

# **DX PRODUCTS USER'S GUIDE**

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## PREFACE

This manual presents user operating instructions for the DX Products software, a Digital Equipment Corporation product that runs on a PDP-11 computer under control of either the RSTS/E or RSX-11M host operating system. This product enables a user to transmit documents in both directions between a word processing terminal and the host operating system, print documents on the PDP-11's high-speed line printer, and convert documents stored in the PDP-11 between word processing format and host operating system format.

The instructions in Chapters 1 through 4 may be read by anyone using the DX Products. If the user is not familiar with using the host operating system, supplementary information may be found in Appendixes A and C. For users familiar with the host operating system, two alternative methods for using the DX Products are presented in Appendix B. For users familiar with programming techniques, supplementary information regarding methods of conversion may be found in Appendix D.

The DX Products software described in this document operates in conjunction with version V06C of the RSTS/E system, version 3.1 of the RSX-11M system, and version V3.1 of the word processing systems.

A knowledge of using the word processing system and its communications capabilities is recommended for using the instructions presented in this manual. A knowledge of issuing commands within the host operating system environment is also recommended. If the user does not have this recommended knowledge, additional information may be obtained from the following documents.

*RSTS/E V06C System User's Guide*, DIGITAL part number DEC-11-ORSUB-A-D including DEC-11-ORSEB-A-DN1, for information applicable to the RSTS/E operating system.

*Introduction to RSX-11M*, DIGITAL part number AA-2555C-TC, for information applicable to the RSX-11M operating system.

*WPS-8 Word Processing System Reference Manual (Version 2.7 and 3.0)*, DIGITAL part number AA-5267C-TA, for both operating instructions and background material applicable to the PDP-8 word processing system (WPS-8).

*WPS-11M Word Processing System Reference Manual*, DIGITAL part number AA-D727A-TC, for both operating instructions and background material applicable to the PDP-11 word processing system (running under the RSX-11M operating system).

*Word Processing System Communications Options User's Manual*, DIGITAL part number AA-5264C-TK, for operating instructions applicable to DIGITAL's word processing system communications capabilities.

*DX Products Programmer's Reference Manual*, DIGITAL part number AA-5469C-TC, for sup-

plementary reference material sufficient to process or produce a word processing-formatted file on a PDP-11 computer.

To use the capabilities described in this manual, a host operating system account number and identifying password are needed. These may be obtained from the system manager of the PDP-11 installation.

## CHAPTER 1 INTRODUCTION

The DX Products software links the data processing and file management capabilities of a Digital Equipment Corporation PDP-11 computer with the editing and text processing capabilities of a word processing system. Two separate DX Products are available:

- DX/RSTS, which runs under control of a RSTS/E (Resource Sharing Timesharing System/Extended) host operating system; and
- DX/11M, which runs under control of an RSX-11M (Resource Sharing Executive) host operating system.

The DX Products software consists of three programs that permit the user to:

1. **Transmit documents between a word processing terminal and the host operating system.** A user may type a document with the word processing system's easy-to-use editing capabilities and then transmit it to the host operating system for processing. For example, a user can create a COBOL program on the word processing system, send the program to the host operating system for printing and compilation, detect errors,

edit the program on the word processing system, and then repeat the process until the COBOL program is error-free.

DX Products program DXPIP transfers documents between a word processing terminal and PDP-11 host operating system. Instructions for using this program are described in Chapter 2.

2. **Print documents on the PDP-11's high-speed line printer.** Quality of PDP-11 printing is equivalent to that produced by the word processing system's draft printer.

DX Products program DXLPT prints host operating system-stored word processing documents. Instructions for using this program are described in Chapter 3.

3. **Convert documents stored in the PDP-11 between word processing format and host operating system format (ASCII).** The types of format that may be converted include text or source program (BASIC-PLUS II, COBOL, FORTRAN, MACRO). The conversion is necessary before a file may be processed in the host operating system (such as compiling a COBOL program).

**DX Products program DXFLX** converts host operating system-stored documents between word processing and ASCII format. Instructions for using this program are presented in Chapter 4.

The following terminology is used in the *DX Products User's Guide*:

*Display* Information shown on a video display terminal's screen.

*Prompt* A displayed message requiring a user response.

*File* Unit of storage on a PDP-11 host computer.

*Document* Unit of storage on a word processing system. Also, word processing-formatted PDP-11 file.

## CHAPTER 2 TRANSFERRING BETWEEN A WORD PROCESSING SYSTEM AND A HOST OPERATING SYSTEM

A document may be transferred from a word processing system to a RSTS/E or RSX-11M host operating system with the DX Products program DXPIP. This program may be run only from a word processing terminal. In addition, the following values must be set in the word processing system System Options Menu:

Setting	Value
CP	STANDARD
BC	YES
CC	Host-compatible characteristics

When DXPIP is used with the RSX-11M host operating system, the following conditions must be met:

- The terminal characteristics specified in commands such as "SET /SPEED=" must match the characteristics of the word processing system.
- The "SET /LOWER=TI:" command must be issued.

To use DXPIP, perform the following steps:

1. **Log on the RSTS/E or RSX-11M host operating system** (see Appendix A).
2. **Type DXP and press the RETURN key** to make the transfer program operational. The screen displays the following (if it does not, contact your system manager).

Please type  
`\R<GOLD><MENU>DX<RETURN>`

### NOTE

To stop DXPIP from any of the steps listed below, press the gold and the MENU keys twice, type the letters CX, press the RETURN key twice, and press the CTRL and Z keys simultaneously.

3. **Type the characters \r, press the gold and the MENU keys, type the letters DX, and press the RETURN key.** The word processing Document Transfer Menu is then displayed on the screen (see Figure 2-1).

### NOTE

A descriptive error message is displayed on the screen whenever the user types an unacceptable response to any of the prompts listed below.

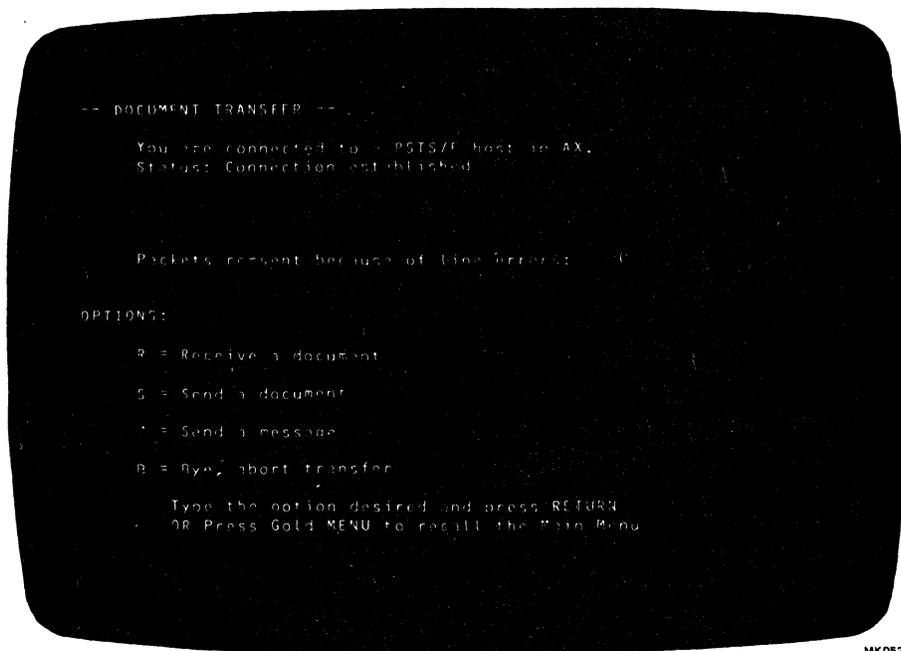


Figure 2-1 Document Transfer Menu

4. Type either the letter **S** or **R** and press the **RETURN** key to send a document to or receive one from the host operating system, respectively. If the letter **S** is typed, a screen display similar to Figure 2-2 appears; if the letter **R** is typed, a screen display similar to Figure 2-3 appears.

**NOTE**

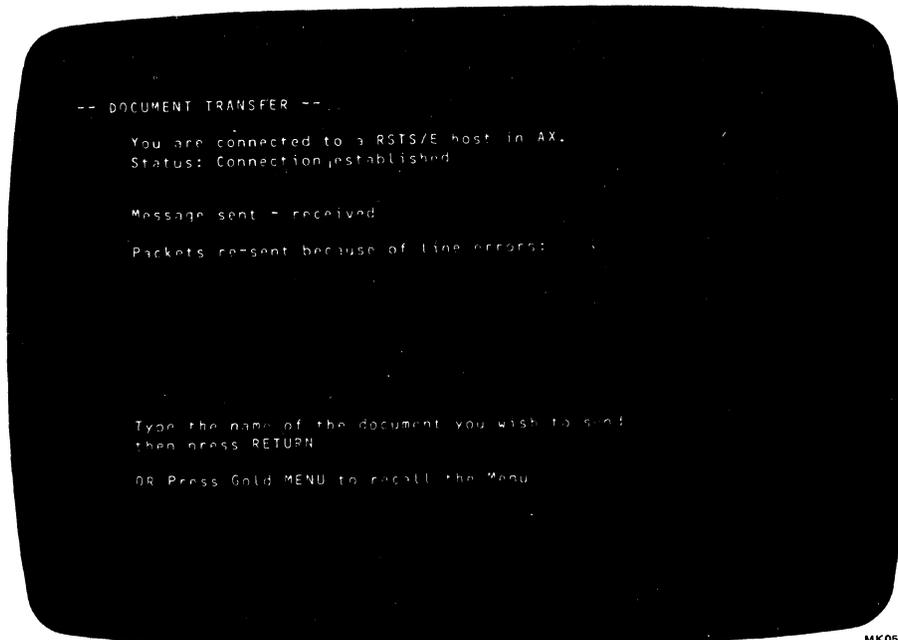
All figures in this chapter illustrate screen displays for a RSTS/E host operating system. If an RSX-11M host operating system is used, "RSX-11M" appears in place of "RSTS/E" in the second line of the screen displays.

5. Type the host operating system name for the document to contain the one being sent and press the **RETURN** key if the letter **S** was

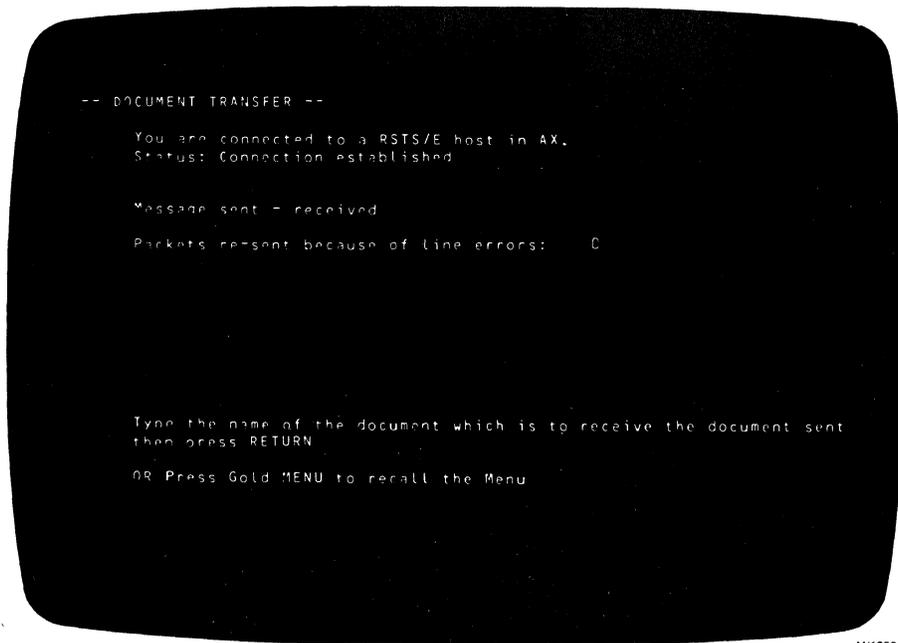
typed in step 4. Refer to Table B-1 for details on specifying document names. After a response is typed, the screen display appears as shown in Figure 2-4 (a document named SUMRY is used as an example in Figure 2-4; the actual screen display will contain the name of a user's document).

OR

Type the word processing name for the document to contain the one being received and press the **RETURN** key if the letter **R** was typed in step 4. The screen display appears as shown in Figure 2-5 (a document named SALES PLAN is used as an example in Figure 2-5; the actual screen display will contain the name of a user's document).



**Figure 2-2** Screen Display After User Indicates a Word Processing Document Is To Be Sent to a Host Operating System Document



**Figure 2-3** Screen Display After User Indicates a Word Processing Document Is To Be Received From a Host Operating System Document

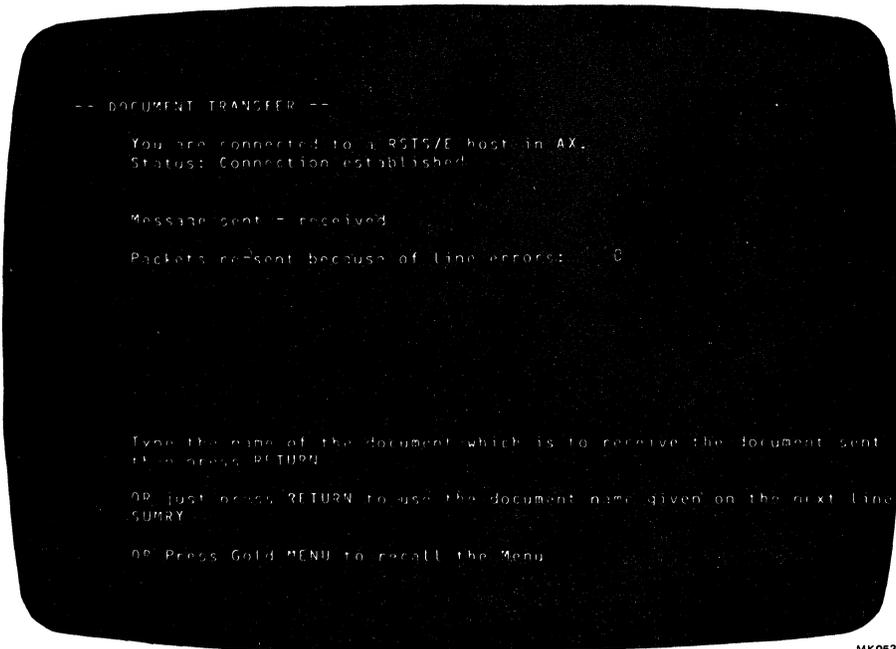


Figure 2-4 Screen Display After Host Operating System Name for Document Being Sent Is Typed

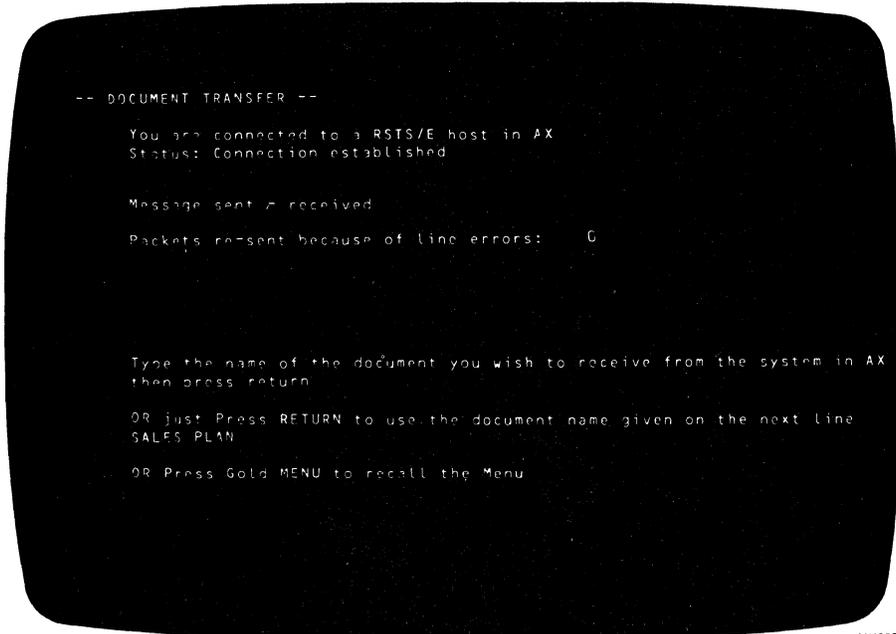


Figure 2-5 Screen Display After Word Processing Name for Document Being Received Is Typed

**NOTE**

The next to the last line of the screen displays in both Figures 2-4 and 2-5 will contain the name of the document just specified.

6. **Specify the word processing name of the document being sent and press the RETURN key** if the letter S was typed in step 4. To use the document name displayed on the screen, press the RETURN key; to specify another document, type its name and press the RETURN key.

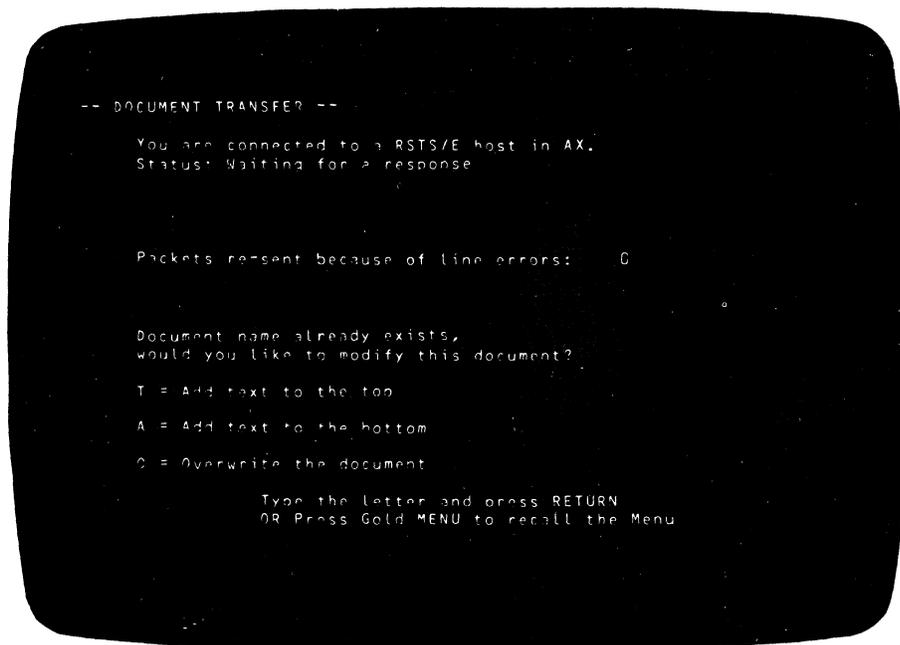
OR

**Specify the host operating system name of the document to be received at the word processing terminal and press the RETURN key**

if the letter R was typed in step 4. To use the document name displayed on the screen, press the RETURN key; to specify another document, type its name and press the RETURN key. Refer to Appendix C for details on specifying file names.

If the document specified already exists, the screen display appears as shown in Figure 2-6. The user may add the transferred information to either the beginning or end of the document or may replace the document by typing the letter T, A, or O and pressing the RETURN key.

Respond to the prompt.



MK0533

Figure 2-6 Screen Display After an Existing Document Is Specified

**7. Inspect the screen for completion of the transfer. While transfer is in process, the screen displays**

**Packets in document transferred:**

**followed by a constantly-changing number; in addition, the third line from the top of the Document Transfer Menu displays**

**Status: Transfer in progress**

**When transfer is complete, the third line from the top of the Document Transfer Menu displays**

**Status: Transfer complete**

**8. Perform another transfer, word processing work, or issue host operating system commands as follows:**

- **To perform another transfer, follow the instructions starting with step 4.**
- **To perform word processing work, log off the host operating system (see Appendix A.2), type the characters \r, and press the gold and the MENU keys. This action displays a word processing Main Menu page.**
- **To issue host operating system commands, press the gold and the MENU keys, type the letters CX, press the RETURN key twice, and press the CTRL and the Z keys simultaneously.**

## CHAPTER 3 PRINTING

A word processing-formatted file may be printed on the PDP-11 line printer with the DX Products DXLPT program. The file must be stored in the host operating system. To print a document that is stored in a word processing system, transfer that document to the PDP-11 with the DX Products transfer program DXPIP (see Chapter 2).

This chapter describes the method of using DXLPT in which prompts are displayed on the screen for the user's responses. An alternate method in which no prompts are displayed is described in Appendix B.1. The alternate method is intended for someone knowledgeable in using the host operating system.

### NOTE

A descriptive error message is displayed on the screen and the user prompted for another response whenever the user types an incorrect response to any of the prompts listed in steps 3 to 7 below.

To use DXLPT, perform the following steps:

1. **Log onto the RSTS/E or RSX-11M host operating system** using any terminal attached to the PDP-11 (see Appendix A.1).
2. **Type DXL and press the RETURN key** to make the printing program operational. The screen will display a welcome message. The following is an example.

DXLPT version V03001

Type the name of the document to be printed.

### NOTE

To stop DXLPT from any of the steps listed below, press the CTRL and Z keys simultaneously. At that point, the user may issue host operating system commands or log off (refer to Appendix A.2).

3. **Identify the document to be printed and press the RETURN key.** Refer to Table B-1 for details of specifying host operating system document names. The following is an example of identifying a document to be printed.

SUMMARY.BAK

If no extension to the file name is specified (the extension in the example above is BAK), the extension W11 is assumed. After the response is typed, the screen displays two lines similar to the following:

Type the file specification for the printable output  
To call it SUMMARY.LST just press RETURN

The second line of the actual screen display contains the name of the document to be printed with the extension LST.

4. **Identify a host operating system file to hold the printed output and press the RETURN key.** To examine a file on the screen before printing it, type the three characters KB: (for a RSTS/E host operating system) or TI: (for a RSX-11M host operating system) and press the RETURN key.

If the file specified already exists, the screen displays the following prompt:

How do you want the output file modified  
O=overwrite, T = add to top, B=add to bottom (O)

Type the letter corresponding to the desired modification choice and press the RETURN key (to overwrite, just press the RETURN key).

After the response is typed, the screen displays the following prompt only if the output is directed to a file-structured device:

Do you want DXLPT to spool the file to the printer (YES)

5. **Type NO and press the RETURN key if the output is not to be spooled; just press the RETURN key if it is.** "Spooling" allows the host operating system to schedule output as a function of all requests submitted. The advantage of spooling output is that the terminal may be used for other activities should the printer not be immediately available.

If a RSTS/E host operating system is being used and spooling is selected, the screen displays the following prompt:

COPIES 1; DELETE YES; FORMS NORMAL;  
NH YES; PRIORITY 128;

Press RETURN if the above spooler settings are OK  
Otherwise type new spooler settings

The first line of the above prompt contains preset values for RSTS/E QUE (the program that controls output) spooling switches. To change any one, type the first two letters of the switch name, a space, the new value, and press the RETURN key. This action causes the above three lines to be redisplayed with the new value in the appropriate position. Refer to the *RSTS/E V06C System User's Guide* for a list of the switches and their meanings.

#### NOTE

Additional information for each RSTS/E spooling switch may be obtained by typing the first two letters of the switch name and pressing the RETURN key. This action displays a description of the switch on the screen.

After the response to the spooling prompt (and subsequent one, if spooling was selected) is typed, the screen displays the following lines:

CP 1; IP 1; FR 1; TO 0; AP NO; DA NORMAL;  
PM 12; TM 6; BM 6; PS 66; EX 0; PI 10; SE NO; TW  
NO; DD 3; CM 0;

Press RETURN if the above printer settings are OK  
Otherwise type new printer settings

6. **Type any word processing Print Menu setting with its desired value and press the RETURN key; press only the RETURN key if the displayed values are acceptable.** When a setting and value are typed, the above four lines are redisplayed with the value specified shown after the two-letter setting name.

Table 3-1 lists the two-letter Print Menu setting names, the meanings for each, and the allowable values that may be supplied.

#### NOTE

Additional information for each Print Menu setting may be obtained by typing a two-letter name and pressing the RETURN key. This action displays a description of the setting on the screen.

After the user signifies that the Print Menu setting values are acceptable, the document will be output. When output is completed, the following prompt is displayed on the screen:

Type the name of the document to be printed

7. **Print another document or issue host operating system commands** as follows:
  - To print another document, follow the instructions starting with step 3.
  - To issue host operating system commands, press the CTRL and the Z keys simultaneously.

**Table 3-1 Print Menu Settings**

<b>Two-Letter Print Menu Name</b>	<b>Meaning</b>	<b>Allowable Values</b>
AP	Automatic Pagination. Page endings can automatically be determined by the system.	YES. The system automatically paginates while printing.  NO, for having the system use the page endings you specified.
BM	Bottom Margin. Number of lines between the last line of text and the bottom edge.	Any number between 0 and 999.
CM	Column Margin. Number of spaces (typing positions) to be added between multiple columns.	Any number between 0 and 999.
CP	Number of original CoPies to be printed.	Any number between 1 and 999.
DA	Darkness, or number of times characters are struck.	NORMAL, for striking each character once.  DARK, for striking each character twice.
DD	Document Destination. The output device to be used for printing.	3, indicating draft printer.
EX	EXtra half-line, vertical spacing. Number of extra, blank half-lines to be used between printed lines.	0, 1, 2, 3
FR	Print FRom this page number	Any number between 1 and 999.

**Table 3-1 Print Menu Settings (Cont)**

<b>Two-Letter Print Menu Name</b>	<b>Meaning</b>	<b>Allowable Values</b>
IP	Initial Page number. This number appears in the header and/or footer of the first page printed (if the page number is to be printed).	Any number between 1 and 999.
PI	Pitch, the number of characters that can be printed per inch.	10
PM	Print Margin. Number of spaces (typing positions) to be added to the left of each printed page.	Any number between 0 and 999.
PS	Page Size. Number of lines that can fit on a page from the top edge to the bottom (6 lines = 1 inch)	Any number between 1 and 200.
SE	Stop Every page. This setting has no effect on the host operating system.	<p>YES, for stopping at the beginning of each page.</p> <p>NO, for printing continuously from the first through the last page.</p> <p>FIRST, for stopping only at the beginning of the first page of a document.</p>
TO	Print TO this page number. Allows printing to stop prior to the last document page.	Any number between 0 and 999 (0 means print to the last document page).

**Table 3-1 Print Menu Settings (Cont)**

<b>Two-Letter Print Menu Name</b>	<b>Meaning</b>	<b>Allowable Values</b>
TM	Top Margin. Number of lines between the top edge of each page and the first text line printed. A header, if used, will be printed here.	Any number between 0 and 999.
TW	Two Wheels. Two different type styles can be used to print a document (done by means of two different print wheels).	YES, for using two print wheels. NO, for using one print wheel.

## CHAPTER 4 CONVERTING

A document stored in the PDP-11 may be converted between word processing format and host operating system format with the DX Products DXFLX program. The types of RSTS/E files include source program, BASIC-PLUS, and text; the types of RSX-11M files include source program and text.

This chapter describes the method of using DXFLX in which prompts are displayed on the screen for the user's responses. An alternate method in which no prompts are displayed is described in Appendix B.2. The alternate method is intended for someone knowledgeable in using the host operating system.

### NOTE

A descriptive error message is displayed on the screen and the user prompted for another response whenever the user types an incorrect response to any of the prompts listed below.

To use DXFLX, perform the following steps:

1. **Log on the RSTS/E or RSX-11M host operating system** (see Appendix A.1) using any terminal attached to the PDP-11.

2. **Type DXF and press the RETURN key** to make the conversion program operational. The screen displays a welcome message which resembles the following example.

DXFLX version V03001

Is input a word processing document (YES)

### NOTE

To stop DXFLX from any of the steps listed below, press the CTRL and Z keys simultaneously. At that point, the user may issue host operating system commands or log off (refer to Appendix A.2).

3. **Press the RETURN key if the file to be converted is in word processing format; type NO and press the RETURN key if it is not.** The following prompt is displayed on the screen:

Type name of document to be converted

### NOTE

The word "file" appears instead of "document" in the above prompt if the previous prompt is answered affirmatively.

**Table 4-1 Types of Files Automatically Determined Based on User-Specified Extensions**

Type of File	Extension
RSTS/E Source Program	B2S, MAC, FTN, FOR, F4P, CBL
RSX-11M Source Program	B2S, MAC, FTN, FOR, F4P, CBL, BAS
RSTS/E BASIC-PLUS	BAS

4. Type the name of the file to be converted and press the RETURN key. Refer to Appendix C for details of specifying names of files. The following is an example of identifying a file to be converted.

SUMMARY.BAK

If a word processing-formatted file is to be converted and an extension to its name is not specified (the extension in the example above is BAK), the extension W11 is assumed.

Before a file can be converted, it is necessary that its type be indicated. If the user responds affirmatively in step 3 above, the file type is obviously word processing. If an extension to the name of the file is specified in step 4, that extension aids in indicating the type of file. Table 4-1 summarizes the types of files that are automatically determined by DXFLX as a result of user-specified extensions.

If the file type cannot be determined automatically, the following is displayed on the screen:

Is it a program source file (NO)

If the file being converted is a program source file, type YES and press the RETURN key. If it is not, press the RETURN key; this action causes the following to be displayed on the screen:

Is it a BASIC-PLUS program (NO)

If the file being converted is BASIC-PLUS, type YES and press the RETURN key. If it is not, press the RETURN key; this action indicates that the file type is source program. Additional prompts are displayed for a text file; they are described in Section 4.1.

Once the file type is determined, the following is displayed on the screen only if the input document is in word processing format.

Is output a word processing document (NO)

If the file is not in word processing format, the prompt given in step 5 below is displayed.

5. **Press the RETURN key if the document to contain the converted output is not in word processing format; type YES and press the RETURN key if it is.** The following prompt is displayed on the screen.

Type name of document to hold output

6. **Type the name of the file to contain the converted output and press the RETURN key.** Refer to Appendix B.1 for details on specifying document names. If an existing document is specified, the following is displayed on the screen:

How do you want output file modified  
O= overwrite, T = add to top, B = add to bottom (O)

Type the letter corresponding to the desired choice and press the RETURN key or just press the RETURN key to overwrite the existing information.

It is necessary that the type of output file be indicated. If the user responds affirmatively to the "Is output a word processing document" prompt, the file type is obviously word processing. If an extension to the name of the file is specified in step 6, that extension aids in indicating the type of file. Table 4-1 summarizes the types of files that are automatically determined by DXFLX as a result of user-specified extensions.

If the file type cannot be determined automatically, the prompt "Is it a program source file" will be displayed on the screen. If the file is not, the prompt "Is it a BASIC-PLUS program" will be displayed.

When processing is complete, the following prompt is displayed again.

Type name of file to be converted

7. **Convert another document or issue host operating system commands as follows:**

- To convert another document, follow the instructions starting with step 3.
- To issue host operating system commands, press the CTRL and the Z keys simultaneously.

#### **4.1 CONVERTING FROM TEXT TO WORD PROCESSING FORMAT**

If a text file is to be converted to word processing format, the user may specify how the following three items are processed:

1. Line endings (Section 4.1.1).
2. Multiple spaces (Section 4.1.2).
3. Rulers (Section 4.1.3).

##### **4.1.1 Line Endings**

The following will be displayed on the screen:

Try to form word processing paragraphs (YES)

**Press the RETURN key to form word processing paragraphs or type NO and press the RETURN key not to.**

The above prompt allows the user to form word processing paragraphs out of text file lines. These two types of files have different line endings. In a word processing-formatted file, each

line within a paragraph is ended with a system-supplied (word wrap) carriage return. The end of a word processing paragraph is marked with two carriage returns. Text file lines are generally ended with one or more carriage returns, one or more line feeds, or some combination of the two.

If the above prompt is answered affirmatively, each line ending within a paragraph and all leading spaces on each line are removed. The user is then positioned at the ruler prompt (Section 4.1.3).

A description of text file characteristics and how they are converted to word processing format may be found in Appendix D.

#### **4.1.2 Multiple Spaces**

If the line ending prompt (Section 4.1.1) is answered negatively, the user has the option of compressing each use of three or more horizontal spaces. The following will be displayed:

Do you want multiple spaces reduced to just one space (NO)

**Press the RETURN key if all instances of multiple spaces are not to be compressed to a single space or type YES and press the RETURN key if they are.**

The above prompt allows the user to minimize storage requirements. If the text file being converted contains tabular information, it is advisable to answer the prompt negatively, thereby preserving the tabular format.

If the above prompt is answered affirmatively, the user is positioned at the ruler prompt (Section 4.1.3). If negatively, the following is displayed next:

Do you want multiple spaces replaced with a tab (YES)

**Press the RETURN key if all instances of multiple spaces are to be replaced with a tab or type NO and press the RETURN key if they are not.**

The above prompt presents another way of processing multiple spaces: replacing them with one or more tabs. If the above is answered negatively, the user is positioned at the ruler prompt (Section 4.1.3). If affirmatively, the following is displayed next:

The minimum number of spaces to be converted to one tab is 3.

Specify the maximum.

Just press RETURN to use 8.

**Type the maximum number of spaces to be replaced with a tab and press the RETURN key or just press the RETURN key for eight to be used. Any value between 3 and 158 is allowable.**

Instances of three or more text file spaces are converted to tabs in the resultant word processing file. The response to the above prompt indicates the number of spaces to be converted per tab. For example, if a text file contains seven spaces and the user indicated that five spaces are to be replaced with a tab mark, the converted word processing file will contain one tab mark plus two spaces.

After the response to the above prompt is typed, the user is positioned at the ruler prompt (Section 4.1.3).

#### **4.1.3 Rulers**

A word processing ruler indicates locations of the document's left and right margin positions and also its vertical line spacing. A ruler may also include the locations and types of tab settings. An unlimited number of rulers may appear anywhere in a word processing-formatted

file. Because a text file does not contain a comparable ruler, it is necessary to add one before converting to word processing format.

The following four lines are displayed to assist the user in inserting a ruler to the text file being converted.

1 L; 9 T; 17 T; 25 T; 33 T; 41 T; 49 T; 57 T; 65 T;  
 73 T; 74 T; 75 T; 76 T; 77 T; 78 T; 79 R;  
 Just press RETURN to use the above ruler.  
 Otherwise type new settings.

A number represents the column position at which the letter following it takes effect. For example, 9 T means that a tab takes effect in column position 9 of a line. Table 4-2 lists each ruler character that may be used and its corresponding meaning.

**Table 4-2 Meaning of Characters in a Ruler**

<b>Ruler Character</b>	<b>Meaning</b>
C	Centering point
D	Left margin position, double-spaced
F	Left margin position, half-line spaced
H	Hyphenation zone
J	Right margin position, justified
L	Left margin position, single-spaced
N	Left margin position, space and one-half spaced
P	Automatic paragraph indent
R	Right margin position, ragged
T	Left-justified tab
W	Automatic word wrap indent
>	Right-justified tab
.	Decimal-aligned tab

Changes to the system-supplied ruler may be made as follows:

1. To eliminate all the system-supplied setting values, type the new settings with their corresponding values and press the RETURN key.
2. To make additional entries (or eliminate some, but not all, settings), type a plus character (+) before the column position of the first new setting and press the RETURN key. Separate successive entries with either a comma or a semicolon.
3. To eliminate a particular setting, type a plus character (+) followed by the column position number and press the RETURN key.

After changes are made, the new settings and their values are displayed on the screen. Press the RETURN key when all settings are satisfactory.

#### 4.2 CONVERTING FROM WORD PROCESSING TO TEXT FILE FORMAT

If a file is being converted from word processing format to text, the user has a choice of how spaces resulting from tabs are processed. The following example illustrates the formatting of a word processing tab and is presented to help the user determine how to process tabbed spaces. In the following table excerpt, the letter "T" under the space immediately after the letter "a" in Arizona denotes a word processing tab mark; the letter "S" under the space to the immediate left of the letter P in Phoenix denotes tabbed spaces added after point "T."

State	Capital
Arizona	Phoenix
T	S

It is not possible to convert tabbed spaces to text format and retain both the tab mark and the tabbed spaces. There are two alternative ways of converting: preserving just the tab or preserving just the spaces.

The following is displayed for the user to choose how spaces resulting from tabs are to be converted.

Type T to output tabs or S to output spaces (T)

Press the RETURN key to output tabs or type the letter S and press the RETURN key to output spaces.

The two alternatives are processed as follows:

1. Tabs - The tab mark itself is converted. The tabbed spaces are removed.
2. Spaces - The tabbed spaces are converted and, in addition, the tab mark is converted to a space.

The following guidelines are supplied to assist the user in selecting between the two alternatives:

1. If there is no tabbed information in the word processing file being converted, either alternative may be selected.

**2. If the word processing file contains tabbed information and the ruler is the same as that supplied by the system, select the alternative that outputs tabs.**

**3. If the word processing file contains tabbed information and the ruler is different from the ruler supplied by the system, select the alternative that outputs spaces.**



## APPENDIX A LOGGING ON AND OFF A HOST SYSTEM

Instructions for logging on a host system are presented in Section A.1; instructions for logging off, in Section A.2.

### A.1 LOGGING ON A HOST SYSTEM

To log on a host system, perform the following steps:

1. **Connect the word processing terminal with the host system by means of a communications link** (refer to the *Word Processing System Communications Options User's Manual*).
2. **Display any Main Menu page.** Figure A-1 shows the fourth Main Menu page.
3. **Type the letters CX and press the RETURN key.** The word processing Communications Menu (see Figure A-2) will be displayed on the screen. The letters KH HS should be displayed at the bottom of the screen.
4. **Press the RETURN key** (if the letters KH HS did not appear in step 3's screen display, it is necessary to type them).

At this point, the screen will become blank. You may log on either the RSTS/E or RSX-11M system, whichever is operational in your PDP-11 installation. Section A.1.1 presents instructions for logging on the RSTS/E system; Section A.1.2 presents instructions for logging on the RSX-11M system.

#### NOTE

To resume word processing activity, type the characters `\r`. This action redisplay the Communications Menu. Then press the gold and the MENU keys. This action redisplay the word processing Main Menu.

#### A.1.1 Logging On a RSTS/E System

To log on a RSTS/E system, perform the following steps:

1. **Type the word HELLO and press the RETURN key.** The system will print a system identification message followed by a number sign (#).
2. **Type your project-programmer number and press the RETURN key.** The system will display "PASSWORD:" requesting a password to be typed.

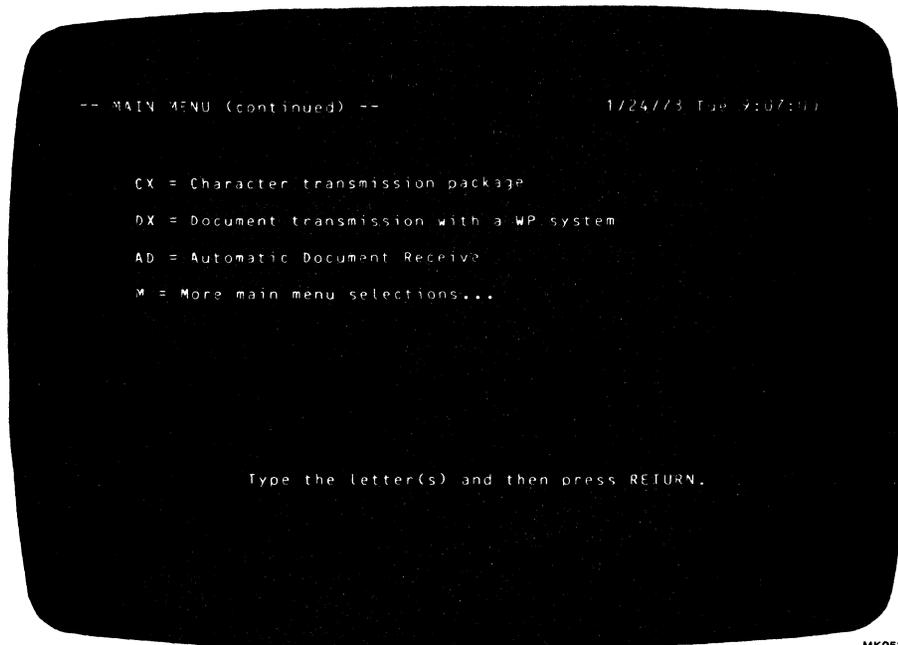


Figure A-1 Main Menu Page

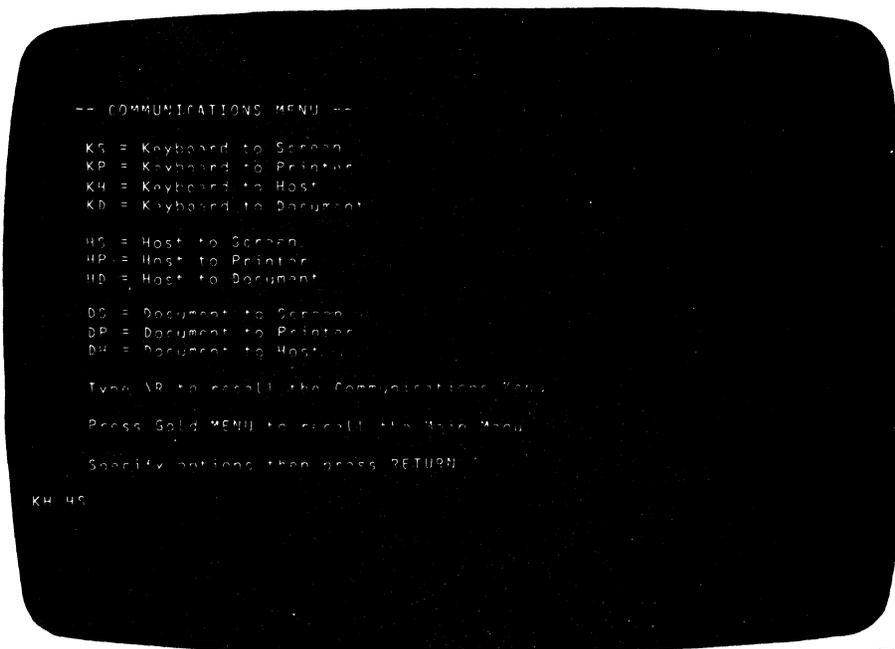


Figure A-2 Communications Menu

3. **Type your password.** For security reasons, it is not displayed on the screen as you type it. If the password is valid, the system logs you in and displays a daily message followed by the word "Ready."

#### **A.1.2 Logging On a RSX-11M System**

To log on a RSX-11M system, perform the following steps:

1. **Type HELLO and press the RETURN key.** The system will display "ACCOUNT OR NAME:" requesting an account number or name to be typed.
2. **Type your name or account number and press the RETURN key.** The system will display "PASSWORD:" requesting a password to be typed.
3. **Type your password.** For security reasons it is not displayed on the screen as you type it. If the password is valid, the system logs you in and displays a daily message followed by a right angle bracket character (>).

#### **A.2 LOGGING OFF A HOST SYSTEM**

To log off from a host system after running either the DX Products printing or conversion program (DXLPT and DXFLX), perform the following steps:

1. **Press the CTRL and the Z keys simultaneously.** The word "Ready" will be displayed on the screen.
2. **If logging off from a RSTS/E host system, proceed to Section A.2.1; if logging off from a RSX-11M host system, proceed to Section A.2.2.**

To log off a host operating system after running the DX Products transfer program (DXPIP), type the characters \r KH HS and press the RETURN key. The screen will become blank at which point steps 1 and 2 above should be performed.

##### **A.2.1 Logging Off a RSTS/E System**

1. **Type the word BYE and press the RETURN key.** The system will display the word "Confirm:" requesting confirmation of the log off request.
2. **Type the letter Y and press the RETURN key.** The system will log you off and display a log off message. To omit displaying the log off message, type BYE/F (instead of the letter Y) and press the RETURN key.

##### **A.2.2 Logging Off a RSX-11M System**

**Type the word BYE and press the RETURN key.** The system will log you off and display a log off message.



## **APPENDIX B RUNNING PROGRAMS DXLPT AND DXFLX WITHOUT PROMPTS**

The DX Products printing and conversion programs, DXLPT and DXFLX respectively, may be run "directly" with no intervening prompts displayed on the screen. The user needs to type only a single RSTS/E or RSX-11M command line. The command line may be inserted into a RSTS/E batch control file or RSX-11M indirect command file to expedite processing.

The method for running DXLPT directly is described in Section B.1; the method for running DXFLX directly is described Section B.2.

### **B.1 RUNNING DXLPT WITHOUT PROMPTS**

To run the DX Products printing program, DXLPT, type a line using the format shown in Figure B-1.

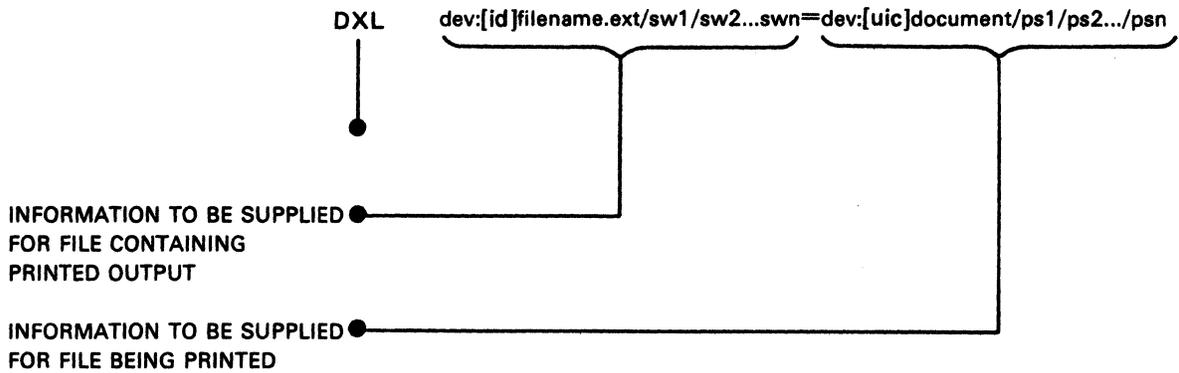
The information to be supplied for the output file is typed to the left of the equal sign (=) and is interpreted as described in Table B-1.

### **B.2 RUNNING DXFLX WITHOUT PROMPTS**

To run the DX Products conversion program, DXFLX, type a line using the format shown in Figure B-2.

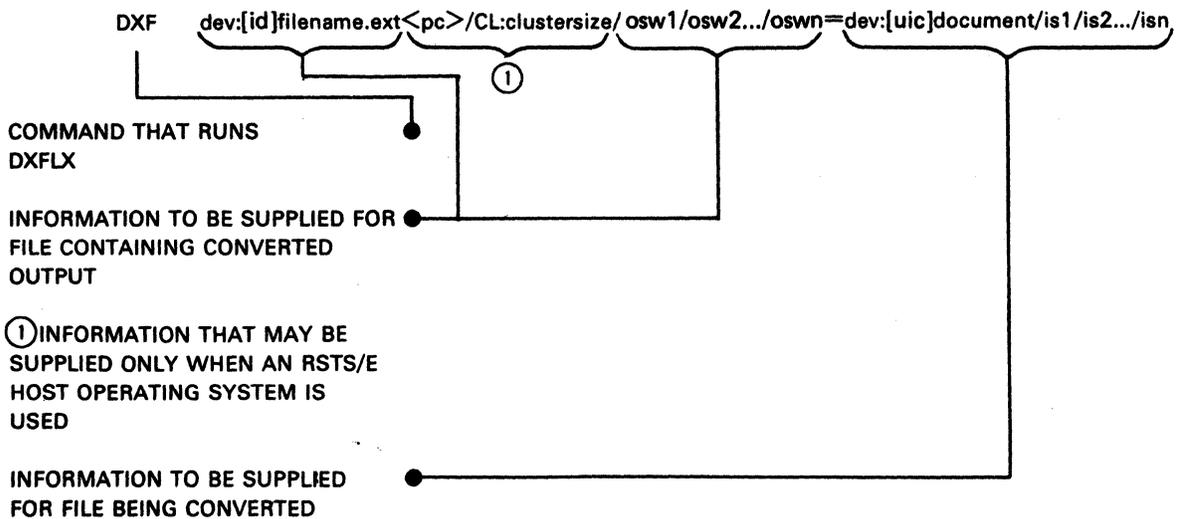
The information to be supplied for the file, in which the resultant output is to be placed, is typed to the left of the equal sign (=) and is interpreted as described in Table B-3.

The information to be supplied for the file to be converted (input) is typed to the right of the equal sign (=) and is interpreted as described in Table B-4.



MK0535

Figure B-1 Format To Use for Running the Printing Program (DXLPT) Without Prompts



MK0534

Figure B-2 Format To Use for Running the Conversion Program (DXFLX) Without Prompts

**Table B-1 Information To Be Supplied When Specifying a DXLPT Output File**

<i>dev</i>	Optional, identifies the physical device on which the file is to be stored. If no value is supplied by the user, SY is assumed for a RSTS/E host system and SY0 for RSX-11M.
<i>id</i>	Optional, identifies the user. If the host system is RSTS/E, supply a project programmer number (ppn); if RSX-11M, supply a user identification code (uic). If no value is supplied by the user, the system area currently logged into is assumed.
<i>filename</i>	Optional, identifies the <i>name</i> of the <i>file</i> . If the host system is RSTS/E, between one and six alphanumeric characters may be specified; if RSX-11M, between one and nine characters may be specified. If no value is supplied by the user, the name of the input file is assumed.
<i>ext</i>	Optional, identifies an <i>extension</i> to be added to the <i>filename</i> . May contain between one and three alphanumeric characters. If no value is supplied by the user, the extension LST is assumed.
<i>sw1...swn</i>	Optional, each identifies a RSTS/E or RSX-11M switch. The following switches may be supplied when using a RSTS/E host system:
<b>NOTE</b>	
If none of the following three switches is specified, the ADD:OVR switch is assumed.	
<b>Switch</b>	<b>Meaning</b>
ADD:TOP	Add printed information to the top of the output file.
ADD:BOT	Add printed information to the bottom of the output file.
ADD:OVR	Overwrite file's previous contents with printed information.
<b>NOTE</b>	
If neither of the following two switches is specified, the QU:YES switch is assumed.	

**Table B-1 Information To Be Supplied When  
Specifying a DXLPT Output File (Cont)**

<i>sw1...swn</i>	<b>Switch</b>	<b>Meaning</b>
	QU:YES	Send the output file to the spooler.
	QU:NO	Do not send the output file to the spooler.
	<b>NOTE</b>	
	The first line of the following switches is not processed if QU:NO is specified. If the QU:YES switch is specified, but none of the following is supplied, then switches NH:YES, DE:YES, CO:1, FORMS:NORMAL, and PRIORITY:128 are automatically assumed.	
	<b>Switch</b>	<b>Meaning</b>
	DE:YES	Delete the output file after it is printed.
	DE:NO	Do not delete the output file after it is printed.
	NH:YES	Do not print a header for the output file.
	NH:NO	Print a header for the output file.
	CO: <i>n</i>	Print <i>n</i> number of copies.
	FORMS: <i>name</i>	Use <i>name</i> form in printing.
	PRIORITY: <i>n</i>	Print according to <i>n</i> priority.

**Table B-1 Information To Be Supplied When  
Specifying a DXLPT Output File (Cont)**

<i>sw1...swn</i>	<p>The following switches may be supplied when using an RSX-11M host system:</p> <p align="center"><b>NOTE</b> If none of the following three switches is specified, the ADD:OVR switch is assumed.</p> <table border="0"> <thead> <tr> <th align="left"><b>Switch</b></th> <th align="left"><b>Meaning</b></th> </tr> </thead> <tbody> <tr> <td>ADD:TOP</td> <td>Add printed information to the top of the output file.</td> </tr> <tr> <td>ADD:BOT</td> <td>Add printed information to the bottom of the output file.</td> </tr> <tr> <td>ADD:OVR</td> <td>Overwrite file's previous contents with printed information.</td> </tr> </tbody> </table> <p align="center"><b>NOTE</b> If neither of the following two switches is specified, the SP switch is assumed.</p> <table border="0"> <thead> <tr> <th align="left"><b>Switch</b></th> <th align="left"><b>Meaning</b></th> </tr> </thead> <tbody> <tr> <td>SP:YES</td> <td>Send the output file to the spooler.</td> </tr> <tr> <td>SP:NO</td> <td>Do not send the output file to the spooler.</td> </tr> </tbody> </table>	<b>Switch</b>	<b>Meaning</b>	ADD:TOP	Add printed information to the top of the output file.	ADD:BOT	Add printed information to the bottom of the output file.	ADD:OVR	Overwrite file's previous contents with printed information.	<b>Switch</b>	<b>Meaning</b>	SP:YES	Send the output file to the spooler.	SP:NO	Do not send the output file to the spooler.
<b>Switch</b>	<b>Meaning</b>														
ADD:TOP	Add printed information to the top of the output file.														
ADD:BOT	Add printed information to the bottom of the output file.														
ADD:OVR	Overwrite file's previous contents with printed information.														
<b>Switch</b>	<b>Meaning</b>														
SP:YES	Send the output file to the spooler.														
SP:NO	Do not send the output file to the spooler.														

**Table B-2 Information To Be Supplied When  
Specifying a DXLPT Input File**

<i>dev</i>	Optional, identifies the physical device on which the file is to be stored. If no value is supplied by the user, SY is assumed for a RSTS/E host system and SY0 for RSX-11M.																
<i>id</i>	Optional, identifies the user. If the host system is RSTS/E, supply a project programmer number (ppn); if RSX-11M, supply a user identification code (uic). If no value is supplied by the user, the system area currently logged into is assumed.																
<i>document</i>	Required, identifies the file name. If the host system is RSTS/E, between one and six alphanumeric characters may be specified; if RSX-11M, between one and nine characters may be specified.																
<i>ext</i>	Optional, identifies a file name extension. May contain between one and three alphanumeric characters. If no value is supplied by the user, the extension W11 is assumed.																
<i>ps1... psn</i>	<p>Optional, each constitutes a RSTS/E or RSX-11M switch and corresponds to the document's word processing Print Menu settings. The following switches may be supplied:</p> <table data-bbox="505 1213 1073 1482"> <tr> <td>AP:<i>value</i></td> <td>BM:<i>n</i></td> </tr> <tr> <td>CM:<i>n</i></td> <td>CP:<i>n</i></td> </tr> <tr> <td>DA:<i>value</i></td> <td>DD:<i>value</i></td> </tr> <tr> <td>EX:<i>n</i></td> <td>FR:<i>n</i></td> </tr> <tr> <td>IP:<i>n</i></td> <td>PI:<i>value</i></td> </tr> <tr> <td>PM:<i>n</i></td> <td>PS:<i>value</i></td> </tr> <tr> <td>SE:<i>value</i></td> <td>TM:<i>n</i></td> </tr> <tr> <td>TO:<i>n</i></td> <td>TW:<i>value</i></td> </tr> </table> <p align="center"><b>NOTE</b> Refer to Table 3-1 for the meanings of each two-character Print Menu setting and its allowable user-supplied values.</p>	AP: <i>value</i>	BM: <i>n</i>	CM: <i>n</i>	CP: <i>n</i>	DA: <i>value</i>	DD: <i>value</i>	EX: <i>n</i>	FR: <i>n</i>	IP: <i>n</i>	PI: <i>value</i>	PM: <i>n</i>	PS: <i>value</i>	SE: <i>value</i>	TM: <i>n</i>	TO: <i>n</i>	TW: <i>value</i>
AP: <i>value</i>	BM: <i>n</i>																
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DA: <i>value</i>	DD: <i>value</i>																
EX: <i>n</i>	FR: <i>n</i>																
IP: <i>n</i>	PI: <i>value</i>																
PM: <i>n</i>	PS: <i>value</i>																
SE: <i>value</i>	TM: <i>n</i>																
TO: <i>n</i>	TW: <i>value</i>																

**Table B-3 Information To Be Supplied When Specifying a DXFLX Output File**

<i>dev</i>	Optional, identifies the physical device on which the file is to be stored. Refer to <i>dev</i> in Table B-1 for more information.								
<i>id</i>	Optional, identifies the user. Refer to <i>id</i> in Table B-1 for more information.								
<i>filename</i>	Required, identifies the <i>name</i> of the <i>file</i> . Refer to <i>filename</i> in Table B-1 for more information.								
<i>ext</i>	Optional, identifies an <i>extension</i> to be added to the <i>filename</i> . Refer to <i>ext</i> in Table B-1 for more information.								
<i>pc</i>	Optional, identifies a RSTS/E <i>protection code</i> . May not be used with a RSX-11M host system. If none is supplied and there is a previous version of the named file, the previous <i>pc</i> value is assumed. If none is supplied and there is not a previous version of the named file, a system-supplied value is assumed.								
<i>clustersize</i>	Optional, identifies a RSTS/E cluster size. May not be used with a RSX-11M host system. If none is supplied and there is a previous version of the named file, the previous <i>clustersize</i> value is assumed. If none is supplied and there is not a previous version of the named file, a system-supplied value is assumed.								
<i>osw1...oswn</i>	Optional, each identifies a RSTS/E or RSX-11M switch to be used with the output file. The following switches may be supplied:  <p align="center"><b>NOTE</b></p> <p align="center">If none of the following three switches is specified, the ADD:OVR switch is assumed.</p> <table border="0"> <thead> <tr> <th align="left">Switch</th> <th align="left">Meaning</th> </tr> </thead> <tbody> <tr> <td>ADD:TOP</td> <td>Add new information to the top of the output file.</td> </tr> <tr> <td>ADD:BOT</td> <td>Add new information to the bottom of the output file.</td> </tr> <tr> <td>ADD:OVR</td> <td>Overwrite file's previous contents with printed information.</td> </tr> </tbody> </table>	Switch	Meaning	ADD:TOP	Add new information to the top of the output file.	ADD:BOT	Add new information to the bottom of the output file.	ADD:OVR	Overwrite file's previous contents with printed information.
Switch	Meaning								
ADD:TOP	Add new information to the top of the output file.								
ADD:BOT	Add new information to the bottom of the output file.								
ADD:OVR	Overwrite file's previous contents with printed information.								

**Table B-3 Information To Be Supplied When  
Specifying a DXFLX Output File (Cont)**

<i>osw1...oswn</i>	<b>NOTE</b>	
	If none of the following six switches is specified, the TYPE:DOC switch is assumed.	
	<b>Switch</b>	<b>Meaning</b>
	TYPE:DOC	Output file is to be formatted as a word processing document.
	TYPE:PM	Output file is to be formatted as a program file.
	TYPE:BP	Output file is to be formatted as a BASIC-PLUS program file (but not as BASIC-PLUS 2). This switch may be used only with a RSTS/E host system.
	TYPE:TE or TYPE:TE:TABS	Output file is to be formatted as a text file with tabs output.
TYPE:TE:SPACES	Output file is to be formatted as a text file with spaces output.	

**Table B-4 Information To Be Supplied When  
Specifying a DXFLX Input File**

<i>dev</i>	Optional, identifies the physical device on which the file is to be stored. If no value is supplied by the user, SY0 is assumed.
<i>id</i>	Optional, identifies the user. If the host system is RSTS/E, supply a project programmer number (ppn); if RSX-11M, supply a user identification code (uic). If no value is supplied by the user, the system area currently logged into is assumed.
<i>document</i>	Required, identifies the file name. If the host system is RSTS/E, between one and six alphanumeric characters may be specified; if RSX-11M, between one and nine characters may be specified.
<i>ext</i>	Optional, identifies a file name extension. May contain between one and three alphanumeric characters.
<i>ps1 ... psn</i>	Optional, each constitutes a RSTS/E or RSX-11M switch and corresponds to the document's word processing Print Menu settings. The following switches may be supplied:
<p><b>NOTE</b> If none of the following six switches is specified, the TYPE:DOC switch is assumed.</p>	
<b>Switch</b>	<b>Meaning</b>
TYPE:DOC	Input file is a word processing document.
TYPE:PM	Input file is a program file.
TYPE:BP	Input file is a BASIC-PLUS program file (but not a BASIC-PLUS 2). This switch may be used only with a RSTS/E host system.
TYPE:TE or TYPE:TE:PG	Input file is a text file whose paragraphs are to be converted to a host system equivalent.
TYPE:TE:CP	Input file is a text file whose instances of multiple spaces are to be converted to a single space each.

**Table B-4 Information To Be Supplied When  
Specifying a DXFLX Input File (Cont)**

<p><i>ps1...psn</i></p>	<p><b>TYPE:TE:TABS:<i>n</i></b> Input file is a text file whose instances of three or more multiple spaces are to be converted to <i>n</i> spaces. If the user does not supply a value for <i>n</i>, eight is assumed.</p> <p><b>RUL:<i>string</i></b> The values supplied for <i>string</i> are to be interpreted as a word processing ruler that is applicable to the entire document being converted. Supply values for <i>string</i> according to the following format in which <i>n</i> denotes a typing position and <i>s</i> a ruler setting character:</p> <p align="center"><i>nsnsns...</i></p> <p>Refer to Table 4-2 for a listing of all permissible ruler setting characters and their corresponding meanings.</p> <p align="center"><b>NOTE</b></p> <p>The right-justified tab setting (&gt;) and decimal-aligned tab setting (.) may not be specified as part of <i>string</i>. If either of these settings is required, it is necessary to run DXFLX according to the instructions presented in Chapter 4 (the direct method presented in this Appendix cannot be used).</p>
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## APPENDIX C SPECIFYING FILE NAMES

A RSTS/E file name may contain between one to six alphanumeric characters; an RSX-11M file name may contain between one and nine. The name may optionally be followed by a dot and a one to three alphanumeric character extension.

RSTS/E host system users may also supply the following optional information when specifying a file name: a device on which the file is stored (referred to as "dev"), a project programmer number (referred to as "ppn"), a protection code (referred to as "pc"), and a cluster size. The format for specifying a file name when using the DX/RSTS system is:

```
dev:[ppn]filename.ext<pc>/CL:clustersize
```

Users of the DX-11M system may also supply the following optional information when specifying a file name: a device on which the file is stored (referred to as "dev") and a user identification code (referred to as "uic"). The format

for specifying a file name when using the DX-11M system is:

```
dev:[uic]filename.ext;version
```

### NOTE

Spaces are not permitted within a file name specification.

Should any of the optional information not be specified, the following default values are automatically assumed.

```
ppn = the ppn currently logged into  
uic = the uic currently logged into  
device = SY0
```

Example: A DX/RSTS user logged into ppn 200,233 specifies "outlin" in response to a prompt for a file name. The full name of the file supplied would be SY:[200,233]OUTLIN.



## **APPENDIX D CONVERTING BETWEEN WORD PROCESSING AND SOURCE PROGRAM, BASIC-PLUS, OR TEXT FILES**

This Appendix describes the method used by the DX Products programs for converting certain characteristics of a word processing file stored in the RSTS/E or RSX-11M system to source program, BASIC-PLUS, or text file format and vice versa.

### **D.1 CONVERTING BETWEEN SOURCE PROGRAM AND WORD PROCESSING FILE FORMAT**

The following processing occurs when a word processing document is converted to source program file format:

1. All spaces for justifying lines are removed.
2. All word wrap line endings are removed.
3. All rulers and Print Menu settings are removed.
4. Each user-supplied line ending is replaced with a carriage return-line feed sequence.

When a source program file is converted to word processing file format, a system-supplied ruler is inserted.

### **NOTE**

A BASIC-PLUS II file is converted as a source program file, not as BASIC-PLUS.

### **D.2 CONVERTING BETWEEN BASIC-PLUS PROGRAM AND WORD PROCESSING FILE FORMAT**

The following processing occurs when a word processing document is converted to BASIC-PLUS file format.

1. All spaces for justifying lines are removed.
2. All word wrap line endings are removed.
3. Each user-supplied line ending is replaced with a line feed-carriage return-null sequence, provided the last nonblank, nontab character on the line is not an ampersand (&), and the first character on the next line is not a digit. In all other cases, each user-supplied line ending is converted to a carriage return-line feed sequence. This procedure permits BASIC-PLUS statements that extend over two or more lines to be typed at a word processing terminal (and then transferred to RSTS/E for further processing).

4. All rulers and Print Menu settings are removed.

When a BASIC-PLUS file is converted to word processing file format, a system-supplied ruler is inserted.

### **D.3 CONVERTING BETWEEN TEXT AND WORD PROCESSING FILE FORMAT**

The following processing occurs when a word processing document is converted to text file format.

1. Null characters are removed.
2. All rulers and Print Menu settings are removed.
3. A carriage return-line feed sequence is added to the end of each line (for both system- and user-supplied line endings).

The following processing occurs when a text file is converted to word processing file format:

1. Null characters are removed.
2. All characters on a line that ends with a line feed-carriage return sequence are converted. All characters on a line ended with a carriage return-line feed sequence are converted (any characters that appear between the carriage return and line feed are removed). Multiple line feeds are equivalent to a single line feed.
3. Each line of double- or triple-spaced text produced with multiple carriage return-line

feed sequences will be interpreted as two or three lines respectively.

4. Examination of text file line endings for word wrap versus end of paragraph conversions is performed only if the following prompt is answered affirmatively when operating the conversion program (DXFLX).

Try to form word processing paragraphs (YES)

5. Each line ending is converted to a word processing user-supplied line ending only if the following prompt is answered negatively.

Try to form word processing paragraphs (YES)

If the response is negative, leading spaces on a line are removed and each group of two or more spaces is converted to a single space. Also, the end of a line is marked with a space if the first nonblank character on the next line is a printing character. If a line is followed by a blank line, a tabbed line, or a new page, then an equivalent word processing line ending is added.

#### **NOTE**

As it is not possible to convert all text files to a word processing equivalent, a series of prompts with a selection of alternate processing choices is displayed to enable the user to specify conversion method for certain text file characteristics.

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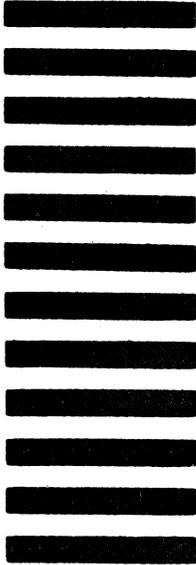
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