. Enter either Yes or No for each subsequent option to permit or disable its display.

NUMBER OF IRIS CONNECTIONS - The PC Connection utilizes Port 1. Enter 1 to indicate one IRIS connection.

SETUP PASSWORD - The password may consist of one to six characters and prevents unauthorized modification of the Setup parameters. The password is not echoed when entered at the "Enter Setup Password" prompt.

NAME - Each port must be given a unique name of up to six characters. this name is used to identify the IRIS system being used during file transmission.

BAUD - The baud rate set for the PC port must be the same as that set for the port under IRIS. Valid baud rates are: 110, 300, 1200, 2400, 4800, 9600, 19200*. 9600 is the baud rate preset by POINT 4. A POINT 4 MARK 3 Computer requires 4800 baud or less.

CHAR - Seven or eight data bits plus parity may be transmitted in each character. This value must be the same on the IRIS and PC computers. The default is 7E (seven bits, even parity).

SIGN-ON SEQUENCE - A sign-on sequence is a sequence of characters that is transmitted when file transmission is selected. The sequence is used primarily to sign on to IRIS but may also include codes to operate a modem.

A sign-on sequence of up to 59 characters may be specified to log the port onto IRIS automatically. Printable characters are entered directly. Others are entered as octal sequences enclosed in backslashes.

*If available on the particular mux being used.

The ASCII null character (\0\) may be included in the sign-on sequence to specify a pause of approximately two seconds to allow enough time for the IRIS System, modem or other device to respond to the preceding characters. For example, the following sequence may be used to log the user onto the manager account:

```
\233\\0\MANAGER\215\
```

The sequence may be empty if no automatic log-on is desired. In that case, a valid IRIS Account ID must be entered manually when the GET or SND option is selected.

3.5 TRANSFERRING MULTIPLE FILES BETWEEN THE PC AND IRIS

If the user wishes to transfer a batch of files between IRIS and the PC, a transmission list file must be created. The transmission list file is a text file stored on the PC containing the names of the files to be transmitted to or from IRIS. Each line consists of the file's IRIS name, an equal sign, and then its PC name. The format is illustrated in the following examples:

```
PAYS=B:PAYS.DAT

5/AR=B:AR.ACT
```

The name of the transmission file must follow PC filename conventions. This file must be created under PC DOS and stored on the PC disk.

If a batch of files is to be transmitted to or from IRIS, all files must be transmitted under the same option. For example, if "No" is entered in response to "File exists, Replace:" and one of the files listed is found to exist, the transfer process is aborted. The program allows the user to change the parameter to Yes if all files are to be overwritten; it then restarts the procedure from the beginning. If overwriting the file(s) is not desired, the user may press <F1> (EXIT) to terminate the option.

3.5.1 The PCUTILITY Program

The PCUTILITY program is used to examine and change the status of IRIS files sent by the PC Connection software. The program must be executed on the IRIS system from the IRIS System Manager's account. If it is executed from another account, an error message is displayed and control returns to SCOPE.

The PCUTILITY program is invoked by entering the command in the following format:

```
PCUTILITY lu/filename
```

where

 lu/ - logical unit on which the file resides; required if the file does not reside on the system logical unit

filename - name of the file to be examined or modified

If the file is not found or cannot be opened, an appropriate error message is displayed and control returns to SCOPE.

If the file is found, the following messages are displayed:

```
lu/filename IS xxxxxx ON PORT NUMBER n

WOULD YOU LIKE TO CHANGE THE STATUS [Y/N]:
```

where

 xxxxxx - status of the file (locked, unlocked, or read only)

 n - number of port from which it was transmitted

If the response is No, control returns to SCOPE. If the response is Yes, the following option menu is displayed:

```
                       PCUTILITY MENU              REVISION nnn


        R ...................................FILE IS READ ONLY

        L ...................................FILE IS LOCKED

        U ...................................FILE IS NOT LOCKED


    PLEASE ENTER MNEMONIC DESIGNATING CHANGE [R/L/U]:
```

After the mnemonic is entered, the status of the file is changed accordingly and control returns to SCOPE.

3.6 MANUAL EXIT FROM FILE.SERVE

The FILE.SERVE program is not intended to be accessed by users on an interactive port. If it is initiated by a user, it may only be terminated by pressing

```
<RETURN><CTRL-G><A><RETURN><CTRL-G><T><RETURN>
```

3.7 USING THE WS100 GRAPHIC CHARACTER SET

The WS100 terminal graphic character set allows the user to design business forms or draw simple graphs on the screen.

The PC Connection software will emulate a subset of these characters as shown in Appendix C.

Appendix A
GLOSSARY

This appendix defines many of the technical terms contained in this manual.

Account - An allocation of computer time and disk space available to any IRIS user who logs on to the system with a given account ID. Files created by the user are then owned by the account.

ACCOUNTUTILITY - IRIS BASIC program used to create and maintain user accounts.

Application Program - Specific software program written by or for a user which applies to the user's work. For example, a spread sheet application program.

Arrow Keys - Special keys on the terminal keyboard which are used to move the cursor up, down and sideways on the screen.

ASCII (American Standard Code for Information Interchange) - A code which represents any character as a 7-bit standard pattern which can be used for information interchange among data processing systems, data communication systems, and associated equipment.

ASCII File - Text file in which the characters are represented in ASCII codes.

AUTOEXEC.BAT - A special PC DOS batch file. When DOS is started or re-started, the command processor in the PC automatically searches for and executes this file if it is present on the DOS diskette or hard disk.

Automatic Log-On - The process used by the PC Connection software during the GET or SND options of PC2IRIS to log the PC onto IRIS automatically. The information necessary for logging on is retrieved from the Setup file or by user entry.

Backup - Copy of the system software on a medium such as disk, diskette, or tape, for use in restoring the system to normal operation after a malfunction or loss of data.

Baud Rate - A measurement of data transmission speed roughly equivalent to one bit per second for asynchronous transmission.

Binary - Condition that has two possible states or values; base 2 numbering system used by computers.

Bit - One binary digit which may be a one or a zero.

Byte - Eight bits. One byte may contain an ASCII code or any binary value up to 255.

Character Length - Number of bits used in computer memory or on disk to hold each character; ASCII characters may be represented in seven or eight bits.

Communications Board - A printed circuit board that allows the PC terminal to transmit to or receive data from other external devices.

Connect to Remote IRIS (REM) - The PC Connection Main Menu option that terminates file transmission in IRIS and allows the user to operate the PC as an IRIS terminal.

<CTRL-F1> - The key that enables the PC Connection user to alternate between any DOS application and IRIS.

Cursor - Movable screen marker that indicates a position on the terminal display.

Descriptor Line - A unique five-byte identifier that is attached to the beginning of any file transmitted from the PC to IRIS; comprises information on file status and number of the port which transmitted the file.

Disk Blocks - 512-byte units into which disc space is divided in IRIS.

DONE - Within the PC2IRIS program, a function initiated by <F4> to notify the system that an entry is complete or to enter the default parameters.

DOS - Disk Operating System. In this manual, DOS refers to the IBM or Microsoft Personal Computer Disk Operating System (PC DOS or MS DOS).

Echo - Display on the terminal of data entered by the user.

Edit - To enter, modify, or delete data.

Enable - Allow a physical device or software program to become functional in IRIS or PC DOS.

Encoded Binary Format - A data format developed by POINT 4 to allow nonprintable values to be stored under IRIS as printable ASCII characters.

Enter - Input information by typing the appropriate text on the keyboard and then pressing <RETURN>.

Execute - Perform an instruction or run a computer program.

EXIT - Within the PC2IRIS program, a function initiated by <F1> which aborts the current operation and returns to the PC Connection Main Menu.

File - Group of related records treated as a unit.

FILE.SERVE - The PC Connection software program in IRIS that assists in file transmission, responding to directions from the program PC2IRIS.

File Transmission - The process of transferring files between the PC and IRIS. Initiated by the GET and SND options from the PC Connection Main Menu.

GET - See Get a File from IRIS.

Get a File from IRIS (GET) - The PC Connection Main Menu option which permits the user to transfer a file from IRIS to the PC.

HELP - Within the PC2IRIS program, a function initiated by <F3> which provides a brief description of the procedures or entries available at the current selection or prompt. In the PC Connection, HELP is available only with the GET, SND and SET option screens.

Initial Program Load (IPL) - Starting up or loading a system.

Interactive Port - An IRIS serial port configured for the execution of programs that directly interact with the operator through the keyboard and terminal display.

IRIS (Interactive Real-Time Information System) - Multi-user business software system developed by POINT 4 Data Corporation.

IRIS Account ID - A string of up to 12 characters assigned to a user and used to log on to the IRIS system.

IRIS-SET.UP - The PC Connection file that contains the parameters set by the IRIS System Manager regarding the IRIS system and sign-on criteria.

IRIS System Manager - The individual responsible, at any given installation, for IRIS configuration and maintenance.

Line Feed Character - Character that moves the print or display position to the corresponding position in the next line.

LOC - See Local Mode.

Local Mode (LOC) - The PC Connection Main Menu option that terminates the file transmission software in IRIS and returns the user to DOS.

Locking a File - Setting the optional protection status of a file to "L" with the PC Connection SND option or the PCUTILITY program to prevent other ports from accessing the file or changing its status.

Logical Unit - Subdivision of physical disk storage defined within IRIS and handled as an independent storage unit.

Log on - Same as sign on.

Log-on Failure - A failure by the PC to sign on automatically to IRIS during the GET and SND file transmission options. A log-on failure occurs when either an invalid sign-on sequence was specified in the Setup file or when another program being run under IRIS cannot be interrupted from the PC.

Main Menu - A list of the available PC Connection options displayed by the PC2IRIS program.

Mnemonic - In the PC Connection, the three-character abbreviation which can be entered from the keyboard to select an option from the Main Menu.

Modem - The hardware device necessary to connect a communications cable to a telephone line for remote applications. Modulates and demodulates digital and analog signals.

Most Significant Bit - The left-most bit in any bit pattern.

Multiplexer (MUX) - A controller which allows a number of peripheral devices to communicate with the computer through the same set of data lines.

Octal Sequence - A numeric value used to represent a nonprintable ASCII character, such as ESC.

Overwrite - Record into a storage area, destroying the data previously stored there.

Parity - Extra binary bit that is appended to a group of binary digits to make the sum of all the digits either always even or always odd. Used for testing transmitted data.

PC2IRIS.EXE - On the PC, the PC Connection program that controls file transmission. Also referred to as PC2IRIS; the ".EXE" is a filename extension.

PCUTILITY - The PC Connection program that allows the IRIS System Manager to examine and change the status in a descriptor line of a file.

Personal Computer (PC) - Microcomputer that, for the PC Connection, must be an IBM or IBM-compatible with a monochromatic or color screen.

Pico-N - A POINT 4 encoded proprietary device. Prevents unauthorized use of IRIS and IRIS application packages.

Port - Access point in hardware and software through which a peripheral device communicates with a computer (see Serial Port or Interactive Port).

Printable Characters - ASCII values that can be printed or displayed, such as letters, numbers and punctuation.

Programmable Function Key - One of ten keys, labeled F1 through F10, on the left side of the PC keyboard, which perform specific functions as defined by the particular software application being run. The four keys labeled F1 through F4 have specific functions under the PC Connection.

Prompt - Question asked by the computer when information from the user is required.

Protection Levels - An IRIS mechanism by which user's files can be protected from unauthorized access.

Read Only - Optional protection status applied with the PC Connection SND option or PCUTILITY program which allows a file to be read but not modified by users on other ports.

REM - See Connect to Remote IRIS.

RS232 Cable - A connecting cable wired according to the RS232 standard for data transmission.

SCOPE - IRIS System Command Processor which displays the system command prompt (#), and executes a selected program.

Serial Device - A device that transmits or receives data as a single serial stream of bits; for example, a terminal, a PC or a printer.

Serial Port - The physical connection between the IRIS computer and a serial device.

Send a File to IRIS (SND) - The PC Connection Main Menu option that allows the user to transfer a file from the PC to IRIS.

Set-Up (SET) - The PC Connection Main Menu option that allows the IRIS System Manager to establish parameters pertaining to the IRIS system and the sign-on sequence.

Set-Up Password - The password established by the IRIS System Manager to allow a user to invoke the SET option from the PC Connection Main Menu. Preset to "X" by POINT 4 Data Corporation.

Sign-On - Same as log on.

Sign-On Sequence - A sequence of characters transmitted from the GET or SND option of the PC Connection Main Menu. The sequence is used principally to sign on to IRIS, but may include codes to operate a modem.

SND - See Send a File to IRIS.

Spare Logical Unit - A logical unit within the IRIS system which is entirely available for the temporary storage of PC Connection software copied from the delivery medium.

Status Line - In the PC Connection, a line of characters which appears at the bottom of the screen and is used to indicate the operational options defined in the Set-up file.

System Manager (IRIS) - See IRIS System Manager.

Terminal - Device, typically equipped with a keyboard and display, that is capable of sending and receiving information.

Terminal Translation Module (TERMS driver) - A software module in IRIS that, when enabled, allows IRIS to recognize and communicate with a specific type of terminal.

Text File - A file comprising lines of printable characters.

Unlocking a File - Setting the optional protection status of a file to "U" with the PC Connection SND option or PCUTILITY program allowing other ports to access and update the file.

Write - Record data on a storage device such as disk or tape.

WS100.COM - The PC Connection program that recognizes the <CTRL-F1> signal and allows the terminal to alternate between WS100 emulation and PC DOS operation.

WS100 Graphic Character Set - Those characters of the WS100 terminal which allow it to display lines or shapes rather than text characters. A subset of these characters is supported by the PC Connection software.

WS100 Terminal - The POINT 4 Data Corporation terminal that is emulated by the PC with the PC Connection.

WS100 Terminal Emulator - The WS100.COM program.

Appendix B
FORMAT OF PC FILES STORED UNDER IRIS

B.1 THE DESCRIPTOR LINE

Any PC file (including IRIS-generated text files that have been stored on the PC) can be stored on the IRIS system. The format in which the PC files are stored is significant only if a file is to be examined on the IRIS system.

PC files are stored under IRIS exactly as transmitted by the PC but prefixed by a descriptor line. The descriptor line is used to pass information to and from the PC about the status of the file and consists of the following:

> Byte 1 - CTRL-@ (NUL \200\)
>
> Byte 2 - CTRL-[(ESC \233\)
>
> Byte 3 - Single letter code indicating file access
>
>> L - Locked
>>
>> U - Unlocked
>>
>> R - Read only
>>
>> Q - Questionable file
>
> Byte 4-5 - Sending port number in 2-byte ASCII

In addition, PC files can only be transmitted as complete 128-byte disk blocks. Because no partial disk blocks can be transferred, whatever exists in the unused portion of the last block of the file is also transferred to IRIS and stored.

To remove the descriptor line and extra characters attached to the PC files stored in IRIS, the appropriate text editor must be used to delete the first line and the unused portion of the last block of the file. The following example uses the IRIS EDIT processor:

> #EDIT source filename,destination filename
>
> *1K
>
> *Z
>
> *-1L1K
>
> *XEND
>
> #

NOTE

> For users who intend to transport data between IRIS systems on PC diskettes, the extra characters generated when the file is sent to IRIS from the PC should be edited out using the foregoing procedure.

B.2 TEXT FILE TRANSLATION

PC text files are stored with the most significant bit set to zero while IRIS uses the reverse convention.

Lines in a PC text file are terminated by a carriage return character followed by a line-feed character while IRIS uses only the character return. The PC Connection file transfer software makes the necessary conversion during the transmission of text files.

B.3 VALID IRIS TEXT FILES

If a text file created under IRIS is to be transmitted to the PC, it must consist only of printable characters, the horizontal tab, and line terminator codes (i.e., \240\ through \376\, and \215\).

B.4 DATA FILE TRANSLATION

The transmitted stream of information between the PC and IRIS is restricted to printable characters only. When data files are transmitted to IRIS, the PC is unable to transmit some of the eight-bit values because, as data values, they fall outside the value range for printable characters (32-126). When the PC encounters such a value, it transmits the signal <CTRL-G>B and then converts the remainder of the file into encoded binary format.

When the files are transmitted back to the PC from IRIS, the PC recognizes the <CTRL-G>B signal and reverses the encoding process.

B.5 THE ENCODED BINARY FORMAT

So that transmission can occur, the PC uses the encoded binary format in which three bytes (24 bits) are divided into four groups of 6-bit bytes. Then the value 160 is added to each byte so that the transmission falls into the value range for printable characters (32-126) and can be transmitted.

Appendix C
POINT 4 WS100 GRAPHIC CHARACTER SUBSET

Figure C-1 illustrates the subset of the WS100 Graphic Character Set that is supported by the PC Connection's terminal emulator.

ASCII CODE	GRAPHIC CHARACTER	OCTAL VALUE
EM		231
SUB		232
FS		234
–		255
k		353
l		354
m		355
x		370
v		366
w		367
GS		235
NAK		225
SYN		226
ETB		227
CAN		230
s		323
>		276
n		356
o		357
q		361

Figure C-1. Graphic Character Subset (1 of 4)
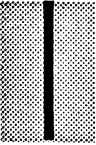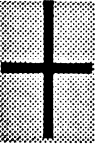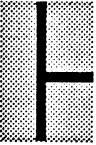
ASCII CODE	GRAPHIC CHARACTER	OCTAL VALUE
a		341
e		345
j		352
b		342
c		343
(grave accent) `		340
g		347
h		350

Figure C-1. Graphic Character Subset (2 of 4)
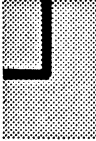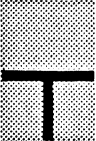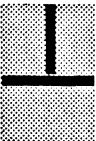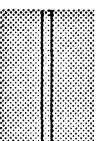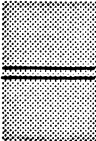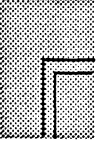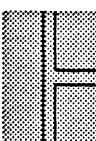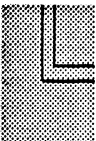
ASCII CODE	GRAPHIC CHARACTER	OCTAL VALUE
d		344
i		351
f		346
(apostrophe) ' X		247 330
2 A (comma) ,		262 301 254
Y		331
Z		332
\		334

Figure C-1. Graphic Character Subset (3 of 4)
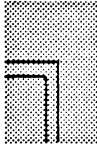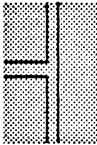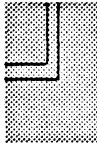
ASCII CODE	GRAPHIC CHARACTER	OCTAL VALUE

6   266
G   307

7   267

/   257

Figure C-1. Graphic Character Subset (4 of 4)

INDEX

COMMENT SHEET

MANUAL TITLE: The PC Connection Manual

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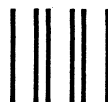
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