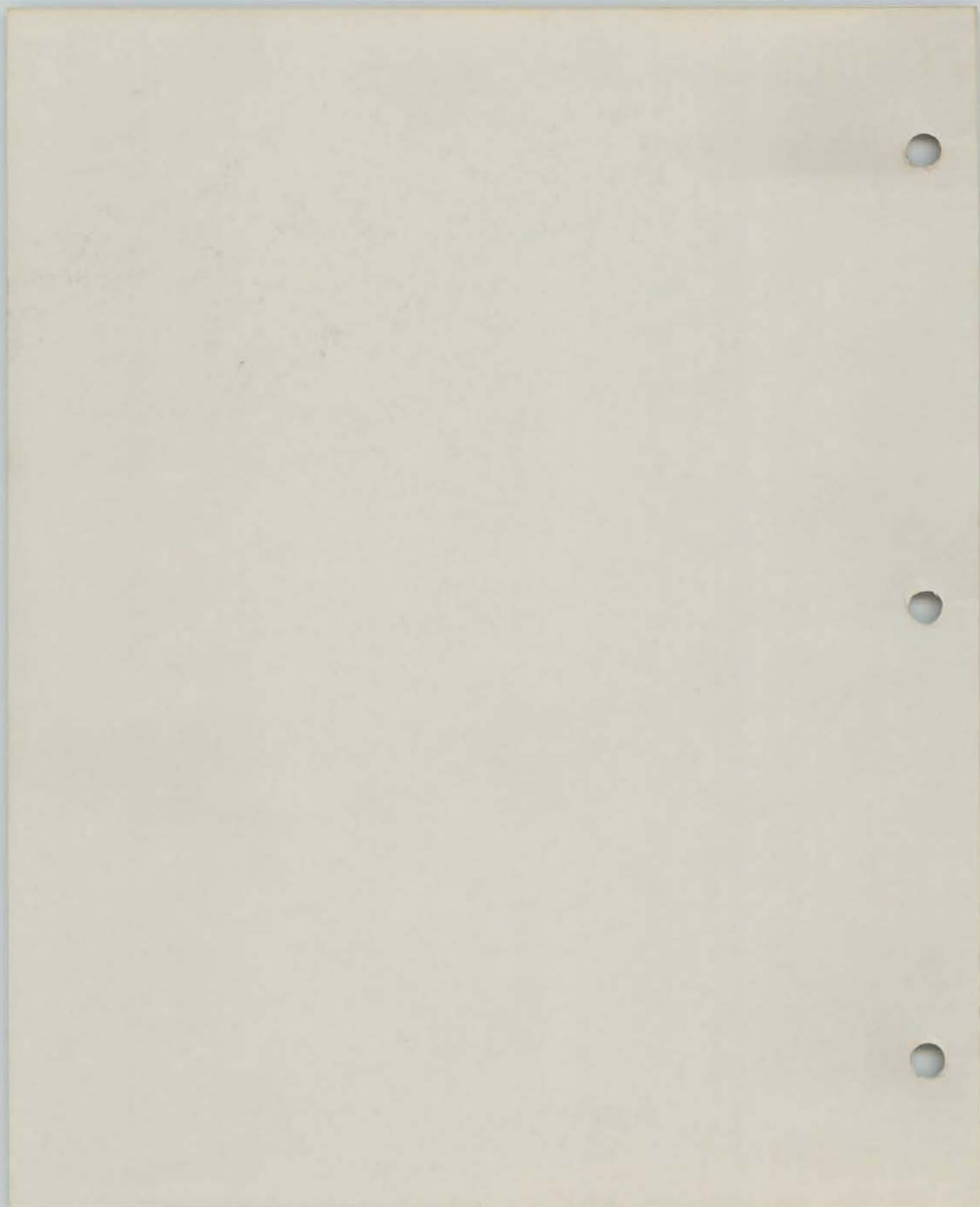


THE WANG PROFESSIONAL COMPUTER

Asynchronous
Communications
Guide

WANG



The Wang Professional Computer Asynchronous Communications Guide

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PREFACE

This book describes two Wang Professional Computer communication features. Part I (Chapters 1 through 10) describes Wang PC Teletypewriter Emulation. Part II (Chapter 11) describes Wang PC Wang 2200 Terminal Emulation.

Wang PC Teletypewriter Emulation is an asynchronous communication feature that enables the Wang PC to communicate with other Wang PCs or with other Wang or non-Wang systems. Communication occurs through regular telephone lines or local cable.

No prior technical training is required to use this feature, but you should already be familiar with using the Wang PC in general. Although selected background information from The Wang Professional Computer Introductory Guide is summarized in this book, you should be familiar with the Introductory Guide. In addition, The Wang Professional Computer Documentation Guide describes the complete range of Wang PC manuals.

Chapter 1 describes the installation of required additional equipment. It also provides background information on the keyboard and filing system. Chapter 2 shows how to establish keyboard communication using preset communication options and how to delete such preset options. Chapter 3 describes file transfer and other functions you can use during a communication session.

Chapters 4 through 8 show how to set communication options to make the Wang PC compatible with other computers, thus enabling the Wang PC to communicate with such computers. Chapter 4 provides an overview of modifiable options. Chapters 5 through 8 describe separate groups of options, listed according to your likelihood of modifying them. Thus, Chapter 5 describes the options you are most likely to change, and Chapter 8 describes those you are least likely to change.

Chapter 9 is a troubleshooting guide that presents solutions to common problems you may encounter. Chapter 10 describes the Wang PC Editor you can use in creating and modifying TC Glossaries and help files.

Chapter 11 describes Wang PC Wang 2200 Terminal Emulation. This feature enables a Wang PC to function as a terminal on a Wang 2200 computer.

Appendix A is a key to the Wang PC character set. Appendix B provides technical information on pin-usage in the RS-232-C asynchronous serial port, which is used to link the Wang PC to telephone lines or other communication equipment.

Appendix C lists the communication options of pre-defined asynchronous connections. Appendix D lists messages you may encounter in starting the system and in running Asynchronous Communications. This appendix also lists the files supplied on the Asynchronous Communications Software diskette.



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CHAPTER 1 INTRODUCTION TO TELETYPEWRITER EMULATION

1.1 OVERVIEW

This chapter provides general background information on the Wang Professional Computer (PC) and answers the following questions.

- What does asynchronous communications mean?
- What is teletypewriter emulation? What can I do with it? How do I get it to work?
- What additional equipment do I need?

The term "asynchronous communications" refers to data communication in which the communicating computers transmit or receive one character (letter, number, or symbol) at a time.

"Teletypewriter emulation" is a method of asynchronous communication in which the communicating computers mimic the way teletypewriters transmit and receive information. When teletypewriters are used for communication, whatever is typed on one teletypewriter also prints out on the device at the other end of the line. When the Wang PC emulates a teletypewriter, it works the same way. Whatever you type on your keyboard appears on your screen and also appears on the screen of the workstation with which you are communicating. Wang PC teletypewriter emulation also allows you to perform other tasks such as file transfer.

Wang PC Teletypewriter Emulation has been designed to make it easy for a person without computer or telecommunications experience to communicate with other Wang PCs or with other computer systems. The computer with which you communicate, whether it is a Wang PC or other system, is called the "host" or the "host system." The host system must support asynchronous communications. Like other Wang PC features, teletypewriter emulation is menu-driven. Once you have installed the appropriate additional equipment described in Section 1.2, you activate this feature by making selections on a series of screens that list available options. Figure 1-1 shows the interrelationship of all the screens discussed in this book.

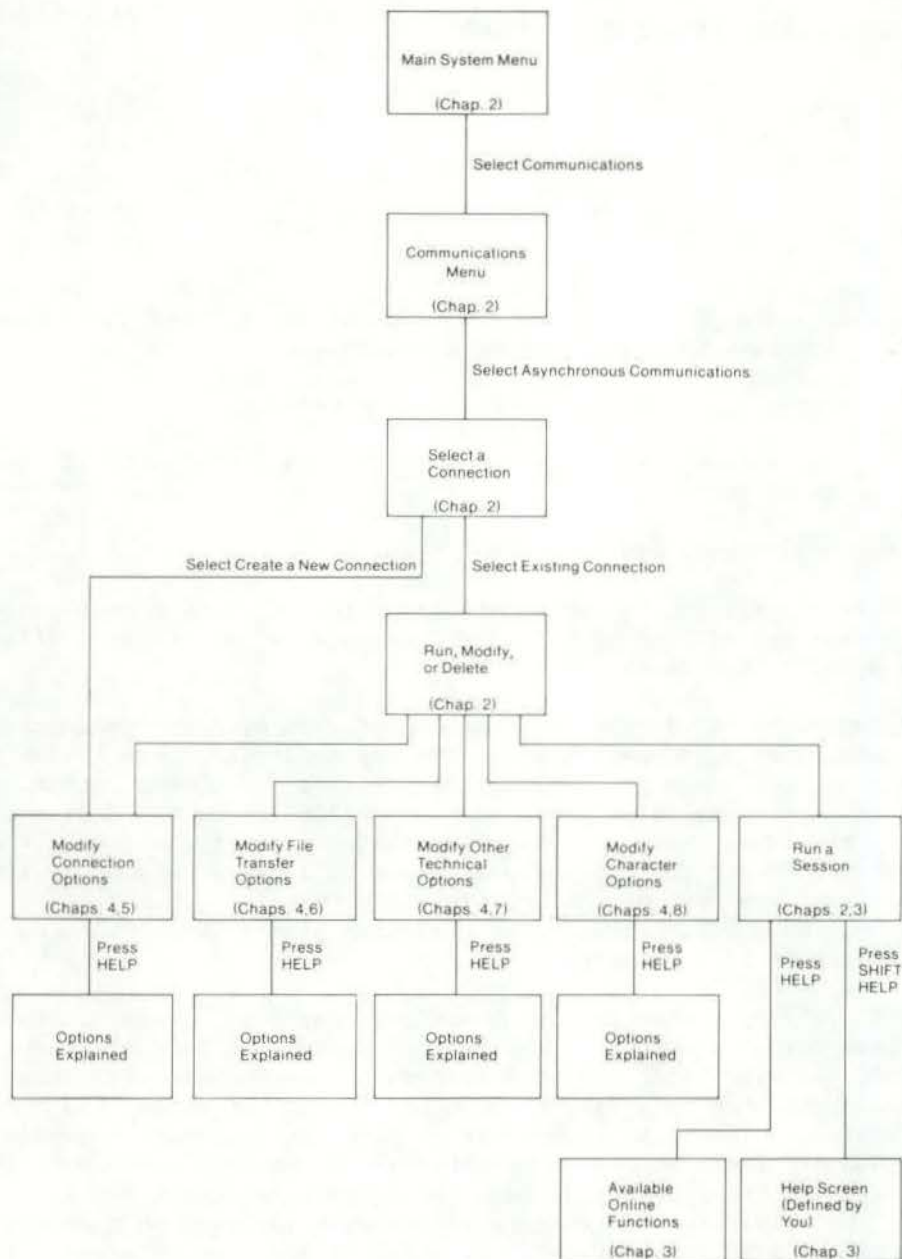


Figure 1-1 Relationship of Communication Screens

In Figure 1-1, each box represents a particular screen. The number of the chapter(s) containing the most information on a given screen is shown in parentheses. Reading down the page, each pathway between two screens represents a selection made or a key pressed on the previous screen. The pathway is labeled only when the required choice on the previous screen is not identical to the name of the new screen. Reading up the page, each pathway between two screens represents the pressing of the Cancel key.

Communicating with another Wang PC is very easy, because the required technical specifications for the Wang PC connection have been provided for you. (A "connection" is a named set of options for communication with a particular computer.) The Wang PC handles all the technicalities for you. To start a communication session, you need only choose a few items from menus of options described in everyday language. This same procedure applies to other pre-defined connections which will be described in Chapter 2.

When you communicate for the first time with a computer system that is not a Wang PC (or other pre-defined connection), you must create a new connection. To do so, you must first find out the specifications of the host system. You can acquire this information by calling or writing the user of the host system, or whoever is responsible for operations with the host system.

Then, you must set Wang PC options to match host specifications. To make setting such options more convenient, the Wang PC provides you with a starting point. When you create a new connection, Wang PC Asynchronous Communications Software automatically supplies a set of commonly used options as "default values." These default values for the new connection remain in effect until you change them. Thus, you need to modify only those options, if any, that differ from the default values. The second time you communicate with a particular computer system, and every time thereafter, the Wang PC handles the technicalities for you.

1.2 PREREQUISITE: INSTALLING AN APPROPRIATE MODEM

Asynchronous Communications Software will run on any Wang PC configuration, including the minimal configuration, consisting of a keyboard, monitor (80-column screen), character display adapter card, and electronics unit with 128K memory and single diskette drive. In order to use the Wang PC for communication, however, you must first establish a communication link between the Wang PC and the host. The additional equipment necessary to make this link depends on whether you intend to communicate with a remote host through telephone lines or a local host through communication cable.

To communicate with a remote computer system via telephone lines, you must install a device called a "modem" (modulator/demodulator). Figure 1-2 shows the layout of a communication link via telephone lines and modems. A modem performs the required conversions between the digital signals used by computers and the analog signals transmitted over telephone lines. The modem you use must be located within 50 feet (15.2 meters) of the Wang PC and must be compatible with the Wang PC and with the modem attached to the host system. A Wang Asynchronous/Synchronous Modem supports communication at two commonly used rates of transmission: 300 and 1200 bits per second (bps).

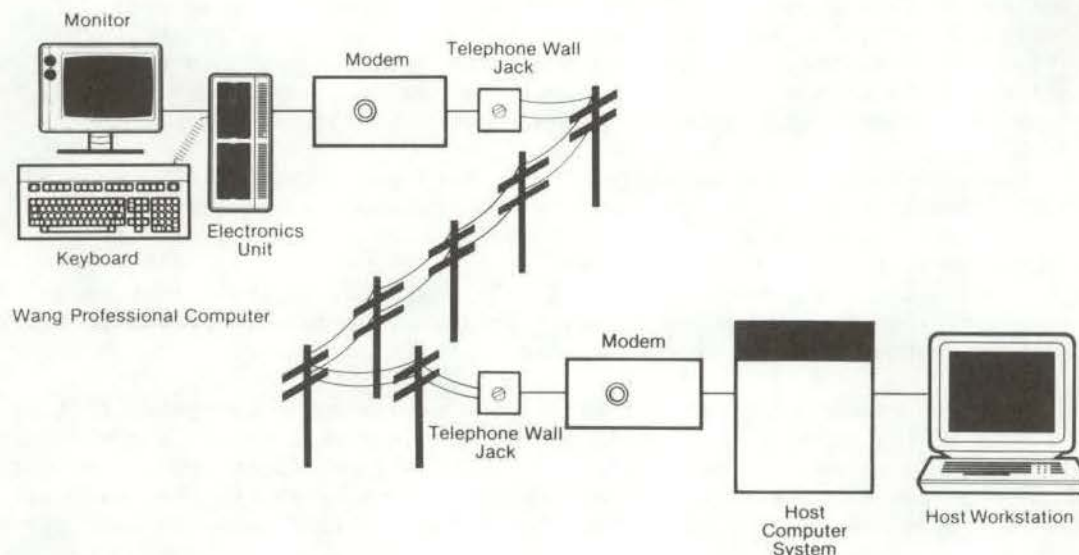


Figure 1-2 Remote Communication Link via Telephone Lines and Modems

For local communication between the Wang PC and another Wang or non-Wang system within 50 feet (15.2 meters), a telephone line is not necessary. Instead, a pair of RS-232-C/V.24-compatible cables (industry-standard), joined by a "null modem," can serve as the communication link between the two systems. When Wang-supplied cables and null modem are used, the local communication link between two Wang PCs can span up to 2000 feet (609.6 meters). Figure 1-3 shows the layout of a local communication link using cable and a null modem. Note that, for local communication, you need only a single null modem. You can use a Wang Model 2227N Null Modem for both full and half duplex asynchronous communication. (You can also use a Wang Model 2228N Null Modem, but only for full duplex asynchronous communication.)

For either type of communication link, you must first install the appropriate type of RS-232-C/V.24-compatible modem or null modem, following the manufacturer's instructions. Then you must attach the Wang PC to the modem or null modem using RS-232-C/V.24-compatible cable with 25-pin male, RS-232-C/V.24-compatible plugs at both ends. The back panel of the Wang PC electronics unit is equipped with an appropriate female 25-hole plug (called an "RS-232-C serial asynchronous port") to enable you to make this connection. Figure 1-4 shows this communication port on the electronics unit back panel. Do not confuse the communication port with the parallel printer port; they may look similar at first. Note that the communication port is the one farthest from the fan grill. The modem or null modem should include a similar female plug.

To complete the communication link, appropriate arrangements must also be made at the host end either for attachment to telephone lines using a compatible modem and cable, or for attachment to the null modem using cable.

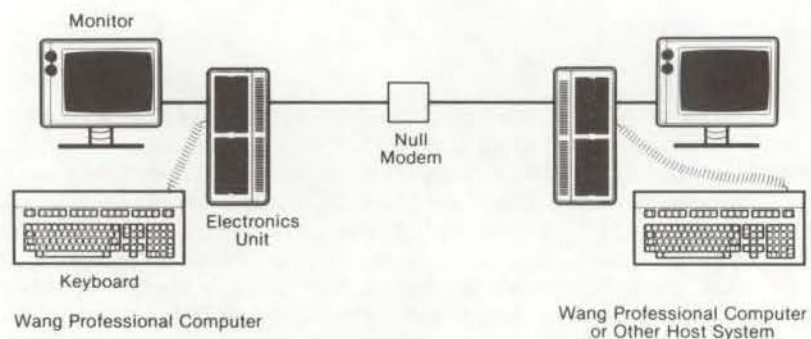


Figure 1-3 Local Communication Link via Cable and Null Modem

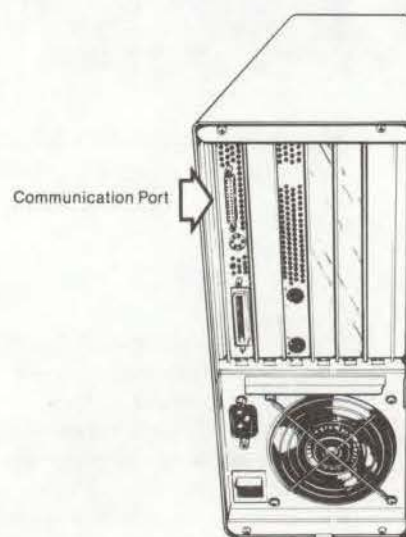


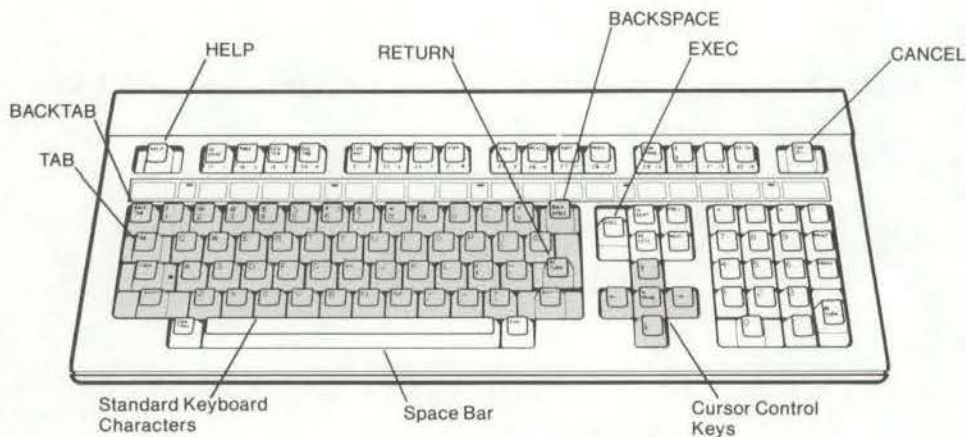
Figure 1-4 Electronics Unit Communication Port

1.3 BACKGROUND INFORMATION

Background information is presented here on the Wang PC keyboard, file specifications, and diskettes. For further information, consult the Introductory Guide.

Understanding the Keyboard

The Wang PC keyboard consists of the standard typewriter keyboard plus a numeric keypad and other keys that control special functions. Figure 1-5 shows the Wang PC keyboard, indicating the keys used most frequently in making selections on various menus. The function of each indicated key on menus is briefly described for easy reference. A menu consists of one or more "choice areas." Within these areas, you select an option from a group of related options, or in some cases, you enter character data. More detailed information on keyboard use is provided as needed in later chapters.



Key	Function
EXEC	Accept indicated option(s) and proceed
RETURN	Move to next choice area
CANCEL	Reject indicated option(s) and return to previous menu
HELP	Display explanation of available options
Space Bar	Move to next option
Standard Keyboard Characters	Enter character data; move to option with matching first letter
BACKSPACE	Move to previous option or character
Cursor Control Keys	Move cursor in direction of arrow
TAB	Move to next choice area
BACK TAB	Move to previous choice area

Figure 1-5 The Keyboard

Understanding File Specifications

You must often supply file specifications to tell the Wang PC where to store information or where to find previously stored information. Several of the functions you can use during a communication session require file specifications. For example, to send a file you must specify which file to send. Similarly, to receive a file to disk or diskette, you must identify the file in which to store received data.

Here is an example of a complete file specification.

B:/FINANCE/STOCKS/NEWYORK.TTY

The functions of the various parameters are as follows.

- B: (a letter followed by a colon) is the "drive designation." The drive designation tells the Wang PC which diskette or Winchester drive to use for a particular file operation.
- /FINANCE/STOCKS/ (an optional initial slash followed by a series of one or more names, each consisting of up to 8 characters and followed by a single slash) is the "directory path." The directory path gives the computer specific directions for traversing a multilevel index of disk contents to locate the desired file. The directory path proceeds from the general to the specific. (Here, STOCKS is a subcategory of FINANCE.) The initial slash, if used, indicates that the path starts at the most general level. Otherwise, the path proceeds from the default directory path.
- NEWYORK (a name consisting of up to 8 characters) is the "file name." This name is the most important part of the file specification. In many cases, you may have to specify only this name to access a desired file.
- .TTY (a period followed by up to 3 characters) is the "file name extension." As the name suggests, the file name extension is an addition of up to 3 characters to the up-to-8-character file name. Effectively, you can create a file name of up to 11 characters using both the file name and file name extension parameters.

Although letters in the above example are shown in upper case only, you can type file specification parameters in lower case. The Wang PC treats all letters in a file specification as upper case letters. Letters, numbers, spaces, hyphens, and several other special characters are valid in file specifications. For now, do not use the question mark or asterisk in file specifications. The question mark and asterisk serve a special function in file specifications used for searching. Use of the asterisk in such file specifications will be discussed in Section 3.4 on File Control and End Session Functions.

When you create or use a file, you must refer to it by a file specification. The file specification must always include the file name. One or more of the other parameters described above may also be required, depending on the circumstances. For example, if you specify a file name extension when you create a file, you must always thereafter include the file name extension when accessing that file.

Similarly, if you specify a directory path when you create a file, the Wang PC thereafter always requires the directory path when accessing that file. The Wang PC maintains a default value for the directory path. Whenever you use a file that has a directory path other than the default directory path, you must include that directory path in the file specification.

When the Wang PC is delivered, the slash (/) is the default directory path. This slash indicates that the path starts at the most general (root) level of the directory. This path continues to be the default directory path unless you take specific action to change it following system start-up. (One method of doing so is to select System Utilities from the Main System Menu then use the Directory - Change Path Utility; the Main System Menu is presented in Chapter 2.)

The system uses the default directory path for file operations whenever you omit the directory path from the file specification. The directory path will probably be of greatest use in organizing and providing speedy access to large numbers of files stored on a Winchester disk. In fact, you will probably not use the directory path parameter unless your system includes a Winchester drive.

The Wang PC also maintains a default value for the drive designation. Whenever you use a file on a drive other than the default drive, you must include the drive designation in the file specification. The drive used for system start-up (see Section 2.2) is the default drive. The start-up drive continues to be the default drive unless you take specific action to change it following system start-up. (One method of doing so is to select System Utilities from the Main System Menu, then use the Change Default Drive Utility.) The system uses the default drive whenever you omit the drive designation from a file specification.

Supplying the appropriate drive designation is especially important in creating files. If you designate or default to an unintended drive, your file will be created on that unintended diskette or disk. On the other hand, if you designate or default to the wrong drive during file retrieval, recovering from the error is easier. If the specified file cannot be found on the indicated drive, the Wang PC will inform you of this fact and allow you to respecify the file for another search.

Using Diskettes

Depending on how you use the Wang PC, you may have to insert diskettes other than the Asynchronous Communications Software diskette. For example, when you send a file, you must insert the diskette containing the file to be sent. Similarly, when you receive a file or "log" (record) a session to diskette, you must insert the diskette on which to store the received file or log file.

In many cases, the Wang PC prompts you when you need to insert a diskette. In particular, when the Wang PC cannot complete a task involving file-handling, you will receive a message indicating that fact. Make sure that the appropriate diskette is inserted in the drive where the Wang PC expects to find it.

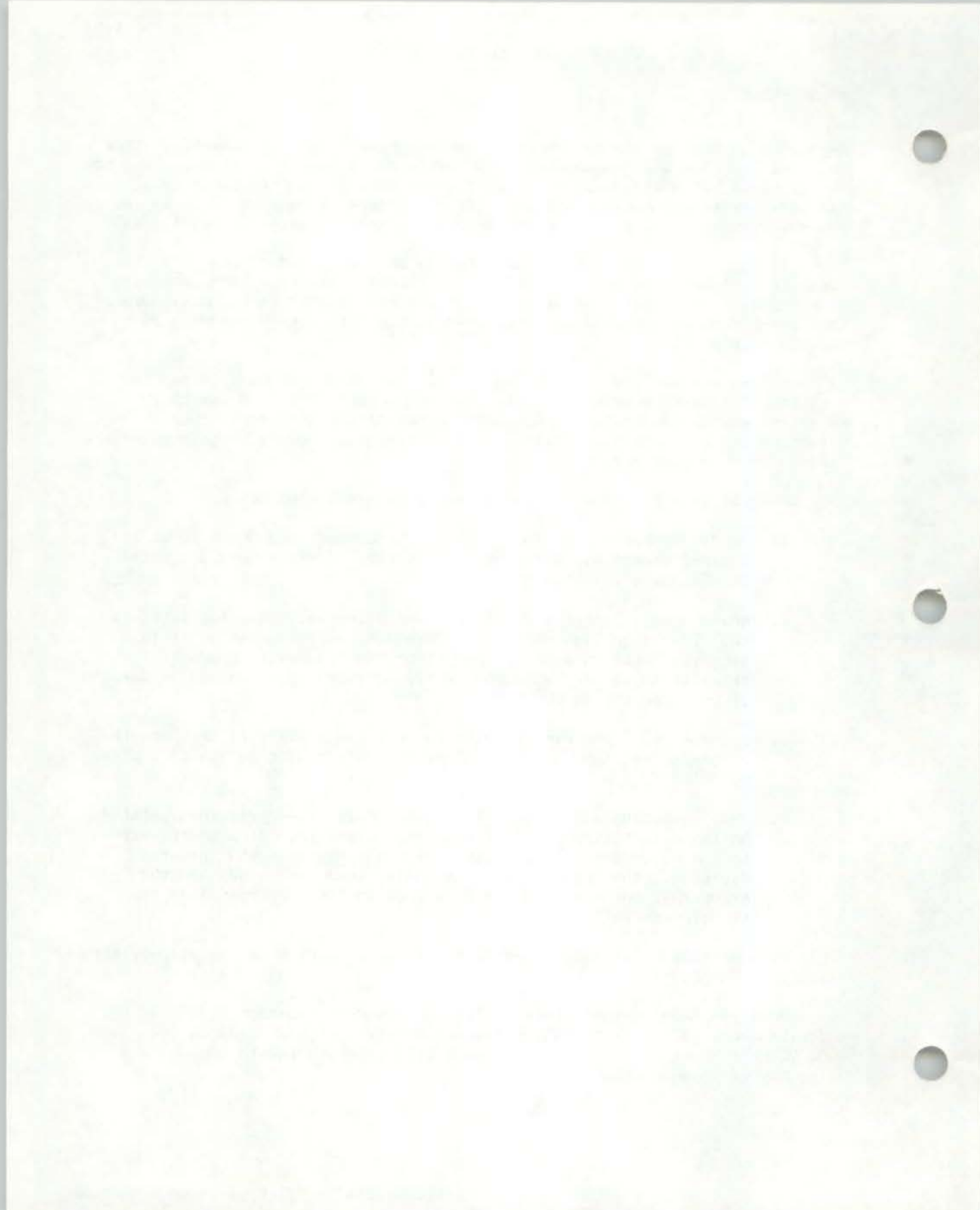
Before you can use a blank diskette for storage, you must format the diskette, following system start-up. You can format a blank diskette by selecting the System Utilities option from the Main System Menu, then selecting the Format a Disk Utility. The Introductory Guide contains complete details on this procedure.

Several general rules for using diskettes are listed below.

1. Handle diskettes carefully. Don't bend them, and don't touch the exposed recording surfaces. If you have to write on a diskette label, use a felt tip pen.
2. Never open a diskette drive door while the red indicator light is on. This light indicates that a read or write operation is in progress. During such an operation, the read/write heads are actually in contact with the recording surface, which can be damaged if you open the door.
3. Remember that you cannot write to or erase a diskette that has the write-protect tab covering the write-protect slot on the protective covering.
4. When inserting a diskette, follow carefully the directions printed on the orientation label of each Wang diskette. Be sure the arrows on the orientation label point the right way when you insert a diskette. The Insert arrow must point into the drive, and the Up arrow must point toward the Wang logo on the front panel of the electronics unit.

More details on diskette insertion will be presented in the step-by-step example in Chapter 2.

Once you have appropriately configured the communication line and understand the general information presented here, you are ready to use Wang PC communications. Chapters 2 and 3 will show you how to communicate using any existing connection.



CHAPTER 2

USING OR DELETING AN EXISTING CONNECTION

2.1 OVERVIEW

The specific example of a communication session in this chapter involves interactive keyboard communication with another Wang Professional Computer. Similar procedures apply to any connection you create, once you have set communication options for that connection. The example indicates how the lists of options on successive screens lead you logically into and out of a session.

The following list summarizes the general procedure for running an interactive session using an existing connection. The procedures in Step 1 were described in Chapter 1. The procedures in Steps 2 through 10 are described in the text following the list.

1. Make sure that the required hardware (Wang PC, modem or null modem, telephone line (if any), and local cable) is properly installed.
2. Start up the system (unless it is already started up); the Date and Time screen will be displayed. Enter the date and time and proceed to the Main System Menu. (If the system has been used since start-up, you can ordinarily return to the Main System Menu by repeatedly pressing CANCEL; you may also have to reinsert the System Software diskette.)
3. Select Communications from the Main System Menu.
4. Insert the Asynchronous Communications Software diskette.
5. Select Asynchronous Communications from the Communications Menu.
6. Select the name of the connection you want (WANG PC to Wang PC, for the specific example in this chapter) from the Select a Connection menu.
7. Select Run a Session from the Run, Modify, or Delete menu. (Other choices on this menu allow you to delete the selected connection or to access other menus that enable you to modify options for the selected connection.)

8. If you are using a direct local connection via null modem, skip this step. If you are using a telephone line, follow the modem manufacturer's instructions. Usually, you have to perform only a few simple procedures like dialing the telephone and setting one or more switches on the modem.
9. Key in or receive keyboard messages. (Other capabilities, such as file transfer, will be described Chapter 3; only keyboard communication is shown in the example in this chapter.)
10. To end the session and return immediately to the Communications Menu, press Special Function Key #16 (SF #16). To return to the previous menu, press CANCEL. You can perform any desired function on the appropriate menu. Pressing SF #16 during a session or pressing CANCEL on the Run, Modify, or Delete menu breaks the connection.

NOTE:

To delete an existing connection, perform step 6 as above. Then choose Delete This Connection (instead of Run a Session) from the Run, Modify, or Delete menu. Deleting a connection returns you to the Select a Connection menu.

2.2 STARTING UP THE SYSTEM

Start-up directions in this guide are geared especially to dual diskette drive systems starting from Drive A. However, the Wang PC can start from Drive A, B, or C. The start-up drive must contain a copy of the System Software. The door of Drive A must be open during a start from Drive B. The doors of Drive A and B must be open during a start from Drive C. The start-up drive then remains the default drive.

If your system includes a Winchester drive, you can copy software (both System Software and Asynchronous Communications Software, if you wish) onto the Winchester disk. Then you can access such software and perform other filing tasks using the Winchester disk without inserting and removing various diskettes. Refer to the Introductory Guide for details on using your Winchester drive.

If the system has already been started up, you do not need to restart it. If the Main System Menu, shown in Figure 2-2, is displayed, you can go immediately to Section 2.3. If the Main System Menu is not displayed, you can usually return to it by repeatedly pressing CANCEL, with the System Software diskette inserted. Once the Main System Menu is displayed, proceed to Section 2.3. Otherwise, follow the directions below.

To start up the system, first insert the System Software diskette into the slot in Drive A (or other start-up default drive, if different; see previous discussion of start-up drives).

Figure 2-1 shows the correct orientation of the diskette for insertion into the diskette drive. Make sure the Up arrow on the diskette orientation label points toward the Wang logo on the front panel of the electronics unit. Also make sure that the Insert arrow points into the drive. Slip the diskette completely into the drive. Then close the diskette drive door. If the power is off, turn it on. (The power switch is located on the back panel of the electronics unit, diagonally opposite the Wang logo on the front panel.) If the power is already on, press 2ND COMMAND (while holding down the 2nd key, located to the right of the space bar, press the Command key); then release these keys and press CANCEL. If necessary, you can restart the system later by this same 2ND COMMAND CANCEL sequence.

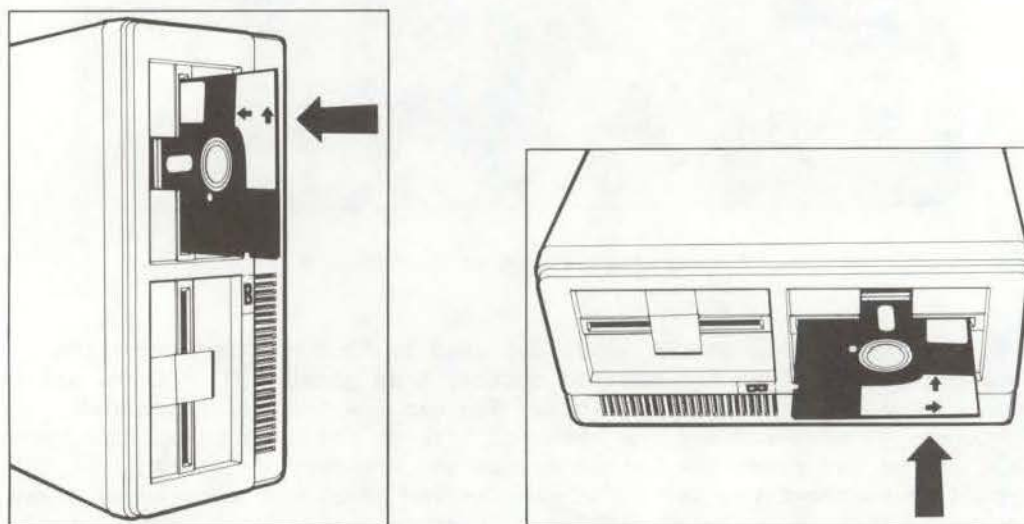


Figure 2-1 Inserting a Diskette

At this point, the system performs the power-on diagnostic tests. Then the Start-up screen indicates the status of the start-up sequence. (If there is a problem, refer to the Introductory Guide.) Next, a second start-up screen displays the software version number and copyright information.

Then a new screen appears prompting you to enter the date and time. If you choose to enter the date and time, use the Return key to move from item to item. After entering or not entering this optional information, press EXEC. The Main System Menu will then be displayed.

2.3 SELECTING COMMUNICATIONS

When the Main System Menu is displayed, select Communications from the Main System Menu (see Figure 2-2). The System Software diskette must be inserted when you make this selection.

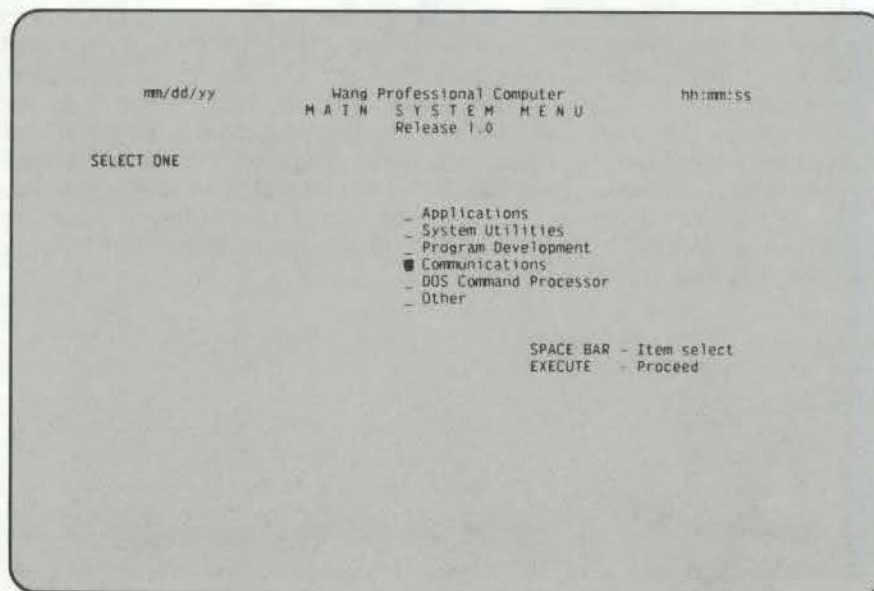


Figure 2-2 The Main System Menu

To make selections on the menus depicted in this chapter, move the "acceptance block" (■) to the desired choice, then press EXEC. There are two methods of moving the acceptance block. You can use the space bar and Backspace key to move forward and backward through the list of options, one at a time. Or you can press the letter key on the standard keyboard corresponding to the first letter of the desired choice to move immediately to that choice. Thus, you can choose Communications on the Main System Menu either by pressing the space bar three times (assuming the acceptance block is originally positioned at Applications) or by typing the letter "c."

Once you have indicated your choice on any of these menus, you can do one of two things. You can press EXEC to accept the indicated choice and proceed; or you can press CANCEL to abort that choice and return to the previous menu. (From now on, the word "select" will be used to refer to the two-step process of indicating a choice and pressing EXEC to accept that choice and proceed. Thus, by moving the acceptance block to Communications and pressing EXEC, you have selected Communications.)

The specific series of choices depicted on the screens shown in Figures 2-2 through 2-5 is the series of choices to select and run a session with the Wang PC connection. In practice, your choices on the first two menus (the Main System Menu and the Communications Menu) will be the same as the illustrated choices whenever you use Asynchronous Communications. However, your choices on the final two menus (the Select a Connection menu and the Run, Modify, or Delete menu) will vary depending upon your purpose.

Selecting Communications from the Main System Menu causes the Communications Menu, shown in Figure 2-3, to appear.

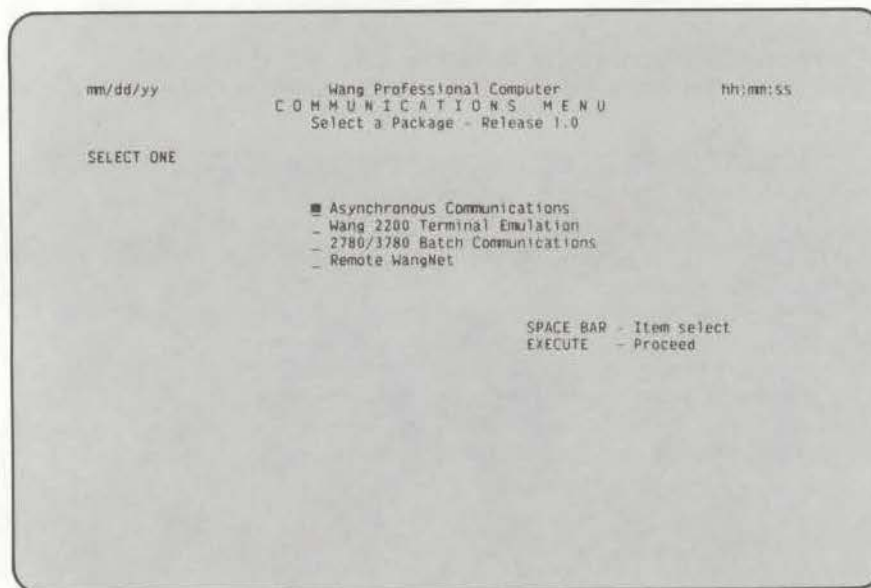


Figure 2-3 The Communications Menu

2.4 INSERTING THE ASYNCHRONOUS COMMUNICATIONS SOFTWARE DISKETTE

NOTE:

As with other Wang PC software, you should make a copy of the original Asynchronous Communications Software. (See the Introductory Guide for instructions on copying this diskette.) Use the copy and keep the original in a safe place. You can copy the original again, if the copy you regularly use is accidentally damaged. If you create new connections, you may wish to create an additional backup diskette that includes your connection files as well as the Asynchronous Communications Software.

When the Communications Menu is displayed and the red light on the diskette drive is off, remove the System Software diskette from Drive A.

To run communications, you must first insert the Asynchronous Communications Software diskette. (Make sure this diskette is not write-protected; remove the write-protect tab, if any.) Insert this diskette into the slot in the default drive (Drive A, unless you have changed it). Figure 2-1 shows the correct orientation of the diskette for insertion into the diskette drive. Make sure the Up arrow on the diskette orientation label points toward the Wang logo on the front panel of the electronics unit. Also make sure that the Insert arrow points into the drive. Slip the diskette completely into the default drive. Then close the diskette drive door.

2.5 SELECTING ASYNCHRONOUS COMMUNICATIONS

Select Asynchronous Communications from the Communications Menu. This selection causes the Select a Connection menu, shown in Figure 2-4, to appear.

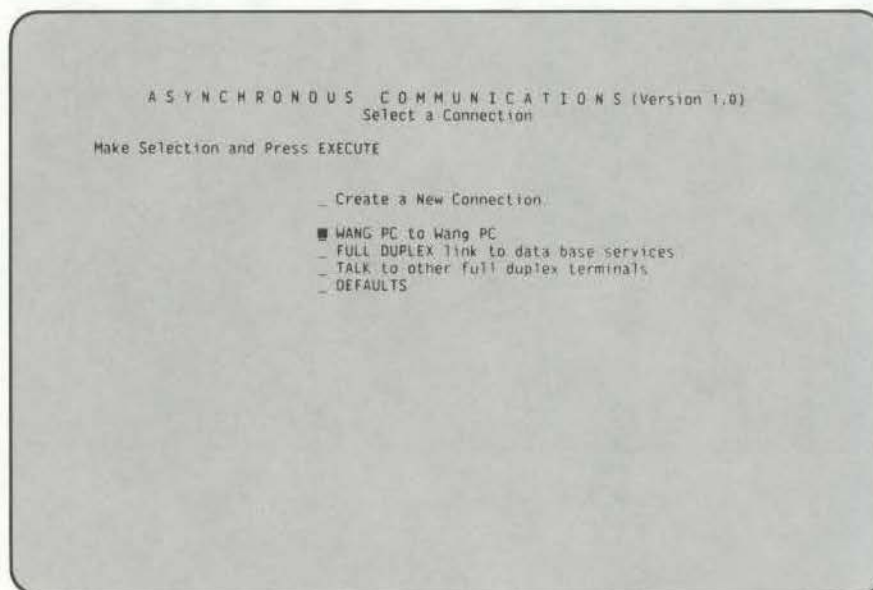


Figure 2-4 The Select a Connection Menu

2.6 SELECTING AN EXISTING CONNECTION

The Select a Connection menu enables you to begin creating a new connection or to select a connection from the list of existing connections. The list of existing connections initially includes only the four pre-defined connections provided with Wang PC Asynchronous Communications Software. Connections that you create will be added to the list. Pre-defined connections will be discussed first.

Communication options are already set and stored for each pre-defined connection (see Appendix C). For example, options are already set and stored, under the name WANG PC to Wang PC, for communication between your Wang PC and other Wang PCs. (This connection name will be abbreviated as WANG PC.)

The next two pre-defined connections are related. The FULL DUPLEX link to data base services connection (the FULL DUPLEX connection), provides a set of commonly used communication options that enable you to communicate with some data base services. The TALK to full duplex terminal connection (the TALK connection) provides a set of communication options that complement those of the FULL DUPLEX connection. The TALK connection enables you to communicate with a full duplex terminal that normally communicates with a full duplex host that uses the communication options of the FULL DUPLEX connection.

The final pre-defined connection is DEFAULTS. This connection gives you access to the file containing the prototype set of default specifications. (See Tables 4-1 through 4-4.) The Wang PC automatically supplies these default specifications for any new connection that you create. When you modify options for a newly created connection, you do not affect this prototype set of specifications named DEFAULTS.

The prototype default values originally supplied with Asynchronous Communications Software are convenient and helpful for many users. But what is convenient for many users may not be convenient for you. Therefore, you can modify the prototype set of default specifications by choosing DEFAULTS from this menu and following the procedures described in Chapters 5 through 8 for modifying specific options. The revised default values will then be automatically supplied for any new connections you subsequently create.

If you delete the DEFAULTS connection, the Wang PC supplies the default values listed in Tables 4-1 through 4-4 and in Appendix C for any connection you create thereafter.

For any new connection you create, the Wang PC stores the set of communication options you select for that connection. Chapters 4 through 8 tell you how to set up new connections using the Create a New Connection option on the Select a Connection menu. New connections that you create will be added to the list on the Select a Connection menu. You can then select these connections from the menu.

If the names of all existing connections cannot be displayed on a single screen, the additional instruction, "Use NEXT/PREV to view more names", will appear on the Select a Connection menu below the instruction, "Make Selection and Press EXECUTE". This additional instruction indicates that you can page forward or backward through the list of connections using the Next and Previous keys, respectively.

When you select a connection on the Select a Connection menu, the Wang PC retrieves the stored specifications for the chosen connection (in Figure 2-4, WANG PC). (If the Wang PC cannot find the connection file for a listed connection, the "File not found" message is displayed; see Appendix D.) Selecting a connection also causes the Run, Modify, or Delete menu, shown in Figure 2-5, to be displayed. The Run, Modify, or Delete menu allows you to delete, run a session with, or modify various options for the selected connection.

2.7 DELETING A CONNECTION

As a safeguard against accidental deletion, deleting a connection requires two separate actions on your part. If you select Delete This Connection from the Run, Modify, or Delete menu, the "File to be DELETED? (EXEC or CANCEL)" prompt appears at the bottom of the screen. You can then press EXEC to perform the deletion, or press CANCEL to abort the deletion function and remain on the Run, Modify, or Delete menu to make another choice.

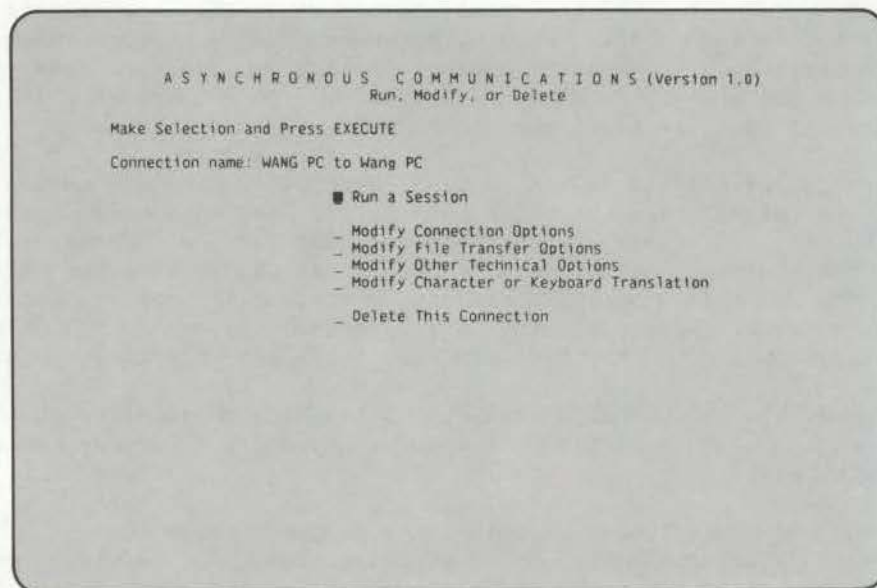


Figure 2-5 The Run, Modify, or Delete Menu

2.8 RUNNING A SESSION

When you select Run a Session from the Run, Modify, or Delete menu, the Wang PC establishes a communication link according to the specifications for the chosen connection. First the Wang PC performs a procedure that installs the device driver (a specialized piece of software) required for Asynchronous Communications. The Wang PC then sends a ready signal to the modem, and displays the Interactive Session screen, shown in Figure 2-6.

Figure 2-6 shows how the Interactive Session screen might look later during a session, when communication is already in progress. At this point, however, immediately following the selection of Run a Session, the Interactive Session screen is blank except for lines one and three. Line 1 informs you that the device driver has been successfully installed. (If the installation is not successful, a different message appears; see Appendix D.) Line 3 displays the status of the current connection: either ONLINE or OFFLINE. The ONLINE message means that the signals required for communication are active. The OFFLINE message means that one or more required signals are inactive. See Appendix B for details.

```

Async Device Driver 1.00

ONLINE
HELLO, BOSTON. I WOULD LIKE A COPY OF THE DRAFT OF THE SECOND QUARTER
MARKETING OVERVIEW.
THE DISKETTE CONTAINING THAT REPORT IS IN USE; WE CAN TRANSMIT IT TO YOU IN A
HALF HOUR.
OK, I'LL BE HERE READY TO RECEIVE IT AT 11:00.
GOOD. WE'LL CALL YOUR COMMUNICATIONS LINE AT 11:00 SHARP.
BYE
BYE.

```

Figure 2-6 The Interactive Session Screen

For a local connection via a null modem and cable, you will ordinarily see the ONLINE message right away. For a remote connection via a modem and telephone lines, however, you will probably see the OFFLINE message at first. Whenever the line status changes during a session, the Wang PC displays the new status message. Thus, the ONLINE message will appear as soon as the telephone call is completed and you have performed various simple procedures, following the modem manufacturer's instructions. Depending on the type of modem installed with your system, you may, for example, have to dial the telephone number of the other computer, listen for a high-pitched tone, and set the switch on the modem to Data.

Figure 2-6 shows the Interactive Session screen as it might appear during a session involving only interactive keyboard communication. The illustrated lines of informal dialogue are typical of a request for in-house information. In actual practice, a preliminary informal exchange such as this would probably have taken place by phone before the session.

During a session, the entire screen displays transmitted or received text originating from the keyboard. When you type in text for transmission, your screen displays it, letter by letter, as you type it. The workstation on the other end of the line also displays whatever you type, letter by letter, as you type it. Similarly, your screen displays whatever the person on the other end (the user of the host computer) types.

During keyboard communication you should press RETURN, as you would with a normal electric typewriter, to end each line and start a new line. If you reach the end of an 80-character display line, the Wang PC automatically wraps around additional text to the next display line. However, it may do so in the middle of a word. Therefore, to avoid this situation, you should press RETURN before you run out of space on the current line.

The first line of text appears near the top of the screen, under the ONLINE/OFFLINE status message. Each new line appears below the last existing line. When the screen is full, existing text (and the ONLINE/OFFLINE status message) scrolls up one line, the new line appears at the bottom of the screen, and the old top line disappears from the screen.

The screen format during file transfer is different. When you send or receive a file, the screen does not display the actual text of the file being transferred. Instead, the Wang PC displays a count of transferred data, enabling you to monitor the progress of the file transfer. In Chapter 3 you will find out more about file transfer and other functions that you can perform during a session.

2.9 ENDING A SESSION

There are two methods of ending a session. To leave communications and return immediately to the Communications Menu, press Special Function Key #16 while the Interactive Session screen (or the Available Online Functions screen, discussed in Chapter 3) is displayed. To stay in communications and return to the Run, Modify, or Delete menu, press CANCEL. By pressing CANCEL repeatedly you can return to any previous menu. Cancelling out of the Run, Modify, or Delete menu disconnects the current connection. A time-saving cancelling technique is available on screens other than the Interactive Session screen and the Available Online Functions screen. This technique enables you to return directly to the Communications Menu by pressing SHIFT CANCEL (holding down SHIFT and pressing CANCEL). Returning directly to the Communications Menu in this way disconnects the current connection.

Now that you understand the basics of running a session, you are ready to learn about file transfer and other Wang PC features available during a session.

CHAPTER 3

USING FUNCTIONS DURING A SESSION

3.1 OVERVIEW

There are many functions that you can perform at any time during a session by pressing the appropriate key(s). To make such online functions easier to use, the Wang PC includes an online help screen, depicted in Figure 3-1, that lists available online functions and the keys you press to use them. This screen also lists other useful information.

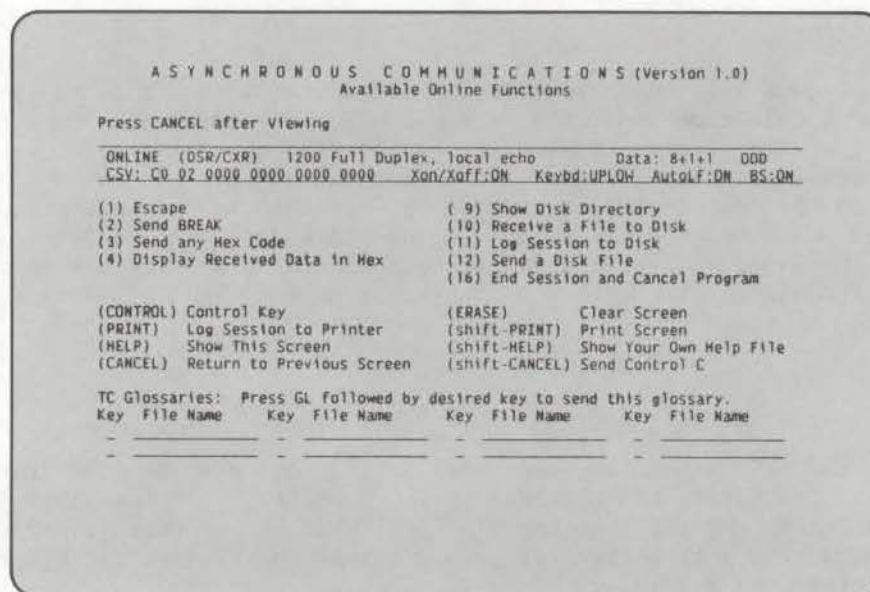


Figure 3-1 The Available Online Functions Screen

While the Interactive Session screen is displayed, you can press HELP to see the Available Online Functions screen. When you are through checking the information on this screen, you can return to the Interactive Session screen by pressing CANCEL.

The Available Online Functions screen provides an informative listing of functions that are always available to you during a session. You perform such functions by pressing specified keys, not by selecting an item from a menu. Although you do not have to go to the Available Online Functions screen to use online functions, you can still perform any desired function while this screen is displayed.

Sections 3.3 and 3.4 describe the use of certain "special function keys." The special function keys are the numbered keys in the row at the top of the keyboard. Special function key #1 (SF #1) is also labeled INDENT. A function strip is included with Asynchronous Communications Software. This function strip notes the meaning of the special function keys during a session. You can attach this function strip under the row of special function keys for easy reference. Since the back of the function strip is coated with an adhesive, you should first remove any existing function strip.

To use some of the features described in this chapter, you must supply file specifications. You can refer to the summary on file specifications in Section 1.3 if you need help.

3.2 LINE STATUS AND OTHER INFORMATION

As shown in Figure 3-1, the Available Online Functions screen lists two lines of important information under the "Press CANCEL after viewing" instruction near the top of the screen. By looking here during a session, you can check the line status. You can also check the current settings of essential communication options, including several options set via the Modify Connection Options menu and other communication options menus discussed in later chapters. The example in Figure 3-1 lists specific values for the various items of information. The values displayed on your screen may differ.

Line One

Starting at the left, the first two items in line one provide line status information. The first item (ONLINE, in the example) tells the general line status: ONLINE or OFFLINE. If the ONLINE/OFFLINE status message has scrolled off the Interactive Session screen, you can check the line status by pressing HELP to display this screen.

The second item (DSR/CXR, in the example) provides detailed line status information. DSR, if present, indicates that the Wang PC is receiving a Data Set Ready signal from the modem or null modem. CXR, if present, indicates that the Wang PC is receiving a Data Carrier Detect signal from the modem or null modem. Refer to Appendix B for more information on these signals.

The third item (1200, in the example) shows the current setting of the Baud Rate option on the Modify Connection Options menu. The baud rate is the rate of transmission/reception in bits per second.

The fourth item (Full Duplex, local echo, in the example) reflects the currently selected values for two options on the Modify Connection Options menu: the Duplex option and the Echo Received Data option. This item shows the precise wording of the Duplex option. If Echo Received Data is currently selected, the words "and PC echo" are also displayed.

The next item (Data: 8+1+1, in the example) describes the format of each character on the communication line. The numerals separated by plus signs reflect the currently selected values for three options on the Modify Connection Options menu. The first numeral (8, in the example) shows the current setting of the Data Bits option. The second numeral (1, in the example) reflects the current setting of the Parity option. The numeral 1 is displayed, unless the current setting of the Parity option is None. In that case, the numeral 0 is displayed. The third numeral (1, in the example) shows the current setting of the Stop Bits option. Possible values are 1, 1.5, or 2.

The last item in line one (ODD, in the example) reflects the current setting of the Parity option on the Modify Connection Options menu. This item shows the type of parity selected.

Line Two

Line two contains five separate items of information. These items are labeled CSV, XON/XOFF, Keybd, AutoLF, and BS.

CSV means Communication Status Vector. The 20 hexadecimal digits of this vector reflect the current status of Wang PC communication hardware and software. This information can help Wang PC support analysts diagnose communication problems. If a problem arises, note the value of the CSV. Then, if you have to call the Wang PC Assistance Center, you can supply this information to the Wang PC support analyst (see Chapter 9).

XON/XOFF tells whether XON/XOFF protocol is currently selected on the Modify Other Technical Options menu.

Keybd reflects the currently selected value of the Keyboard Case option on the Modify Connection Options menu. If Upper/lower is selected, this item displays UPLOW, as in the example. If Upper only is selected, this item displays UPPER.

AutoLF tells whether the Automatic Linefeed option is currently selected on the Modify Connection Options menu.

BS tells whether the Backspace key is currently enabled or disabled by the Backspace Key option on the Modify Character or Keyboard Translation menu. If either Destructive or Not Destructive is selected, this item displays ON. If Disabled is selected, this item displays OFF.

3.3 SPECIAL CHARACTER FUNCTIONS

Several of the functions described in this section are included to enable the Wang PC to accommodate possible requirements of various host systems. It is possible, therefore, that you may never need to use certain functions described here. The first three functions enable you to send control codes or a Break signal to the host computer. The fourth function enables you to display all incoming data in hexadecimal notation, a useful tool for troubleshooting.

The Wang PC uses an extended version of the American Standard Code for Information Interchange (ASCII code) internally to represent both data and control information. The code representing such control information can be expressed as pairs of hexadecimal digits. For a key to ASCII Code and hexadecimal notation, refer to Appendix A.

NOTE:

Hexadecimal (hex) numbers are the base-16 numbers 0 through 15, represented by the numerals 0 through 9 and the letters A through F. Since each hex digit can represent 4 binary digits ("bits") of code, two hex digits can represent the commonly used 8-bit code sequence.

Escape

You can send the ASCII Escape (ESC) character by pressing Special Function key #1. Typically, the Escape character is used to indicate that a certain number of characters that immediately follow should be given an alternate meaning. The specific meaning, if any, of the ASCII Escape character depends on the host system.

Ordinarily, the Wang PC effectively ignores a received ESC character. When it receives such a character, the Wang PC simply deletes it from the stream of received text. You can deselect this automatic deletion of received ESC characters by using the Modify Character or Keyboard Translation menu. (Refer to Chapter 8.)

Send BREAK

You can send a Break signal by pressing Special Function key #2. The Break signal is a unique line condition used, typically, to tell the host computer to interrupt whatever it is doing and prepare for input from the Wang PC. The specific response, if any, to the Break signal depends on the host system.

Send Any Hex Code

Press Special Function key #3 to send a hexadecimal code. The "What hex code?" prompt will then appear on the screen. Type the hex code and press EXEC to send it, or CANCEL to abort this function. (For a key to hexadecimal codes, refer to Appendix A.) The ability to send hex codes enables you to supply whatever special hex code sequences may be required by any host computer system.

Display Received Data in Hex

Pressing Special Function key #4 causes the hexadecimal representation of all incoming data to be displayed on the screen. To turn off this feature and return to normal display of incoming data, press SF #4 again. When data is being displayed in hex, the Available Online Functions screen lists the function of SF #4 as "Turn off hex display".

Displaying incoming data in hex is a useful tool for troubleshooting. Looking at raw incoming data is sometimes the only way to find out the cause of unexpected results. Before displaying the coded data, however, the Wang PC performs any code translation and character deletion specified on the Modify Character or Keyboard Translation menu.

3.4 FILE CONTROL AND END SESSION FUNCTIONS

The Wang PC performs all file control functions according to options set on the Modify File Transfer Options menu, discussed in Chapter 6. In order to use file control functions, you must have the appropriate options set on that menu. Options for the WANG PC connection are pre-set. Therefore, you need to set file transfer options only for new connections that will be used for file transfer. File control functions apply to files on disk or diskette.

Show Disk Directory

Pressing Special Function key #9 allows you to view the disk directory (list of files) on any disk or diskette without exiting to the Main System Menu. For files on diskette, the diskette containing the files you want must be currently inserted in a drive. After you press SF #9, the "Ready to display disk directory Enter file name" prompt is displayed.

At this point, you have several options. The content of the displayed list depends on the information you supply before pressing EXEC to begin the display. To view a list of all the files on the default drive, you can enter

.

and press EXEC. To view directory information for a drive other than the default drive, you can also enter a drive designation such as

B: *.*

then press EXEC.

By supplying a file name or file name extension, in addition to the drive designation, you can view a selective list of files. To see the directory listing for one particular file, you can supply the complete file name and file name extension, if any. For example, you could type

NEWYORK.TTY

then press EXEC to see if the diskette on the default drive contains the file NEWYORK.TTY.

In searching for files, the Wang PC recognizes an asterisk in a file name or file name extension as a "wild-card" character. The wild-card character matches any character(s) appearing in a file name or extension name following the characters, if any, that you specify. Thus, for a particular drive, you can view a list of all files beginning with certain characters by entering a partial file name followed by an asterisk. For example, you could type

NEW*.*

then press EXEC to see a list of all files on the default drive that begin with the letters NEW, starting with the first file that begins with the specified letters. Because the match-all file name extension (*.*) is specified, the names of all files beginning with NEW, regardless of extension or lack of extension, will be listed. If the file name extension were omitted, only those files without extended file names would be listed. Similarly, you could type

B:OLD*.TTY

then press EXEC to view a list of files, only on Drive B, that begin with the letters OLD and have the extension TTY, starting with the first such file.

The asterisk is necessary if you want to specify a partial file name or file name extension. In the immediately preceding examples, specifying

NEW

would not find the file NEWYORK.TTY, and specifying

B:OLD.TTY

would not find the file OLDWORK.TTY.

In the listing of files, names followed by the letter D are directory names, rather than data file names.

Receive a File to Disk

Pressing Special Function key #10 allows you to receive a disk or diskette file. After you press SF #10, the "Ready to receive a file Enter file name" prompt is displayed. Enter the specification of the file in which incoming data is to be recorded; then press EXEC to start receiving, or press CANCEL to abort the function.

If the specified file does not yet exist, the Wang PC creates a new file as specified. If the specified file already exists, the "File already exists (R)eplace or (E)xtend? (EXEC or CANCEL)" prompt appears. You have three options. You can overwrite the file, destroying the current contents. To do so, press R then press EXEC. You can extend the file, adding to the current contents. To do so, press E then press EXEC. Or you can abort the file transfer, leaving the specified file untouched. To do so, press CANCEL.

While a file is being received, you can monitor the progress of the reception by watching the received data count displayed on the screen. You will not see the actual transferred data displayed. When the Wang PC finishes receiving a file, the received data count stops and the "WAITING" message appears. When you feel certain that the host is through sending, press CANCEL to end the Receive a File to Disk function.

CAUTION:

If you are not using XON/XOFF protocol, 1200 bits per second is the maximum baud rate for reliable file reception. Unless you use XON/XOFF protocol, characters can be lost at higher baud rates.

NOTE:

You should not use XON/XOFF protocol (selectable on the Modify Other Technical Options menu) if received data might include the XON/XOFF characters. This situation could occur if you are receiving binary data, such as a program. While XON/XOFF protocol is in effect, the Wang PC treats a received XON or XOFF code as a control character. After performing the indicated control function, the Wang PC deletes the XON/XOFF code from the stream of received data.

Log Session to Disk

You can begin logging (recording) an interactive session on a disk or diskette file by pressing Special Function key #11. After you press SF #11, the "Ready to log session to disk Enter file name" prompt is displayed. Enter the specification of the file (the "log file") into which the session will be recorded; then press EXEC to start receiving, or press CANCEL to abort the function.

If the specified file does not yet exist, the Wang PC creates a new file as specified. If the specified file already exists, you have the same three options described above for the Receive a File to Disk function. You can replace the file, destroying the current contents; you can extend the file, adding to the current contents; or you can abort the logging function, leaving the specified file untouched.

The Wang PC can log keyboard communication in its entirety. Usually, anything typed on the Wang PC keyboard or on the host keyboard is recorded in the log file. (You can restrict logging to just transmitted or received data, by modifying the Modify File Transfer Options menu, as described in Chapter 6.)

However, the Wang PC cannot log a session to disk during file transfer operations. You must stop logging to disk in order to send or receive a file. To turn off the logging feature and close the log file, press SF #11 again. While a session is being logged to disk, the Available Online Functions screen lists the function of SF #11 as, "Turn off disk log."

You can use the Log to Disk function to create help files or glossary files. See Section 3.5, under the heading Show Your Own Help File, and Section 3.6 for details.

Send a Disk File

Pressing Special Function key #12 allows you to transmit a disk file. After you press SF #12, the "Ready to send a file Enter file name" prompt is displayed. Enter the specification of the file to be sent; then press EXEC to start sending, or press CANCEL to abort the function. While a file is being transmitted, you can monitor the progress of the transfer by watching the transferred data count displayed on the screen. The length of the file being transmitted will also be displayed. You will not see the actual transferred data displayed. Note that when you send a file, you actually send a copy of the specified file that remains on the Wang PC.

NOTE:

You should not use XON/XOFF protocol (selectable on the Modify Other Technical Options menu) if transmitted data might include the XON/XOFF characters. This situation could occur if you are sending binary data, such as a program. While XON/XOFF protocol is in effect, the host presumably treats a received XON or XOFF code as a control character. The specific results are unpredictable, because they depend on the host.

End Session and Cancel Program

Press Special Function key #16 to end the session. The Wang PC cancels the Asynchronous Communications program, breaks the communication link with the host computer, and displays the Communications Menu.

3.5 PRINTER CONTROL AND OTHER FUNCTIONS

Printer options apply only if a printer is currently attached to the system.

CAUTION:

The first time you select a printer function during a session, the following message appears.

You have selected a PRINTER function
Please turn on your printer and press EXEC
or press CANCEL if your system does not have a printer

If you have a printer, turn it on and press EXEC; you will not see this message again during this session. If you do not have a printer, be sure to press CANCEL whenever you see the above message. If you press EXEC by mistake, the Wang PC will be unable to proceed until you restart the system. You may lose some of your work in progress.

The printer options discussed in this section allow you to print a copy of the Interactive Session screen display. You may already be familiar with some of the other functions described here. However, showing your own help file and erasing the screen are new functions.

Control Key

Some ASCII control codes are also associated with standard keyboard characters and are referred to as the ASCII control characters Control A, Control B, and so on. During a session, you can send the ASCII control code associated with a particular letter by holding down CONTROL, then pressing the desired letter on the standard keyboard. For a key to ASCII control codes, refer to Appendix A.

Clear Screen

Pressing ERASE during a session clears the screen and positions the cursor at the upper left corner of the screen.

Log Session to Printer

Pressing PRINT allows you to log both transmitted and received data (in general, anything that appears on the screen) to the printer. To stop logging the session to the printer, press PRINT again. During printer logging, the Available Online Functions screen lists the function of the Print key as "Stop Printing Session."

This feature is unaffected by the setting of the What to Log option (Received Data, Transmitted Data, Both) on the Modify File Transfer Options menu. Therefore, both transmitted and received data are logged to the printer whenever you use this function. Also, since this feature can log only what appears on the screen, you cannot use this feature to log to the printer the contents of files that are being sent from disk or received to disk. The printed log does not include the file transfer prompts that appear at the bottom of the screen when you use file transfer functions.

Print Screen

You can print the current Interactive Session screen by pressing SHIFT PRINT. Hold down SHIFT, then press the Print key. This feature is not available during file transfer operations or while you are responding to prompts from other online functions.

Show This Screen

Pressing HELP during a session displays the Available Online Functions screen. You do not have to go to this screen if you already know which key(s) to press to use a desired function.

After you press HELP, the Available Online Functions screen is displayed until you invoke a function, or press CANCEL to return to the Interactive Session screen. While the help screen is displayed, EXEC has no effect.

While the Available Online Functions screen is displayed, received data can accumulate in a temporary holding area (called the "receive buffer"), but cannot be fully processed. If received data exceeds the size of the receive buffer, data can be lost.

As a safeguard against losing received data while the Available Online Functions screen is displayed, the Wang PC ordinarily uses the XON/XOFF feature to tell the host to interrupt, then resume transmission. (See Chapter 7.) If the host system does not support XON/XOFF protocol, or if XON/XOFF protocol is deselected on the Modify Other Technical Options menu, received data can be lost while the Available Online Functions screen is displayed.

Show Your Own Help File

By pressing SHIFT HELP (holding down SHIFT then pressing HELP) during a session, you can display one or more screens of useful information that you have previously defined and stored.

To use this feature you must first set up a file containing the information to be displayed, then enter the name of that file on the Modify Connection Options menu, following the format outlined in Section 5.3. The help file can contain up to 100 lines. When you press SHIFT HELP, the Wang PC displays the first twenty lines of your help file. Press NEXT to display the next twenty lines. Then press NEXT or PREV to display the next or previous twenty-line screen, and so forth.

After you press SHIFT HELP, the help screen you defined for the current connection is displayed until you press CANCEL to return to the Interactive Session screen. While the help screen is displayed, pressing EXEC has no effect. If you have not specified a help file, pressing SHIFT HELP has no effect, and processing continues.

You can create a help file using the Wang PC Editor described in Chapter 10. You can also create a help file using the Log to Disk function described in this chapter. To do so, you must appropriately set two options on the Modify File Transfer Options menu. Set the What to Log option to Transmitted Data. Set the How to Save Logged Data option to Interpret Control Codes. With these settings, the Wang PC records whatever you type, including carriage returns and other essential control characters, in the log file. Turn off the Log to Disk function when you have typed in the contents of your help file. Then enter the log file as the Help File Name option on the Modify Connection Options menu for any connection.

You can associate a help file with one or more connections by listing that file as the help file on the Modify Connection Options menu for each desired connection. Although you may associate a single help file with more than one connection, a connection cannot have more than one help file. (Remember that the help file described here is the help file you set up. It is different from the various built-in help screens, supplied by the Wang PC, that apply to all connections.)

You can set up your own help file for each connection, set up help files for specific connections only, or set up no help files at all. The online reference provided by this feature can be very useful. For example, if you were viewing stock quotations, you might want to set up an online key to the various symbols used.

The Wang PC uses a special feature to prevent possible loss of received data while the help screen is displayed. Refer to the last paragraph in the preceding discussion of the Show This Screen function.

Return to Previous Screen

If you are on the Interactive Session screen, pressing CANCEL returns you to the Run, Modify, or Delete menu. From there, you can modify various options and then return to the Interactive Session screen without ever breaking the communication link to the host system; or you can press CANCEL again to break the connection.

If you are on a system-defined help screen, such as the Available Online Functions screen, or on a help screen defined by you, pressing CANCEL returns you to the screen you were on when you pressed HELP or SHIFT HELP.

Send Control C

Press SHIFT CANCEL (hold down SHIFT then press CANCEL) to send Control C. Control C is an ASCII control character. Many timesharing systems interpret a received Control C as a signal to end processing of the current program. The actual interpretation of this control character depends on the particular host system.

3.6 TELECOMMUNICATION GLOSSARIES

A Telecommunication (TC) glossary is a Wang PC feature that enables you to send a particular series of keystrokes simply by pressing GL (the Glossary key) and another key that you specify. Do not hold down GL while pressing the subsequent key. You may specify up to eight TC glossaries for each connection.

You can use TC glossaries to key in frequently performed routines. You can use a glossary to send a frequently used message more conveniently. For example, you could create a glossary to send the following message whenever you press GL followed by the letter "h":

Hello, this is Mike at the Lowell office,
ready to receive the weekly regional sales
figures (Report # RSW-02).

You can also use TC glossaries to send control characters that are not on the standard keyboard. Using TC glossaries in this way would be convenient if a regularly contacted host system required you to send such control characters.

You can also use TC glossaries to send sequences of characters, including keystrokes such as RETURN and TAB. For example, you could use TC glossaries to log on to a timesharing service or to access a database more conveniently.

To use this feature, you must first create a file (a "glossary file") containing the series of keystrokes to be sent. Then, for a particular connection, you must associate that glossary file with a particular key on the standard keyboard. You do so by entering the name of the glossary file and the key with which it will be associated under the TC Glossaries option on the Modify Connection Options menu. (See Section 5.3.)

You can create a TC Glossary file using the Wang PC Editor described in Chapter 10. The Editor is especially useful in creating a glossary file that contains only an all-text message, such as the message in the first example above.

You can also create a TC Glossary file using the Log to Disk function described in this chapter. Creating a glossary file in this way enables you to include control characters and other keystrokes as well as regular printable characters. The ability to store such characters can be especially important in storing logon sequences.

To create a glossary file using the Log to Disk function, you must set two options on the Modify File Transfer Options menu. Set the What to Log option to Transmitted Data. Set the How to Save Logged Data option to As Is. With these settings, the Wang PC stores in the log file whatever you type, including carriage returns and other control characters. Then you can enter the log file under the TC Glossary File Name option for any connection.

The same glossary file can be associated with more than one connection. Used with different connections, the same glossary file can be associated with different keys.

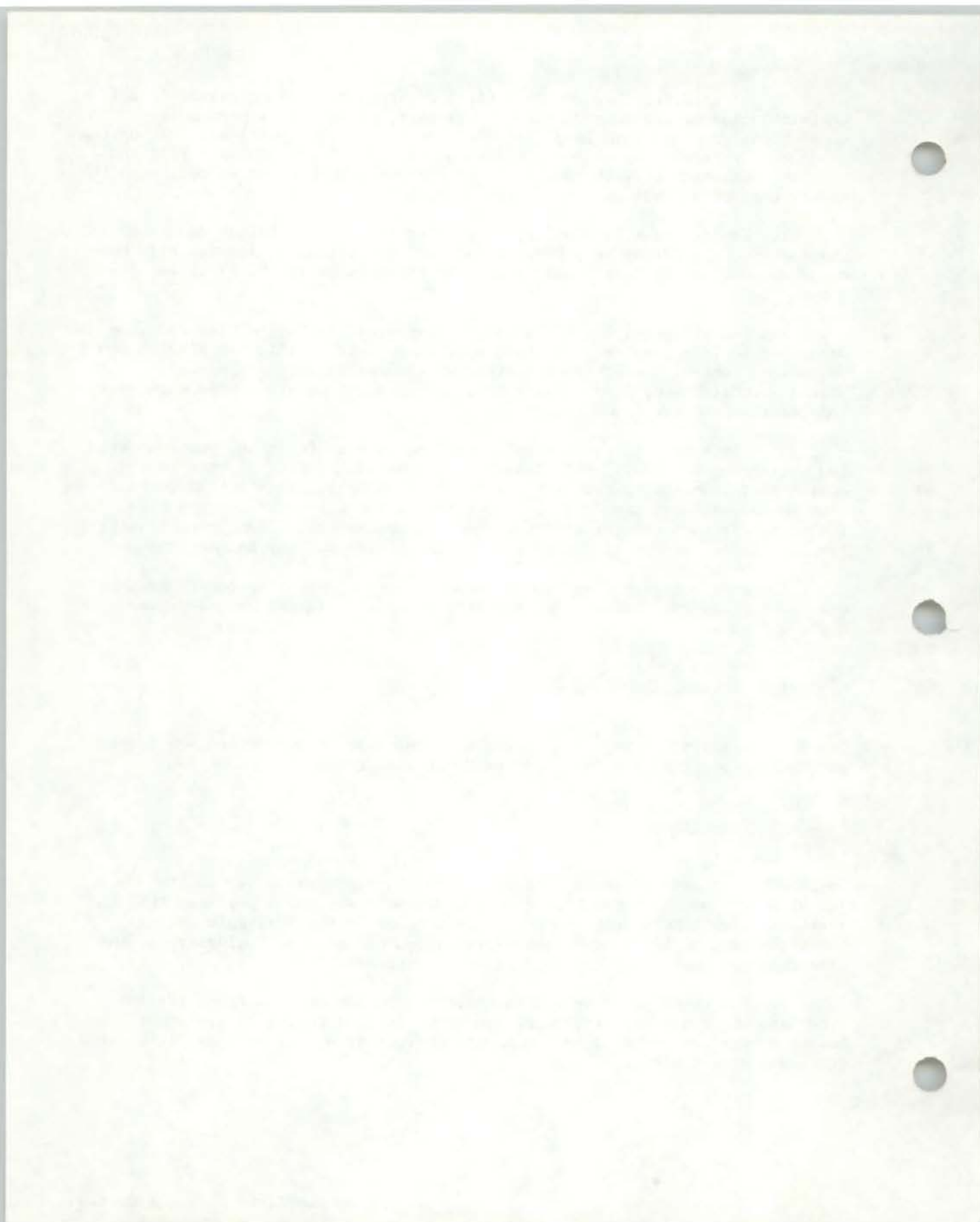
List of TC Glossaries

The TC glossaries, if any, associated with the current connection are listed at the bottom of the Available Online Functions screen.

Send a TC Glossary

To send a TC glossary, press GL followed by the appropriate key on the standard keyboard. Do not hold down the Glossary key while pressing the subsequent key. Note that you do not need to go to the Available Online Functions help screen to use this feature; you can send a TC glossary at any time during a session by the appropriate keystrokes.

At this point you have all the information you need to run a session with WANG PC or any existing connection. Chapters 4 through 8 will show you how to create new connections and modify options as needed to communicate with different host systems.



CHAPTER 4 CREATING A NEW CONNECTION

4.1 OVERVIEW

A connection is a named set of options, stored by the Wang PC and used to establish communication with a particular computer system. To create a new connection, you must first find out the requirements of the host computer. Section 4.2 contains four tables that list modifiable Wang PC options. Use these tables to research host requirements. Call or write the host computer installation to find out which host requirements, if any, differ from Wang PC default values.

Once you know these requirements, you can create the new connection, using the Select a Connection menu and the four options menus described in Chapters 5 through 8. From the Select a Connection menu, select Create a New Connection. Next, specify a connection name and its associated file name on the Modify Connection Options menu. Then, if necessary, modify other options on that menu and on the Modify File Transfer Options menu, the Modify Other Technical Options menu, and the Modify Character or Keyboard Translation menu. Note that each of these four menus is associated with a particular connection. You can access these menus only if a particular connection has been selected or is being created.

If a particular specification for the host computer already matches the default specification, you need not modify that specification. Recall that modifying a given option for a newly created connection changes the option only for that connection and does not affect the value of that option in the prototype set of specifications named DEFAULTS.

Defining a new connection can sometimes be time-consuming, depending on how many options you must change. However, modifying these options to match host specifications enables the Wang PC to handle the technicalities for you whenever you communicate with that host. Once you have modified these options, you can establish communication with that host by simply selecting the appropriate connection name from the Select a Connection menu.

In checking and matching host specifications that can vary from system to system, you do not need to understand all the technicalities of transmission. However, you should have a general understanding of both asynchronous transmission and the use of hexadecimal codes to represent data and control information.

During asynchronous communication, each character of data is transmitted as a coded series of impulses. A character is translated into its familiar form as a letter, number, or symbol only when displayed or printed. Each encoded character of data is sandwiched between control and error checking codes that are supplied and interpreted by the communicating computers. The communicating computers must agree not only on the meaning of the data code, but also on the meaning of control and error checking codes and other technical matters.

Both data and control codes can be represented as series of hexadecimal (hex) numbers (base-16 numbers 0 through 15, represented by the numerals 0 through 9 and the letters A through F). Appendix A contains a table of commonly used hexadecimal values and their translations into keyboard characters and control information in the coding system used by many computers. Some of the options discussed in Chapters 5 through 8 involve hexadecimal codes. Hexadecimal codes are useful in diagnosing transmission problems and in accommodating the custom requirements of some computer systems.

4.2 GATHERING REQUIRED INFORMATION

Tables 4-1 through 4-4 list the sets of options you can modify via the menus discussed in Chapters 5 through 8, respectively. In many cases, matching the options in Table 4-1 alone with host requirements will enable you to establish keyboard communication. The sets of options in Tables 4-3 and 4-4, in particular, are not likely to require modification, but they are provided to give the Wang PC maximum flexibility.

Each table below lists the options found on one of four separate screen menus. The chapter that contains detailed information on the individual menu is identified in parentheses following the underlined menu title in the heading. An asterisk preceding an option indicates that the option is dependent on the host computer. You must find out host requirements for these host-dependent items by calling or writing the host computer installation. On the left side of the table, under the name of the option, is the default value for that option. The right side of the table contains additional information, if necessary, to help you set that option appropriately.

NOTE:

The default values listed in Tables 4-1 through 4-4 are accurate as this book goes to press, but subject to change. You should verify this information before using these tables. To do so, select DEFAULTS from the Select a Connection menu. Then, compare the default values listed in these tables with the actual default values displayed on the four modification menus for the DEFAULTS connection. Note any change on the appropriate table.

For the Modify Connection Options Menu (See Chapter 5.)

Table 4-1 Connection Options

Specification Default Value	Remarks
Connection Name (No default value)	Must be specified
Password (No default value)	Optional Wang PC feature
Directory Path (No default value)	Optional Wang PC feature
Auto Run No	Optional Wang PC feature
Connection File Name (No default value)	Must be specified
Help File Name (No default value)	Optional Wang PC feature
*Parity Even	Type of error-checking Possible Values: Even, Odd, None, Space, Mark, Ignore
*Data Bits 7	
*Stop Bits 1	
*Baud Rate 1200	Sometimes called Line Speed, Bit Rate
*Duplex Full Duplex/local echo	Sometimes called Line Operation, Line Discipline, HDX/FDX; Possible Values: Full Duplex/host echo, Full Duplex/local echo, Half Duplex

* host-dependent

Table 4-1 Connection Options (continued)

Specification Default Value	Remarks
*Echo Received Data No	Sometimes called Echo to Host
*Automatic Linefeed Yes	
*Keyboard Case upper/lower	Sometimes called Caps Lock
TC Glossaries (No default value)	Optional Wang PC feature

* host-dependent

For the Modify File Transfer Options Menu (See Chapter 6.)

Table 4-2 File Transfer Options

Specification Default Value	Remarks
*How to Save Received Data As Is	Possible Values: Interpret Control Codes, As Is
*Transmit End of File Code Blank; no code specified	Possible Values: various hex numbers
What to Log Both	Optional Wang PC feature Possible values: Received Data, Transmitted Data, Both
*How to Save Logged Data Interpret Control Codes	Possible values: Interpret Control Codes, As Is

* host-dependent

For the Modify Other Technical Options Menu (See Chapter 7.)

Table 4-3 Other Technical Options

Specification Default Value	Remarks
*Send End of Message Sequence hex 0D	What hex code(s) does the host interpret as the end of a message?
*Received End of Message Sequence hex 0D	What hex code(s) does the host send at the end of a message?
*XON/XOFF Protocol Not Supported	Possible Values: Supported, Not Supported
*XON value hex 11	
*XOFF value hex 13	
Parity Error Substitute #	
*Respond to Received End of Message No	Should the Wang PC send a code when it receives an end of message sequence from the host?

* host-dependent

For the Modify Character or Keyboard Translation Menu (See Chapter 8.)

Table 4-4 Character or Keyboard Translation Options

Specification Default Value	Remarks
*Received Codes to Delete All except Carriage Return (CR) and Linefeed (LF)	Possible Values include one or more or none of the following: All except Carriage Return (CR) and Linefeed (LF), Carriage Return, Linefeed, Bell, XON, XOFF, Escape, Other (specified as hex number)
*Character Set ASCII	Possible Values: ASCII, EBCDIC, Other stored as table in a named file
*Backspace Key Function Destructive	Possible Values: Destructive, Not Destructive, Disabled

* host-dependent

Conclusion

If information on a particular specification is unavailable, it is possible that a certain value for that specification is so typical that it may be considered to be standard. In this case, the default values may enable you to create a viable connection. It does not harm the equipment to try establishing a connection using default values for unknowns, if any. If default values do not work, either you can get the required information from someone who knows; or, possibly, if there are only a few unknowns, you can use trial and error to find out the correct specifications.

Once you have collected the required information listed in the preceding tables, you are ready to create a new connection. The first step in creating a new connection is to select Create a New Connection from the Select a Connection menu. This selection causes the Modify Connection Options menu to be displayed. Chapter 5 describes this menu in detail.

CHAPTER 5 MODIFYING CONNECTION OPTIONS

5.1 OVERVIEW

To display the Modify Connection Options menu, select Create a New Connection from the Select a Connection menu. Figure 5-1 shows the Modify Connection Options menu for the WANG PC connection. The words "WANG PC to Wang PC" and "WANGPC.TTY" appear in Figure 5-1 as examples; the menu you call up will have blank spaces for the Connection Name and Connection File Name options. (The options currently selected on your screen can also differ from those in the figure if you have modified the DEFAULTS file.)

```

      ASYNCHRONOUS COMMUNICATIONS (Version 1.0)
      Modify Connection Options

Make Selections and Press EXECUTE

Connection Name: WANG PC to Wang PC      Password: _____
Directory Path: _____              Auto Run: ☒ No ☐ Yes
Connection File Name: WANGPC.TTY          Help File Name: _____

Parity:      Data Bits:  Stop Bits:  Baud Rate:
- Even - Space ☒ 8 ☒ 1      - 50      150      1800      4800
- Odd  - Mark  - 7      - 1.5      - 75      300      2000      7200
- None - Ignore - 6      - 2        - 110     600      2400      9600
-      -      - 5      -          - 134.5 ☒ 1200 3600      19200

Duplex:      Echo Received Data:  Auto Linefeed:  Keyboard case:
- Full/host echo ☒ No      - No      - ☒ Upper/lower
- Full/local echo ☒ Yes    - Yes     - ☐ Upper only
- Half

TC Glossaries:  Key File Name:  Key File Name:  Key File Name:
- _____  - _____  - _____  - _____

```

Figure 5-1 The Modify Connection Options Menu

You will usually access the Modify Connection Options menu only when creating a new connection. However, you can also access this menu, during a session if necessary, to modify connection options for a selected existing connection. For a selected existing connection, you access this menu from the Run, Modify, or Delete menu. Modifying connection options during a session does not break the link to the host computer.

5.2 KEYBOARD TECHNIQUE FOR MODIFYING OPTIONS

The technique described below for entering names and choosing options applies to the Modify Connection Options menu. This technique also applies to the other modification menus discussed in Chapters 6, 7, and 8.

You can type keyboard characters to specify names or numbers where the cursor appears in a blank field, such as the Connection Name field. Mistakes can be corrected by moving the cursor to the erroneous character and overstriking. Cursor movement can be destructive or nondestructive. In a nondestructive move, the cursor is simply repositioned; existing characters in the path of the cursor are unaffected. In a destructive move, however, characters in the path of the cursor are replaced by blanks. You can use the Backspace key (destructive) or the WEST cursor control key (nondestructive) to move backward to previously entered characters. You can also use the space bar (destructive) or the EAST cursor control key (nondestructive) to move forward within the field to a particular character.

Press RETURN or TAB to move the cursor to the next selection area. Each time you press RETURN or TAB, the cursor moves to the next selection area to the right. You can press RETURN, for example, to move from the Connection Name area to the Password area. If you are already at the rightmost selection area in a horizontal row of selection areas, pressing RETURN or TAB moves the cursor to the leftmost area of the next row of selection areas below the current row. You can press RETURN, for example, to move from the Password area to the Directory Path area. Pressing RETURN at the bottom rightmost area will move the cursor to the top leftmost area.

To move back to the previous selection area, you can use the Backtab key in the same way that you use RETURN or TAB to move forward to the next selection area. Within some selection areas, the Wang PC will not accept certain entries or selections that are in error or incompatible with other current selections. The "Invalid Entry" message appears when you press RETURN, TAB or BACKTAB (see Appendix D). You will be unable to move from the erroneous or incompatible selection area until you make an acceptable entry or selection.

Within a column of possible values for a particular specification, such as the Data Bits column, the location of the acceptance block indicates the currently selected value. To select a different value within such a column, you must move the acceptance block to the desired value. You can use the space bar to move the acceptance block forward (down) through the list and the Backspace key to move them backward (up) through the list. Movement is circular in both directions. You can also type the first letter of the desired choice to move immediately to that choice.

From this screen, or from any screen used to modify options, you can get an on-screen explanation of the various options at any time by pressing HELP. To return from the help screen and continue modifying options, press CANCEL.

Before you press EXEC, you can go back and modify any specifications. When you have set all options on a particular menu to the desired values, press EXEC to lock in your selections. Pressing EXEC causes the Wang PC to replace the old specifications in the connection file with the new ones. Pressing EXEC also returns you to the Run, Modify, or Delete menu.

Pressing CANCEL while the Modify Connection Options menu is displayed aborts all changes and restores the values that were in effect when you entered this menu. Pressing CANCEL also returns you to the Run, Modify, or Delete menu.

5.3 MODIFYING SPECIFIC OPTIONS

The Modify Connection Options menu lists two options that you must specify to define a new connection: the Connection Name option and the Connection File Name option. You could create a new connection by entering values for only these two items then pressing EXEC. Such a connection would retain default values for all other modifiable options. Some items on this menu, such as the Help File Name, apply to optional Wang PC features. You need not specify such optional items in creating a new connection. Most of the items on this menu, however, are host-dependent. You will usually have to modify some of these options to accommodate the host computer. The host-dependent options on this menu are those most likely to vary from connection to connection.

You need to modify only those host-dependent options (asterisked in Table 4-1) for which the current values differ from requirements of the host computer. The Modify Connection Options menu displays the current values of all options. You can compare the values listed on the screen with host requirements to see which items you must modify. Or, unless you have changed the connection options in the DEFAULTS connection file prior to creating the current connection, you can check the default values listed in Table 4-1 against host requirements. The connection options for a new connection are supplied by the DEFAULTS connection file. If you have not changed the DEFAULTS file, the current values displayed on the screen for the new connection will be the same as the default values listed in Table 4-1.

The following items on the Modify Connection Options menu involve file specifications: the Connection File Name, the Directory Path, the Help File Name, and the TC Glossary File Name(s). You must specify a connection file name; you may optionally specify a directory path, a help file name, and one or more TC glossary file names. See Section 1.3 for selected background information on file specification. The method of specifying the directory path on this menu is slightly different from the method described in Section 1.3. Detailed information is provided in the discussion of the Directory Path option below.

Connection Name

You must supply a name for the new connection. This name can be up to 40 characters long, including blanks. This is the name that will appear on the Select a Connection menu the next time you want to use this connection. Use a name that appropriately describes the connection so that you can reference it easily. If necessary, you can change the connection name later, using this menu.

Password

A password is optional. If you wish to protect use of the connection, you can specify a password of up to eight characters.

If you specify a password here on the Modify Connection Options menu, the prompt, "Enter password: _____", appears in the lower left corner of the screen whenever this connection is selected on the Select a Connection menu. Anyone, including you, attempting to use this connection must key in this password before the system will allow access to this connection.

If you leave the Password option blank on the Modify Connection Options menu, no password is required, and no prompt will appear requesting one.

Auto Run

Auto Run is an optional Wang PC feature that is especially convenient if you always, or almost always, use just one connection. This feature allows you to specify one connection as the Auto Run connection. You can begin running a session with the Auto Run connection more conveniently. If you designate an Auto Run connection, selecting Asynchronous Communications from the Communications Menu will select and run the Auto Run connection; then the Interactive Session screen will appear. You do not have to make selections on the Select a Connection menu and the Run, Modify, or Delete menu.

When Auto Run is in effect, you can still select a different connection by cancelling back to the bypassed menus. Press CANCEL on the Interactive Session screen to access the Run, Modify, or Delete menu. Then press CANCEL again to access the Select a Connection menu.

You can specify only one connection at a time as the Auto Run connection. If you select a new Auto Run connection when there is already a connection designated as such, the new connection will override the old. The stored connection options for the former Auto Run connection will automatically reflect this change.

Directory Path

The directory path is an optional parameter that is combined with certain file name fields specified on this menu to supply complete file specifications. This directory path is used for accessing the connection file as well as the optional help file, if any, specified on this menu. If you leave the Directory Path option blank, the Wang PC uses the default directory path instead to access these files. This Directory Path option, however, differs from the standard directory path specification. With this option, you can specify a drive designation in addition to the standard directory path.

The directory path format for this option is
B:/NAME0001/NAME0002/.../NAME000N/ where

- B: (a letter followed by a colon) designates the disk or diskette drive. If you specify a drive designation here, you cannot specify a drive designation for the Connection File Name or Help File Name options. If the drive designation is omitted (here and in the pertinent file name), the drive containing the Asynchronous Communications Software is used.
- / (a slash) follows each name in a series of directory names of up to 8 characters each. The / preceding the first directory name, if used, tells the system to start at the most general (root) disk directory. If it is omitted, the path specified starts from the default directory.

The following examples show how the Directory Path and File Name fields on this menu are combined to supply a standard complete file specification. Parentheses enclose clarifying comments.

```
Default Directory = A:/FINANCE/ (Set by you through the Path Utility)
Directory Path = blank
File Name = NEWYORK.TTY
File Accessed As = A:/FINANCE/NEWYORK.TTY
```

```
Default Directory = A:/FINANCE/
Directory Path = B:/STOCKS/ (Leading / = start at root.)
File Name = NEWYORK.TTY
File Accessed As = B:/STOCKS/NEWYORK.TTY
```

```
Default Directory = A:/FINANCE/
Directory Path = A:STOCKS/ (No leading / = append to default path.)
File Name = NEWYORK.TTY
File Accessed As = A:/FINANCE/STOCKS/NEWYORK.TTY
```

Connection File Name

In creating a new connection, you must specify a connection file name. (Lower case letters are converted to upper case.) You can also use this option to change the name of an existing connection. The file name entered here, combined with the directory path described above, identifies the file that stores all communication options for the connection named by the Connection Name option on this menu. The Wang PC looks up this connection file when you select the associated connection name on the Select a Connection menu.

When you press EXEC to select the set of choices made on this entire menu, the Wang PC creates a new file of the specified name and deletes the former connection file, if any. If you modify an existing connection file name, the "File does not exist, OK to CREATE? (EXEC or CANCEL)" prompt appears. You can press EXEC to perform, or CANCEL to abort the modification. This process protects you from accidentally renaming a connection file.

The Wang PC also protects you from accidentally destroying existing files. When accidental damage to an existing file could result, the specified connection file cannot be created or replaced. The Wang PC displays a message informing you of this fact (see Appendix D). To proceed in such a case, specify a different connection file name and press EXEC.

Filenames for this option are specified according to the format

B:NNNNNNNN.EXT where

B: (a letter followed by a colon) designates the disk or diskette drive. If you specify a drive designation here, you cannot specify a drive designation in the Directory Path option. If you omit the drive designation here and in the Directory Path option, the drive containing the Asynchronous Communications Software is used.

NNNNNNNN (a series of up to 8 characters) is the file name.

.EXT (a period followed by up to 3 characters) is the optional file name extension

Help File Name

During a session, you can display up to five twenty-line screens of previously stored information by pressing SHIFT HELP (holding down SHIFT and pressing HELP). (See Chapter 3.) To use this feature you must create a file containing the information to be displayed and enter here the name of that file, following the format outlined above for the Connection File Name option. You can associate only one optional help file with a particular connection. However, you can associate the same help file with more than one connection. To do so, enter the same file for the Help File Name option on the Modify Connection Options menu for different connections.

Modifying Connection Options

You can create a help file using the Log to Disk function (see Chapter 3) or the Wang PC Editor (see Chapter 10). The help file can contain up to 100 lines. The help file is displayed on up to five separate screens of twenty lines each. The first screen is displayed when you press SHIFT HELP on the Interactive Session screen or the Available Online Functions screen. Then you can press NEXT or PREV to display the next or previous screen, if any. If you have not specified a help file, pressing SHIFT HELP has no effect.

Parity

You must specify the type of parity check, if any, used to detect transmission errors in received data. For even parity, the transmitting computer appends an extra binary digit (bit) to each character. The transmitting computer sets this extra bit "on" or "off" to make the sum of the "on" bits (including the parity bit and preceding data bits) even. The receiving computer then detects as in error any incoming character for which the sum of the "on" bits is not even. Odd parity works similarly, using odd sums of "on" bits.

For space parity, the appended parity bit is always an "off" bit, regardless of the value of the preceding data bits. Similarly, for mark parity, the parity bit is always an "on" bit. With space or mark parity, the Wang PC does not check parity on received characters.

You should specify the parity option None if the sending computer is not appending a parity bit to each transmitted character. If, however, the sending computer is appending a parity bit to each transmitted character, you must either specify the type of parity in use (Odd, Even, Space, or Mark) or specify Ignore. Specifying Ignore instructs the Wang PC to take no action when it detects a parity error. Otherwise, the system will substitute the parity error substitute character (#, unless modified by you) specified on the Modify Other Technical Options menu. Specifying Ignore is handy when you know that parity is being used, but you do not know which type is being used.

Data Bits

You must specify the number of binary digits (bits) of code used to represent data during transmission. This number does not include start bits, stop bits, and parity bits.

Stop Bits

You must specify the number of stop bits per character. During transmission, each character is immediately followed by a stop element, of 1, 1.5, or 2 bits in duration, that signals the end of character transmission. (Each character is also immediately preceded by a start bit that signals the beginning of character transmission, but you do not have to specify a duration for the start bit.)

Baud Rate

You must specify the baud rate in bits per second (bps). The baud rate may also be referred to as the bit rate, the line speed, or the rate of transmission.

Duplex

You must specify the Duplex. This specification can also be referred to as the mode of line operation, line use, line type, or line discipline. Half duplex (HDX) lines can carry messages in only one direction at any given time. The line must be turned around by the hardware each time the direction of transmission is changed. Full duplex (FDX) lines can carry messages in both directions at the same time.

Full duplex requires the additional choice of host echo or local echo. Usually, data that you enter at the keyboard is echoed locally; i.e., it is displayed on your workstation screen as soon as you type it. Host echo provides you with one method of confirming that transmitted data has arrived intact at its destination. With host echo, data that you enter at the keyboard does not appear on the screen until sent back by the host. The host computer system echoes received data by sending a copy of received data back to the Wang PC. If such echoed data appears intact on your workstation screen, it is virtually certain that it arrived at the host intact.

If you choose host echo, the host computer must have echo capability. If the information you receive about the host computer tells only that the line is full duplex, it is probably full duplex/host echo.

Echo Received Data

If you select Yes for this feature, the Wang PC will automatically transmit a copy of all received characters back to the host. Specifying No disables this feature.

Echoing received data provides the host with a way of confirming that transmissions to the Wang PC have been received intact. If the Wang PC echoes exactly what the host sent, the host system user can be sure that the Wang PC received the message correctly. This feature can be used only with full duplex transmission.

Auto Linefeed

Automatic Linefeed provides a simple way for you to specify correct formats for interactive keyboard communication. You can enable or disable this feature by specifying Yes or No.

On a normal electric typewriter, pressing the return key causes both a carriage return (CR) and a linefeed (LF). That is, pressing the return key not only repositions the printing head at the extreme left margin (CR) but also scrolls the paper forward (LF). In data communication, carriage return and linefeed are two separate functions transmitted as two separate codes. Auto Linefeed enables you to simulate the familiar carriage return function of a normal typewriter.

If you select Yes for Auto Linefeed, the Wang PC ignores all received linefeeds and performs the linefeed function whenever it receives a carriage return. If you select No for Auto Linefeed, any received carriage return moves the cursor to the first position of the current line, and any received linefeed moves the cursor down one line in the current column.

Keyboard Case

You must specify whether upper and lower case characters or upper case characters only will be transmitted, received, displayed, and stored. Select Upper/lower if both upper case and lower case letters are to be used. Select Upper only if only upper case characters are to be used. If you select Upper only, the Wang PC translates all transmitted characters to uppercase before sending. It also translates all received characters to uppercase before displaying them on the screen or storing them on disk.

Telecommunication Glossaries

You do not have to specify telecommunication (TC) glossaries. A TC glossary is an optional Wang PC feature that enables you to send a particular series of characters or keystrokes simply by pressing the Glossary (GL) key then another key, specified by you. See Chapter 3 for more information on using TC Glossaries.

If you specify a TC glossary, you associate the contents of a glossary file with a specified key. You can specify up to eight TC glossaries for any connection. The same glossary file may be associated with more than one connection. Used with different connections, the same glossary file can also be associated with different keys. For each glossary, you must first create a glossary file, consisting of the series of characters you wish to send. Then, on the Modify Connection Options menu for the desired connection, you must enter the name of this glossary file next to the name of the standard keyboard key with which the glossary file will be associated. In entering the glossary file name, use the format described above for the Connection File Name option.

For example, you could create a glossary to send the following message whenever you press GL (the Glossary key) followed by the letter h.

Hello, this is Mike at the Lowell office, ready
to receive the weekly regional sales figures
(Report # RSW-02).

To create this glossary, you would have to store the above message in a file, then enter the letter h and that file name as a TC glossary specification on the Modify Connection Options menu for the desired connection.

You can also create glossaries to send sequences of characters including keystrokes such as RETURN and TAB. You could, for instance, use TC glossaries to log on to a timesharing service or to access a database more conveniently.

You can create a glossary file using the Log to Disk function (see Chapter 3) or the Wang PC Editor (see Chapter 10). For more information on creating and using TC glossary files, see Section 3.6.

This is the last specification on the Modify Connection Options menu. If the specifications currently displayed are satisfactory, press EXEC to lock them in. Pressing EXEC also returns you to the Run, Modify, or Delete menu.

If you are not satisfied with a particular specification, you can modify it before pressing EXEC. Remember that pressing CANCEL at this point will abort all changes made on this menu since the last executed changes. Pressing CANCEL also returns you to the Run, Modify, or Delete menu. Pressing SHIFT CANCEL similarly aborts changes to this menu, but returns you to the Communications Menu instead.

CHAPTER 6

MODIFYING FILE TRANSFER OPTIONS

6.1 OVERVIEW

To send or receive files, you must make sure that the file transfer options discussed in this chapter match those of the host computer. Once you have specified the appropriate options as described in this chapter, either by leaving default values in place or by modifying them as needed, you can transfer files as described in Section 3.3.

File transfer options for Wang PC to Wang PC communication are preset; you may never need to modify them. If necessary, however, you can modify these options as you would those of any other connection. If you will not use file transfer for a particular connection (if you will send and receive only keyboard messages), you do not need to modify file transfer options for that connection, even if they do not match those of the host computer.

6.2 MODIFYING SPECIFIC OPTIONS

You need to modify only those host-dependent options (asterisked in Table 4-2) for which the current values differ from requirements of the host computer. The Modify File Transfer Options menu, shown in Figure 6-1, displays the current values of all options for a particular connection. You can compare the values listed on the screen with host requirements to see which items you must modify. Or, unless you have changed the file transfer options in the DEFAULTS connection file prior to creating the current connection, you can check the default values listed in Table 4-2 against host requirements. The file transfer options for a new connection are supplied by the DEFAULTS connection file. If you have not changed the DEFAULTS file, the current values displayed on the screen for a new connection will be the same as the default values listed in Table 4-2.

To display the Modify File Transfer Options menu, select Modify File Transfer Options from the Run, Modify, or Delete menu.

```

      A S Y N C H R O N O U S   C O M M U N I C A T I O N S (Version 1.0)
      Modify File Transfer Options

Make Selections and Press EXECUTE

Connection Name: WANG PC to Wang PC

      How to Save Rcvd Data:
      - Interpret control codes
      ☒ As Is

      Transmit End of File:
      (hex) _ _ _ _ _

Log File Options:      What to Log:      How to Save Logged Data:
- Received Data        - Received Data    ☒ Interpret Control Codes
- Transmitted Data     - Transmitted Data  - As Is
☒ Both

```

Figure 6-1 The Modify File Transfer Options Menu

You can modify all options on the Modify File Transfer Options menu except the connection name; it is displayed for information only. Figure 6-1 shows this menu for the WANG PC connection, so the connection name WANG PC to Wang PC is displayed. Make sure the name of the connection to be modified is displayed on your menu. If it is not, press CANCEL to return to the Run, Modify, or Delete menu. Then press CANCEL again to return to the Select a Connection menu, and select the appropriate connection.

Make any necessary modifications on the Modify File Transfer Options menu. (For instructions on using the keyboard, refer to Section 5.2; for a key to hexadecimal code, refer to Appendix A.) Press HELP at any time to view explanations of the options available on this menu; press CANCEL to return from the help screen and continue modifying options.

When you have indicated all desired modifications, press EXEC to store your selections in the connection file and return to the Run, Modify, or Delete menu. Pressing CANCEL instead of EXEC aborts all changes made since the last executed changes; then the Run, Modify, or Delete menu is displayed. Pressing SHIFT CANCEL similarly aborts changes but returns you to the Communications Menu instead.

How to Save Received Data

You can specify here whether the Wang PC should interpret received data before storing it. If you select Interpret Control Codes, the Wang PC deletes certain characters from received data prior to storing it on disk. The Wang PC deletes whatever characters you specify for deletion on the Modify Character or Keyboard Translation menu. In general, saving data in interpreted format will ensure that all carriage returns are followed by linefeeds. Therefore, you will be able to examine and modify the data using the Wang PC Editor. If you select As Is for this option, the Wang PC stores received data with all characters included.

Transmit End of File

Here you should specify the hexadecimal sequence to be sent to the host at the end of a transmitted file.

What to Log

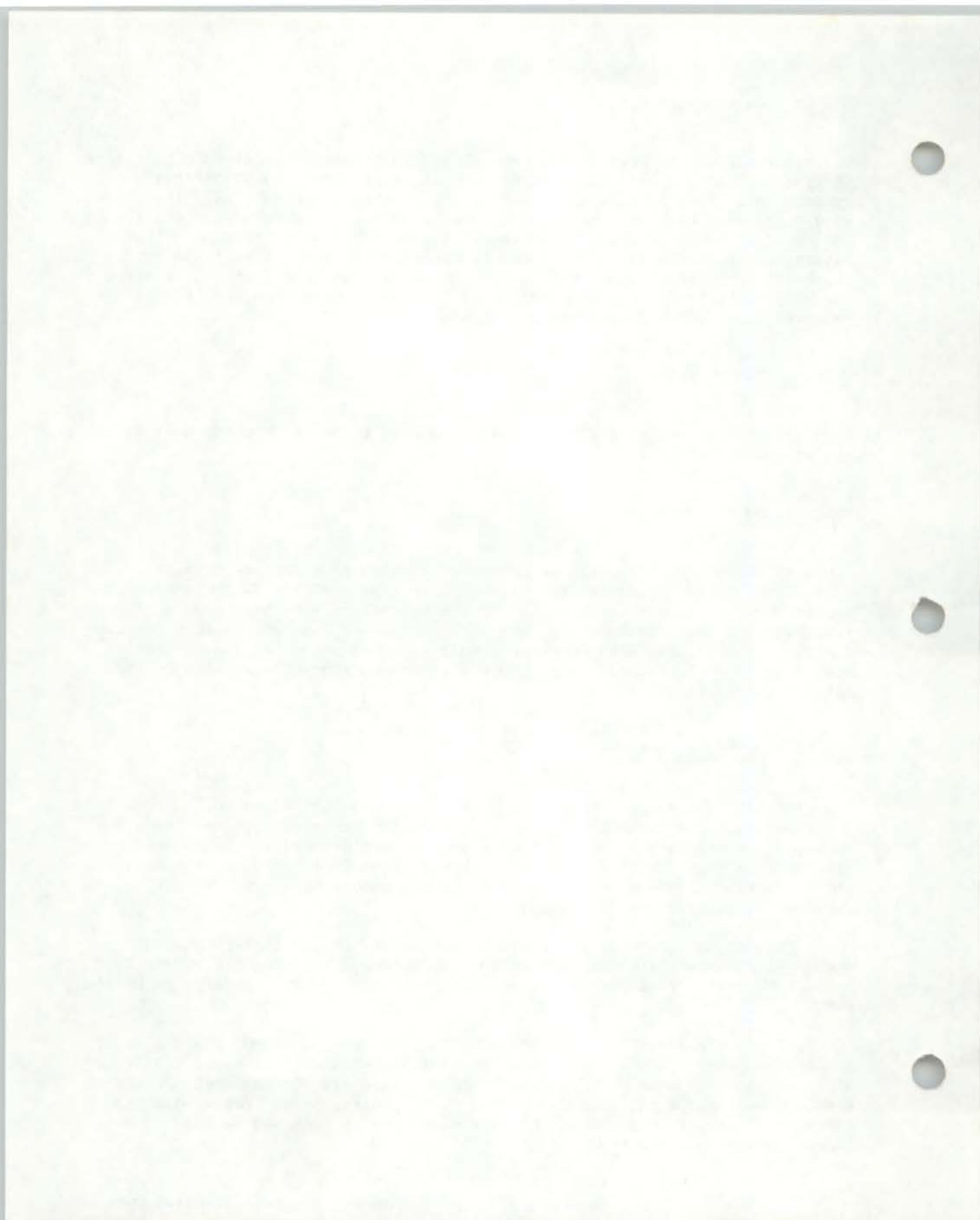
"Logging" means recording all or part of a session on a disk or diskette file. This option controls the online Log to Disk function described in Section 3.3. For this option, specify the type of data to be logged: received data only, transmitted data only, or both. When you perform logging during a session, the Wang PC records only keyboard communication for the specified type(s) of data. You cannot perform logging while sending or receive a disk file.

How to Save Logged Data

Like the previous option, this option also controls the online Log to Disk function described in Section 3.3. If you select Interpret Control Codes for this option, the Wang PC automatically deletes certain characters before storing data in a log file. (Refer to How to Save Received Data, above, for an explanation of character deletion.) If you choose As Is, the Wang PC includes all characters in the log file.

This is the last specification on the Modify File Transfer Options menu. If the specifications currently displayed are satisfactory, press EXEC to lock them in. Pressing EXEC also returns you to the Run, Modify, or Delete menu.

If you are not satisfied with a particular specification, you can modify it before pressing EXEC. Remember that pressing CANCEL at this point will abort all changes made on this menu since the last executed changes. Pressing CANCEL also returns you to the Run, Modify, or Delete menu. Pressing SHIFT CANCEL similarly aborts changes to this menu, but returns you to the Communications Menu instead.



CHAPTER 7

MODIFYING OTHER TECHNICAL OPTIONS

7.1 OVERVIEW

The technical options described here are provided on the Wang PC for system flexibility. You will probably not need to modify these options. All options described in this chapter must match host specifications, except for the parity error substitute character; the choice of this option is up to you, since it does not depend on the host.

7.2 MODIFYING SPECIFIC OPTIONS

You need to modify only those host-dependent options (asterisked in Table 4-3) for which the current values differ from requirements of the host computer. The Modify Other Technical Options menu, shown in Figure 7-1, displays the current values of all options for a particular connection. You can compare the values listed on the screen with host requirements to see which items you must modify. Or, unless you have changed the technical options in the DEFAULTS connection file prior to creating the current connection, you can check the default values listed in Table 4-3 against host requirements. The technical options for a new connection are supplied by the DEFAULTS connection file. If you have not changed the DEFAULTS file, the current values displayed on the screen for a new connection will be the same as the default values listed in Table 4-3.

To display the Modify Other Technical Options menu, select Modify Other Technical Options from the Run, Modify, or Delete menu.

You can modify all options on the Modify Other Technical Options menu except the connection name; it is displayed for information only. Figure 7-1 shows this menu for the WANG PC connection, so the connection name WANG PC to Wang PC is displayed. Make sure the name of the connection to be modified is displayed on your menu. If it is not, press CANCEL to return to the Run, Modify, or Delete menu. Then press CANCEL again to return to the Select a Connection menu, and select the appropriate connection.

```

      A S Y N C H R O N O U S   C O M M U N I C A T I O N S (Version 1.0)
      Modify Other Technical Options

Make Selections and Press EXECUTE

Connection Name: WANG PC to Wang PC

Send End of Message:      Rcvd End of Message:      XON/XOFF Protocol:
- No character             - No character      ☒ Supported
☒ CR (hex 0D)         ☒ CR (hex 0D)         - Not Supported
- CR/LF (hex 0D 0A)       - CR/LF (hex 0D 0A)
- LF/CR (hex 0A 0D)       - LF/CR (hex 0A 0D)
- Other                   - Other

XON value: 11 (hex)
XOFF value: 13 (hex)

Parity error substitute:  Respond to Rcvd End of Msg:
ASCII # (hex 23)         ☒ No
                          - Yes

```

Figure 7-1 The Modify Other Technical Options Menu

Make any necessary modifications on the Modify Other Technical Options menu. (For instructions on using the keyboard, refer to Section 5.2; for a key to hexadecimal code, refer to Appendix A.) Press HELP at any time to view explanations of the options available on this menu; press CANCEL to return from the help screen and continue modifying options.

When you have indicated all desired modifications, press EXEC to store your selections in the connection file and return to the Run, Modify, or Delete menu. Remember that pressing CANCEL instead of EXEC aborts all changes made since the last executed changes, and returns you to the Run, Modify, or Delete menu. Pressing SHIFT CANCEL similarly aborts changes but returns you to the Communications Menu instead.

Send End of Message

When you press RETURN during a session, the Wang PC sends the character(s) or code sequence, if any, specified here to the host computer to signify the end of a transmitted message. Usually, the Wang PC sends a carriage return (CR) character for this purpose. However, the host computer may require a different character or code sequence as an end of message indicator. This option enables you to specify the end of message indicator that must be sent to meet the host requirement.

Select the desired end of message indicator from the list of characters, or specify a different character or code sequence by selecting Other (see Note). The Wang PC will send the selected end of message character or code sequence (or no character, if selected) when you press RETURN.

NOTE:

If you select Other, you will be prompted to enter up to six pairs of hex digits representing the code to be sent or received for a particular option. However, the "(hex) _ _ _ _ _" prompt does not appear until you press EXEC to accept the current options for the entire screen. After specifying hex codes for all options for which you selected Other, you must press EXEC again to accept the completed screen.

Rcvd End of Message

Usually, the Wang PC interprets a received Carriage Return as signifying the end of the received message. This option allows you to instruct the Wang PC to look for a different end of message sequence sent by the host. Another option on this menu, Respond to Rcvd End of Msg, allows you to specify how the Wang PC should respond when it receives the code specified here.

Select the desired end of received message character. (See Note above, if you select Other.) The Wang PC will detect an end of message when it receives the selected character or code sequence (or no character, if selected). In half duplex mode (one-direction-at-a-time transmission), when the Wang PC receives this end of message sequence, it turns the line around, enabling the Wang PC to transmit.

XON/XOFF Protocol

This option allows you to specify whether transmission can be stopped and then resumed through the use of designated characters. If you choose Supported for this option, the Wang PC will stop transmitting when it receives an XOFF character and resume transmitting when it receives an XON character.

When the Wang PC is receiving, it will transmit an XOFF character when its "receive buffer" is nearly full. (The receive buffer is a temporary holding area in memory where incoming data can accumulate until it can be displayed or otherwise processed.) The XOFF character tells the host computer to stop transmitting. This function is important because if incoming data that is to be held temporarily exceeds the size of the buffer, the excess data is lost. When the receive buffer has been emptied, the Wang PC will transmit an XON character to tell the host to resume transmission.

To support the XON/XOFF feature, the line must be capable of sending the XOFF character while reception is still occurring: messages must be able to travel in both directions at the same time. Therefore, this option is available only if full duplex mode has been selected for the Duplex option on the Modify Connection Options menu.

XON Value

The normal (default) value for the XON character is hexadecimal 11. This option allows you to specify a different hexadecimal value for the XON character.

XOFF Value

The normal (default) value for the XOFF character is hexadecimal 13. This option allows you to specify a different hexadecimal value for the XOFF character.

Parity Error Substitute

This option allows you to specify the character that will replace all received characters with detected parity errors. (For a discussion of parity errors, refer to Section 5.3.) The Wang PC will substitute the pound sign (#) for received erroneous characters, unless you modify this value. The parity error substitute should contrast with incoming text. If you expect correct incoming text to contain pound signs, you may want to change this selection. You can do so by entering a keyboard character or a hexadecimal value.

Respond to Rcvd End of Msg

The Respond to Received End of Message option allows you to specify a hexadecimal sequence to be sent to the host computer whenever an end of message sequence is received by the Wang PC. This feature is especially useful if you are communicating with a terminal emulator on another computer that sends a carriage return at the end of each line and expects to receive a linefeed in return. In such a situation, you would set Rcvd End of Message to carriage return, hex(0D) and Respond to Rcvd End of Msg to linefeed, hex(0A).

You can enable this feature by selecting Yes and then specifying the desired hexadecimal sequence. (See Note under the Send End of Message option.) You can disable this feature by selecting No.

This is the last specification on the Modify Other Technical Options menu. If the specifications currently displayed are satisfactory, press EXEC to lock them in. Pressing EXEC also returns you to the Run, Modify, or Delete menu.

If you are not satisfied with a particular specification, you can modify it before pressing EXEC. Remember that pressing CANCEL at this point will abort all changes made on this menu since the last executed changes. Pressing CANCEL also returns you to the Run, Modify, or Delete menu. Pressing SHIFT CANCEL similarly aborts changes to this menu, but returns you to the Communications Menu instead.

CHAPTER 8

MODIFYING CHARACTER OR KEYBOARD TRANSLATION OPTIONS

8.1 OVERVIEW

Several options are available that enable you to dispose of unneeded control codes, to specify the underlying coding system to be used for communication with the host, and to specify the function of the Backspace key. Like the options discussed in the previous chapter, these options are provided for system flexibility; you will probably not need to modify them.

8.2 MODIFYING SPECIFIC OPTIONS

You need to modify only those host-dependent options (asterisked in Table 4-4) for which the current values differ from requirements of the host computer. The Modify Character or Keyboard Translation menu, shown in Figure 8-1, displays the current values of all options for a particular connection. You can compare the values listed on the screen with host requirements to see which items you must modify. Or, unless you have changed the character or keyboard translation options in the DEFAULTS connection file prior to creating the current connection, you can check the default values listed in Table 4-4 against host requirements. The character or keyboard translation options for a new connection are supplied by the DEFAULTS connection file. If you have not changed the DEFAULTS file, the current values displayed on the screen for a new connection will be the same as the default values listed in Table 4-4.

To display the Modify Character or Keyboard Translation menu, select Modify Character or Keyboard Translation from the Run, Modify, or Delete menu.

You can modify all options on the Modify Character or Keyboard Translation menu except the connection name; it is displayed for information only. Figure 8-1 shows this menu for the WANG PC connection, so the connection name WANG PC to Wang PC is displayed. Make sure the name of the connection to be modified is displayed on your menu. If it is not, press CANCEL to return to the Run, Modify, or Delete menu. Then press CANCEL again to return to the Select a Connection menu, and select the appropriate connection.

```

      A S Y N C H R O N O U S   C O M M U N I C A T I O N S (Version 1.0)
      Modify Character or Keyboard Translation

Make Selections and Press EXECUTE

Connection Name: WANG PC to Wang PC

Received Codes to Delete:
(INSERT/DELETE to Select)
♦ Delete all except CR and LF
- Carriage return (CR) (hex 0D)
- Linefeed (LF)      (hex 0A)
- Bell              (hex 07)
- XON               (hex 11)
- XOFF              (hex 13)
- Escape            (hex 1B)
- Other

Character Set:
■ ASCII
- EBCDIC
- Other

Backspace Key:
■ Destructive
- Not Destructive
- Disabled

```

Figure 8-1 The Modify Character or Keyboard Translation Menu

Make any necessary modifications on the Modify Character or Keyboard Translation menu. (For instructions on using the keyboard, refer to Section 5.2; for a key to hexadecimal code, refer to Appendix A.) Press HELP at any time to view explanations of the options available on this menu; press CANCEL to return from the help screen and continue modifying options.

When you have indicated all desired modifications, press EXEC to store your selections in the connection file and return to the Run, Modify, or Delete menu. Remember that pressing CANCEL instead of EXEC aborts all changes made since the last executed changes, and returns you to the Run, Modify, or Delete menu. Pressing SHIFT CANCEL similarly aborts changes but returns you to the Communications Menu instead.

Received Codes to Delete

This option allows you to select which control codes, if any, to delete automatically when no longer needed. Various control codes can accompany data received by the Wang PC over the communication line. Because their function depends on the computer system on which they operate, control codes can produce different results on different systems. Therefore, the Wang PC allows you to delete control codes that may produce unintended results.

The default value for this option is Delete all except CR and LF. However, the effect of this selection is slightly larger in scope than specified in the capsule description that appears on the screen. This selection, in fact, causes other characters besides carriage return and linefeed to be left undeleted. Specifically, selecting All Except CR and LF causes only the following hex codes to be deleted: 00 through 07, 0B, 0C, and 0E through 1F. (Refer to Appendix A for a key to hexadecimal codes.) Thus, the Tab character (hex 09) is not deleted. The Backspace character (hex 08) is deleted only if the Backspace key is disabled on the Modify Character or Keyboard Translation menu.

You can select more than one item concurrently within the list of choices for this option. (Usually, you can select only one item from such a list of choices.) Therefore, you must indicate choices of received codes to delete by a special technique. As usual, the presence of the acceptance block (here, a diamond shape instead of the usual square) indicates a currently selected item. However, pressing the space bar moves only the cursor, leaving any existing acceptance blocks in place. (Usually, pressing the space bar moves both the cursor and acceptance block.) You can insert or delete an acceptance block at the current cursor location by pressing INSERT or DELETE. INSERT has no effect on an existing acceptance block; similarly, DELETE has no effect if an acceptance block is not present at the current cursor location. You can effectively disable this feature, and thus leave all received codes intact, by deleting the acceptance block from all choices.

The final item in this column allows you customize automatic code deletion by keying in specific hexadecimal codes. If you choose Other, you will be prompted to enter up to six pairs of hex digits representing the code to be automatically deleted. However, the "(hex) _____" prompt does not appear until you press EXEC to accept the current options for the entire screen. After specifying values for all options for which you selected Other, you must press EXEC again to accept the completed screen.

Character Set

Host computers can use various coding systems to represent data (both keyboard characters and control codes) internally. The Wang PC uses an extended version of the American Standard Code for Information Interchange (ASCII); see Appendix A for more information. IBM mainframe equipment generally uses Extended Binary Coded Decimal Interchange Code (EBCDIC). Some host systems, typically for security reasons, may use a customized code system for data communication. The Character Set option enables the Wang PC to accommodate whatever coding system is used by the host computer.

Select the character set used by the host system. You can select either ASCII, EBCDIC, or Other by moving the acceptance block to your choice. If you select Other, you will be prompted to enter the translation file name. However, the "Enter name: _____" prompt does not appear until you press EXEC to accept the current options for the entire screen. When this prompt appears, enter the name of the disk or diskette file, previously created by you, containing translation tables.

In naming the translation file, use the format described for the Connection File Name option in Section 5.3. After specifying values for all options for which you selected Other, you must press EXEC again to accept the completed screen.

The tables in the translation file cross-reference code sequences as they must appear on the communication line with the equivalent code sequences used in the native Wang coding system. The translation file must be formatted in the manner described below.

The translation file consists of three parts: a 256-byte receive translation table, a 256-byte send translation table, and, optionally, a single additional byte specifying an after-translation received character for automatic deletion. (A byte, here, consists of 8 consecutive coded bits.) The entries in each of the 256-byte tables are ordered from position hex 00 through position hex FF.

In the receive translation table, each entry contains the after-translation value for a particular received code. The received code corresponding to a particular table position is translated to this after-translation value. Thus, the first position in the table, corresponding to hex 00, contains the 8-bit sequence to which the Wang PC will translate a received hex 00. The second position contains the after-translation value for hex 01, and so forth, such that the last table entry contains the after-translation value for hex FF.

The send translation table is organized similarly. However, in this case, each entry contains the after-translation value for a particular Wang PC code to be sent. The Wang PC code corresponding to a particular table position is translated to this after-translation value before being transmitted over the communication line. For example, the Wang PC code for lowercase "a" can be expressed as hex 61. Therefore, the entry for table position hex 61 would contain the code you want sent over the line whenever you type lowercase "a" on the Wang PC keyboard. Similarly, the Wang PC code for lowercase "b" is hex 62, so the entry for table position hex 62 would contain the code you want sent whenever you type lowercase "b" on the keyboard.

NOTE:

Each send translation table entry must be 8 bits long, even if only 7 or less data bits will actually be sent. However, if you specify less than 8 data bits on the Modify Connection Options menu, the Wang PC sends only the appropriate low-order (rightmost) bits of the 8-bit sequence specified in the table. For example, if you specify 5 data bits, only the first 5 bits of the appropriate table entry are actually sent.

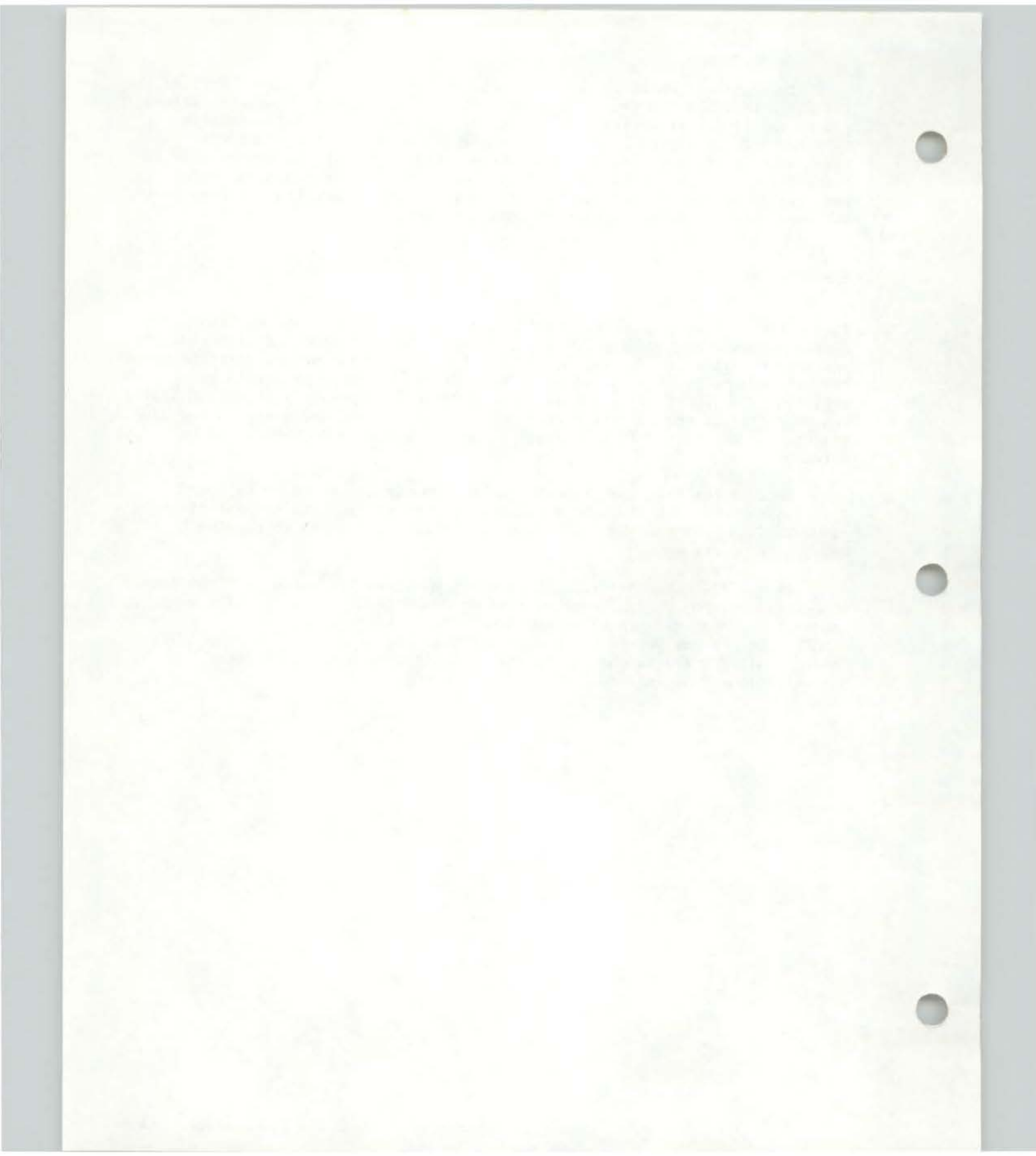
The optional character for automatic deletion, if specified, follows the two 256-byte tables in the translation file. This optional character allows you to specify an after-translation value of received code for automatic deletion. For example, if you specify hex 7F as the 513th byte of the translation file, any incoming codes translated to hex 7F via the receive translation table would be automatically deleted. This feature is useful, in particular, if you need to delete more received characters than allowed by the Received Codes to Delete option on this same menu.

Backspace Key

This option allows you to specify the function, if any, of the Backspace key, whether pressed on the Wang PC keyboard or on the host computer keyboard. If you select Destructive, pressing BACKSPACE moves the cursor one position to the left and causes the character at the current cursor position to be replaced by a space. If you select Not Destructive, pressing BACKSPACE leaves the character at the current cursor position intact and moves the cursor one position to the left. If you select Disabled, pressing BACKSPACE has no effect.

This is the last specification on the Modify Character or Keyboard Translation menu. If the specifications currently displayed are satisfactory, press EXEC to lock them in. Pressing EXEC also returns you to the Run, Modify, or Delete menu.

If you are not satisfied with a particular specification, you can modify it before pressing EXEC. Remember that pressing CANCEL at this point will abort all changes made on this menu since the last executed changes. Pressing CANCEL also returns you to the Run, Modify, or Delete menu. Pressing SHIFT CANCEL similarly aborts changes to this menu, but returns you to the Communications Menu instead.



CHAPTER 9

TROUBLESHOOTING GUIDE FOR COMMON PROBLEMS

9.1 OVERVIEW

Although the Wang Professional Computer has been designed to make communicating with other computers as easy as possible, the fact that each connection can have many unique requirements means that many errors are possible in setting options to meet host requirements. This chapter will provide you with practical suggestions on how to overcome some common problems. In some situations, the Wang PC issues messages to caution you or to inform you that it cannot continue without your intervention. See Appendix D for a list of such messages and instructions on how to respond to them.

Occasionally, you may find it difficult to establish any form of communication. Section 9.2 provides help in this situation. More commonly, you may be able to establish a connection that works, but is unsatisfactory because of poor formatting of data or poor performance of a specific function. Subsequent sections provide suggestions for fine tuning the specifications for such a connection. If the suggestions offered in this chapter and in Appendix D do not help, you can receive further assistance by calling the Wang PC Assistance Center. Call (800)-343-1098 from anywhere in the United States, except Massachusetts, Alaska, or Hawaii. In these states, call (617)-459-5000, and ask for the Wang PC Assistance Center.

9.2 COMMUNICATION CANNOT BE ESTABLISHED

There are three main sources of problems in establishing communication.

- Faulty physical connections at your end of the line
- Faulty connection specifications at your end of the line
- Similar problems of either kind at the host end of the line

Check the Physical Connections

Check the physical connections first, even if you think you know that the equipment is connected properly. Someone may have pulled an important plug or turned off an important switch without your knowledge. Look for the obvious; check every possible connection.

Specifically, you should check the following conditions.

- Is the modem plugged into an electrical outlet? (This condition does not apply to a null modem used for local communication.)
- Is the modem or null modem attached to the Wang PC electronics unit?
- Is the modem or null modem attached to the communication line (telephone line for remote communication or cable for local communication) to the host?

Local communication using a null modem can sometimes be more difficult than communication to remote sites via telephone lines, especially if you are using computer equipment from different manufacturers. If you have trouble making a local communication link, refer to Appendix B for information on pin usage in the RS-232-C asynchronous serial port (the female 25-hole plug for communications), located at the rear of the Wang PC electronics unit.

Check Essential Connection Specifications

Some specifications affect only the format of received or transmitted data, while other specifications are so crucial that a valid connection cannot be established until they are correct. The specifications on the Modify Connection Options menu are essential; so are the specifications on the Modify File Transfer Options menu, if you intend to use file transfer. Make sure that these specifications match those of the host.

Check For Problems at the Host End of the Line

Ask the operator of the host system to check for problems similar to those you have checked at your end. You may also wish to check the validity of your information on host requirements.

9.3 TEXT OVERWRITES ON A SINGLE LINE OR APPEARS ONLY ON ALTERNATE LINES

When received or transmitted text appears on the screen abnormally, the linefeed character is often involved. If the linefeed character is not being received or supplied normally, the displayed text might be overwritten on a single line rather than written on new lines as new text is added.

If this problem occurs when you are receiving text, try selecting Auto Linefeed on the Modify Connection Options menu. This selection should solve the problem.

If text received by the host overwrites on the host screen display, the host may not be receiving the linefeed it requires. If this problem occurs, go to the Modify Other Technical Options menu. Specify Yes for Respond to Rcvd End of Msg and enter 0A as the hex code to be sent back to the host. This action causes the Wang PC to send a linefeed when it receives a carriage return (or whatever other end-of-message sequence you specify). Also, select CR/LF (hex 0D 0A) for the Send End of Message option. These modifications should solve the problem.

Overwriting occurs when there is one linefeed too few. A contrasting problem occurs when there is one linefeed too many. Text may appear only on alternate lines, leaving a blank line between each line of text. If this problem happens to the remote system with which you are communicating, make sure you are not sending an extra linefeed. If necessary, you can eliminate an extra linefeed transmitted by the Wang PC by modifying the Send End of Message specification on the Modify Other Technical Options menu.

9.4 PARTS OF MESSAGE ARE BEING LOST

When parts of the message are being lost, usually it is a problem in the communication line itself. The temporary solution, for a dial-up connection, is to hang up and dial again. Remember that, if you are using parity to detect errors, the parity error substitute character specified on the Modify Other Technical Options menu will appear in place of erroneous characters.

9.5 TOO MANY PARITY ERRORS ARE OCCURRING

If several characters in every received word appear as the parity error substitute character (#, unless you have changed it), there are two solutions you can try. Both possibilities involve the Modify Connection Options menu.

If you are currently set for odd or even parity and 7 data bits, try changing to 8 data bits, no parity. Or, leave the number of data bits the same and specify ignore parity.

9.6 TEXT IS NOT DISPLAYED

This situation can arise if you specify host echo, but the host is not set for this capability. Select Full Duplex/local echo on the Modify Connection Options menu. If that action does not clear up the problem, try selecting Half Duplex on the same menu.

9.7 TEXT APPEARS TWICE

If what you type appears twice (e.g., if HELLO appears as HHEELLLLOO), it is probably because the host is echoing received data, while you are set for local echo. To solve this problem, select Full Duplex/host echo on the Modify Connection Options menu.

9.8 TRANSMISSION IS INTERRUPTED AFTER A NORMAL START

If everything operates correctly for the first few lines but then stops, and nothing you type appears on the screen, you may have received the Wang PC XOFF character. This situation can arise if a particular host assigns a different function to the Wang PC XOFF character (hex 13, unless you have changed it). To solve this problem, select Not Supported for XON/XOFF Protocol on the Modify Other Technical Options menu.

CHAPTER 10 THE EDITOR

10.1 INTRODUCTION

This chapter describes the Wang PC Editor. The Editor has been provided with Asynchronous Communications Software to enable you to create and modify TC Glossary and Help files. You can also create TC Glossary and Help files using the Log to Disk function (see Chapter 3). The Editor also enables you to create and modify programs in various languages or to create and modify text files like memos, reports, and lists.

When the Editor is running, the screen contains an area called a "window." You use the Editor by moving a section of text into the window with the cursor control or screen control keys, and editing the text within the window. To edit text, you move the cursor to the desired position in the window. Then you use the appropriate Editor command at that position.

10.2 EDITOR FEATURES

This section gives an overview of the Editor. It describes the window, line numbering, memory usage, and Editor Help screens.

The Window

The Editor window is 21 lines long. The top four lines are reserved for header, status, prompt, and tab lines. Editing within the window can take place in two modes, "Center mode" and "Floating Cursor mode". In Center mode, the cursor line is always in the center of the screen. Therefore, you can only edit the text in the screen's center. Press the North or South cursor control key to scroll a new line to the center of the screen.

In Floating Cursor mode, you can move the cursor to any line in the window and edit the text in that line. To scroll one new line at a time into the window, position the cursor at the top line and press the North cursor control key or position the cursor at the bottom line and press the South cursor control key.

In either mode, you can scroll the preceding or succeeding 21 lines into the window by pressing PREV or NEXT, respectively.

Line Numbers

The Editor associates a line number with each line of the file you are editing. The line number of the cursor line appears at the top of the page. Line numbers are not part of the text and so do not appear beside the lines of text on the screen. Line numbers are used only as a means to reference a particular line or group of lines. Lines are numbered sequentially starting at one. If you insert or delete a line, the Editor rennumbers lines appropriately.

Buffer Size

While editing a file, the Editor maintains the entire file in a buffer in memory. The size of this buffer is determined by the amount of available memory with the operating system and the Editor program resident. The amount of available memory depends on the configuration of your system.

Help Screens

Each Editor command is invoked by a single key stroke. To display a reference list of commands and associated keys, press HELP. The top three lines of the screen will display a partial list of commands and the keys you must press to invoke them. If the command you are looking for is not displayed, press HELP again. Another group of commands will be displayed. Pressing HELP a number of times will display successive groups of commands and finally return you to the original listing. While a Help screen is displayed, the window remains in view, and you can invoke any command. Invoking a command ends the Help display and restores the normal status information to the top four lines of the screen.

10.3 INVOKING THE EDITOR

There are two methods of invoking the Editor. You can invoke the Editor from the Program Development Menu or from the DOS Command Processor. In either case, when you specify the file you wish to edit the Wang PC retrieves the specified existing file or creates the specified new file.

To use the first method of invoking the Editor, select the Program Development option from the Main System Menu. The Program Development Menu will be displayed; see Figure 10-1. Remove the System Software diskette from Drive A (or other default drive, if different). Insert the Asynchronous Communications Software diskette (or other diskette containing the Editor program) in this same drive.

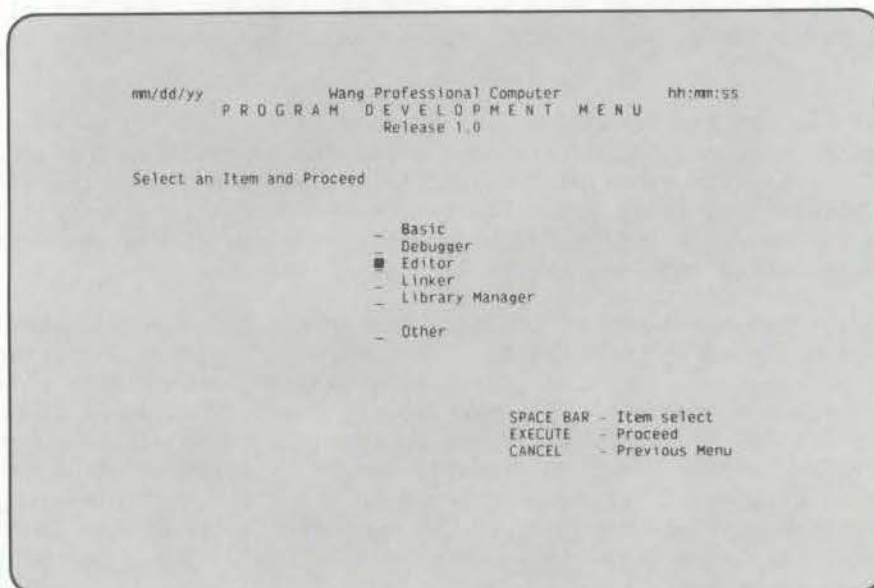


Figure 10-1 The Program Development Menu

From the Program Development Menu, select the Editor option. A file specification prompt will appear. Enter the specification of the file you want to edit. Then press EXEC to invoke the Editor. Default values for tabs and line width will be displayed at the top of the screen. If necessary, you can change tab settings and the line width using Editor commands described in Section 10.4.

NOTE:

If the document you are editing was created with a width greater than 80, it may be very important to use the SET WIDTH command to override the default width. If you do not reset the width, lines that you change may be shortened to a width of 80. Valid widths are 1 to 255.

The DOS Command Processor offers a second method of invoking the Editor. To use this method, select the DOS Command Processor option from the Main System Menu. The DOS prompt then appears. Respond to the prompt by typing

```
PCEDIT [<file specification>]
```

If you supply the optional file specification, the Editor automatically loads that file. If you do not specify a file within the DOS command, you will be prompted to enter the specification of the file you wish to edit. Enter the file specification and press EXEC to begin editing.

While editing, you can use the Load File command to stop editing one file and begin editing a new file. You can also use the Load Partial File command to merge (copy) all or part of a second file into the file being edited.

Regardless of the method you use to specify the file to be edited, the Wang PC Editor searches the current and alternate directories for a file named CONFIG.EDT. This file contains default tab and width settings for several different programming languages. The extension to the file name identifies the file's language. For example, the Editor supplies .ASM files with the default tab settings and line length for Assembler.

You can change the CONFIG.EDT defaults or add defaults for other file name extensions by editing CONFIG.EDT. A CONFIG.EDT command is a text string consisting of a 1-to-3-character file name extension (without the period), followed by a space, followed by a keyword, followed by an equal sign, followed by a value or values separated by commas. Two possible keywords are TABS and WIDTH. (Other possible keywords can be especially useful in creating and modifying programs. For more information see The Wang Professional Computer Program Development Guide that accompanies a particular language.) The following two lines are examples of possible CONFIG.EDT. command lines.

```
ASM TABS=8,8,8,8
ASM WIDTH=120
```

If CONFIG.EDT contains more than one definition of a particular value for an extension, the Editor uses the last one. If CONFIG.EDT does not define values for an extension, the Editor uses defaults of 8, 8, 8, 8, 8, 8, 8, 8, 8 for tabs and 80 for width. Of course, you can check the current width and tab settings for the file you are editing at any time. This information is displayed at the top of the screen, except while Help screens are displayed.

10.4 COMMANDS

The commands supported by the Editor are generated by a single key stroke or by a SHIFT + a keystroke. The Editor acts immediately on commands that do not require input parameters.

However, when you select a command that does require input parameters, a command line with fields for the parameter values appears at the top of the screen. You can edit these fields in the same manner that you edit a text line. Use RETURN or TAB to move to the next field; use BACKTAB to move to the previous field. When you have entered the values you want, press EXEC. To abort a command, press CANCEL.

The blank key (the only key on the keyboard that does not have a label) functions as a recall key for editing fields. Pressing the blank key updates the field with the value that the field had the previous time you invoked the command during that session. For example, if you invoke the Search command and press the blank key, the search field is updated with the last string that you searched for.

The following subsections describe the Editor commands. The description of each command specifies the keystroke(s) required to execute the command.

Backspace

The cursor moves left one column and a space replaces the character at the new cursor character position.

Press BACKSPACE.

Center Mode and Floating Cursor Mode

Center mode causes the line you are editing to be fixed at the vertical center of the screen. The other mode, Floating Cursor mode, allows you to make modifications at any point on the screen.

Press CENTER while in Floating Cursor mode to enable Center mode.
Press CENTER while in Center mode to enable Floating Cursor mode.

In Center mode, the screen scrolls every time you position the cursor to a new line. Center mode is useful because you can always see the text line directly above and directly below the line you are currently editing.

In Floating Cursor mode, the screen scrolls only when you press NEXT or PREV or when you try to position the cursor above the top display line or below the bottom display line. Floating cursor mode is useful, because you can keep in view up to twenty lines above or below the line being edited. Floating cursor mode is also helpful in reducing the amount of scrolling. Reducing the amount of scrolling can be especially desirable on systems with a low resolution video card.

In Center mode, the center line of the screen is highlighted. In Floating Cursor mode, the entire screen is highlighted. Therefore, which mode is in effect is always clear from viewing the screen.

Copy Lines

This command copies a contiguous block of lines from a specified point in the text to a second specified point. The original lines remain intact at the first location.

Press COPY.

The command prompts you for a starting line, ending line, and target line. Copied lines are inserted after the target line. The default value for each of the three fields is the current line number. To change the line number in a field, move the cursor. The line number in the field automatically changes to that of the cursor line. Use NORTH, SOUTH, NEXT, or PREV to position the cursor at the desired line. Use TAB, BACKTAB, and RETURN to move between fields. When the values you want appear in the prompt fields, press EXEC to copy the lines you have specified.

Cursor East, Cursor West

This command repositions the cursor one position to the left or one position to the right, respectively, within the current line. If the line width is greater than 80, the screen scrolls left or right as necessary to display indicated portions of the current line.

Press the East and West cursor control keys, respectively.

Cursor North, Cursor South

These commands reposition the cursor one row above or one row below the current cursor position, respectively. The cursor column does not change. The screen scrolls according to whether center mode or floating cursor mode is in effect. See Section 10.2, under the heading The Window.

Press the North and South cursor control keys, respectively.

Delete Character

This command deletes the character at the current cursor position. The characters to the right of the cursor move one position to the left. A space is placed in the rightmost column vacated by such repositioned text.

Press DELETE.

Delete Line

This command deletes the line at which the cursor is currently positioned.

Press SHIFT + DELETE.

Delete Many Lines

This command deletes a contiguous block of text lines.

Press STOP.

The command displays a prompt for a starting line and an ending line. The default for both fields is the the current line number. To change the line number in a field, move the cursor. The line number in the field automatically changes to that of the cursor line. Use NORTH, SOUTH, NEXT, or PREV to position the cursor at the desired line. Use TAB, BACKTAB, and RETURN to move between fields. When the values you want appear in the prompt fields, press EXEC to delete the lines you have specified.

End Session and Save Changes

This command returns you to the Program Development Menu and gives you the option of saving your changes.

Press SHIFT + CANCEL or press CONTROL + C.

The command displays the prompt, "PRESS EXECUTE AND TEXT WILL BE SAVED, TYPE N AND CHANGES WILL BE LOST." (There are other possible responses; see following Note.) The name of the file being edited is displayed to remind you which file will be written if you press EXEC. If you press the "N" or "n" keys, all changes are lost.

NOTE:

Usually (by default) text is saved in uncompressed ASCII format. In this format, all spaces are stored. (You can also save text in uncompressed ASCII format by typing "A" or "a" then pressing EXEC.) However, in some cases, compressed format can be desirable, since it uses less disk space. In compressed format, a tab replaces every group of contiguous blank spaces ending at a default tab stop (every eighth column). You can save text in compressed format by typing "C" or "c" before pressing EXEC.

If you invoke this command by mistake, you can abort the command by pressing the Cancel key.

Erase Line

This command erases the cursor line and positions the cursor at the beginning of the line. Characters in the cursor line are erased, but the line is not deleted.

Press SHIFT + ERASE.

Erase to End

This command erases the characters from the cursor position to the end of the line.

Press ERASE.

Go to First Line

This command moves the cursor to the first line of the file. The cursor column does not change.

Press SHIFT + PREV.

Go to Last Line

This command moves the cursor to the last line of the file. The cursor column does not change.

Press SHIFT + NEXT.

Go to Line

This command moves the cursor to a specified line. This command is especially useful for moving to a distant line, when scrolling would be inconvenient.

Press GO TO.

The command displays a prompt for a line number. Key in the desired line number; then press EXEC. The cursor column does not change.

Insert Line

This command inserts one blank line directly below the current cursor line.

Press EXEC.

Insert Mode

In Insert mode, characters that you type are inserted in the text at the current cursor position. When you type in a new character, existing text and the cursor are repositioned one column to the right.

Press INSERT.

While Insert mode is in effect, the letters Ins appear highlighted in the status line at the top of the screen and the leftmost LED is lit on the keyboard. Pressing INSERT while Insert mode is off enables Insert mode. Pressing INSERT while Insert mode is on disables Insert mode.

When the Editor is not in Insert mode, any character that you type overstrikes (replaces) the existing character at the position where you type. If you press the Backspace key while in Insert mode, the character to the left of the cursor is deleted.

Load Partial File

This command reads a range of lines from a file into the Editor text buffer and inserts them into the file you are editing after the current cursor line.

Press SHIFT + INDENT.

The command prompts you for a file specification. Prompts also appear for the start line and the end line. The default values for these fields are 1 and 9999, respectively. Type in the values specifying the range of lines you want to copy into the file being edited. Then press EXEC.

Load Text

This command loads a specified text file from a disk into the Editor text buffer in memory. Use this command to stop editing the current file and begin editing a different file.

Press INDENT.

If you have made changes to the current text file, a message appears asking if the current text area should be saved. The file specification of the current text also appears. Press EXEC to save the changes in uncompressed ASCII format. If you do not want to save the changes, enter "N" before pressing EXEC. You can also save text in compressed format by typing "C" then pressing EXEC. See the description of the End Session and Save Changes command for more information on how text is saved.

The command then prompts you for a file specification. Enter the specification of the file you wish to begin editing. Then press EXEC to load the file and begin editing.

Move Lines

This command moves a contiguous block of lines from a specified point in the text and inserts them at a second specified point. The moved lines do not remain at the original location.

Press MOVE.

The command prompts you for a starting line, ending line, and target line. Moved lines are inserted after the target line. The default value for each of the three fields is the current line number. To change the line number in a field, move the cursor. The line number in the field automatically changes to that of the cursor line. Use NORTH, SOUTH, NEXT, or PREV to position the cursor at the desired line. Use TAB, BACKTAB, and RETURN to move between fields. When the values you want appear in the prompt fields, press EXEC to move the lines you have specified.

Next Screen

This command moves the entire next screen (21 lines) into the window.

Press NEXT.

Previous Screen

This command moves the entire previous screen (21 lines) into the window.

Press PREV.

Print Lines

This command sends a contiguous block of text lines to the printer.

Press PRINT.

The command prompts you for a starting line and ending line. The default value for each field is the current line number. To change the line number in a field, move the cursor. The line number in the field automatically changes to that of the cursor line. Use NORTH, SOUTH, NEXT, or PREV to position the cursor at the desired line. Use TAB, BACKTAB, and RETURN to move between fields. When the values you want appear in the prompt fields, press EXEC to print the lines you have specified.

Replace

This command searches for a string of characters and replaces it with another string of characters.

Press REPLACE (or press SHIFT + REPLACE for global Replace).

First, the command displays a prompt for a search string and a replace string. Then, it searches for the first string, beginning at the current cursor position. A "Not Found" message is displayed if the string is not found.

If the string is found, the Editor displays the prompt, "Replace Y or N." The default response is "Y." To replace the indicated occurrence of the search string, press EXEC. If you do not want to replace this occurrence of the search string, enter "N" before you press EXEC. In either case, after you press EXEC, the Editor searches for the next occurrence of the search string. As before, the "Not Found" message appears, or the "Replace Y or N" prompt appears.

The search process continues, unless terminated, until you reach the end of the file. To terminate the command, press CANCEL.

NOTE:

If the replacement string is longer than the search string, characters at the end of the line can be lost. A special prompt appears when performing a replacement will result in a loss of characters. You still have the choice to replace (Y) or not replace (N) the indicated string.

If you want to replace all matches without receiving a prompt for each occurrence of the search string, invoke this command by pressing SHIFT + REPLACE.

Save Partial File

This command writes a range of lines to disk from the Editor buffer in memory. Use this command to save all or part of the file you are editing.

Press SHIFT + GO TO.

The command prompts you for a file specification. Enter the specification of the file in which you wish to save the indicated lines of the file you are editing.

The command also prompts you for a starting line and ending line. The default value for each field is the current line number. To change the line number in a field, move the cursor. The line number in the field automatically changes to that of the cursor line. Use NORTH, SOUTH, NEXT, or PREV to position the cursor at the desired line. Use TAB, BACKTAB, and RETURN to move between fields. When the values you want appear in the prompt fields, press EXEC to write the lines you have specified into the specified file.

NOTE:

If the specified file already exists, this command overwrites (destroys) the previous version.

Search

This command searches for a specified string of characters.

Press SEARCH (or press SHIFT + SEARCH to ignore upper/lower case).

This command prompts you to enter the string of characters to be searched for. The Editor then searches for the first occurrence of the specified string, beginning at the current cursor line.

If the search finds the string, the line in which the text occurs becomes the new cursor line. This line appears highlighted on the screen. If the search does not find the string, a "Not Found" message is displayed and the cursor line does not change. To search for both upper case and lower case occurrences of a string, invoke this command by pressing SHIFT + SEARCH.

Set Tabs

This command allows you to set and modify tab positions.

Press DEC TAB.

When you invoke the command, the cursor is positioned at column one in the tab line. Use the East and West cursor control keys to move the cursor to the desired tab position. To set a tab, press TAB. A tab indicator then appears at the cursor position in the tab line. To erase a previously set tab, type over the tab indicator with the space bar or the - (hyphen) key.

Set Width

This command allows you to change the line width.

Press FORMAT.

The command displays a prompt for the new width. Type in a number between 1 and 255 and press EXEC.

NOTE:

This command does not reformat the text. If you shorten the width, existing lines can be truncated. However, the text is not lost. You can recover it by resetting the width to the previous value.

SHIFT + Cursor East, SHIFT + Cursor West

This command repositions the cursor to column one or to the last character on the line, respectively.

Press SHIFT + the East or West cursor control key.

The cursor line does not change. The screen scrolls left or right if the new cursor position is not on the currently displayed screen.

SHIFT + PREV, SHIFT + NEXT

This command repositions the cursor to the first line or the last line, respectively, of the file being edited.

Press SHIFT + NEXT or SHIFT + PREV.

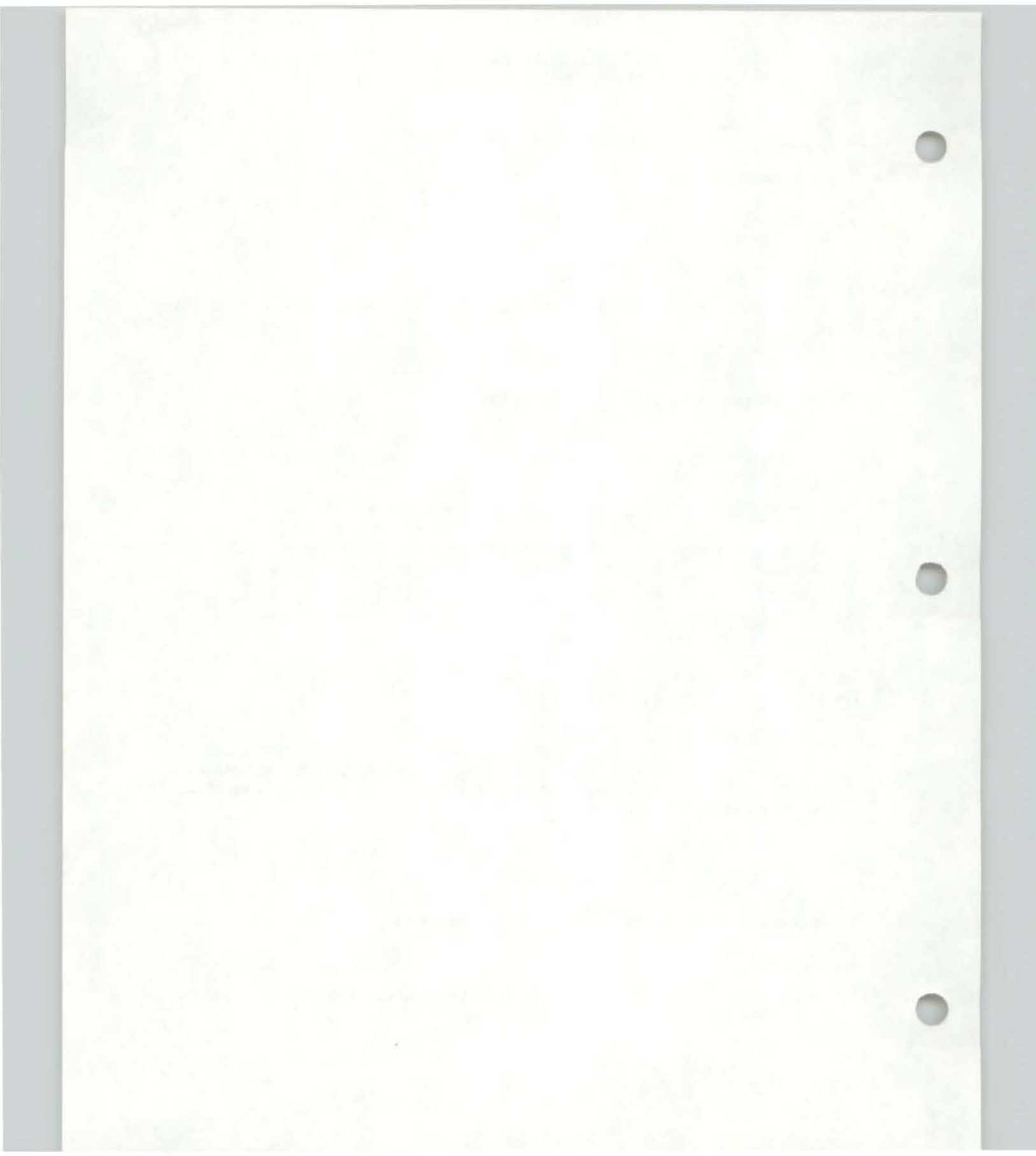
The cursor column does not change. The screen scrolls according to whether center mode or floating cursor mode is in effect. Refer to Section 10.2, under the heading The Window.

Tab

This command moves the cursor to the next tab stop.

Press TAB.

If there are no tab stops to the right of the cursor, the cursor moves one space to the right.



CHAPTER 11

WANG PROFESSIONAL COMPUTER 2200 TERMINAL EMULATION

11.1 INTRODUCTION

The Wang Professional Computer 2200 Terminal Emulation allows a Wang PC to be connected either locally or remotely to a 2200 LVP, MVP, or SVP system. Once connected to the 2200, the PC emulates a 2200 terminal and has full access to all 2200 Series data processing applications.

To implement the 2200 Terminal Emulation software, the following equipment is required.

- A Wang PC configuration consisting of the keyboard, the electronics unit, and the Wang Monochrome Monitor and its card
- A 2200 system (LVP, MVP, or SVP with Option-W)
- Cable for connecting the Wang PC and the 2200

The following limitations exist on Release 1.0 of the 2200 Terminal Emulation software.

- No support for a baud rate of 19,200 bits per second (bps)
- No box graphics support
- No remote screen dump support
- No file transfer capability

The procedure for installing and running the 2200 Terminal Emulation software consists of the following steps.

1. Establishing a physical connection between the 2200 and Wang PC
2. Master initializing the 2200
3. Starting up the Wang PC
4. Loading the emulation software

The following sections discuss each step and reference appropriate 2200 documentation where necessary.

11.2 ESTABLISHING A CONNECTION BETWEEN THE 2200 AND THE WANG PC

In order to use the Wang PC for terminal emulation, you must first establish a communication link between the Wang PC and the 2200. A Wang PC can be attached locally to the 2200LVP, 2200MVP, or 2200SVP with Option-W at distances up to 2000 feet (609.6 meters). The Wang PC can also be attached remotely via modems and telephone lines. The additional equipment necessary to make this physical hookup depends on whether you intend to communicate with a local or a remote 2200.

When configured with a 2200LVP or 2200MVP, the Wang PC is connected to a port on either a Model 2236MXD or Model 2236MXE Terminal Processor. When configured with a 2200SVP, the Wang PC is connected to a port on the Option-W Terminal Processor. For local communication between the Wang PC and the 2200, you need the following cables.

- One direct connection cable (available in lengths from 25 feet (7.6 meters) to 2000 feet (609.6 meters))
- One 6-in (15.2-cm) adaptor cable (Part Number = 220-0315)

The adaptor cable works with all new and existing direct connection cables. The terminal end of the 2200 cable plugs into the adaptor cable, which in turn plugs into the PC. A pair of RS-232-C/V.24-compatible cables that are joined by a null modem can also serve as the local communication link between the two systems.

The Wang PC is connected to a port on the terminal processor. For local communication, the transmission rate for this port should be set to 9600 baud. Refer to the 2200 terminal manual for information on setting the transmission rate.

In order for the Wang PC and the 2200 to communicate via telephone lines, you must install a modem. The modem performs the required conversions between the digital signals used by computers and the analog signals transmitted over telephone lines. The modem you use must be asynchronous and RS-232-C-compatible. A Wang Asynchronous Modem is available to support communication at two commonly used rates of transmission: 300 and 1200 bps.

For communication links that use modems, begin by following the manufacturer's instructions for installing the appropriate type of modem or null modem. Then attach the Wang PC to the modem or null modem via the RS-232-C/V.24-compatible cable with 25-pin male, RS-232-C/V.24-compatible plugs at both ends. The back panel of the electronics unit is equipped with an appropriate female 25-hole plug (called an RS-232-C serial asynchronous port) that enables you to make this connection.

11.3 MASTER INITIALIZING THE 2200

Master Initialization is the process of powering up components of the 2200 system, mounting the system platter, loading the operating system and BASIC-2 interpreter, and exercising the CPU to determine if any malfunctions exist. When the operating system is loaded, the 2200 loads and runs the Partition Generation program from the system platter.

With the Partition Generation program, you can create a system configuration by dividing the resources of the 2200 system among the various users. Since the emulation software regards the Wang PC as a 2200 terminal, a partition must be available for the Wang PC. Therefore, the configuration must include at least one partition assigned to the port corresponding to the Wang PC, or at least one partition assigned to Terminal 0. Refer to the 2200 Introductory Manuals for a detailed description of both Master Initialization and Partition Generation.

11.4 STARTING UP THE WANG PC

You must load the System Software to start up the Wang PC system. The System Software contains the operating system and system menu programs.

NOTE:

If the power is already on and the System Software is loaded, press 2ND + COMMAND (i.e., while holding down the 2nd key, press the Command key); press CANCEL. Once the Main System Menu is displayed, load the emulation software. Refer to Section 11.5.

To load the System Software, perform the following steps.

1. Insert the System Software diskette into Drive A.

Drive A is the start-up default diskette drive. The system assumes that you will start from Drive A unless you change the default.

As you insert the diskette into the drive, use the Insert and Up arrows on the orientation label to ensure that the position of the diskette is correct. The Insert arrow should point into the drive, and the Up arrow should point toward the Wang logo on the front of the electronics unit.

Figure 11-1 shows the correct orientation of the diskette for insertion into the diskette drive. Slip the diskette completely into the diskette drive and close the door of the drive.

NOTE:

If your system includes a Winchester disk drive, you can copy both the System Software and the Asynchronous Communications Software onto the Winchester disk. Thereafter, you can access the software from the Winchester disk without inserting a diskette each time you use the software. Refer to Chapter 10 of the The Wang Professional Computer Introductory Guide for details.

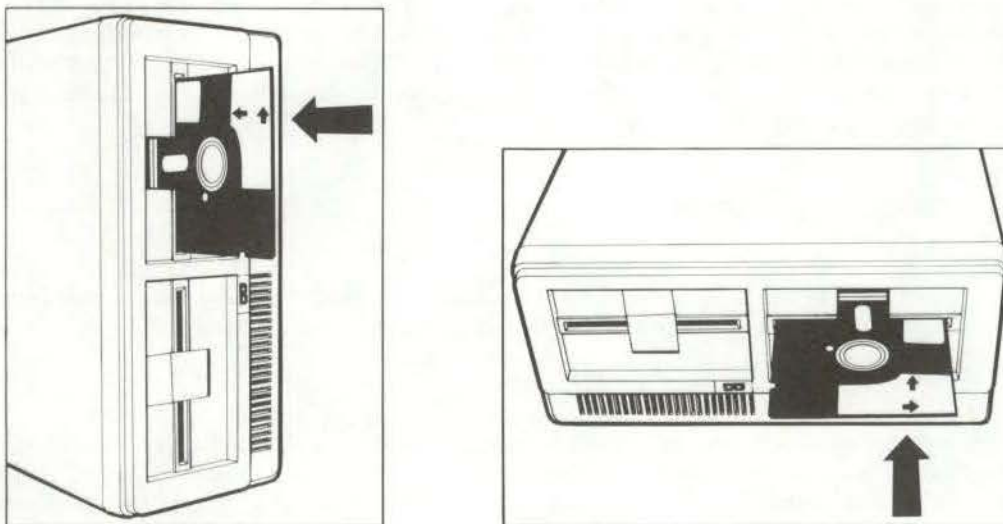


Figure 11-1 Inserting a Diskette

2. Turn on the power. The power switch, which is located on the back panel of the electronics unit, turns on the power for all system components.

At this point, the system performs the power-on diagnostics tests. After completion of the diagnostics tests, the system displays a series of Start-up screens. The Start-up screens display information such as the start-up drive location, the MS-DOS and BIOS version numbers, and the Copyright notice.

If the start is successful, the system displays the Date and Time screen. If you choose to enter the date and time, press RETURN to move from item to item. After entering or not entering this optional information, press EXEC. The Main System Menu is displayed. Refer to Figure 11-2.

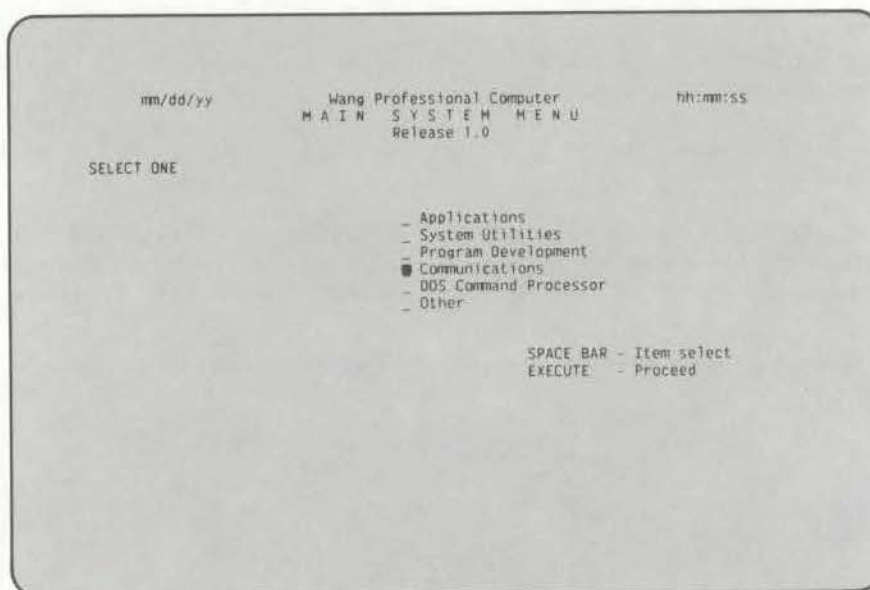


Figure 11-2 The Main System Menu

Refer to The Wang Professional Computer Introductory Guide for a detailed description of the start-up procedure, as well as for information about common problems and system diagnostics.

Making Menu Selections

To make selections on the menus depicted in Figures 11-2 and 11-3, move the acceptance block (■) to the desired choice. There are two methods of moving the acceptance block. You can use the space bar and the Backspace key to move forward and backward through the list of options. Alternatively, if you want to move immediately to a particular option, press the letter key on the keyboard corresponding to the first letter of the desired option. Thus, you can choose Communications on the Main System Menu either by pressing the space bar three times or by typing the letter C.

Once you have indicated your choice on a menu, you can do one of the following: press EXEC to accept the indicated choice and proceed, or press CANCEL to abort the indicated choice and return to the previous menu. (Throughout this chapter, the word "select" refers to the 2-step process of indicating a choice and pressing EXEC to accept that choice and proceed.)

11.5 LOADING THE 2200 TERMINAL EMULATION SOFTWARE

Once the System Software is loaded, perform the following steps to load the 2200 Terminal Emulation software.

1. Select Communications from the Main System Menu. Refer to Figure 11-2.

The Communications Menu (Select a Package - Release 1.0) is displayed. Refer to Figure 11-3. When this menu is displayed and the red light on Drive A is off, remove the System Software diskette.

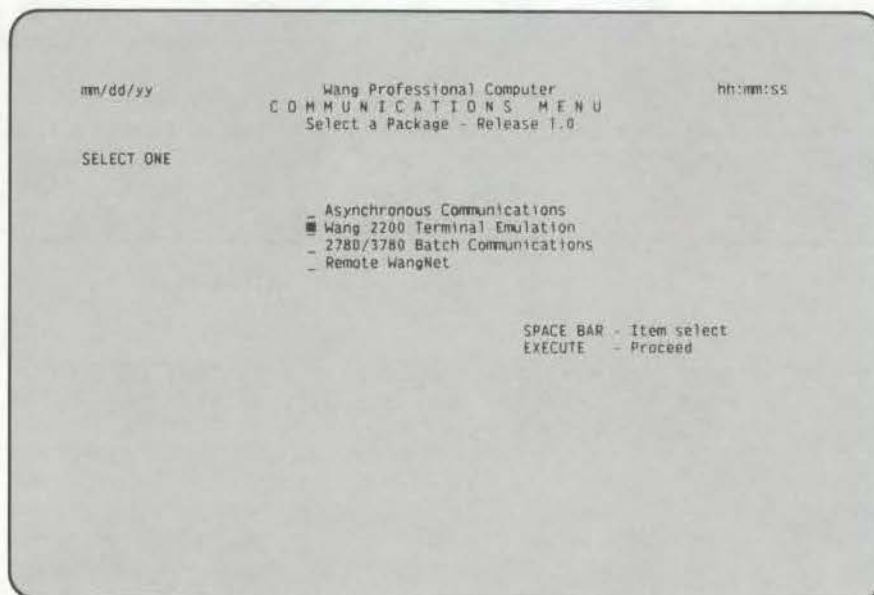


Figure 11-3 The Communications Menu

2. Insert the Asynchronous Communications Software diskette into Drive A.

Drive A is the start-up default diskette drive. The system assumes that you will start from Drive A unless you change the default.

As you insert the diskette into the drive, use the Insert and Up arrows on the orientation label to ensure that the position of the diskette is correct. The Insert arrow should point into the drive, and the Up arrow should point toward the Wang logo on the front of the electronics unit.

Figure 11-1 shows the correct orientation of the diskette for insertion into the diskette drive. Slip the diskette completely into the diskette drive and close the door of the drive.

3. Select Wang 2200 Terminal Emulation from the Communications Menu.

The system attempts to load the emulation software (file name = EMUL2236.COM) into memory. The system cannot load the 2200 Terminal Emulation software unless the Wang Monochrome Monitor is active. If the monitor is not active, the system displays the following message:

```
Wang Monochrome Monitor not active
Press RETURN to exit
```

If the monitor is active, the system displays the following prompt:

```
BAUD RATE (1=9600, 2=4800, 3=2400, 4=1200, 5=600, 6=300)?
```

The Wang PC is connected to a port on the terminal processor installed in the 2200 CPU. The baud (transmission) rate that you select must equal the baud rate that is already set for the port. Refer to your 2200 terminal manual for further information on setting baud rates.

After you enter a response to the baud rate prompt, the system displays the 2200 terminal self-identification message at the top of the screen. The self-identification message appears in following format:

```
model      rev-#      baud-rate      char-format      char-set
```

where:

model	specifies the terminal model number.
rev-#	specifies the revision number of the terminal software, preceded by R.
baud-rate	specifies the baud rate, followed by BPS (bits per second). The following are valid baud rates: 300, 600, 1200, 2400, 4800, and 9600.
char-format	specifies the communication character format. The communication character format consists of the number of data bits (7 or 8), followed by the parity (E = even parity, O = odd parity, N = no parity).
char-set	specifies the version of the keyboard and character set, enclosed in parentheses.

The following example shows a self-identification message:

```
WANGPC R01 9600BPS 8+0 (USA)
```

4. Press 2ND HELP. The Wang PC displays the 2200 power-on message on the screen. The power-on message appears in the following format:

```
READY (BASIC-2) PARTITION xx
:_
```

where:

xx specifies the partition number, such that $1 \leq xx \leq 16$.

When this message is displayed, the Wang PC is functioning as a terminal on the 2200 system.

By using the 2200 BASIC-2 language and system utilities, the Wang PC can now access all 2200 system devices, run existing data processing applications, and create new programs. However, Wang PC peripherals (e.g., disk drives) and other Wang PC features are unavailable, since the 2200 system is in control during the emulation.

11.6 KEYBOARD DIFFERENCES

The keyboard layouts on the Professional Computer and a 2200 terminal are not the same. Therefore, special keystroke sequences have been defined within the emulator to implement the necessary 2200 functions. Table 11-1 lists the 2200 keys that do not exist on the Wang PC keyboard and describes the equivalent key or combination of keys to use.

On some 2200 terminals (e.g., the Model 2236DE), you use the Special Function keys for editing operations. When using the 2200 Terminal Emulation software, you can use the Special Function (SF) keys on the Wang PC keyboard for editing. The SF key numbers on the Wang PC keyboard correspond to 2200 SF key numbers. However, the position of the keys is different than on a 2200 terminal (i.e., the position of the SF key is shifted one position to the left). Therefore, it is recommended that you use the cursor control keys (←, →, ↑, and ↓) and the special operation keys (INSERT and DELETE) for editing operations. Refer to the The Wang Professional Computer Introductory Guide for details.

Table 11-1 Wang PC Access to 2200 Terminal Keyboard Functions

2200 Terminal Function	Wang PC Emulator Access
RESET	2ND + HELP
HALT	2ND + STOP
CONTINUE	2ND + GOTO
CLEAR	2ND + ERASE
LOAD	SHIFT EXEC
RUN	EXEC
RECALL	2ND + SEARCH
S.F. '0	SHIFT HELP

11.7 ENDING 2200 TERMINAL EMULATION

To end 2200 terminal emulation, follow any termination procedures that may be required by the 2200 application being executed. After following these procedures, you can end terminal emulation in two ways. Press CONTROL + SHIFT + CANCEL (hold down both CONTROL and SHIFT, then press CANCEL) to end terminal emulation and return to the Communications Menu. Or press 2ND + COMMAND, then press CANCEL to abort terminal emulation and restart the system.

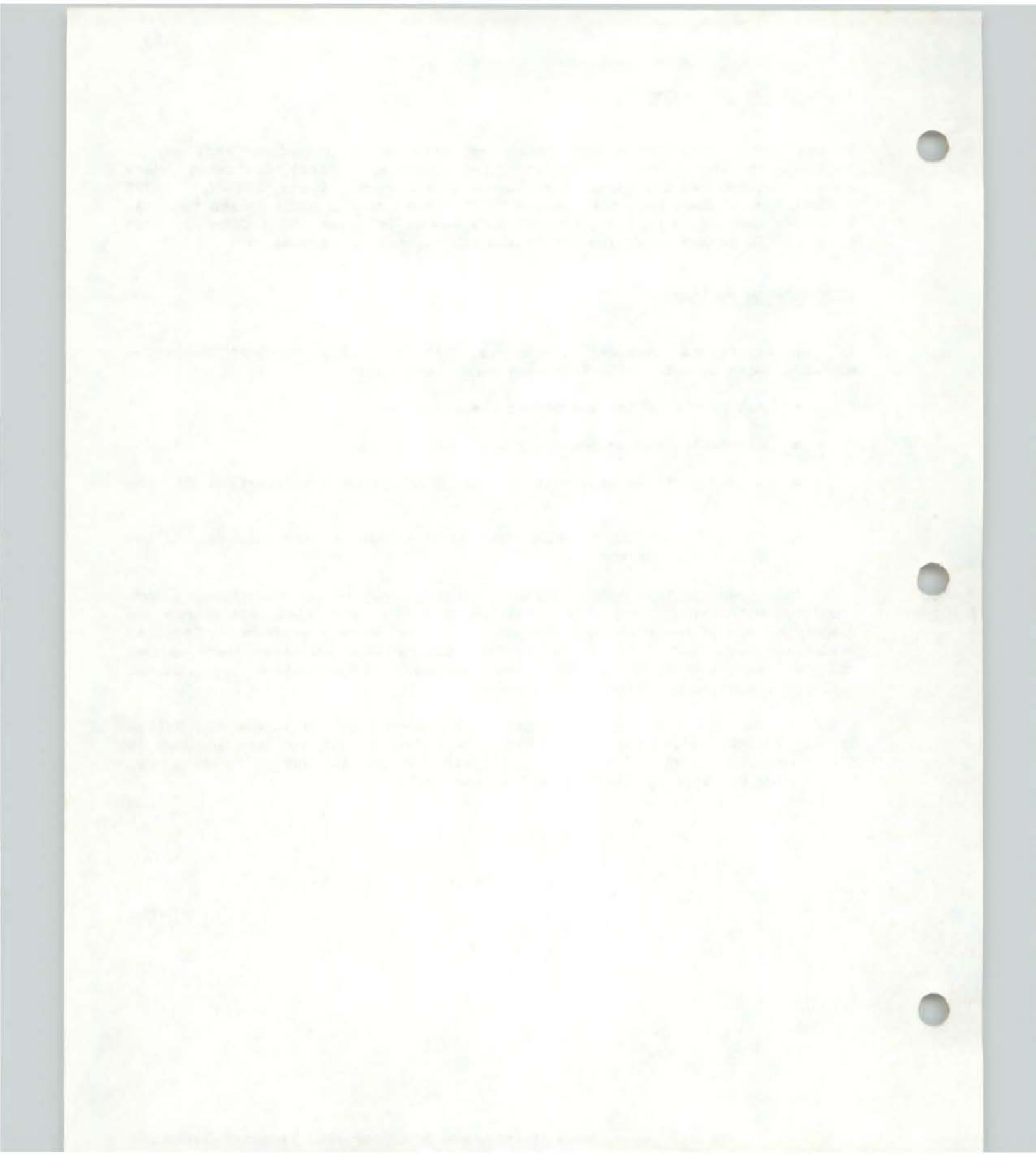
11.8 COMMON PROBLEMS

If you experience problems trying to load the 2200 Terminal Emulation software, make sure that the following conditions exist.

- All proper cables and modems are installed
- All cables and modems are properly connected
- A partition is available in the 2200 system configuration for the Wang PC
- The selected transmission rate is the same as the rate set on the terminal processor

The Wang Professional Computer Introductory Guide describes common problems with your Wang PC. Additionally, if you need assistance in diagnosing a problem with your system, call the Wang Professional Computer Assistance Center at 1-800-343-1098. By calling this toll-free phone number you can receive answers to questions about any Wang-provided application, utility, language, or operating system.

You can use the toll-free phone number from anywhere within the United States, Puerto Rico, or the Virgin Islands. However, if you are located in Massachusetts, Alaska, or Hawaii, call 1-617-459-5000 and ask to be connected to the Wang Professional Computer Assistance Center.



APPENDIX A

ASCII AND WISCII CODE SETS

The Wang PC character set is defined by 8-bit codes of the form $b_7b_6b_5b_4b_3b_2b_1b_0$. When $b_7=0$, the bits b_6 through b_0 correspond, except as noted below, to the ASCII (American Standard Code for Information Interchange) character set. The ASCII code set has 128 assignment positions that are numbered 0 (hex 00) through 127 (hex 7F). See Table A-1.

The Wang PC uses an extended version of the ASCII code set. This extended Wang PC character set is called WISCII (Wang International Standard Code for Information Interchange). Table A-2 lists WISCII code set display values during asynchronous communications. The WISCII code set includes an additional 128 assignment positions that are numbered 128 (hex 80) through 255 (hex FF). These additional positions are used primarily for special graphic characters and characters that are not used in English.

Many of the first 128 assignment positions in WISCII have the same display value as the corresponding ASCII assignment positions. However, there are two significant differences. One difference is in position 127 (hex 7F). WISCII uses this position as the cent sign; ASCII uses this position for the Delete or Rubout character.

The second difference involves positions 0 (hex 00) through 31 (hex 1F). Like ASCII, WISCII reserves these positions for control codes. However, the effect of a particular control code depends on the equipment with which it is used and may differ from the effect assigned in the ASCII system. Usually, during asynchronous communications, most control codes are deleted and have no effect on Wang PC monitors or printers. Table A-2 lists the effect of received control codes on the Wang PC screen display during asynchronous communications. Note that these same control codes may produce different effects on various Wang PC printers. For details, refer to the manual that accompanies a particular printer.

Table A-1 ASCII Code

High order 4 bits hex- digit	Low order 4 Bits hex- digit	0000	0001	0010	0011	0100	0101	0110	0111
		0	1	2	3	4	5	6	7
0000	0	NUL	DLE	SPACE	0	@	P	^{grave}	p
0001	1	SOH	DC1	!	1	A	Q	a	q
0010	2	STX	DC2	"	2	B	R	b	r
0011	3	ETX	DC3	#	3	C	S	c	s
0100	4	EOT	DC4	\$	4	D	T	d	t
0101	5	ENQ	NAK	%	5	E	U	e	u
0110	6	ACK	SYN	&	6	F	V	f	v
0111	7	BEL	ETB	^{apos}	7	G	W	g	w
1000	8	BS	CAN	(	8	H	X	h	x
1001	9	HT	EM	)	9	I	Y	i	y
1010	A	LF	SUB	*	:	J	Z	j	z
1011	B	VT	ESC	+	;	K	[	k	{
1100	C	FF	FS	^{comma}	<	L	\	l	
1101	D	CR	GS	^{dash}	=	M	]	m	}
1110	E	SO	RS	^{period}	>	N	↑	n	~
1111	F	SI	US	/	?	O	^{under- line}	o	DEL

LEGEND FOR ASCII CONTROL CHARACTERS*

CONTROL	ASCII	EXPLANATION	CONTROL	ASCII	EXPLANATION
A	NUL	Null	P	DLE	Data Link Escape
B	SOH	Start of Heading	Q	DC1	Device Control 1
C	STX	Start of Text	R	DC2	Device Control 2
D	ETX	End of Text	S	DC3	Device Control 3
E	EOT	End of Transmission	T	DC4	Device Control 4
F	ENQ	Enquiry	U	NAK	Negative Acknowledge
G	ACK	Acknowledge	V	SYN	Synchronous Idle
H	BEL	Bell (audible or attention signal)	W	ETB	End of Transmission Block
I	BS	Backspace	X	CAN	Cancel
J	HT	Horizontal Tabulation (punched card skip)	Y	EM	End of Medium
K	LF	Line Feed	Z	SUB	Substitute
L	VT	Vertical Tabulation		ESC	Escape
M	FF	Form Feed		FS	File Separator
N	CR	Carriage Return		GS	Group Separator
O	SO	Shift Out		RS	Record Separator
	SI	Shift In		US	Unit Separator
				DEL	Delete

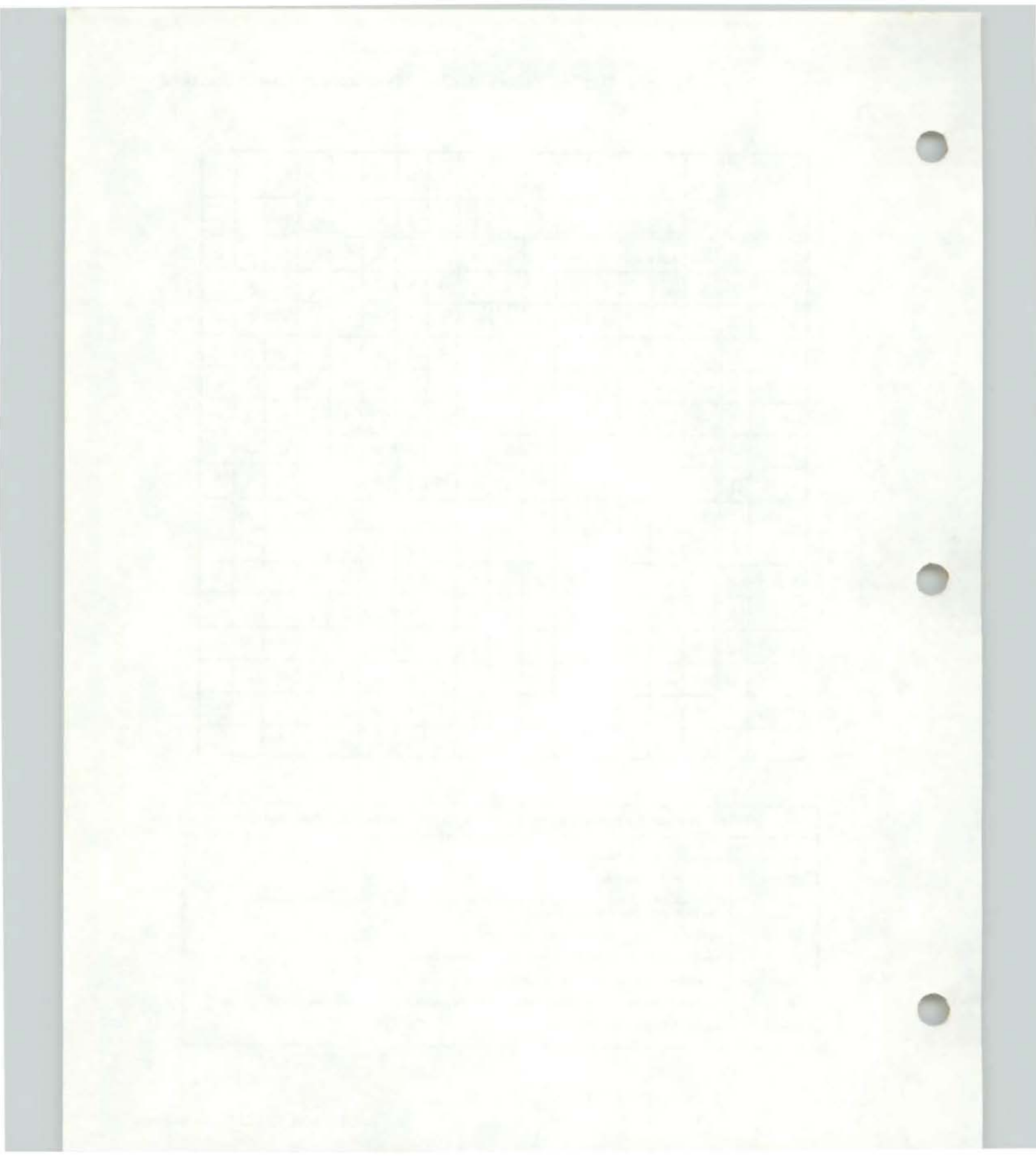
* Letters in the Control column are the keyboard characters (if any) associated with adjacent ASCII characters in the ASCII column. You can send any ASCII character for which a corresponding letter key is listed in the Control column by holding down the Control key and pressing the letter key.

Table A-2 WISCII Code Display Values during Asynchronous Communications

Low order 4 Bits	hex- digit	High order 4 bits hex- digit															
		0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
		O	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000	0	NUL	SPACE	SPACE	O	@	P	`	p	°	Â	â	Ğ	ğ	þ	þ	£
0001	1	SPACE	SPACE	!	1	A	Q	a	q	◆	À	à	U	ij	Đ	đ	f
0010	2	SPACE	SPACE	"	2	B	R	b	r	►	Á	á	í	í	Ý	ý	¥
0011	3	SPACE	SPACE	#	3	C	S	c	s	◀	Ä	ä	î	î	Ş	ş	¼
0100	4	SPACE	SPACE	\$	4	D	T	d	t	→	Å	å	ï	ï	'	'	½
0101	5	SPACE	SPACE	%	5	E	U	e	u	←	←	→	í	í	Û	û	¾
0110	6	SPACE	SPACE	&	6	F	V	f	v		Ä	ä	ï	ï	Û	û	^
0111	7	BEL	SPACE	'	7	G	W	g	w	■	↓	†	L·L	I·I	Ú	ú	'
1000	8	BS	SPACE	(	8	H	X	h	x	!!	Æ	æ	Ñ	ñ	Ü	ü	'
1001	9	HT	SPACE	)	9	I	Y	i	y	‡	Ç	ç	Ô	ô	©	™	"
1010	A	LF	SPACE	*	:	J	Z	j	z	↓	‡	□	Ò	ò	®	☉	-
1011	B	SPACE	SPACE	+	;	K	[	k	{	↑	●	REQ. SPACE	Ó	ó	℞	←	,
1100	C	CLEAR SCREEN	SPACE	,	<	L	\	l		←	Ê	ê	Ö	ö	ª	º	v
1101	D	CR	SPACE	-	=	M	]	m	}	±	Ë	ë	Õ	õ	«	»	~
1110	E	SPACE	SPACE	.	>	N	↑	n	~	ï	É	é	Œ	œ	§	ß	5 UNIT SPACE
1111	F	SPACE	SPACE	/	?	O	_	o	©	¿	Ê	ë	Ø	ø	¶	.	DEAD KEY

LEGEND FOR WISCII CONTROL CODES RECEIVED DURING ASYNCHRONOUS COMMUNICATIONS

NUL	Null; has no effect on the Wang PC
BEL	Bell; sounds audible tone
BS	Backspace (destructive, nondestructive, or deleted as specified by the Backspace option on the Modify Character or Keyboard Translation menu)
HT	Horizontal Tabulation; moves cursor (nondestructively) one position to the right
LF	Linefeed (deleted if Auto Linefeed is selected on the Modify Connection Options menu)
Clear Screen	Erases the screen and positions cursor at the upper left of the screen
CR	Carriage Return (followed by Linefeed, if Auto Linefeed is selected on the Modify Connection Options menu)
Space	Displays a blank space on the screen



APPENDIX B CONNECTOR PIN ASSIGNMENTS

Information in this section is provided for readers responsible for interfacing non-Wang equipment to a Wang system via the RS-232-C asynchronous serial port.

The Wang PC communication port conforms to the nationally recognized EIA RS-232-C and the internationally recognized CCITT V.24 standards for voltage levels and pin connections. The signal polarity and the voltage of driven and detected signals are as follows:

Logic Level	Applied Voltage	Detected Voltage
0 or ON (Spacing)	+8 vdc	+5 to +15 vdc
1 or OFF (Marking)	-8 vdc	-5 to -15 vdc

The pin assignments are listed in Table B-1 with both the EIA and the CCITT designations given for the circuit associated with each pin. Also, the signal descriptions and sources are included in the table.

WANG PROFESSIONAL COMPUTER AND MODEM INTERACTION

The Wang PC communication hardware senses the value of the following modem signals:

- Received Data on Pin 3
- Clear to Send (CTS) on Pin 5
- Data Set Ready (DSR) on Pin 6
- Data Carrier Detect (DCD),
also known as Received Line Signal Detector (RLSD),
sometimes abbreviated CXR, on Pin 8

The Wang PC sets the level of the following modem signals:

- Data Terminal Ready (DTR) on Pin 20
- Request to Send (RTS) on Pin 4
- Transmitted Data on Pin 2

The Wang PC also uses Pin 7 as the Signal Ground and Common Return.

Table B-1 Connector Pin Assignments

Pin	EIA	CCITT	Signal Description	Source
2	BA	103	Transmitted Data	Wang PC
3	BB	104	Received Data	Modem
4	CA	105	Request to Send	Wang PC
5	CB	106	Clear to Send	Modem
6	CC	107	Data Set Ready	Modem
7	AB	102	Signal Ground and Common Return	Not Applicable
8	CF	109	Data Carrier Detect (or Received Line Signal Detector or CXR)	Modem
20	CD	108.2	Data Terminal Ready	Wang PC

NOTE:

The signals on the following pins are not utilized by the Wang PC: pins 1, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, and 25.

The ONLINE/OFFLINE status message on the Interactive Session Screen reflects only the presence or absence of the DSR signal on pin 6. However, other signals are necessary to enable the Wang PC to communicate. Specifically, the signal on pin 5 (CTS) must be active to enable the Wang PC to send data. The signal on pin 6 (DSR) must be active to enable the Wang PC to send or receive data. The signal on pin 8 (CXR) must be active to enable the Wang PC to receive data.

APPENDIX C

COMMUNICATION OPTIONS OF PRE-DEFINED ASYNCHRONOUS CONNECTIONS

Tables C-1 through C-4 list the communication options of the four pre-defined connections that are provided with Wang PC Asynchronous Communications. Table C-1 lists options that can be set on the Modify Connection Options menu. Table C-2 lists options for the Modify File Transfer Options menu. Table C-3 lists options for the Modify Other Technical Options menu. Table C-4 lists options for the Modify Character or Keyboard Translation menu.

Table C-1 Connection Options for Pre-defined Connections

OPTION	PRE-DEFINED CONNECTION			
	WANG PC	FULL DUPLEX	TALK	DEFAULTS
Connection File Name	WANGPC.TTY	FDX.TTY	TALK.TTY	DEFAULTS.TTY
Parity	Odd	Even	Even	Even
Data Bits	8	7	7	7
Stop Bits	1	1	1	1
Baud Rate	1200	1200	1200	1200
Duplex	Full local echo	Full host echo	Full local echo	Full local echo
Echo Received Data	No	No	Yes	No
Auto Linefeed	Yes	No	Yes	Yes
Keyboard Case	Uplow	Uplow	Uplow	Uplow

Table C-2 File Transfer Options for All Pre-defined Connections*

OPTION	ALL PRE-DEFINED CONNECTIONS*
	(WANG PC, FULL DUPLEX, TALK, DEFAULTS)
How to Save Rcvd Data	As Is
Transmit End of File	Blank; no code specified
What to Log	Both
How to Save Logged Data	Interpret Control Codes

* File transfer option settings are the same for all pre-defined connections.

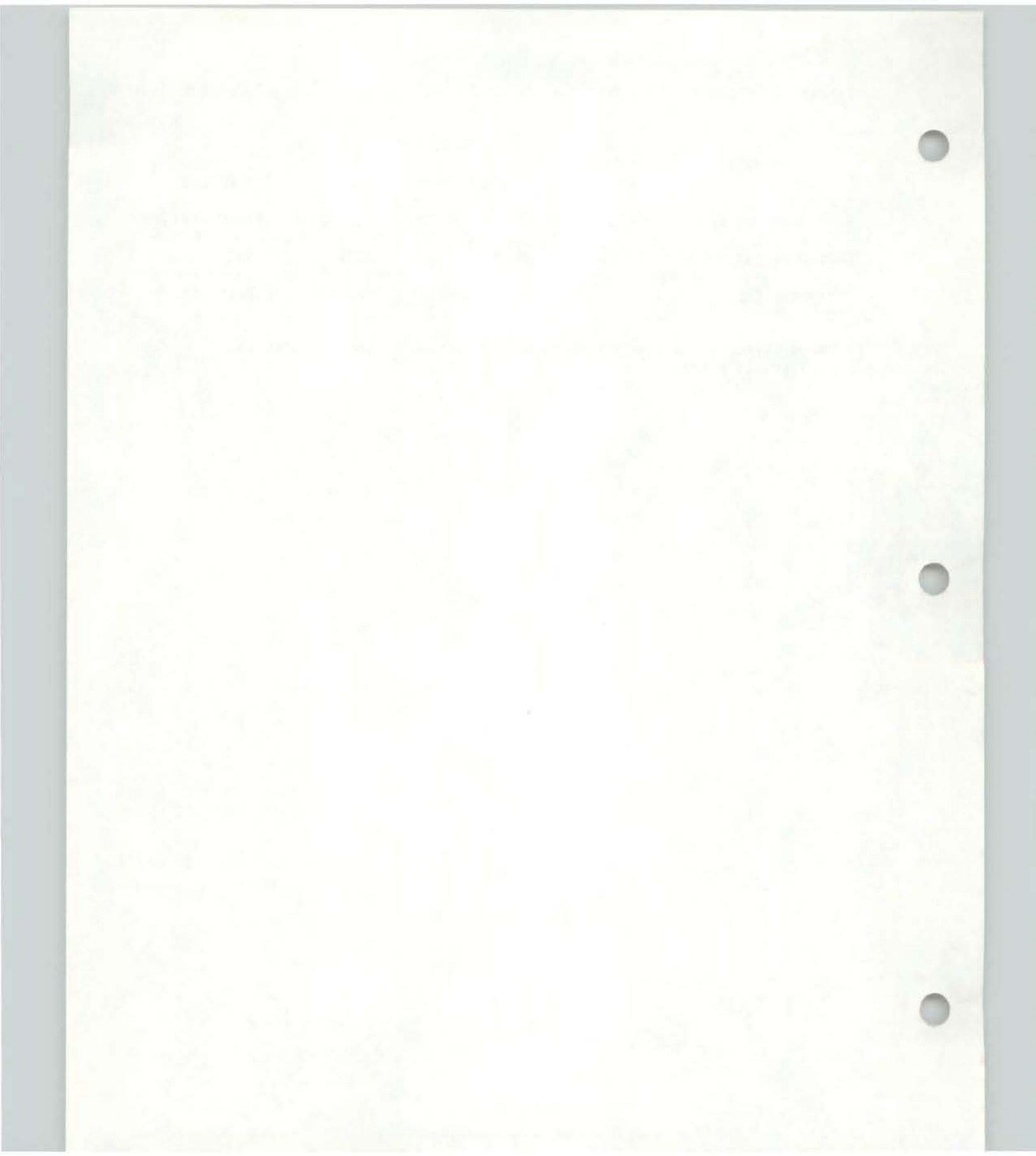
Table C-3 Other Technical Options for Pre-defined Connections

OPTION	PRE-DEFINED CONNECTION			
	WANG PC	FULL DUPLEX	TALK	DEFAULTS
Send End of Message	CR	CR	CR/LF	CR
Rcvd End of Message	CR	CR	CR	CR
Respond to Rcvd End of Message	No	No	Yes, send LF	No
XON/XOFF Support	Yes	No	No	No
XON character	hex 11	hex 11	hex 11	hex 11
XOFF character	hex 13	hex 13	hex 13	hex 13
Parity Error Substitute	#	#	#	#

Table C-4 Character/Keyboard Translation Options for Pre-defined Connections**

OPTION	PRE-DEFINED CONNECTION			
	WANG PC	FULL DUPLEX	TALK	DEFAULTS
Rcvd Codes to Delete	All except CR and LF (Delete hex 00-07, 0B-0C, 0F-1F)			
Character Set	ASCII	ASCII	ASCII	ASCII
Backspace Key	Destructive	Disabled	Disabled	Destructive

** The setting of the Rcvd Codes to Delete option is the same for all pre-defined connections.



APPENDIX D

ASYNCHRONOUS COMMUNICATIONS FILE NAMES AND MESSAGES

D.1 OVERVIEW

Situations may arise in which the Wang PC cannot perform a desired task without your intervention. When this happens, the Wang PC displays a message to tell you why it is unable to proceed. In many cases, you can respond simply by specifying files correctly or inserting a required diskette in the appropriate drive. Messages can originate from various programs that run the Wang PC. The Wang PC Introductory Guide explains messages originating with the System Software. This appendix presents the messages associated with the Asynchronous Communications Software. Since some messages refer to specific files, a list of Asynchronous Communications files is also provided.

If you cannot correct the problem yourself, you can call the Wang PC Assistance Center; see Chapter 9.

D.2 FILE NAMES

Asynchronous Communications Software includes the files listed below. The function of each file is noted next to its name.

PCTTY.COM	Program file that runs an asynchronous session
TTYDR.TTY	Device Driver code required to run a session
DIRECTRY.TTY	List of existing connections for Select a Connection menu
WANGPC.TTY	WANG PC connection file
FDX.TTY	FULL DUPLEX connection file
TALK.TTY	TALK connection file
DEFAULTS.TTY	DEFAULTS connection file
HELP1.TTY	Help for the Select a Connection menu
HELP2.TTY	Help for the Run, Modify, or Delete menu
HELP3.TTY	Help for the Modify Connection Options menu
HELP4.TTY	Help for the Modify File Transfer Options menu
HELP5.TTY	Help for the Modify Other Technical Options menu
HELP6.TTY	Help for the Modify Character/Keyboard Translation menu
EBCDIC.TTY	EBCDIC translation table
MSGFILES.TTY	Messages and prompts
PCEDIT.EXE	Program file that runs the Editor
CONFIG.EDT	Editor data file

NOTE:

Wang 2200 Terminal Emulation files are listed in the chapter on that feature. Such files are not required for asynchronous communications.

D.3 MESSAGES

You may encounter the following messages during Wang PC Asynchronous Communications. The meaning of each message is explained, then the response you should make is described.

ASYNC DEVICE DRIVER NOT INSTALLED (Return Code 100)

Meaning:

When you selected Run A Session from the Run, Modify, or Delete menu, the Wang PC was unable to load the Asynchronous Communications Device Driver code from file TTYDR.TTY into memory. You will be able to create and modify connections, but you will not be able to run a session. There are two possible causes of this problem: (1) the file TTYDR.TTY is not on the Asynchronous Communications Software diskette; or (2) the system does not have enough memory to allow the device driver to be loaded.

What to do:

If the required file is not on your Asynchronous Communications Software diskette, copy it from your backup diskette. If the problem persists, run the Check Disk Utility to determine the amount of free memory on your system. You need approximately 68,000 bytes of memory to run a session. The amount of free memory will vary, depending on what options (printer, monitor, graphics, etc.) your system has. Call the Wang PC Assistance Center if you need additional help.

Disk is full, cannot update XXXXXXXX.XXX Press CANCEL to continue

Meaning:

There is not enough room on the disk to create the connection file or update the directory file (DIRECTRY.TTY). The Wang PC has not created the connection file and updated the directory file. The disk referred to is on the drive, if any, specified in the Directory Path Option or the Connection File Name option on the Modify Connection File Options menu. Otherwise, the disk referred to is the one that contains the Asynchronous Communications Software.

What to do:

You can either create the connection file on a different drive (using a different disk) or make room for the new connection on the current drive. In either case, begin by pressing CANCEL. The Select a Connection menu will be displayed.

To create the new connection file on a different drive, select Create a New Connection. In specifying the Connection File Name on the Modify Connection Options menu, include the designation of the drive on which you wish to create the new connection file. Remember to insert a formatted disk that is not write-protected in the designated drive.

To make room for the new connection on the current disk, you must delete an existing connection. On the Select a Connection menu, select the connection you wish to delete. Next select Delete This Connection on the Run, Modify, or Delete menu. Then you can return to the Select a Connection menu and begin creating the new connection.

Ending current session - One moment please . . .

Meaning:

The Wang PC is ending the current session and disconnecting the current connection. The Wang PC holds the DTR (Data Terminal Ready) signal off for three seconds before proceeding.

What to do:

Nothing. This message appears only for your information; no response is required.

File already exists, cannot be CREATED

or

File already exists, cannot be REPLACED

Meaning:

You have specified a connection file that already exists on your disk. To safeguard against accidental destruction of existing connection files, the Wang PC does not allow you to create a new connection file that has the same name as an existing file. Similarly, the Wang PC does not allow you to change the connection file name of an existing connection to a different file name that already exists.

What to do:

Enter a different connection file name and press EXEC to create or rename the connection file and save changes you have made on the Modify Connection Options menu. Or press CANCEL to abort changes on the Modify Connection Options menu and restore the original values for connection options.

File already exists. (R)eplace or (E)xtend? (EXEC or CANCEL)

Meaning:

The log or receive file you have specified already exists. You can replace or extend the file. Replacing the file means overwriting the existing file. The existing file is destroyed, and a new file of the same name is created. Extending the file means adding new information to the end of the existing file.

What to do:

Press R for replace or E for extend. Then press EXEC to perform the indicated function, or press CANCEL to abort the log or receive function.

File does not exist, OK to CREATE?

Meaning:

You are about to create a new connection file on your disk.

What to do:

If you do want to create the new file, press EXEC.
If you have made a mistake in entering the connection file name and did not intend to create a new file, press CANCEL, and enter the correct file name.

File not found

Meaning:

The Wang PC could not find the connection file for the connection you selected on the Select a Connection menu.

What to do:

If you know that the connection file is on a different disk, insert that disk and try again. If the file has been deleted accidentally, you can recreate it.

File not found, try again? (EXEC or CANCEL)

Meaning

The Wang PC cannot find the file you have specified to transmit.

What to do:

Make sure the disk containing the transmit file is inserted in the appropriate drive. Then press EXEC to try sending the file again. If you have made a mistake in specifying the file, respecify the file correctly and press EXEC. If you do not wish to send a file after all, press CANCEL.

File to be DELETED?

Meaning:

You selected the option to delete the current connection.

What to do:

If you do want to delete the connection, press EXEC.

If you picked the Delete option by mistake, press CANCEL, and the connection will not be deleted.

Invalid Entry

Meaning:

You have entered incorrect information in an option field, or have selected an option which is not compatible with another option you have selected. When this message is displayed, the cursor will be positioned in the problem field.

What to do:

Correct your selection, using the following information, or press CANCEL to exit from the screen without saving any changes.

Valid settings for various options are listed below.

Connection Options

Connection Name - may not be blank.

Directory Path - must be the name of an existing directory on the disk; may not contain drive designation if drive designation specified in Connection File Name option.

Connection File Name - must be valid file name and may not be blank; may not contain drive designation if drive designation specified in Directory Path option.

Help File Name - must be valid file name or blank.

Parity - may not pick Space or Mark if Data Bits is 8.

Data Bits - may not pick 8 if Parity is Space or Mark.

Duplex - may not pick Half if Echo Received Data is Yes.

Echo Received Data - may not pick Yes if Duplex is Half.

TC Glossary File Names - must be valid file name or blank.

File Transfer Options

Any hex value field - accepts 0-9, A-F and a-f or blank only.

Modify Other Technical Options

Any hex value field - accepts 0-9, A-F and a-f or blank only.
Additional restrictions apply to the hex value field for the Parity Error Substitute option.
XON value - may not be blank and may not match XOFF value.
XOFF value - may not be blank and may not match XON value.
XON/XOFF Protocol - option not displayed when Duplex is Half.
Parity Error Substitute - accept normal hex value fields except the pairs of hex digits from hex 01 through hex 1F.

Character or Keyboard Translation

Any hex value field - accepts 0-9, A-F and a-f or blank only.
Character Set Name - may not be blank if Other is selected.

Invalid file name, please try again

Meaning:

The format of the file name you entered for the send, receive, or log file is incorrect. If a directory path is included, that path must already exist on the disk.

What to do:

Enter the file name in the correct format. See Section 1.3.

Invalid Key

Meaning:

You pressed a key that is not active on this screen. Pressing an inactive key has no effect other than causing this message to appear.

What to do:

Just press the right key.

Invalid Password, try again

Meaning:

The password you entered does not match the connection password.

What to do:

Enter the correct password, or press CANCEL to select a different connection. Remember that passwords must match exactly, and that lowercase characters will not be accepted for uppercase characters.

MSGFILES.TTY IS DAMAGED (Return Code 102)

Meaning:

The file MSGFILES.TTY contains all the menu titles and prompts for Async Communications. A file was found with the correct name, but it did not contain the information expected by the Async program.

What to do:

You will not be able to run Async Communications without this file. An un-damaged version should be on the original Async Communications software diskette that you received from Wang. Use the copy utility to copy this file to the disk that you are currently using for Async Communications. If the problem persists, contact the Wang to arrange for a replacement file.

MSGFILES.TTY NOT FOUND (Return Code 101)

Meaning:

The file MSGFILES.TTY which contains all the menu titles and prompts could not be found. The default disk is checked first, and then any other disks on the system.

What to do:

You will not be able to run Async Communications without this file. It should be on the original Async Communications software diskette that you received from Wang. Use the copy utility to copy this file to the disk that you are currently using for Async Communications.

No more room on disk X Start new file on different disk? (EXEC or CANCEL)

Meaning:

There is no more room on the indicated disk for the log or receive file. You can continue logging/receiving on a new disk or stop logging/receiving.

What to do:

To continue logging/receiving, press EXEC. The Wang PC closes the current file and prompts you to enter the new file name. Insert a new (formatted) diskette, then enter the file name and press EXEC. To stop logging/receiving, press CANCEL. The Wang PC closes the file and terminates logging/receiving.

Not enough room on disk, please try again

Meaning:

You are ready to log or receive to disk, and have entered a file name. However, there is not enough room on the disk you wish to use.

What to do:

You have three options. To proceed, you can insert a formatted diskette with enough room and press EXEC. You can also proceed by modifying the file name you entered and pressing EXEC. To abort the log or receive function, press CANCEL.

Not ready error reading drive X - (A)bort or (R)etry?

Meaning:

There is no disk in the drive indicated, and the system needs to get information from that drive.

What to do:

- 1) If this message occurs after you have selected Asynchronous Communications from the Communication Menu, but before any screens have been displayed, place any diskette in the drive indicated, and type the letter R to continue.
- 1) If the message occurs while you are creating or modifying connections, place the Async Communications software diskette in the indicated drive, and type the letter R to continue. Remember that you should not remove this diskette from its drive unless prompted to do so by the system.
- 1) If the problem persists, type the letter A when the message is displayed to abort (cancel) the program. Call Wang for help in determining whether there is a problem with your diskette, disk drive, or Async software.

Please insert Async Software disk in drive X and press EXEC

Meaning:

The Asynchronous Communications Software diskette might not be in the indicated drive, perhaps because of other filing activity such as logging, sending, and receiving files.

Do not be alarmed if this message appears when you are sure that the Asynchronous Communications Software diskette is properly inserted. The Wang PC cannot always determine directly whether the Asynchronous Communications Software diskette is properly inserted. As a result, the Wang PC sometimes displays this cautionary message even though the Asynchronous Communications Software diskette is properly inserted. For example, opening and closing the door of the drive containing the Asynchronous Communications Software diskette can cause this message to appear.

What to do:

Make sure the Asynchronous Communications Software diskette is inserted in the indicated drive with the door closed. Then press EXEC.

TRANSLATE TABLE NOT FOUND - ASCII used instead (Return Code 103)

Meaning:

When you picked Run a Session on the Run, Modify, or Delete menu, the Wang PC could not find the translation table in a file on the appropriate disk. If EBCDIC is currently selected on the Modify Character or Keyboard Translation menu, the Wang PC looked for the file EBCDIC.TTY on the Asynchronous Communications Software diskette. Translation table files should usually be stored on the Asynchronous Communications Software diskette or on the diskette containing the connection file.

What to do:

Make sure the appropriate translation file is on the drive where the Wang PC expects to find it. Check the Directory Path option on the Modify Connection Options menu to make sure you know where the Wang PC expects to find the translation file. In the meantime, you can still proceed to run a session, using ASCII code.

TC Glossary X not found - press any key to continue

Meaning:

There is no TC glossary associated with the indicated letter, or the glossary file is not on the appropriate disk. Usually, TC glossary files should be on the same disk as the connection file.

What to do:

Press GL then the correct letter to send the glossary. The Available Online Functions screen lists currently available glossaries and file names. You can still continue the session without remedying the glossary problem, provided the glossary is not crucial to the task you are performing.

Write protect error writing drive X - (A)bort or (R)etry?

Meaning:

There is a write protect tab on the disk in the drive indicated, and the system needs to save some information on that disk.

What to do:

Take the diskette out of the drive, and remove the write protect tab which covers a small cut-out in the diskette. Place the diskette back in the drive, close the door, and type the letter R to continue. If the problem persists, type the letter A when the message is displayed to abort (cancel) the program. Call Wang for help in determining whether there is a problem with your drive.

You have selected a PRINTER function
Please turn on your printer and press EXEC
or press CANCEL if your system does not have a printer

Meaning:

This message appears as a precaution the first time you select a printer function after selecting Asynchronous Communications.

What to do:

If your system has a printer, turn it on and press EXEC. If your system does not have a printer, press CANCEL. If you press EXEC by mistake and try to perform a printer function when a printer is not attached to the system, you will be unable to proceed. If so, you must restart the system by pressing 2ND COMMAND CANCEL.

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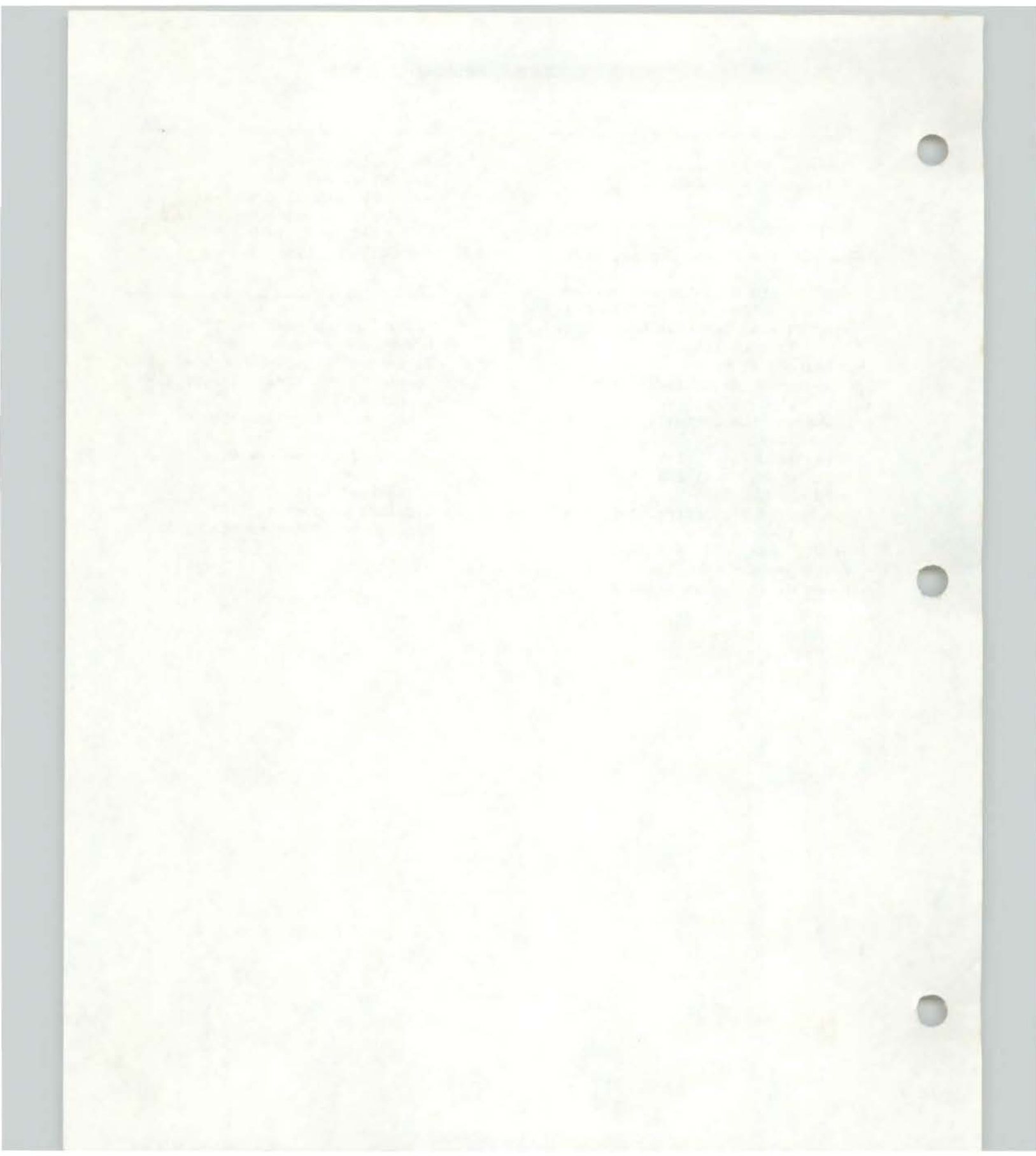
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Title THE WANG PC ASYNCHRONOUS COMMUNICATIONS GUIDE

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