



WANG

Printer Software Administration Guide



Printer Software Administration Guide

1st Edition — July 1985
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715-0173

WANG

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PREFACE

This manual provides procedures for administering printer software on Wang Office Information Systems (OIS), Alliance[®], and VS systems. This manual is intended for use by system administrators and/or supervisors of those systems.

Chapter 1 provides an introduction to the functions used to monitor printer software.

Chapters 2 through 5 detail the steps to follow in using Peripheral Utilities and the START function to administer printer software functions.

Appendix A contains information on how to install Peripheral Utilities as a menu selection on OIS and Alliance systems.

Appendix B provides information on how to load font diskettes onto the various Wang systems.

Appendix C contains character set tables for the various types of printers.

Appendix D lists the Wang printers to which this manual applies.

To effectively use this manual, you should be familiar with the concepts and procedures detailed in the following Wang manuals:

- OIS System Administrator's Guide (700-5562)
- Alliance System Administrator's Guide (700-6897)
- VS System Administrator's Reference (800-1144)

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by proper documentation and that the books should be kept up-to-date at all times. The second part of the document provides a detailed explanation of the accounting cycle, which consists of eight steps: identifying the accounting cycle, analyzing and journalizing the transactions, posting to the ledger, determining debits and credits, preparing a trial balance, adjusting the accounts, preparing financial statements, and closing the books. The third part of the document discusses the importance of internal controls and the role of the auditor in ensuring the accuracy and reliability of the financial statements.

Conclusion

In conclusion, the accounting cycle is a systematic process that ensures the accuracy and reliability of the financial statements. It is essential for every business to maintain accurate records and to follow the accounting cycle carefully. The auditor's role is to verify the accuracy of the financial statements and to provide an independent opinion on their reliability. Internal controls are also important to ensure the accuracy of the financial statements and to prevent fraud.



The accounting cycle is a continuous process that requires constant attention and care. It is essential for every business to maintain accurate records and to follow the accounting cycle carefully. The auditor's role is to verify the accuracy of the financial statements and to provide an independent opinion on their reliability. Internal controls are also important to ensure the accuracy of the financial statements and to prevent fraud.



CHAPTER 1 INTRODUCTION

1.1 OVERVIEW

This manual deals with how to administer software for printers attached to your Wang computer system. On OIS and Alliance systems, you use the Peripheral Utilities function. On VS systems, this function is known as START.

1.2 WHAT ARE PERIPHERAL UTILITIES?

Peripheral Utilities are programs that perform a wide range of functions on printers attached to your system. Using Peripheral Utilities you can:

- View character sets
- Assign character sets
- Change character sets
- Delete character sets
- Print special characters
- Update printer font diskettes
- Change word processing printer parameters
- Change data processing printer parameters (OIS and Alliance only)

The Peripheral Utilities allow you flexibility in administering printer operations. They allow you to modify software so that you can tailor printer requirements to meet your needs.

1.3 RUNNING PERIPHERAL UTILITIES

You can install Peripheral Utilities as a main menu selection on OIS systems, or as a menu selection under the Route Profiles option on Alliance systems (follow the instructions in Appendix A). On VS systems, you can access these utilities by running the START program in the PUTIL library.

Wang Laboratories recommends that Peripheral Utilities be installed as a menu selection on OIS and Alliance systems if the system environment requires heavy use of different character sets. The procedures in this manual assume that the Peripheral Utilities function is installed as a menu selection.

Once you have installed the utilities, follow the steps below for your particular system to access the main Peripheral Utilities menu.

OIS

1. Display the main OIS Disk Operating System menu on the screen.
2. Using the Space Bar, position the acceptance block next to the Peripheral Utilities option and press EXECUTE.

Alliance

1. Display the main Alliance System menu on the screen.
2. Using the Space Bar, position the acceptance block next to the Supervisory Functions option and press EXECUTE. (You may also type "s" to position the acceptance block next to Supervisory Functions.)
3. On the Supervisory Functions menu, position the acceptance block next to the System Administration option and press EXECUTE.
4. Enter the password and press EXECUTE.
5. Position the acceptance block next to the Route Profiles option and press EXECUTE.
6. Position the acceptance block next to the Peripheral Utilities option and press EXECUTE.

VS

1. Display the VS Word Processing System menu on the screen.
2. Using the Space Bar, position the acceptance block next to the Utilities option and press EXECUTE.
3. On the VS Integrated Information Systems (VS/IIS) Utilities menu, position the acceptance block next to the Run Program or Procedure option and press EXECUTE.
4. Fill in the following fields, then press EXECUTE. Use the RETURN key to move to the next field and the TAB key to move to the previous field.

<u>Field</u>	<u>Enter</u>
Program or Procedure	START
In Library	PUTIL
On Volume	(the name of the volume on which the utility resides)

After you have performed the steps for your particular system, the main Peripheral Utilities menu, shown in Figure 1-1, is displayed.

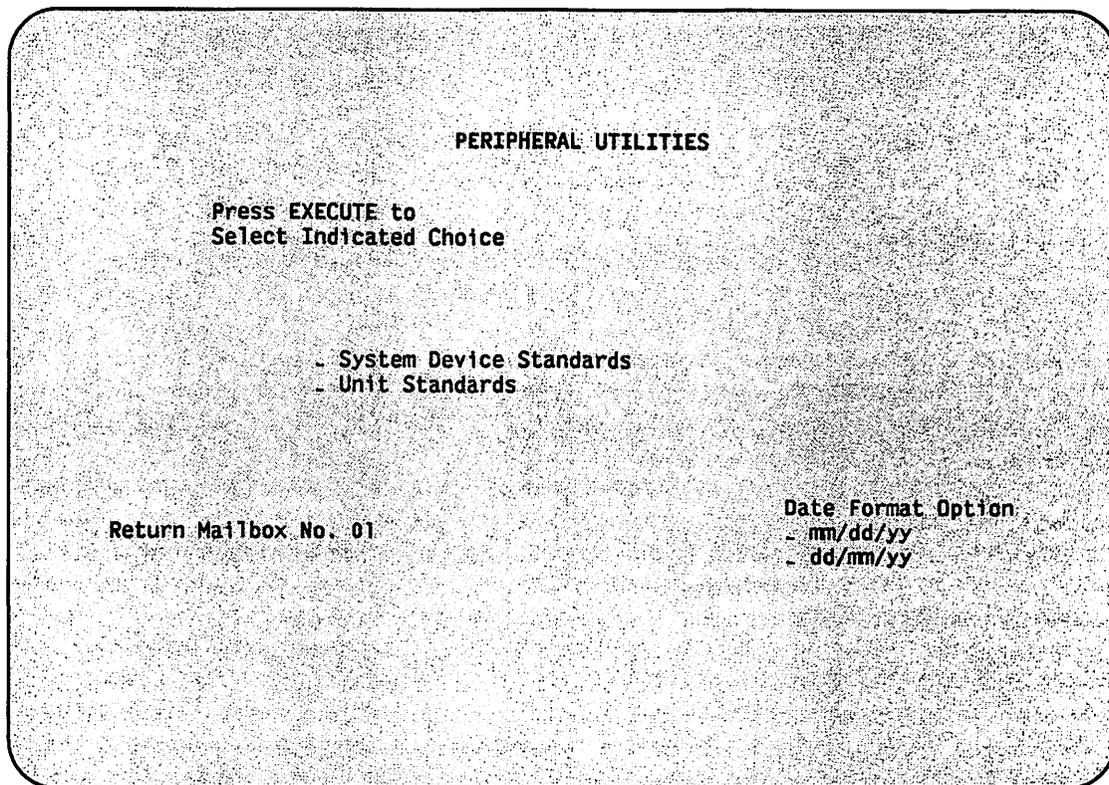


Figure 1-1. Main Peripheral Utilities Menu

NOTE

On VS systems, the Return Mailbox No. field is three digits long.

The System Device Standards option allows you to perform functions on all units of a particular printer type (e.g., daisy, laser) on your system. The Unit Standards option is used to perform functions on one printer of a particular printer type (e.g., daisy unit 01, laser unit 04) on your system. Refer to Section 1.2 for a list of these functions.

For example, suppose that you have three matrix printers, each one printing out documents in different character sets. Suppose also that each character set utilizes a different type of line spacing and sentence terminator format symbol. Select System Device Standards to assign character set numbers to the character sets; select Unit Standards to define the line spacing and sentence terminator symbol for each printer.

To select either System Device Standards or Unit Standards, position the acceptance block next to the option you want and press EXECUTE. If you choose Unit Standards, you are then prompted to enter the number of the unit whose values you are going to change.

Figure 1-2 shows the menu you will see if you select System Device Standards, and Figure 1-3 shows the menu if you select Unit Standards.

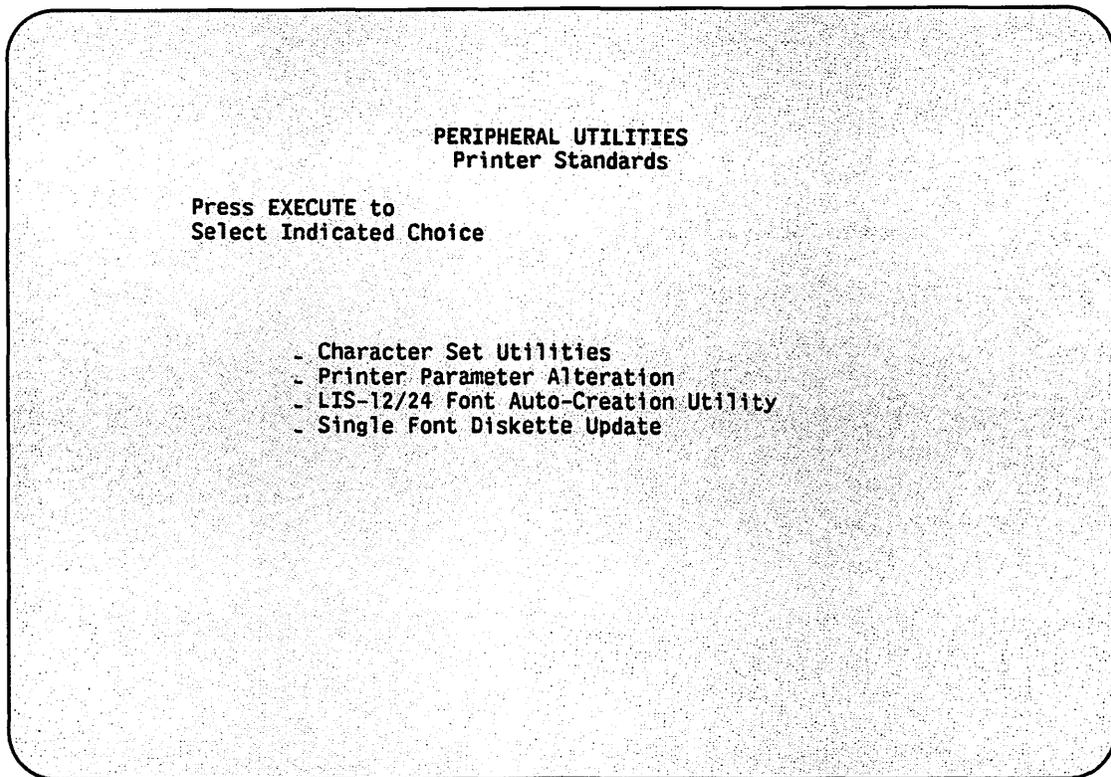


Figure 1-2. System Device Standards Menu

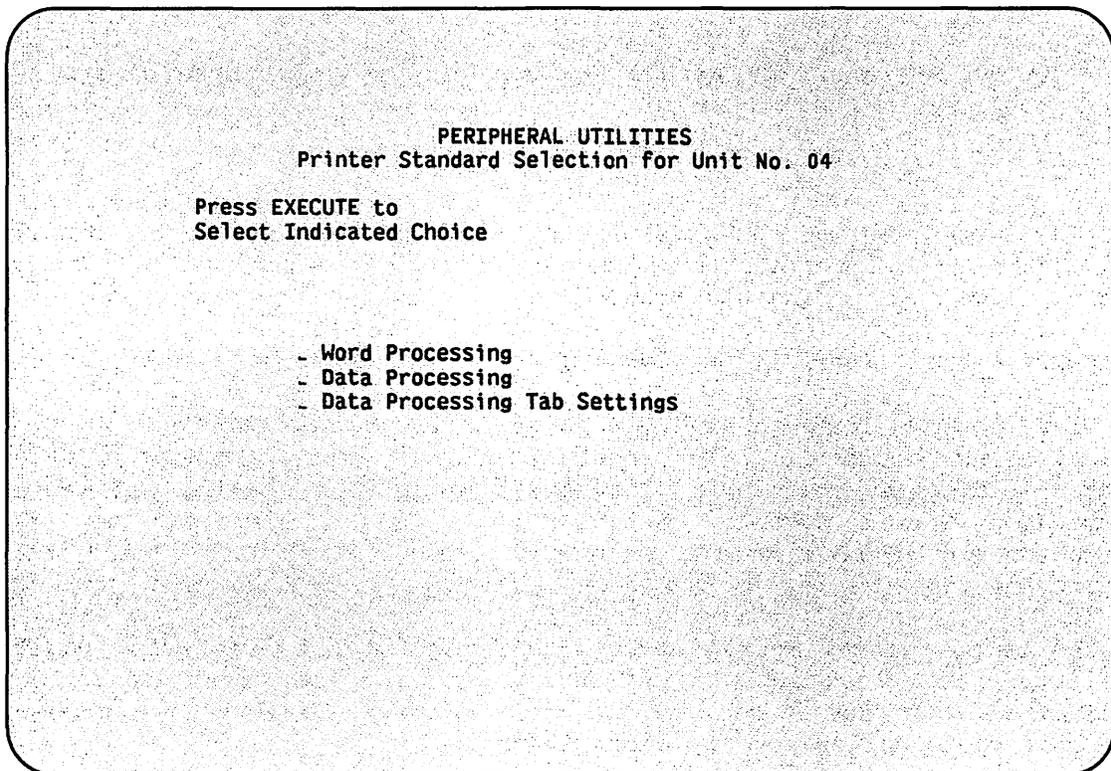


Figure 1-3. Unit Standards Menu

Figure 1-4 is a flowchart of the Peripheral Utilities menu levels. The remaining chapters in this manual deal with the selections shown in Figure 1-4.

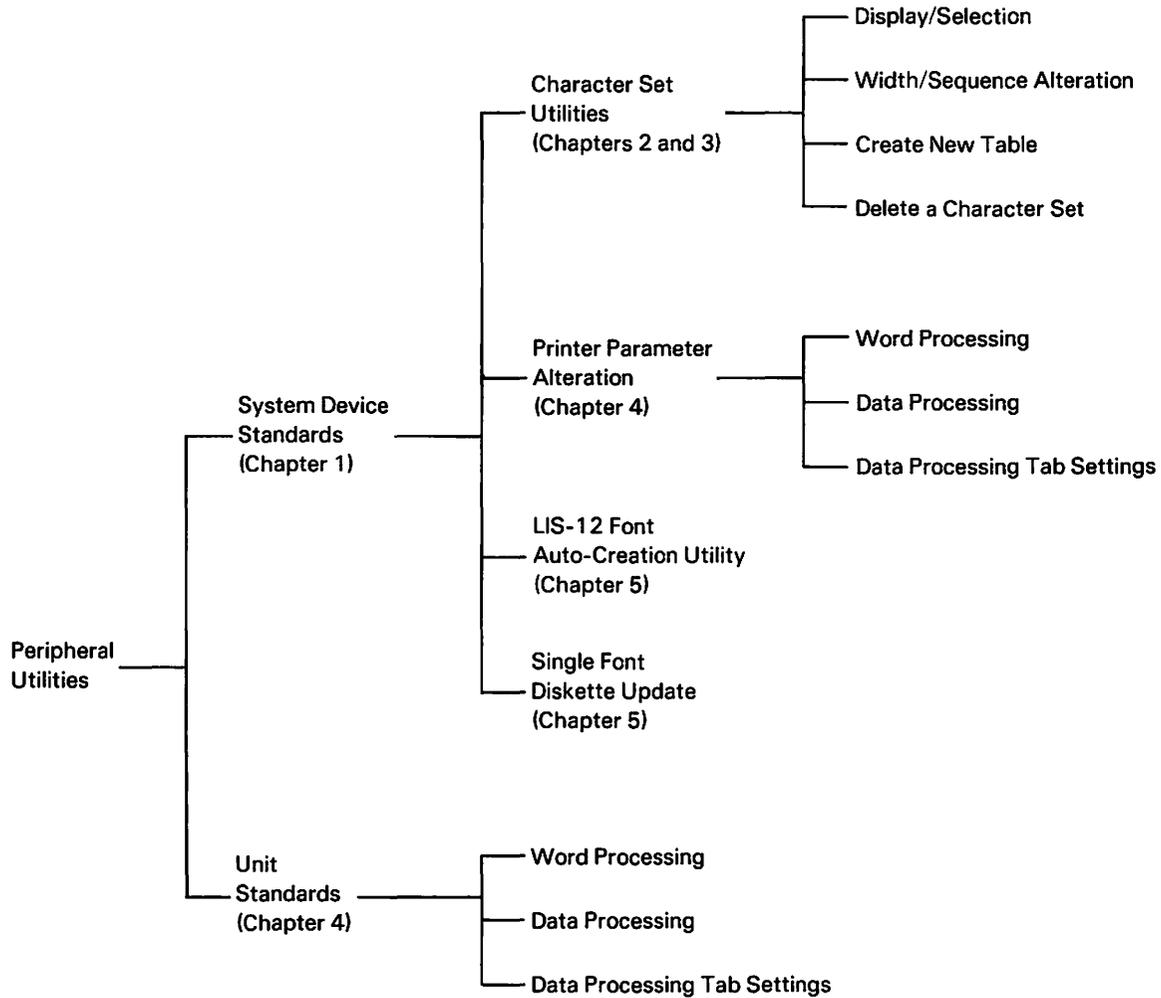


Figure 1-4. Flowchart of OIS and Alliance Peripheral Utilities Menus

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CHAPTER 2 DEFINING CHARACTER SETS

2.1 OVERVIEW

A character set is a translation table that takes characters from the workstation screen and translates them into font positions at a printer device. (The terms character set and font are interchangeable. A character set refers to all the characters in a particular set.) After you have loaded a font diskette onto your system (as described in Appendix B), you must then assign a character set number to it if you want to use it.

NOTE

Some character set numbers are assigned by the system (default) during peripheral software installation. This assignment process occurs even if a particular type of printer is not used by the system.

2.2 ASSIGNING AND VIEWING CHARACTER SET NUMBERS

You can assign or view character set numbers that are associated with a particular printer on your system. Follow the steps below to assign or view these character set numbers. Check to see that no documents are printing or queued to print as you perform these steps.

1. With the main Peripheral Utilities menu displayed on the screen, position the acceptance block next to the System Device Standards option and press EXECUTE.
2. On the Printer Standards menu, position the acceptance block next to the Character Set Utilities option and press EXECUTE.
3. On the Printer Character Set Utilities menu, position the acceptance block next to the Display/Selection option and press RETURN. Then use the Space Bar to select the type of printer to which the character set is to be assigned. Press EXECUTE. The system then displays the message "Reading Disk."

4. The current character sets and the numbers assigned to them are displayed on the screen. Write down these character set numbers for later reference.
5. Use the RETURN key to move the cursor to any of the character sets displayed on the screen. Use the number keys to assign (or reassign) a character set number to a character set. Nine character set numbers can be assigned at any one time. To assign or reassign a number, position the cursor next to the character set and enter the number desired (1 to 9). If you want to continue to make changes, press RETURN to move to the next character set.
6. When you are finished, press EXECUTE twice. The previous assignment of character set numbers is automatically canceled after you execute the change. The system then returns to the Printer Character Set Utilities menu.
7. Press CANCEL until you return to the main Peripheral Utilities menu.
8. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

2.3 DELETING A CHARACTER SET

You can delete a character set for a particular printer from your system. If you delete a character set using this feature, you must reload the character set before you can use it again. Follow the instructions in Appendix B to reload a character set.

WARNING

The Delete a Character Set function is a destructive procedure. Deleted daisy and line printer fonts cannot be restored, and loadable fonts must be reinstalled from diskette to be restored.

To delete a character set, follow the steps below. To leave a character set on your system and reassign its character set number, follow the steps in Section 2.2.

1. With the main Peripheral Utilities menu displayed on the screen, position the acceptance block next to the System Device Standards option and press EXECUTE.
2. On the Printer Standards menu, position the acceptance block next to the Character Set Utilities option and press EXECUTE.

3. On the Printer Character Set Utilities menu, position the acceptance block next to the Delete a Character Set option and press RETURN. Then use the Space Bar to position the acceptance block next to the type of printer from which the character set is to be deleted. Press EXECUTE.

NOTE

If your system does not support the selected printer type, the message "Requested Device not Supported" is displayed.

4. The next screen displays the character set index for the printer you have selected. Position the cursor next to the first one you want to delete and press the INSERT key. The acceptance block will appear. Repeat this process until you have selected all the character sets you want to delete. Then press EXECUTE twice.

NOTE

If no tables exist for the character set(s) selected, the system displays the message "No Tables for Device Requested."

5. The system then displays the message "Successful Operation" and displays the updated character set.
6. Press CANCEL until the system returns you to the main Peripheral Utilities menu.
7. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial statements and for providing a clear audit trail.

2. The second part of the document outlines the various methods used to collect and analyze data. It describes how different types of information are gathered and how they are processed to identify trends and anomalies.

3. The third part of the document focuses on the results of the analysis. It presents the findings in a clear and concise manner, highlighting the key areas of concern and the potential risks involved.

4. The fourth part of the document provides recommendations for improving the system. It suggests several measures that can be taken to enhance the accuracy and reliability of the data collection and analysis process.

5. The fifth part of the document concludes with a summary of the findings and a final statement on the importance of ongoing monitoring and evaluation. It stresses that the system must be regularly reviewed and updated to remain effective.

6. The sixth part of the document provides a detailed description of the system's architecture. It explains how the various components are interconnected and how they work together to support the overall objectives of the project.

7. The seventh part of the document discusses the challenges faced during the development and implementation of the system. It identifies the key areas of difficulty and provides insights into how these challenges were overcome.

8. The eighth part of the document provides a final summary of the project. It highlights the achievements and the lessons learned, and offers suggestions for future work in this area.

CHAPTER 3 MODIFYING PRINTER TRANSLATION TABLES

3.1 OVERVIEW

This section is a brief overview of how a screen character becomes a printed character. Subsequent sections explain the methods you use to change translation tables.

When you press a key to place a character on your workstation screen, the character displayed is assigned a numerical value called a hex code. This two-digit value is a U.S. industry standard code that follows the American Standard Code for Information Interchange (ASCII) code set. Each character on the screen can then be labeled with this hex code. When you select a document to print, all the screen hex codes are processed through a translation table in the peripheral software, which then relays the information necessary for printing to the printer.

This manual covers two types of printers: non-font loadable and font loadable. A non-font loadable printer is one that uses font images formed from physical objects, such as print wheels or bands. A font loadable printer uses software-based character sets, which means that the character sets and the information about them (size, style, shape) are stored on a system disk. Refer to Appendix D for a list of which Wang printers are covered by this manual.

There are three methods by which you can alter the printer translation tables of Wang printers.

NOTE

These methods apply to English-language (domestic) workstations only.

1. The first method substitutes special characters for keyboard characters. This method consists of a temporary or permanent reassignment of one or more keys on the workstation keyboard for a particular character set. For example, Character Set 01 may use the "at" symbol (@ key) to print the "dagger" symbol (†). This means that whenever you press the @ key, the "at" symbol appears on the screen but the "dagger" symbol prints when Character Set 01 is specified on the print menu.

The substitute key assignment applies to all workstations on the system and remains in effect until you change it.

2. The second method utilizes a secondary character set to print special characters. To produce a secondary character set, first copy a character set translation table to a new table. Then assign keyboard characters (a, b, c, d, etc.) to the special characters to be printed. The secondary character set also has a character set number, so that you can access it from the print menu. For example, Character Set 01 (Courier) might be the original, and Character Set 02 (Courier.sec) would contain the special characters.

One advantage of using a secondary character set is that you can select many special characters for printing without substituting any of the existing keyboard characters. A disadvantage is that you can use only one character set (using the primary and secondary character sets) for printing a document, because both print menu character set fields are used.

The secondary character set is available at all workstations on the system.

3. The third method utilizes glossary entries obtained from a diskette of special characters. Super Copy the characters you want from the diskette into a Glossary document so that they can then be recalled into a document.

A wide selection of diskettes are available from the Wang Supplies Catalog.

3.2 NON-FONT LOADABLE PRINTERS

This section details how to use the Substitution and Secondary Character Set methods for altering the printer translation tables of non-font loadable printers.

Substitution Method

The procedure in this section shows you how to substitute (or reassign) keyboard characters for non-font loadable printers. Be sure to turn off all printers before performing this procedure.

Once you have reassigned a key, you can use the special character by pressing that key. All other character sets on the system are unaffected by the substitution.

1. On the main Peripheral Utilities menu, position the acceptance block next to the System Device Standards option and press EXECUTE.
2. On the Printer Standards menu, position the acceptance block next to the Character Set Utilities option and press EXECUTE.

3. On the Printer Character Set Utilities menu, position the acceptance block next to the Width/Sequence Alteration option and press RETURN. Then use the Space Bar again to select the printer type. Press EXECUTE.
4. The character sets for the printer you selected are displayed. Use the Space Bar to select the character set in which you want to make a key substitution. Press EXECUTE.
5. The Width/Sequence Alteration menu then appears.

The Width/Sequence Alteration menu displays different selections depending on the type of printer you chose. Two selections are the same for both daisy and line printers: Characters and Overstrikes. Characters require one hammer strike to print, whereas Overstrikes require two hammer strikes. There are three additional selections for daisy printers: Double Overstrikes, Underscores, and Double Underscores.

Even though you can make changes to all selections, this discussion covers only the most commonly used ones, namely, Characters and Overstrikes. Steps 6 to 11 show you how to modify nonoverstrike characters, while Steps 13 to 18 show you how to change overstrike characters.

6. To make a change to a nonoverstrike character, position the acceptance block next to the Characters option and press EXECUTE. The Width/Sequence Alteration Characters screen then appears.

The Width/Sequence Alteration Characters screen displays screen characters, one at a time, along with their corresponding hex codes. The Font Position field contains the location, in hex code, of the character on the daisy print wheel.

7. Choose an infrequently used key that you want to reassign.
8. For line printers, locate and write down the hex code value of the special character you are modifying. Use Table C-2 in Appendix C. For daisy printers, locate the print wheel you are modifying in Appendix C and record the Font Position, Width, and Hammer Energy value.
9. Use the NEXT SCRN and PREV SCRN keys to move through the Width/Sequence Alteration Characters screen until you find the character to be reassigned. Or, you can use the RETURN key to position the cursor in the Hex Code field, enter the hex code of the character, and press RETURN. Or, if the character is accessible from the keyboard, you can enter the character in the Screen Character field and press RETURN.

NOTE

Write down which keyboard character you used for the special character and the values associated with it. Also note the character set number that contains the key substitution.

10. The values of the character to be reassigned are displayed. Using the RETURN key to move the cursor to each field, enter the values for the special character.
11. Press EXECUTE twice to record the software change to the system disk. The Width/Sequence Alteration menu then reappears.
12. Go to Step 19.
13. To make a change to an overstrike character, position the acceptance block next to the Overstrikes option and press EXECUTE. The Width/Sequence Alteration Overstrikes screen then appears.

Unlike the Width/Sequence Alteration Characters screen, there are no Font Position, Width, or Hammer Energy fields on the Overstrikes screen for daisy printers. The reason is because an overstrike is a combination of two characters, a primary character and an accent character. The Primary Character and Accent Character fields contain the screen character's hex code for the individual characters that make up the overstrike. The width of the entire overstrike character is determined by the width of the primary character of the overstrike. The primary character is usually the more predominant or wider character, so that the overstrike character will print properly in proportional space.

14. Choose an infrequently used key that you want to reassign.
15. Using the tables in Appendix C, locate the hex code and width values of the characters that make up the overstrike. The one having the greater width is the primary character. Write down these values.
16. Use the NEXT SCRN and PREV SCRN keys to move through the Width/Sequence Alteration Overstrikes screen until you find the character to be modified. Or, you can use the RETURN key to position the cursor in the Hex Code field, enter the hex code of the character, and press RETURN. Or, if the character is accessible from the keyboard, you can enter the character in the Screen Character field and press RETURN.

NOTE

Write down which keyboard character you used for the special character and the values associated with it. Also note the character set number that contains the key substitution.

17. Using the RETURN key to move the cursor to each field, enter the values of the primary and accent characters.
18. Press EXECUTE twice to record the software change to the system disk. The Width/Sequence Alteration menu then reappears.
19. To make additional substitutions, select either Characters or Overstrikes and press EXECUTE. Repeat Steps 6 to 11 or Steps 13 to 18, as appropriate. If you are finished making modifications, go to Step 20.
20. Press CANCEL until you return to the main Peripheral Utilities menu.
21. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

To test any change you made, create a document and use the special character in it. The keyboard character appears on the screen. However, when you send the document to the appropriate printer, the special character prints in the document.

To return a key to its original assignment, follow this procedure:

1. Perform Steps 1 to 5.
2. In Steps 6 to 11 or Steps 13 to 18 (depending on the type of change you made, Character or Overstrike), use the NEXT SCRN and PREV SCRN keys to find the character you substituted.
3. Enter the original values contained in the fields displayed.
4. Once you have returned the fields to the original values, press EXECUTE twice.
5. Then perform Steps 20 and 21.

Secondary Character Set Method

The procedure in this section shows you how to create a secondary character set that allows you to print special characters on non-font loadable printers.

Do not send a word processing document to print while performing these steps.

1. On the main Peripheral Utilities menu, position the acceptance block next to the System Device Standards option and press EXECUTE.
2. On the Printer Standards menu, position the acceptance block next to the Character Set Utilities option and press EXECUTE.
3. On the Printer Character Set Utilities menu, position the acceptance block next to the Create New Table option and press RETURN. Then use the Space Bar again to position the acceptance block next to the printer type. Press EXECUTE.
4. On the Create New Table menu, position the acceptance block next to the Copy From Existing Table option and press EXECUTE.
5. The Font Copy Selection menu displays all the character sets loaded on the system. Using the Space Bar, select the character set you want to copy and modify and press EXECUTE.
6. The Create New Table (Copy From Existing Character Set) menu has a field for Enter New Character Set Name. Enter the name as displayed on the Character Set Selected line, but add a short identifier ("sec" for example) to indicate that it is the secondary character set.
7. Press EXECUTE twice. When the copy is completed, the message "Successful Operation" is displayed.
8. Press CANCEL twice. The Printer Character Set Utilities menu is then redisplayed.
9. Use the Space Bar to position the acceptance block next to the Width/Sequence Alteration option. Press EXECUTE.
10. On the Width/Sequence Alteration menu, select the character set you copied. The short identifier added to the name indicates that it is the secondary character set. Press EXECUTE.
11. From this same menu, select the Characters option and press EXECUTE.

12. Make a copy of the appropriate list below. List A is for daisy printers; List B is for line printers. In the Screen Character column, list the keyboard characters that you want to use to provide access to the special characters. Using Appendix C, locate the values required and put those values into the list. Then record the special characters that will be accessed. Using Appendix C again, find the values for the special characters and write them in the appropriate list columns.

List A: Daisy Printers

<u>Screen Character</u>	<u>Font Position</u>	<u>Width</u>	<u>Hammer Energy</u>	<u>Special Character</u>	<u>Font Position</u>	<u>Width</u>	<u>Hammer Energy</u>
-------------------------	----------------------	--------------	----------------------	--------------------------	----------------------	--------------	----------------------

List B: Line Printers

<u>Screen Character</u>	<u>Hex Code</u>	<u>Special Character</u>	<u>Font Position (Hex Code)</u>
-------------------------	-----------------	--------------------------	---------------------------------

The following examples show how to use these lists. Example 3-1 uses screen characters 0, 2, and 3 to print the degree symbol, the umlaut accent, and the paragraph symbol, respectively, from Figure C-1 (the Wang 06 Daisy Print Wheel).

<u>Screen Character</u>	<u>Font Position</u>	<u>Width</u>	<u>Hammer Energy</u>	<u>Special Character</u>	<u>Font Position</u>	<u>Width</u>	<u>Hammer Energy</u>
0	40	5	4	Degree	38	4	1
2	43	5	3	Umlaut	30	5	1
3	42	5	3	Paragraph	31	7	4

Example 3-1. Sample List for a Non-Font Loadable Daisy Printer

Example 2 uses screen characters D, -, and + to print the degree symbol, the less-than symbol, and the greater-than symbol, respectively, from Table C-2.

<u>Screen Character</u>	<u>Hex Code</u>	<u>Special Character</u>	<u>Font Position (Hex Code)</u>
D	44	Degree	60
-	2D	Less than	3C
+	2B	Greater than	3E

Example 3-2. Sample List for a Non-Font Loadable Line Printer

13. Use the NEXT SCRN and PREV SCRN keys to move through the Width/Sequence Alteration Characters screen until you find the character to be replaced. Using the RETURN key to move the cursor to each field, enter the values for the special character.

14. Press EXECUTE twice to record the software change to the system disk. The Width/Sequence Alteration menu then reappears.
15. To make other special character assignments on your list, repeat Steps 11, 13, and 14. If you are finished making modifications, go to Step 16.
16. Press CANCEL until you return to the main Peripheral Utilities menu.
17. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

To assign a character set number to the new secondary character set, follow the steps in Section 2.2.

Using the Special Characters

You can now use the special characters. When creating or editing a document, press the STOP key to specify the secondary character set. Then type the screen character from the appropriate list you created in Step 12. Press the STOP key again to return to the primary character set. The Stop Graphic occupies a position on the screen but does not occupy a position in the printed text.

To print your document, enter the primary and secondary character set numbers on the print menu, along with all your other print information. Press EXECUTE. The printer will print using both character sets.

3.3 FONT LOADABLE PRINTERS

This section details how to use the Substitution and Secondary Character set methods for altering the printer translation tables of font loadable printers.

Substitution Method

The procedure in this section shows you how to substitute (or reassign) keyboard characters for font loadable printers. Be sure to turn off all printers before performing this procedure.

Once you have reassigned a key, you can use the special character by pressing that key. All other character sets on the system are unaffected by the substitution.

1. On the main Peripheral Utilities menu, position the acceptance block next to the System Device Standards option and press EXECUTE.
2. On the Printer Standards menu, position the acceptance block next to the Character Set Utilities option and press EXECUTE.

3. On the Printer Character Set Utilities menu, position the acceptance block next to the Width/Sequence Alteration option and press RETURN. Then use the Space Bar again to select the printer type. Press EXECUTE.
4. The character sets for the printer you selected are displayed. Use the Space Bar to select the character set in which you want to make a key substitution. Press EXECUTE.
5. The Width/Sequence Alteration menu then appears.

NOTE

Although Overstrikes appears as a menu selection for the Wang printer Model 5577, this printer does not utilize any overstrike characters. Every character in font loadable printer tables is directly accessible. Therefore, this discussion deals only with the Characters selection.

6. On the Width/Sequence Alteration menu, position the acceptance block next to the Characters option and press EXECUTE.

The Width/Sequence Alteration Characters screen displays screen characters, one at a time, along with their corresponding hex codes. The Font Position field contains the hex code of each character.

7. Choose an infrequently used key that you want to reassign.
8. Use the NEXT SCRN and PREV SCRN keys to move through the Width/Sequence Alteration Characters screen until you find the character to be reassigned. Or, you can use the RETURN key to position the cursor in the Hex Code field, enter the hex code of the character, and press RETURN. Or, if the character is accessible from the keyboard, you can enter the character in the Screen Character field and press RETURN.

NOTE

Write down which keyboard character you used for the special character and the values associated with it. Also note the character set number that contains the key substitution.

9. Find the special character you want to access and determine its two-digit hex code. Use Table C-3 in Appendix C for Text fonts, Table C-4 for Symbol fonts, and Table C-5 for Scientific Gothic fonts.

10. Using the RETURN key to move the cursor to the Font Position field, enter the font position of the special character.
11. Press EXECUTE twice to record the software change to the system disk. The Width/Sequence Alteration menu then reappears.
12. To make additional substitutions, select the Characters option again and press EXECUTE. Repeat Steps 1 to 11. If you are finished making modifications, go to Step 13.
13. Press CANCEL until you return to the main Peripheral Utilities menu.
14. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

To test any change you made, create a document and use the special character in it. The keyboard character appears on the screen. However, when you send the document to print, the special character prints in the document.

To return a key to its original assignment, follow this procedure:

1. Perform Steps 1 to 6.
2. Use the NEXT SCRN and PREV SCRN keys to find the character you substituted.
3. Enter the original value contained in the Font Position field.
4. Once you have entered the original value, press EXECUTE twice.
5. Then perform Steps 13 and 14.

Secondary Character Set Method

The procedure in this section shows you how to create a secondary character set that allows you to print special characters on font loadable printers. The procedure involves copying an existing character set and then modifying the copy.

Do not send a word processing document to print while performing these steps.

1. On the main Peripheral Utilities menu, position the acceptance block next to the System Device Standards option and press EXECUTE.
2. On the Printer Standards menu, position the acceptance block next to the Character Set Utilities option and press EXECUTE.

3. On the Printer Character Set Utilities menu, position the acceptance block next to the Create New Table option and press RETURN. Then use the Space Bar again to position the acceptance block next to the printer type. Press EXECUTE.
4. On the Create New Table menu, position the acceptance block next to the Copy From Existing Table option and press EXECUTE.
5. The Font Copy Selection menu displays all the character sets loaded on the system. Using the Space Bar, select the character set you want to copy and modify and press EXECUTE.
6. The Create New Table (Copy From Existing Character Set) menu has a field for Enter New Character Set Name. Enter the name as displayed on the Character Set Selected line, but add a short identifier ("sec" for example) to indicate that it is the secondary character set.
7. Press EXECUTE twice. When the copy is completed, the message "Successful Operation" is displayed.
8. Press CANCEL twice. The Printer Character Set Utilities menu is then redisplayed.
9. Use the Space Bar to position the acceptance block next to the Width/Sequence Alteration option. Press EXECUTE.
10. On the Width/Sequence Alteration menu, select the character set you copied. The short identifier added to the name indicates that it is the secondary character set. Press EXECUTE.
11. From this same menu, select the Characters option and press EXECUTE.
12. Make a copy of the list below. In the Screen Character column, list the keyboard characters that you want to use to provide access to the special characters. In Table C-1, find the corresponding two-digit hex code values and put those values into the list. Then record the special characters that will be accessed. Again using Appendix C, find the two-digit hex code values and write them in the Font Position column. Use Table C-3 for Text fonts, Table C-4 for Symbol fonts, and Table C-5 for Scientific Gothic fonts.

<u>Screen</u> <u>Character</u>	<u>Hex</u> <u>Code</u>	<u>Special</u> <u>Character</u>	<u>Font Position</u> <u>(Hex Code)</u>
-----------------------------------	---------------------------	------------------------------------	---

Example 3-3 shows how to use this list. The example uses screen characters [,], and + to print the degree symbol, the copyright symbol, and the trademark symbol, respectively, from Table C-3.

<u>Screen Character</u>	<u>Hex Code</u>	<u>Special Character</u>	<u>Font Position (Hex Code)</u>
[	5B	Degree	80
]	5D	Copyright	D9
+	2B	Trademark	DA

Example 3-3. Sample List for a Font Loadable Printer

13. Use the NEXT SCRN and PREV SCRN keys to move through the Width/Sequence Alteration Characters screen until you find the character to be replaced. Using the RETURN key to move the cursor to the Font Position field, enter the hex code value for the special character.
14. Press EXECUTE twice to record the software change to the system disk. The Width/Sequence Alteration menu then reappears.
15. To make other special character assignments on your list, repeat Steps 11, 13, and 14. If you are finished making modifications, got to Step 16.
16. Press CANCEL until you return to the main Peripheral Utilities menu.
17. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

To assign a character set number to the new secondary character set, follow the steps in Section 2.2.

Using the Special Characters

You can now use the special characters. When creating or editing a document, press the STOP key to specify the secondary character set. Then type the screen character from the list you created in Step 12. Press the STOP key again to return to the primary character set. The Stop Graphic occupies a position on the screen but does not occupy a position in the printed text.

To print your document, enter the primary and secondary character set numbers on the print menu, along with all your other print information. Press EXECUTE. The printer will print using both character sets.

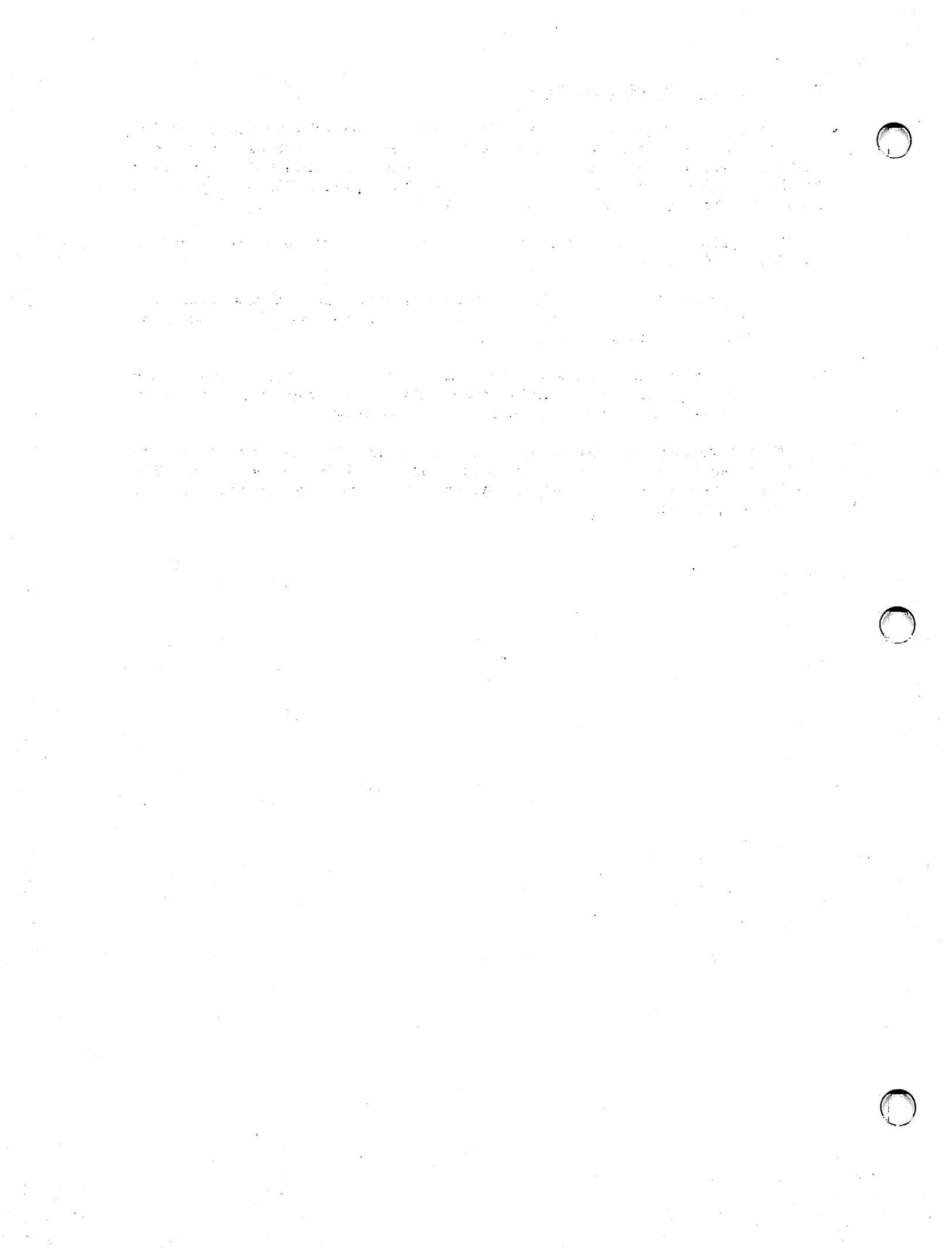
3.4 SPECIAL CHARACTERS DISKETTE

There is a way that you can print special characters without having to reassign any keyboard characters. Using the Special Characters Diskette, you have access to all the characters in Table C-1 in addition to the keyboard characters. A Special Characters Glossary provides access to the special characters at the keyboard.

To create a glossary containing characters from the diskette, perform the following steps:

1. Copy the Special Characters Diskette onto your system using the Retrieve from Archive Diskette function on the Word Processing Document Filing submenu.
2. Create a new glossary and name it the Special Characters Glossary, or use a similar name. Super Copy each character that you want for a glossary entry. Label each entry.

When creating or editing a document, press the GL key plus the glossary label key to recall a special character into the document. The special character is displayed on the screen and appears in the document when it is printed.



CHAPTER 4
CHANGING PRINTER PARAMETERS

4.1 OVERVIEW

You can change printer parameters in two ways. Either you can select the Unit Standards option on the main Peripheral Utilities menu, or you can select the Printer Parameter Alteration option on the Peripheral Utilities Printer Standards menu. Although the menus are the same (except for the headings) in both methods, the first is for a specific printer, whereas the second is for all printers connected to a particular system. Figure 4-1 shows the Printer Parameter Alteration menu.

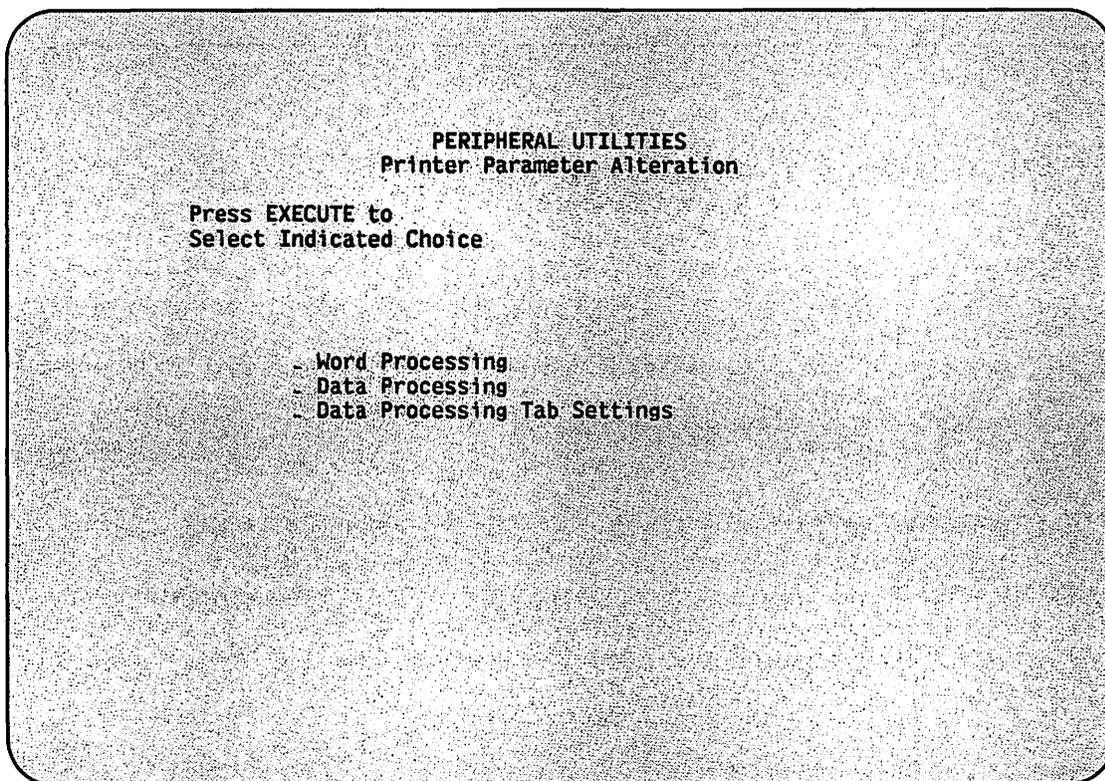


Figure 4-1. Printer Parameter Alteration Menu

NOTE

Once a change has been made to a particular printer, any additional changes made on a system-wide basis will not affect that printer.

The following sections explain each of the choices in Figure 4-1.

4.2 CHANGING WORD PROCESSING PRINTER PARAMETERS

You can change Word Processing printer parameters on either a system-wide or single-unit basis. To make the changes, perform the following steps:

1. On the Printer Parameter Alteration menu, position the acceptance block next to the Word Processing option and press **EXECUTE**.
2. The Word Processing Print Parameter Alteration screen, shown in Figure 4-2, then appears. This screen lists the system default values.

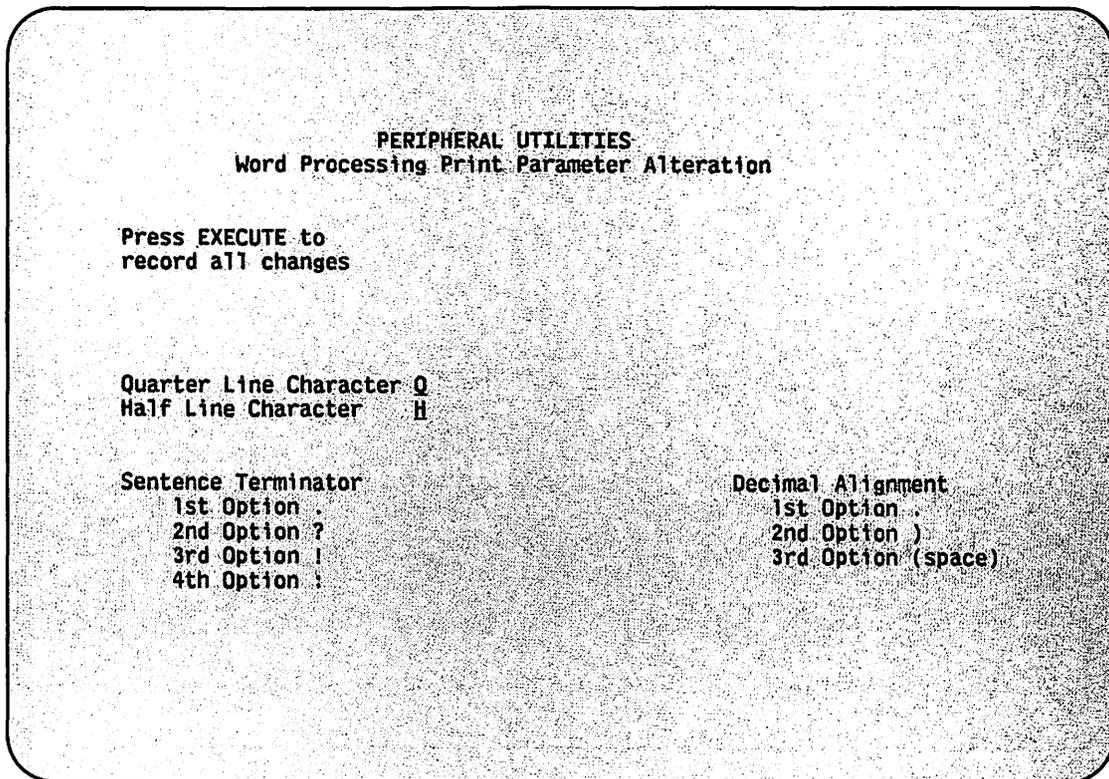


Figure 4-2. Word Processing Print Parameter Alteration Screen

3. Use the RETURN key and the Space Bar to move the cursor to the first selection you want to change. Make the change and press RETURN. The cursor then moves to the next selection.

If you have chosen the Unit Standards option on the main Peripheral Utilities menu to make your changes, four more selections are available for use with laser printers: Bold, Expanded, Manual Paper Change, and Automatic Paper Change.

- a. Bold -- The printed characters appear in heavy type.
- b. Expanded -- The printed characters are twice as tall as normal characters.
- c. Automatic Paper Change -- The printer stops and displays a C4 code whenever the paper length or page length value changes between print jobs.
- d. Manual Paper Change -- The printer stops when a Change Paper command is encountered in the text of a document or when the paper supply runs out.

Continue making any changes and press EXECUTE after the last one.

4. The system then displays the prompt "Press EXECUTE again to record all changes." Verify your changes. Use the TAB key to go back to any fields that are incorrect. Press EXECUTE when completed.
5. The system redisplay the Printer Parameter Alteration menu. Press CANCEL until you return to the main Peripheral Utilities menu.
6. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

4.3 CHANGING DATA PROCESSING PRINTER PARAMETERS

You can change Data Processing printer parameters on either a system-wide or single-unit basis. To make the changes, perform the following steps.

NOTE

This function is available only on OIS and Alliance systems.

1. On the Printer Parameter Alteration menu, position the acceptance block next to the Data Processing option and press EXECUTE.

2. The Data Processing Print Parameter Alteration screen, shown in Figure 4-3, then appears. This screen lists the system default values.
3. Use the RETURN key and the Space Bar to move the cursor to the first selection you want to change. Make the change and press RETURN. The cursor then moves to the next selection. Continue making any changes and press EXECUTE after the last one.
4. The system then displays the prompt "Press EXECUTE again to record all changes." Verify your changes. Use the TAB key to go back to any fields that are incorrect. Press EXECUTE when completed.
5. The system redisplay the Printer Parameter Alteration menu. Press CANCEL until you return to the main Peripheral Utilities menu.
6. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

```

                                PERIPHERAL UTILITIES
                        Data Processing Print Parameter Alteration

Press EXECUTE to
record all changes

Left Margin (Columns) 000      Right Margin (Columns) 131
Paper Width (Columns) 131     Paper Length (Lines) 66
Printable Lines/Page 060

Paper Selection                Pitch Selection
- Continuous Paper            - Ten Pitch
- Standard                    - Twelve Pitch
- Form 1                      - Fifteen Pitch
- Form 2                      - Proportional Pitch
- Envelopes
```

Figure 4-3. Data Processing Print Parameter Alteration Screen

4.4 CHANGING DATA PROCESSING TAB SETTINGS

You can change Data Processing tab settings on either a system-wide or single-unit basis. To make the changes, perform the following steps:

1. On the Printer Parameter Alteration menu, position the acceptance block next to the Data Processing Tab Settings option and press EXECUTE.
2. The Data Processing Print Parameter Alteration (Tab Setting) screen, shown in Figure 4-4, then appears. This screen lists the system default values.
3. Use the RETURN key to move to the cursor to the first tab position you want to change. Make the change and press RETURN. The cursor then moves to the next selection. Continue making any changes and press EXECUTE after the last one.
4. The system then displays the prompt "Press EXECUTE again to record all changes." Verify your changes. Use the TAB key to go back to any fields that are incorrect. Press EXECUTE when completed.
5. The system redisplay the Printer Parameter Alteration menu. Press CANCEL until you return to the main Peripheral Utilities menu.
6. Press CANCEL and then EXECUTE to exit the Peripheral Utilities Function.

PERIPHERAL UTILITIES
Data Processing Print Parameter Alteration (Tab Setting)

Press EXECUTE to
record all changes

Select Horizontal Tab Positions

1st Position 016
2nd Position 032
3rd Position 048
4th Position 064
5th Position 080
6th Position 096
7th Position 112
8th Position 128
9th Position 144

Select Vertical Tab Positions

1st Position 06
2nd Position 12
3rd Position 18
4th Position 24
5th Position 30
6th Position 36
7th Position 42
8th Position 48
9th Position 54

Figure 4-4. Data Processing Print Parameter Alteration
(Tab Setting) Screen

CHAPTER 5
SPECIAL FUNCTIONS

5.1 LIS-12/24 FONT AUTO-CREATION UTILITY

The purpose of the LIS-12/24 Font Auto-Creation utility is to convert Laser Printing System (LPS) fonts to Laser Imaging System (LIS) format. Be sure to turn off all printers before performing this function.

NOTE

If you have deleted an LIS-12/24 character set through the Delete a Character Set function, you must delete the LIS-12/24 font file before you can run the Conversion Utility to recreate that font and character set entry.

1. On the Peripheral Utilities Printer Standards menu, position the acceptance block next to the LIS-12/24 Font Auto-Creation Utility option and press EXECUTE.
2. The system displays the message "Calculating Execution Time." During this time, the system determines what LPS-12 fonts are currently on the system and how long it will take to convert them to the LIS-12/24 format.
3. When the system has determined the conversion time, the message "Approximate Completion Time: xx minutes" is displayed. If the LIS-12/24 fonts already exist, the system displays the prompt "No Conversion Necessary - Press CANCEL to Return to Previous Menu."

NOTE

On VS systems, the utility displays a message that at least one minute of processing time is required even if no fonts can be created.

4. If you want to run the conversion at this time, press EXECUTE. If you do not want to run the conversion, press CANCEL. The Peripheral Utilities Printer Standards menu then reappears.

5. When the conversion process is complete, the Peripheral Utilities Printer Standards menu reappears.
6. Press CANCEL until you return to the main Peripheral Utilities menu.
7. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

After you have run this utility, it is important to assign character set numbers to the converted fonts, as detailed in Section 2.2. Be sure to assign Character Set 01, as this is the default character set for the LIS-12/24 printer.

5.2 SINGLE FONT DISKETTE UPDATE

The Single Font Diskette Update function updates your font diskettes when a format revision is issued. To perform this function, follow these steps.

NOTE

This function is available only on OIS and Alliance systems.

1. On the Peripheral Utilities Printer Standards menu, position the acceptance block next to the Single Font Diskette Update option and press EXECUTE.
2. The system then prompts you to "Mount Diskette to be Updated."
3. Mount the font diskette you want to update in the disk drive and close the drive door. Press EXECUTE twice.
4. During processing, the system displays the message "Update in Progress."
5. When processing is complete, the system displays the message "Update Completed." You are then given the choice of updating more font diskettes or returning to the Peripheral Utilities Printer Standards menu.
6. To update additional font diskettes, press EXECUTE. Then repeat Steps 2 to 5.
7. If you are finished, press CANCEL until you return to the main Peripheral Utilities menu.
8. Press CANCEL and then EXECUTE to exit the Peripheral Utilities function.

APPENDIX A
INSTALLING THE PERIPHERAL UTILITIES SOFTWARE

A.1 INSTALLING PERIPHERAL UTILITIES ON OIS

To install the Peripheral Utilities software onto your OIS system, perform the following steps. Be sure to turn off all printers before you start this procedure.

1. With the main OIS Disk Operating System menu displayed on the screen, position the acceptance block next to the Control Functions option and press EXECUTE.
2. On the Control Functions menu, position the acceptance block next to the Install Software Package option and press EXECUTE. The system then prompts you to "Mount Installation disk in Drive 01 and press EXECUTE."
3. Insert the Peripheral Utilities software diskette into the system drive and press EXECUTE.
4. The system displays the Package ID and Title and fills in both the Destination Volume and Installation Volume fields for you. Verify these fields (in case you inserted the wrong diskette) and press EXECUTE twice.
5. You then are given the choice of running the Peripheral Utilities from a diskette or adding it as an option to the main OIS Disk Operating System menu. The system defaults to the Run From Floppy option. To change it, press the DELETE key and then the Space Bar. The cursor moves to the Add To Menu option. Press the INSERT key; the acceptance block appears. Press EXECUTE.
6. The message "Installation in Progress" is displayed on the screen.
7. When the software installation is complete, the system displays the prompt "Press Execute to Run again or Cancel to Terminate."
8. Press CANCEL and remove the diskette from the drive.
9. Press CANCEL until you return to the main OIS Disk Operating System menu.

The Peripheral Utilities option now appears on the main OIS Disk Operating System menu.

A.2 INSTALLING PERIPHERAL UTILITIES ON ALLIANCE

To install the Peripheral Utilities software on your Alliance system, perform the following steps. Be sure to turn off all printers before you start this procedure.

1. With the main Alliance System menu displayed on the screen, position the acceptance block next to the Supervisory Functions option and press EXECUTE.
2. On the Supervisory Functions menu, position the acceptance block next to the System Administration option and press EXECUTE.
3. Enter your password and press EXECUTE. The System Administration menu then appears.
4. On the System Administration menu, position the acceptance block next to the Install Software Package option and press EXECUTE. The system then prompts you to "Mount Installation disk in Drive 01 and press EXECUTE."
5. Insert the Peripheral Utilities software diskette into the system drive and press EXECUTE.
6. The system displays the Package ID and Title and fills in both the Destination Volume and Installation Volume fields for you. Verify these fields (in case you inserted the wrong diskette) and press EXECUTE twice.
7. You then are given the choice of running the Peripheral Utilities from a diskette or adding it as an option to the Route Profiles menu. The system defaults to the Run From Floppy option. To change it, press the DELETE key and then the Space Bar. The cursor moves to the Add To Menu option. Press the INSERT key; the acceptance block appears. Press EXECUTE.
8. The message "Installation in Progress" is displayed on the screen.
9. When the software installation is complete, the system displays the prompt "Press Execute to Run again or Cancel to Terminate."
10. Press CANCEL and remove the diskette from the drive.
11. Press CANCEL until you return to the main Alliance System menu.

**APPENDIX B
LOADING FONT DISKETTES**

B.1 LOADING FONT DISKETTES ONTO OIS

To load a font diskette onto your OIS system, perform the following steps. Be sure to turn off all printers before you start this procedure.

1. With the main OIS Disk Operating System menu displayed on the screen, position the acceptance block next to the Control Functions option and press EXECUTE.
2. On the Control Functions menu, position the acceptance block next to the Install Software Package option and press EXECUTE. The system then prompts you to "Mount Installation Disk in Drive and press EXECUTE."
3. Insert the font diskette into the drive and press EXECUTE. The Install Software Package menu then appears along with the prompt "Enter Name of Volume that Package is to Reside On."
4. Do not fill in the Package ID or Destination fields. The system enters the ID of the font diskette and selects the system disk as the destination. Press EXECUTE twice.
5. When the software installation is complete, the system displays the prompt "Press EXECUTE to Run Again or CANCEL to Terminate."
6. To load additional font diskettes, press EXECUTE. Then repeat Steps 3 to 5. If you are finished, press CANCEL. The prompt "Remove Installation Disk from Drive and Press EXECUTE" is displayed.
7. Remove the font diskette from the drive and press EXECUTE. The Control Functions menu then reappears.
8. Press CANCEL until you return to the main OIS Disk Operating System menu.

The first nine fonts installed are automatically assigned character set numbers. To reassign a character set number to a font, follow the steps in Section 2.2.

B.2 LOADING FONT DISKETTES ONTO ALLIANCE

To load a font diskette onto your Alliance system, perform the following steps. Be sure to turn off all printers before you start this procedure.

1. With the main Alliance System menu displayed on the screen, position the acceptance block next to the Supervisory Functions option and press EXECUTE.
2. On the Supervisory Functions menu, position the acceptance block next to the System Administration option and press EXECUTE.
3. Enter your password and press EXECUTE. The System Administration menu then appears.
4. On the System Administration menu, position the acceptance block next to the Install Software Package option and press EXECUTE. The system then prompts you to "Mount Installation Disk in Drive and press EXECUTE."
5. Insert the font diskette into the system drive and press EXECUTE.
6. The system displays the Package ID and Title and fills in both the Destination Volume and Installation Volume fields for you. Verify these fields (in case you inserted the wrong diskette) and press EXECUTE.
7. After the installation is complete, the Install Software Package menu reappears.
8. To load additional font diskettes, change the font diskette in the system drive and press EXECUTE. Then repeat Step 6. If you are finished, remove the diskette from the drive.
9. Press CANCEL until you return to the main Alliance System menu.

The first nine fonts installed are automatically assigned character set numbers. To reassign a character set number to a font, follow the steps in Section 2.2.

B.3 LOADING FONT DISKETTES ONTO VS

To load a font diskette onto a VS system, your System Administrator must run the Font Install (FINSTALL) program. This program cannot be run at the operator's console (Workstation 0).

Have your System Administrator perform the following steps. Do not send a word processing document to print while fonts are being installed.

1. Run the program FINSTALL in library @SYSTEM@ on the system-resident volume. The Font Install Utility screen then appears.
2. Enter the name of the font diskette (from the diskette label) in the Diskette field. Then enter the device number of the drive in which the font diskette is to be mounted. Press ENTER.
3. When the prompt appears, mount the font diskette in the designated drive. The diskette will load automatically.
4. If you want to install another diskette, repeat Steps 2 and 3. If you are finished, press PF16 to return to the main VS Command Processor menu.

The first nine fonts installed are automatically assigned character set numbers. To reassign a character set number to a font, follow the steps in Section 2.2.

Faint, illegible text at the top of the page, possibly a header or introductory paragraph.



APPENDIX C
CHARACTER SET TABLES AND PRINT WHEELS

C.1 INTRODUCTION

This appendix contains descriptions of the character sets available on the various Wang printers. The tables in this appendix list the keyboard characters and special characters contained in each character set. The figures show the various print wheels available on Wang printers.

Many character sets can be stored on the system disk. However, a character set is available for printing only after it is assigned a character set number (refer to Section 2.2).

A wide variety of character sets are available on the various printers, depending on your system and application. For more information, refer to the Wang Supplies Catalog or contact the Wang Supplies Division.

Table C-1 shows the screen characters and hex codes for English-language (domestic) workstations.

Table C-1. Screen Characters and Hex Codes for English-Language (Domestic) Workstations

Hex Code	0	1	2	3	4	5	6	7
0		à		0	@	P	°	p
1		é	!	1	A	Q	á	q
2		î	"	2	B	R	â	r
3		ô	#	3	C	S	ã	s
4		ó	\$	4	D	T	ä	t
5		ä	%	5	E	U	å	u
6		ë	&	6	F	V	æ	v
7	"	ï	'	7	G	W	ç	w
8	'	ö	(	8	H	X	è	x
9	`	ü	)	9	I	Y	é	y
A	^	à	*	:	J	Z	ê	z
B		è	+	;	K	[	ë	
C		ù	,	<	L		ì	
D		ä	-	=	M	]	í	
E		ö	.	>	N		î	
F		ü	/	?	O		ï	

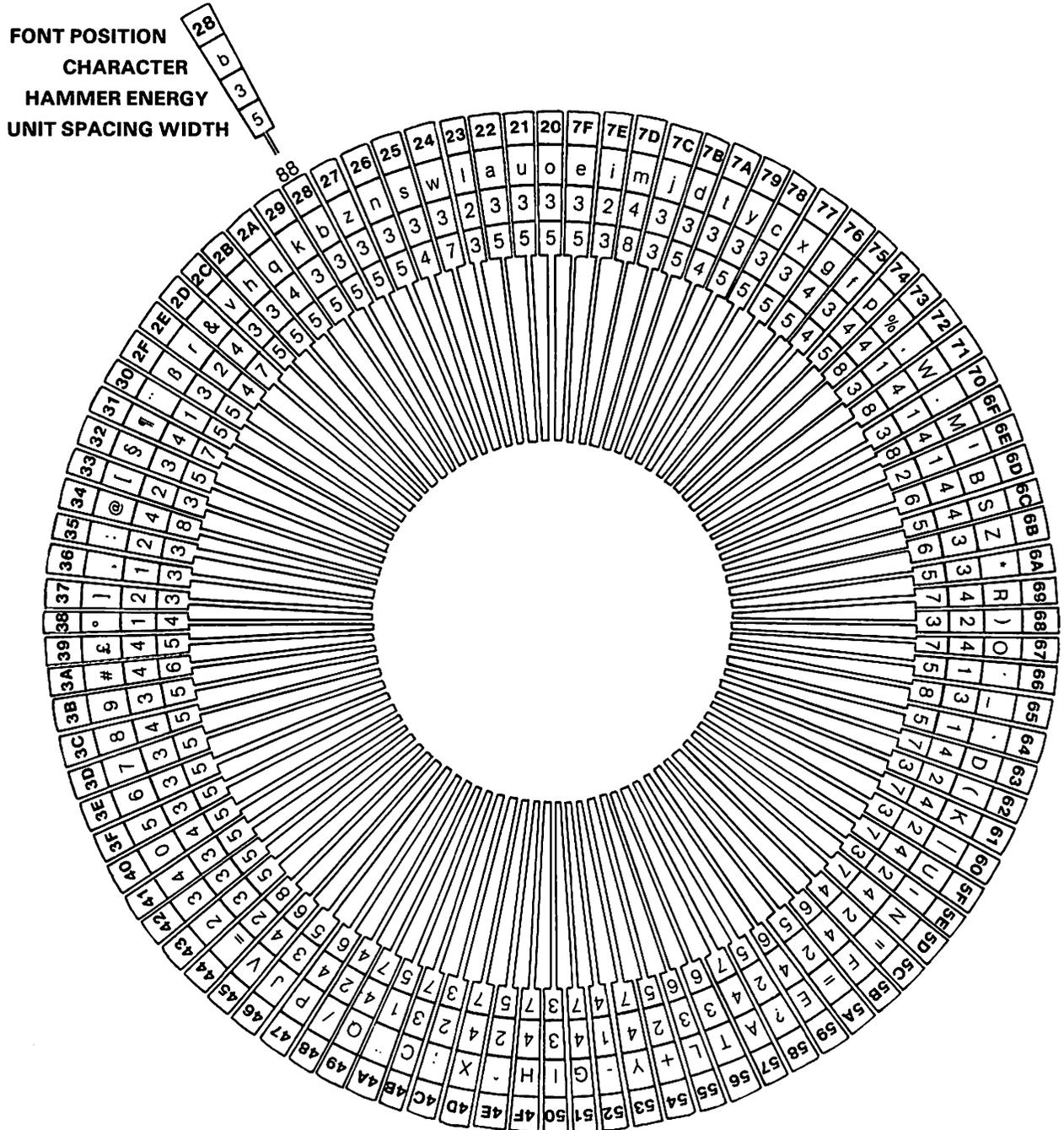
Screen Character

NOTES

1. To find the two-digit hex code for a character, first locate the screen character in the body of the table. The first digit is located at the top of the column; the second digit is located at the left of the row. For example, the hex code for the character A is 41.
2. All characters can be displayed as screen characters. Special characters in this table can be displayed on the screen by recalling them from a glossary.
3. Hex codes 00 through 06, 0B through 0F, and 5C are control codes that cannot be printed. Hex code 20 is a space.

C.2 DAISY PRINTERS

This section contains figures illustrating the font position, width, and hammer energy values for the various Wang daisy printers.



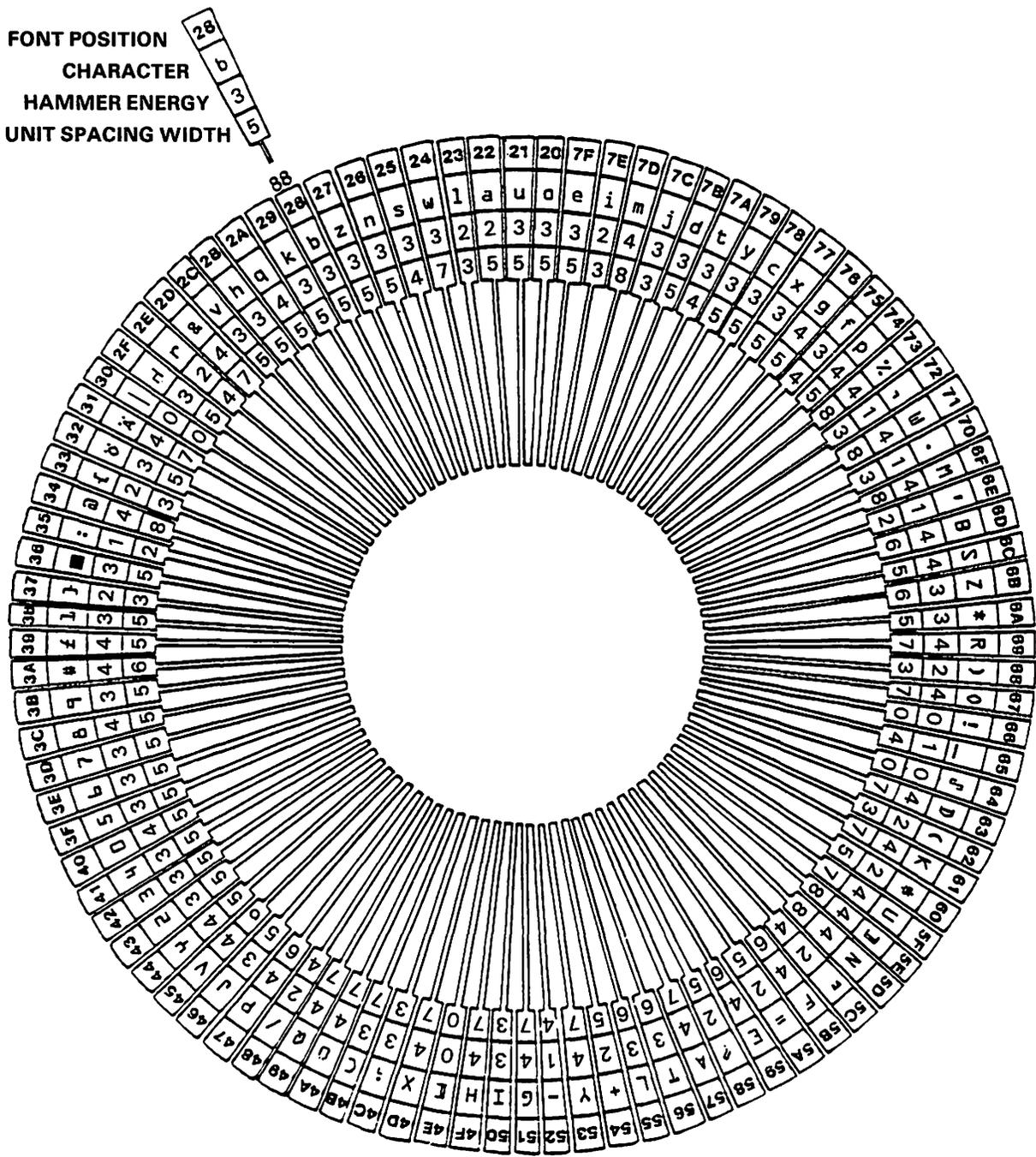


Figure C-2. Wang OCR-A Daisy Print Wheel

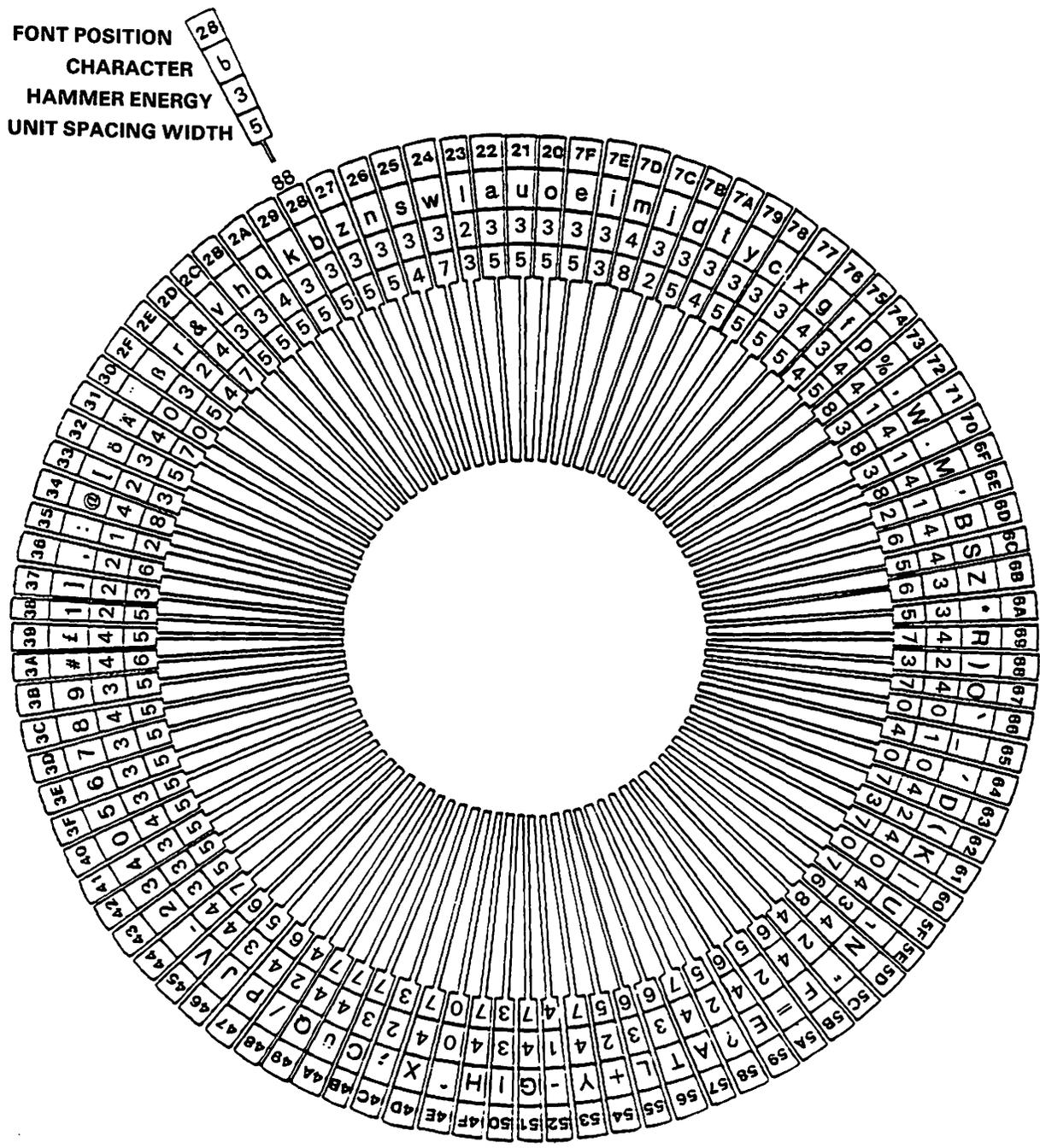


Figure C-3. Wang OCR-B Daisy Print Wheel

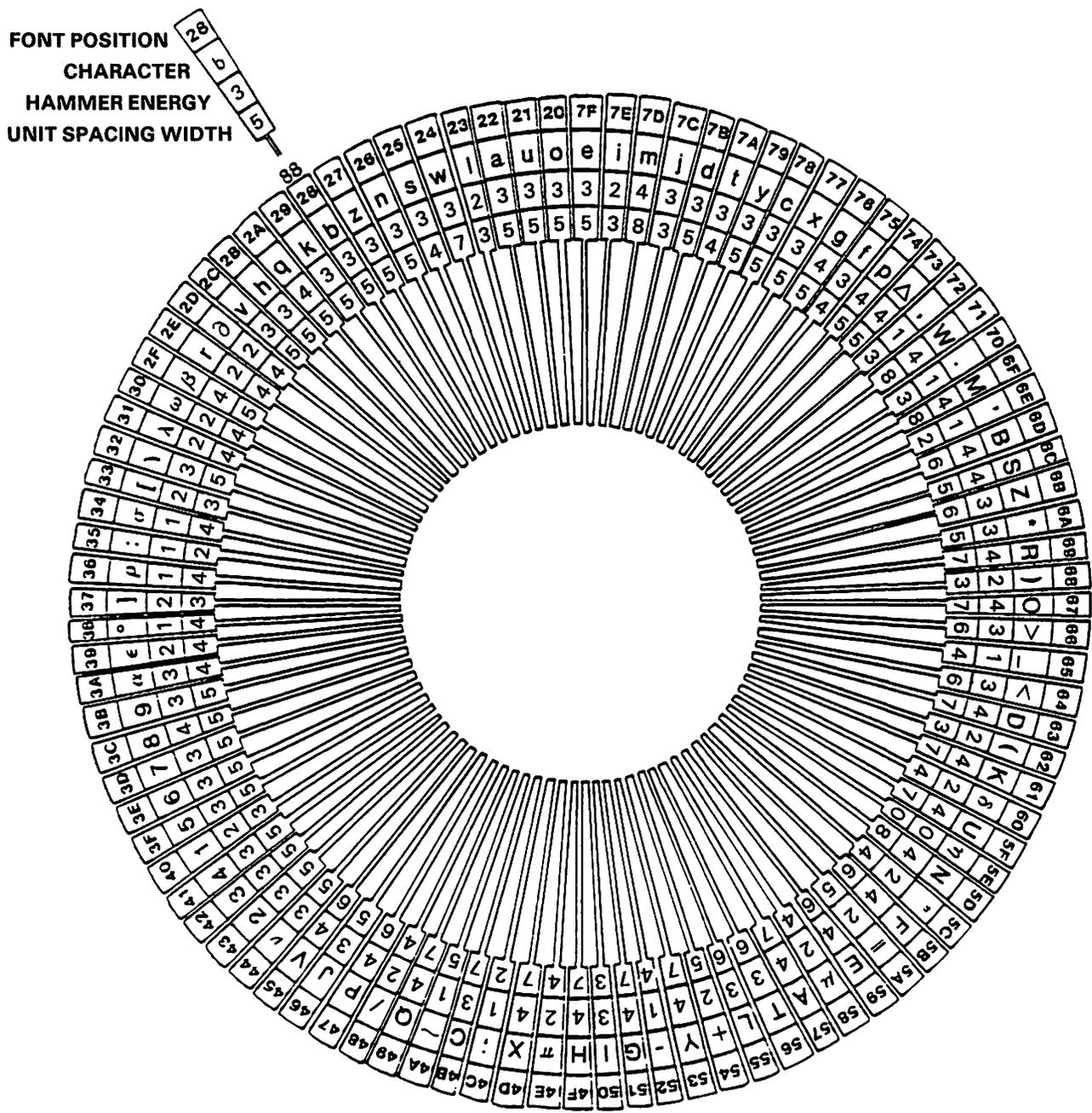


Figure C-4. Wang 08 Modified Scientific Daisy Print Wheel

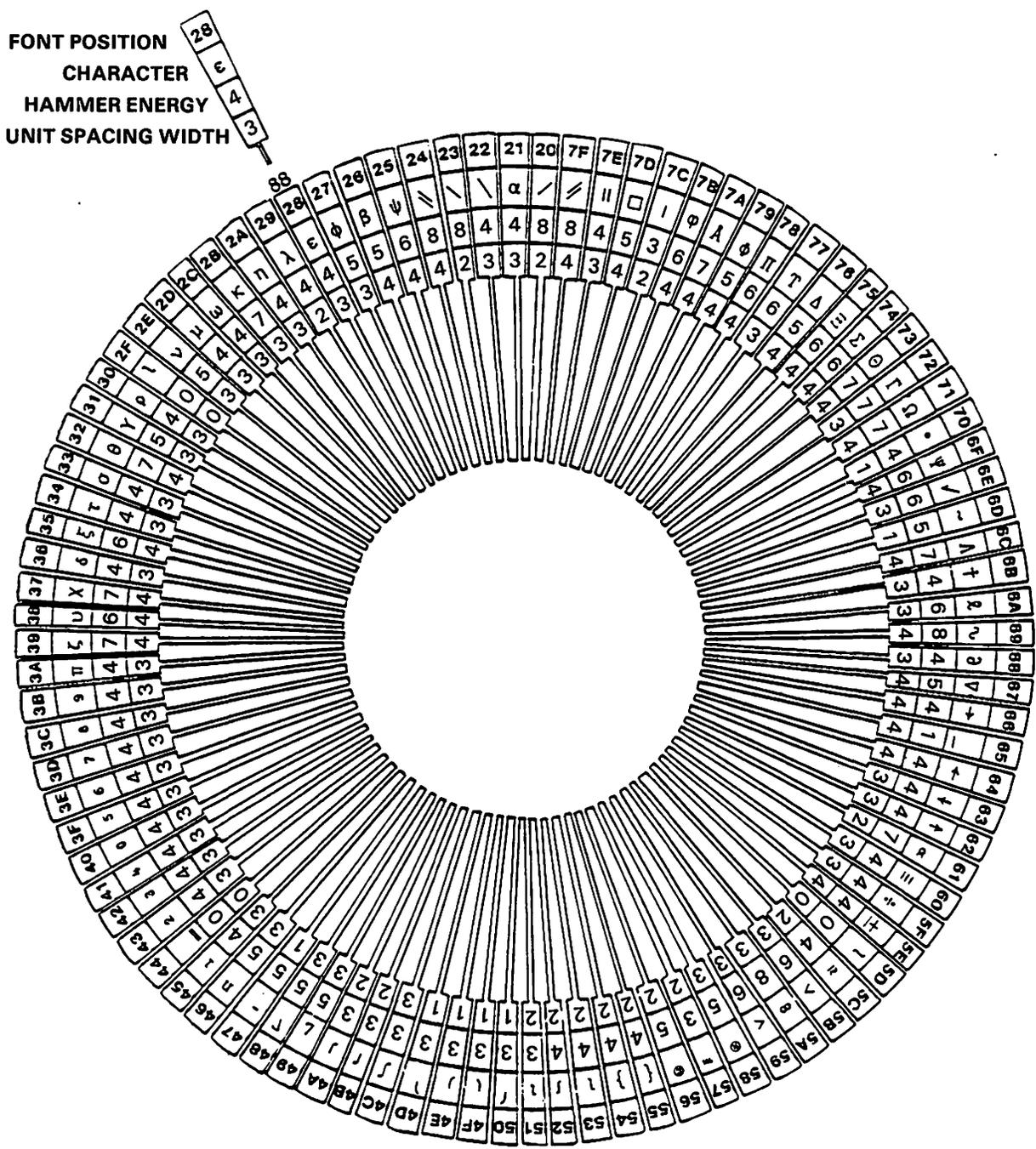


Figure C-5. Wang Full Scientific 10/12 Daisy Print Wheel

C.3 MATRIX PRINTERS

This section contains the character set and hex code values for the Wang U.S. Matrix printer.

Table C-2. Character Set and Hex Codes for the U.S. Matrix Printer

Hex Code	0	1	2	3	4	5	6	7
0		/		0	@	P	'	p
1		"	!	1	A	Q	a	q
2		•	"	2	B	R	b	r
3		9	#	3	C	S	c	s
4		q	i	4	D	T	d	t
5		β	%	5	E	U	e	u
6		£	&	6	F	V	f	v
7		¢	'	7	G	W	g	w
8		@	(	8	H	X	h	x
9		£	)	9	I	Y	i	y
A		A	*	•	J	Z	j	z
B		•	ij	¿	K	[	k	§
C		E	,	<	L	N	l	l
D		I	-	=	M	l	m)
E		O	.	>	N	^	n	¢
F		U	/	?	O	_	o	f

Printer Character

NOTES

1. To find the two-digit hex code for a character, first locate the printer character in the body of the table. The first digit is located at the top of the column; the second digit is located at the left of the row. For example, the hex code for the character A is 41.
2. Hex codes 00 through 09 and 0A through 0F are control codes that cannot be printed. Hex code 20 is a space.

C.4 MODEL 5577 AND LASER PRINTERS

This section contains the character sets and hex code values for the Wang 5577 and laser printer models.

Table C-3. Character Set and Hex Codes for Text Type Styles

Hex Code	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	°	À	â	Ĝ	ğ	Ð	þ	£
1		!	1	A	Q	a	q	◆	À	à	Ŭ	ij	Ð	ø	f	
2		"	2	B	R	b	r	▶	Á	á	í	ı	Ÿ	ý	¥	
3		#	3	C	S	c	s	◀	Ä	ä	î	ï	Ş	ş	¼	
4		\$	4	D	T	d	t	→	Å	å	ì	í	·	·	½	
5		%	5	E	U	e	u	←	←	→	í	í	Û	û	¾	
6		&	6	F	V	f	v	ı	À	â	ÿ	ï	Û	û	˘	
7		'	7	G	W	g	w	■	↓	†	ℓ	h	Û	ú	˙	
8		(	8	H	X	h	x	||	Æ	æ	Ñ	ñ	Û	ü	˚	
9		)	9	I	Y	i	y	‡	Ç	ç	Ô	ô	©	™	˛	
A		*	:	J	Z	j	z	↓	‡	□	Ò	ò	©	π	˜	
B		+	;	K	[	k	{	†	•		Ó	ó	℞	↔	˚	
C		,	<	L	\	l	|	←	Ê	ê	Ö	ö	à	â	˚	
D		-	=	M	]	m	}	±	È	è	Õ	õ	«	»	˚	
E		.	>	N	†	n	~	ı	É	é	œ	œ	§	ß		
F		/	?	O	_	o	ø	¿	È	è	Ø	ø	¶	•		

Printer Character

NOTES

1. To find the two-digit hex code for a character, first locate the printer character in the body of the table. The first digit is located at the top of the column; the second digit is located at the left of the row. For example, the hex code for the character A is 41.
2. The type style shown is Courier 10. Other text type styles contain the same characters.
3. Hex codes 00 through 09, 0A through 0F, 10 through 19, 1A through 1F, AB, EF, and FF are control codes that cannot be printed. Hex code 20 is a space.

Table C-4. Character Set and Hex Codes for Symbol Type Styles

Hex Code	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		o	≡	ℓ	ϑ	ρ	°	'	<	♠	♀	P	C	ε
1	√	₁	∇	Γ	α	γ	◆	!	>	ℑ	A	⊗	∩	€
2	•	₂	n	⊖	φ	⊖	▷	"	;	ℑ	B	≈	∩	€
3	←	₃	ψ	Σ	ψ	σ	◀	#	?	⊖	←	⇒	U	¼
4	→	₄	Φ	™	φ	τ	→	\$	=	¼	↔	T	Λ	½
5	±	₅	÷	≡	ε	ξ	┌	%	‡	¼	E	...	V	¾
6	Σ	₆	□	α	⊕	†	|	A	¶	★	◇	^	C	⊕
7	|	₇	Λ	Δ	λ	δ	■	π	ι	‡	κ	L	~	~
8	(	₈	∥	∞	η	χ	!!	[	i	Γ	H	X	V	-
9	)	₉	}	Υ	ι	υ	⚡	]	§	⊖	|	✓	∃	^
A	⊗	:	∫	≈	∫	ζ	↓	+	⊥	◀	▷	Z	/	·
B	∥	‡	//	Π	κ	«	↑	*	∠	○	K	‡	√	..
C	/	<	Ω	\	ω	»	←	&	⊕	x	=	≠	✓	
D	-	⊗	∂	π	μ	≥	≈	,	φ	⊖	M	ε	√	
E	.	>	~	β	υ	≤	‡	‡	≡	●	N	T	h	
F	}	{	↑	o	↓	{	≡	≈	..	‡	O	∴	∴	⋮

Printer Character

NOTES

1. To find the two-digit hex code for a character, first locate the printer character in the body of the table. The first digit is located at the top of the column; the second digit is located at the left of the row. For example, the hex code for the copyright symbol is 3D.
2. Hex codes 00 through 09, 0A through 0F, 10 through 19, 1A through 1F, and FC through FE are control codes that cannot be printed. Hex code 20 is a space.

Table C-5. Character Set and Hex Codes for Scientific Gothic Type Styles

Hex Code	2	3	4	5	6	7	8	9
0		0	σ	P	°	p		θ
1	!	1	A	Q	a	q		≈
2	"	2	B	R	b	r		±
3	α	3	C	S	c	s		←
4	\$	4	D	T	d	t		→
5	Δ	5	E	U	e	u		~
6	∂	6	F	V	f	v		≠
7	'	7	G	W	g	w		1
8	(	8	H	X	h	x		o
9	)	9	I	Y	i	y		u
A	*	:	J	Z	j	z		p
B	+	;	K	[	k	γ		η
C	,	<	L	\	l	ε		δ
D	-	=	M	]	m	≡		Å
E	.	>	N	β	n	ω		υ
F	/	μ	O	λ	o	ø		π

Printer Character

NOTES

1. To find the two-digit hex code for a character, first locate the printer character in the body of the table. The first digit is located at the top of the column; the second digit is located at the left of the row. For example, the hex code for the character A is 41.
2. Hex codes 00 through 09, 0A through 0F, 10 through 19, 1A through 1F, 80 through 89, and 8A through 8F are control codes that cannot be printed. Hex code 20 is a space.



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APPENDIX D
APPLICABLE PRINTERS

The non-font and font loadable printers covered by this manual are as follows:

- Non-Font Loadable
 - Wang Model OIS PTR-20
 - Wang Daisy Models DW-20, DW-55 (including the 13.2 inch, wide carriage, and dual head)
 - Wang Models 5533, 5535, 5521W, 5531W, 5571, 5574, and 5574-3
 - Wang Daisy Model PM014
- Font Loadable
 - Wang Model 5577 Matrix
 - Wang Models LPS-8, LPS-12
 - Wang Models LIS-12, LIS-24
 - Wang Model PM019 Color Matrix

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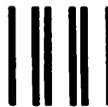
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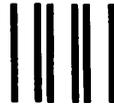
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