Section Three: Managing Resources with XPAF

You can use *Managing Resources with XPAF* to:

- Access the Xerox Output Administrative Facility (XOAF)
- Manage font, form, image, and logo resources
- Load PDL from a printer to a native library
- Manage resource lists
- Load custom font resources
- Refresh and display partitioned datasets
- Manage XPAF libraries
- Manage paper-related, font, color cross-reference, and color conversion tables

Before you begin to use XPAF's resource management facilities, verify that XPAF has been installed and that the installation verification procedures (IVPs) can be run successfully.

As the administrator responsible for maintaining XPAF system resources, you should be familiar with IBM MVS data administration, including allocating, loading, and deallocating sequential and partitioned datasets. You also should be familiar with processing VSAM datasets using the IBM Access Method Services.

If you are planning on using IBM look-alike (that is, replica) fonts that are not distributed with XPAF (such as those purchased from Xerox Font Services), you should be familiar with IBM font structure concepts.

17. Accessing XOAF

This chapter summarizes the utilities that XOAF provides for loading, converting, updating, and managing resources. To ensure that the necessary resources are available to XPAF, you must perform the applicable tasks related to each XOAF utility before you print documents.

After you create and store your resources, you can print documents without using XOAF. You may occasionally need to use XOAF to perform maintenance (for example, to add new fonts).

You can access XOAF utilities through ISPF panels, TSO commands, and batch JCL.

Using ISPF panels

This section discusses the conventions used for ISPF panels, and introduces you to the System Services menu and its XOAF options.

Panel conventions

You should be aware of the following conventions when using the ISPF panels in XOAF.

Panel keys

These keys are in effect when you use XOAF panels:

- Press the **ENTER** key to cause XPAF to process your input.
- Enter either the **HELP** command on the COMMAND line or press the **PF1** function key to display online information about how to use that panel.
- Enter either the **END** command on the COMMAND line or press the **PF3** function key to return to a previous panel.

NOTE: If you have remapped your standard PF keys, use the appropriate keys to perform these functions.

Valid values

Where space permits, the valid values or range of values for a field appear after the field name. For example, this partial panel shows that the only valid values for the ‘Rotation’ field are 0, 1, 2, and 3.

```
OUTPUT
  Dataset Name:
   Member Name:

OUTPUT SPECIFICATIONS
  Rotation (0/1/2/3):
```

Information about the valid values for fields on a panel also appears in the Help panel for that function.

Dataset names can be 1- to 44-characters long. Unless otherwise noted, dataset names and member names must follow standard MVS naming conventions.

Option selection chaining

You can chain option selection values using a period as a separator to provide direct access to the option you want to perform. You can go directly to another option in two ways:

- If you are on the System Services menu, a chained option selection can be entered in the OPTION line. For example, entering 4.2.4 in the System Services menu OPTION line will take you directly to the Maintain the Coded Font Name (XPAFCFN) Table option.
- If you are on a menu other than the System Services menu, or within a data entry panel, a chained option selection must be preceded by an equal sign (=) on the COMMAND line. For example, if you were in the Maintain the Coded Font Name (XPAFCFN) Table data entry panel, you would enter =7.2 on the COMMAND line to go directly into the Browse a Member option on the Manage Libraries menu.

When you use chaining to access an option, pressing PF3 upon leaving that option will return you to the System Services menu.

Panel message display

Two types of messages may appear on the terminal when you use the ISPF panels in XPAF:

- ISPF messages
- XOAF system messages

NOTE: XPAF also may write messages to the MVS system log (SYSLOG), your XOAF log (XLOG) dataset, or the host operator console.

For complete information about XPAF message handling and the messages that can be generated, refer to *Section Six: XPAF Messages*.

ISPF messages

XPAF writes two versions of each ISPF message to the TSO terminal:

- A short version that appears on the first row of an XOAF panel.
- A long version that appears on the third row of an XOAF panel. You can display this message only by either entering HELP on the COMMAND line and pressing ENTER, or by pressing the PF1 key.

NOTE: If you are using the ISPF window “pop-up” option for messages, the long version of the ISPF message can be displayed anywhere on the panel.

If the long version of a message overwrites the option or COMMAND line, press **ENTER** to refresh the panel display.

Other ISPF messages may be issued from the host system. These messages are issued without a message number and prefix, and include both upper and lowercase characters. Because these messages are not issued by XPAF, they are not documented in *Section Six: XPAF Messages*.

This sample panel shows both versions of an ISPF message issued by XPAF:

Long ISPF Message

Short ISPF Message

```
                    Xerox Output Administrative Facility MISSING REQUIRED ENTRY
                         Maintain Resident Font Lists
XOAF008E - ENTER LIST NAME AT THE CURSOR POSITION.
COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a list.

  Dataset Name: TABLELIB

     List Name:
```

XOAF system messages

XOAF system messages appear in response to XOAF activities. XPAF may issue more than one message for some error conditions. Use the messages collectively to help identify and correct errors.

XOAF system messages are displayed at the bottom of a panel, for example:

XOAF Message

```
                    Xerox Output Administrative Facility
                 Load Centralized Images to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     Member Name:

UPL1406I RESOURCE GRAPH21 LOADED SUCCESSFULLY
```

Some XOAF system messages displayed on your TSO terminal exceed 80 characters, resulting in a truncated message. To read the complete message, access the SYSLOG or XLOG dataset for your XOAF session.

NOTE: If you have set up your ISPF user environment to display PF key values at the bottom of every panel, you may not be able to view XOAF system messages.

Scroll fields

A ‘SCROLL’ field appears on some panels where the number of rows of data to be displayed exceeds the physical rows available on the terminal page. The ‘SCROLL’ field enables you to page forward and backward through the list of data using the page FORWARD and BACKWARD commands or function keys (typically PF8 and PF7).

For example, this panel shows a ‘SCROLL’ field:

```
                    Xerox Output Administrative Facility  Row 1 to 7 of 17
                     Selection List of Font Table Members

COMMAND ===>                                                SCROLL===> PAGE

* Next to name, enter 'S' to select a member.

  X0AD0A
  X0AD0B
  X0AD10
  X0AD2A
  X0AD2B
  X0AE10
  X0AG0A
```

Panels containing a ‘SCROLL’ field display a message indicating which rows currently are being viewed and the total number of rows available for viewing.

System Services menu

When you invoke XOAF, this menu appears:

```
                    Xerox Output Administrative Facility
                            System Services 3.0

OPTION ===>

  1.  Load Resources
  2.  Convert Resources
  3.  Manage Resource Lists
  4.  Manage Tables
  5.  Manage Custom Replica Fonts
  6.  Refresh PDS / Display Printer Status
  7.  Manage Libraries

  E.  ISPF Edit
  I.  Installation Verification Procedure
  P.  Xerox Page Format Editor
  T.  Help Tutorial
  X.  Exit
```

When you select an option from this menu, the system displays a secondary menu from which other data entry panels can be accessed. To select an option, enter the number of the option you want to use and press **ENTER**. To return to this menu from a secondary menu, press **PF3**.

XOAF options

XOAF provides the menu options listed below. These options are independent of one another; they do not need to be used together or in any specific order.

- Option 1, Load Resources
- Option 2, Convert Resources
- Option 3, Manage Resource Lists
- Option 4, Manage Tables
- Option 5, Manage Custom Replica Fonts
- Option 6, Refresh PDS/Display Printer Status
- Option 7, Manage Libraries

These options are used specifically to manage resources. Figure 17-1 shows the organizational flow of the resource management menus/options provided by XOAF.

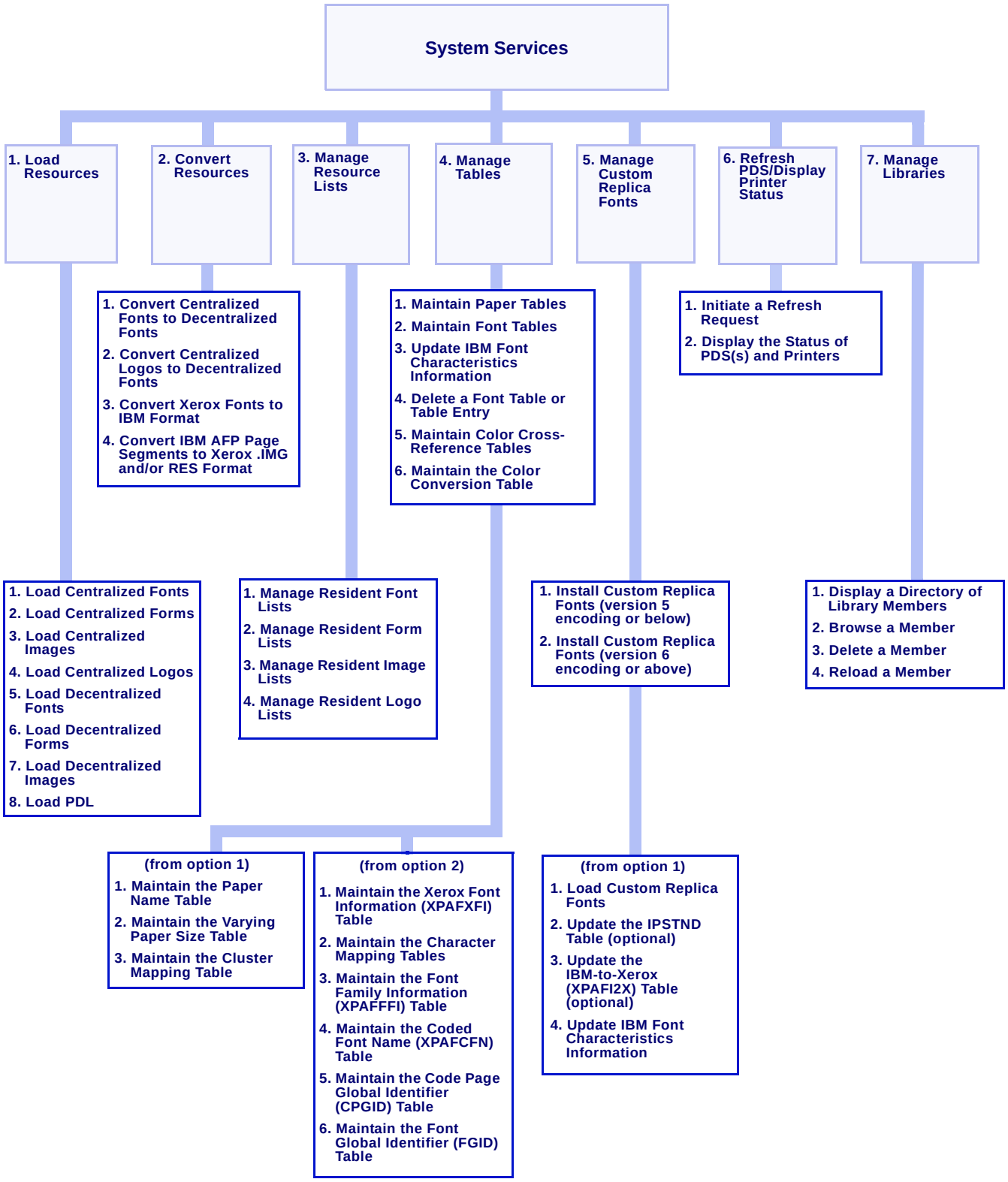
A brief overview of each resource management option is provided later in this chapter. Information on how and when to use each option can be found in later chapters of Section Three.

Five additional options also appear on the System Services menu:

- Option E, ISPF Edit, allows you to access the ISPF editor and returns to XOAF at the end of the EDIT session. Before you invoke any other editor, you must exit XOAF.
- Option I, Installation Verification Procedure, allows you to generate jobs that you can submit to test your installation. This option is discussed in detail in *Section Two: Installing and Customizing XPAF*.
- Option P, Xerox Page Format Editor, allows you to create and update page formats which are used to format line-mode data streams. This option is discussed in detail in the *Section Eight: Xerox Page Format Editor User Guide*.
- Option T, Help Tutorial, provides information about how to use the online help feature available on each active panel.
- Option X, Exit, ends your XOAF session.

To select an option on any menu, enter the number or letter of the option you want to use and press **ENTER**.

Figure 17-1. Organizational flow of resource management panels



Load Resources menu option

You can use this option to:

- Load centralized or decentralized fonts, forms, and images into native libraries
- Load centralized logos into a native library
- Load print description language (PDL) members to a native library

To access this option, enter **1** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                              Load Resources

OPTION ===>

  1.  Load Centralized Fonts

  2.  Load Centralized Forms

  3.  Load Centralized Images

  4.  Load Centralized Logos

  5.  Load Decentralized Fonts

  6.  Load Decentralized Forms

  7.  Load Decentralized Images

  8.  Load PDL
```

Convert Resources menu option

You can use this option to:

- Convert centralized fonts and logos to decentralized fonts
- Convert Xerox fonts to IBM format
- Convert IBM page segments to Xerox centralized or decentralized format

To access this option, enter **2** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                              Convert Resources

OPTION ===>

  1.  Convert Centralized Fonts to Decentralized Fonts

  2.  Convert Centralized Logos to Decentralized Fonts

  3.  Convert Xerox Fonts to IBM Format

  4.  Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format
```

Manage Resource Lists menu option

You can use this option to create and maintain lists of fonts, forms, images, and logos that are resident on each printer so that XPAF knows which resources must be downloaded at print time.

To access this option, enter **3** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                             Manage Resource Lists

OPTION ===>

  1.  Manage Resident Font Lists

  2.  Manage Resident Form Lists

  3.  Manage Resident Image Lists

  4.  Manage Resident Logo Lists
```

Manage Tables menu option

You can use this option to:

- Create, update, or delete paper-related tables
- Display, update, or delete font tables
- Update IBM font characteristics table information
- Create, delete, or update color cross-reference tables, which are used to support highlight color for centralized printers
- Load the color conversion table, which is used to map centralized highlight colors to decentralized full color values

To access this option, enter **4** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                                Manage Tables

OPTION ===>

  1.  Maintain Paper Tables

  2.  Maintain Font Tables

  3.  Update IBM Font Characteristics Information

  4.  Delete a Font Table or Table Entry

  5.  Maintain Color Cross-Reference Tables

  6.  Maintain the Color Conversion Table
```

Manage Custom Replica Fonts menu option

You can use this option to make custom replica fonts available to XPAF. To access this option, enter **5** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                         Manage Custom Replica Fonts

OPTION ===>

  1.  Install Custom Replica Fonts (version 5 encoding or below)

  2.  Install Custom Replica Fonts (version 6 encoding or above)
```

Refresh PDS/Display Printer Status menu option

You can use this option to:

- Refresh a resource directory after you have added, deleted, or replaced XPAF PDS members or after you have compressed a dataset. This allows you to update in-memory tables without stopping XPAF and draining the printer.
- Display the status of printers and PDS members by address space.

To access this option, enter **6** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                     Refresh PDS/Display Printer Status

OPTION ===>

  1.  Initiate a Refresh Request

  2.  Display the Status of PDS(s) and Printers
```

Manage Libraries menu option

You can use this option to list, browse, delete, and offload members of native libraries and PDSs. You also can use this option to reload members of native libraries.

NOTE: A native library is a VSAM library formatted for XPAF use.

To access this option, enter **7** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                              Manage Libraries

OPTION ===>

  1.  Display a Directory of Library Members

  2.  Browse a Member

  3.  Delete a Member

  4.  Reload a Member
```

Using TSO/batch commands

Section Three focuses on the use of ISPF panels to perform XOAF functions. However, TSO/batch commands are available as alternatives to using many of the XOAF panel options. Information on using particular TSO/batch commands can also be found in Section Three. Refer to the *XPAF TSO/Batch Commands Quick Reference Card* for a complete list of the commands.

Coding conventions

The XOAF TSO/batch commands follow standard JCL coding conventions. Items such as commas, single quotes, equal signs, and parentheses are part of a definition's syntax. When present, you must include them exactly as indicated. Refer to the appropriate JCL reference manual for a detailed description of valid syntax.

When allocating an XOAIN dataset ensure that it is in fixed format.

When coding a batch job, each new XOAF batch command must begin on a new record. A command can continue across as many records as necessary.

When submitting an XOAF batch job, do not delete the PARM statement from the EXEC card. If you do, the batch job will fail with a return code of 0132. This return code indicates an invalid or missing parameter list.

Using TSO commands

You can execute the TSO/batch commands in two ways:

- From the native TSO environment
- From the ISPF Primary Option Menu

Executing commands in the native TSO environment

The native TSO environment does not use menus to access XOAF. The instructions for entering, executing, and exiting an XOAF session using the native TSO environment are:

Step 1. Log on to TSO.

Step 2. Enter **XOAF** (or a site-specific prompt) and press **ENTER**.

Step 3. Enter a command statement as provided in Section Three for the XOAF function. Press **ENTER**. A TSO message is displayed indicating success or failure.

Step 4. Enter **END** and press **ENTER** to exit XOAF.

CAUTION: You must use the XOAF command processor as described. Do not access XOAF using a TSO CLIST and do not invoke XOAF with the TSO CALL command. If you do, the results may be unpredictable.

Executing commands from the ISPF Primary Option Menu

The instructions for entering, executing, and exiting an XOAF session from the ISPF Primary Option Menu are:

Step 1. On the ISPF Primary Option Menu, enter **TSO XOAF** on the Option line. Press **ENTER**. The XOAF prompt will be displayed.

Step 2. Enter a command statement as provided in Section Three for the XOAF function. Press **ENTER**. A TSO message is displayed indicating success or failure.

Step 3. Enter **END** and press **ENTER** to exit XOAF and return to the ISPF Primary Option Menu.

NOTE: Depending on your system, you may need to press ENTER twice to display the XOAF prompt or to return to the ISPF Primary Option Menu.

Using batch JCL

To use the batch environment to access an XOAF utility, submit a batch job that reads a command statement from the JCL and invokes the requested services. You can use JCL similar to this:

```
//job-name JOB job-information
//S1        EXEC    PGM=XOASUP00,REGION=2048K,PARM=userid
//STEPLIB   DD      DSN=prefix.XPFLOAD,DISP=SHR
//XINPARM   DD      DSN=prefix.XINPARM,DISP=SHR
//XOAFMSG   DD      DSN=prefix.XPFMLIB(XOAOO),DISP=SHR
//TABLELIB  DD      DSN=prefix.TABLELIB,DISP=SHR
//UJLLIST   DD      SYSOUT=*
//XOAPRINT  DD      SYSOUT=*,DCB=(LRECL=121,RECFM=FB,BLKSIZE=6050)
//XOAIN     DD      *
/* command statement */
/*
```

During the installation process, XOAFBAT is loaded into the system procedure library. You can substitute XOAFBAT (shown below) in a batch job.

```
//XOAFBAT   PROC  CORE=4096K,USER=
//XOAF      EXEC  PGM=XOASUP00,REGION=&CORE,PARM=(&USER)
//STEPLIB   DD    DSN=prefix.XPFLOAD,DISP=SHR
//TABLELIB  DD    DSN=prefix.TABLELIB,DISP=SHR
//XINPARM   DD    DSN=prefix.XINPARM,DISP=SHR
//XOAFMSG   DD    DSN=prefix.XPFMLIB(XOAOO),DISP=SHR
//XOAPRINT  DD    SYSOUT=*,DCB=(LRECL=121,RECFM=FB,BLKSIZE=6050)
//UJLLIST   DD    SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=1330)
//XOAIN     DD    DDNAME=SYSIN
```

Sample batch jobs

The following examples execute batch jobs using the XOAFBAT procedure.

This JCL causes a batch job to display a directory of members in a library.

```
//job-name JOB job-information
//XOAFBAT  EXEC XOAFBAT,USER=userid
//SYSIN    DD *
LIB DIR(library-name)
/*
```

This JCL loads the MYCOLORS PDS member which resides in the XPAF30.XPFSAMP dataset to the default table library, TABLELIB.

```
//job-name JOB job-information
//XOAFBAT  EXEC XOAFBAT,USER=userid
//SYSIN    DD *
LOAD INKS('XPAF30.XPFSAMP(MYCOLORS)') TO('XPAF30.TABLELIB')
/*
```

18. XPAF resources

This chapter provides an overview of the types of resources used by XPAF and the libraries in which XPAF can store resources. XPAF stores resources in two types of libraries:

- Partitioned datasets.
- Native libraries. A native library is a VSAM dataset that is used by XPAF to store resources.

NOTE: Before you can manage your resources, you will need to know the names of the resource libraries at your site. Library names and the values of other resource management-related information are specified by your systems programmer during installation using initialization and printer profile parameters. Refer to appendix C, "Resource management parameters" for a list of parameters whose values you will need to know.

Depending on the data stream type being processed and the printer being used, certain types of resources can be stored in a library and downloaded at print time, inline in the data stream, or resident on the printer if the printer is capable of storing resources. Refer to *Section Four: Printing Documents with XPAF* for information regarding the print time handling of resources for each data stream type.

Resources such as fonts, forms, images, and logos must be in a format recognized by the Xerox printer whether they are library or printer-resident, or included inline as part of the document:

- Centralized printers recognize these Xerox file formats:
  - .FNT format for fonts
  - .FRM format for forms
  - .IMG format for images
  - .LGO format for logos
- Decentralized printers recognize these Xerox file formats:
  - XES format for forms
  - Sixelized format for fonts and images
- PCL-capable printers recognize these Xerox file formats:
  - PCL macro format for forms
  - Bitmapped format for fonts and images

For resources that are not already in a format required by the printer, XPAF either performs dynamic resource conversions during XPAF processing or provides XOAF options or TSO/batch commands to preconvert and store those resources.

Fonts

A font is a set of printing characters that have common characteristics such as style, width, height, and weight. This term is used in XPAF to indicate one of these resources:

- A centralized font stored in .FNT file format
- A decentralized font stored in sixelized file format
- A PCL font stored in bitmapped file format

XPAF currently supports only 4-word FST font format for centralized (.FNT) fonts and 2700 font format for decentralized (sixelized) fonts.

Specifying font libraries

XPAF stores fonts in these types of native libraries:

- A centralized font library for fonts in .FNT format that will be downloaded to a centralized printer
- A decentralized font library for fonts in sixelized format that will be downloaded to a decentralized printer
- A PCL font library for fonts in bitmapped format that will be downloaded to a PCL-capable printer

During installation, your systems programmer specified these libraries to XPAF by using the following parameters:

- CFONTLIB initialization parameter or FONTLIB printer profile parameter, which names the XOSF DD statement that specifies the centralized font library for each printer.
- DFONTLIB initialization parameter or FONTLIB printer profile parameter, which names the XOSF DD statement that specifies the decentralized font library for each printer.
- SFONTLIB printer profile parameter, which names the XOSF DD statement that specifies the centralized font library to be searched when a font cannot be found in the decentralized font library. XPAF looks at the corresponding centralized font to obtain the font metric information it needs to determine line spacing. This parameter is applicable only to DJDE data streams sent to a decentralized or PCL-capable printer.
- PFONTLIB initialization or printer profile parameter, which names the XOSF DD statement that specifies the PCL font library for a PCL-capable printer.

If you will be sending AFP documents to Xerox printers, your systems programmer also specified the XOSF DD statement that identifies your IBM font library by using the IBMFNTDD initialization parameter. XPAF obtains font width information from this library.

Another parameter that may be specified during system installation and which can affect your font libraries and resource downloading to centralized printers is the DELFONT printer profile parameter. DELFONT can be used to indicate that fonts which are downloaded with a document will be deleted from the printer after the document has been printed.

For additional information about these parameters, refer to *Section Five: XPAF Parameter and Keyword Reference*.

NOTE: On an individual job basis, the DELFONT and REVFONT extended JCL keywords can affect the storing of fonts in the font library or on the printer. Refer to *Section Five: XPAF Parameter and Keyword Reference* for information about the function and format of these keywords. Refer to *Section Four: Printing Documents with XPAF* for information about their usage.

Understanding font types

Xerox distributes two sets of fonts with XPAF:

- A set of U.S. (A03) and international (R03) Xerox centralized and decentralized fonts. These fonts can be used without modification when printing native mode documents. The fonts also can be used to print DCF documents at 300 dpi; however, the IBM font characteristics first must be converted before they can be used.
- A set of standard replica fonts. A replica font is a Xerox font that looks like an IBM font. These fonts can be used without modification when printing AFP documents.

In addition to the XPAF-supplied fonts, you can use these types of fonts which you have purchased from Xerox Font Services or a third-party vendor:

- Custom Xerox fonts
- Custom replica fonts

If you use custom fonts, you must use various XOAF panel functions to load the fonts into the appropriate libraries, perform conversions, and generate the necessary font table entries.

NOTE: If you are using an IBM font that does not have a corresponding replica font, you must acquire the custom replica font from Xerox Font Services or a third-party vendor to print your document through XPAF.

Appendix C lists some of the character sets that can be used in documents sent to XPAF printers.

Using licensed fonts with XPAF

A licensed font is a font for which you are required to pay royalties to the vendor depending on usage. You should contact your local Xerox representative for the font format or other requirements if you plan to obtain a licensed font for use with XPAF.

You can use licensed fonts with XPAF and Xerox printers in accordance with the font licensor's shrink-wrap license agreement or executable license agreement which accompanies all licensed font products. If you have any questions regarding the use of a specific font, you should contact the font vendor directly. You are responsible for the proper contractual use of licensed fonts.

CAUTION: Printing with a licensed font to a non-Xerox printer may violate your licensing agreement.

Understanding dynamic font conversions

XPAF performs dynamic font conversions only for XES-to-PCL data streams. When printing documents to a PCL-capable printer, XPAF searches the PCL font library to determine if the font already resides in the library. If it does, XPAF uses the font stored in the library. If it does not or if you have requested a revision of the font, then XPAF dynamically converts the font from Xerox 2700 format to PCL bitmapped format. This conversion ensures that the correct positioning is used when the page output is produced. The font is then stored in the PCL font library.

Fonts which are included inline in the data stream are converted to PCL format but are not stored in the PCL font library.

XPAF downloads the necessary fonts every time a PCL job is printed but does not store them on the printer.

NOTE: For data streams for which dynamic font conversions are not performed, you must convert the font from centralized to decentralized format using either the Convert Centralized Fonts to Decentralized Fonts option on the Convert Resources menu or the CONVERT XFONT TSO/batch command. Refer to chapter 21, "Converting resources" for more information about these options.

Understanding replica font processing

If you plan to use replica fonts, you should be aware of some of the differences that exist between the Xerox and IBM font architecture:

- IBM fonts used for printing AFP data streams typically are designed to print at 240 or 300 dpi; replica fonts print at 300 dpi.
- AFP generally uses an EBCDIC font mapping; XPAF uses an ASCII font mapping.
- A single IBM character set has no limit on the number of characters it may contain. The Xerox printer architecture limits the size of each centralized font to a maximum of 240 printable characters and 256K of raster data. For decentralized fonts, the size limit is a maximum of 192 printable characters and 64K of raster data.
- Xerox uses different formats (that is, .FNT and sixelized) for centralized and decentralized fonts as well as different fonts for different page orientations.

To adjust for these differences, XPAF uses a number of tables. These tables provide XPAF with the cross-reference information needed to process each replica font correctly. Use of these tables also helps XPAF avoid having to read the IBM font libraries each time a document is processed.

For detailed information about these tables, refer to chapter 19, “XPAF tables.”

Using Xerox fonts in DCF/SCRIPT documents

When you use IBM’s Document Composition Facility (DCF) or SCRIPT products to create a document that you intend to print on a Xerox laser printer, you can use IBM fonts or centralized Xerox fonts. Using centralized Xerox fonts gives you the benefit of 300-dpi fonts and enhances throughput. This is because the internal 240-to-300 dpi translations that may be performed when using IBM fonts are not required. You can use any of the centralized Xerox fonts provided with XPAF or any custom font you purchased for your system.

Xerox 300-dpi fonts for which no IBM resources exist can be used with IBM's DCF program. However, they cannot be mixed with existing IBM fonts, and they cannot be used as true replica fonts.

NOTE: Before you can format your DCF/SCRIPT documents using Xerox fonts, your systems programmer must first update the DCF/SCRIPT logical and physical device tables and the Generalized Markup Language (GML) profile. Refer to *Section Two: Installing and Customizing XPAF* for information about the steps that must be performed.

For a complete list of available centralized Xerox fonts, refer to *Xerox Laser Printing Systems Standard Font Library Font User Guide*. For DCF information, refer to *SCRIPT/VS Language Reference*.

Using PCL fonts

PCL fonts are used by XPAF in one of the following methods:

- The PCL generated by XPAF is produced using PCL temporary soft fonts. XPAF downloads the fonts for each print job, and deletes those fonts at the end of each job.
- When permanent soft fonts are identified in the PCL font list XPAF will download the fonts once, the first time they are referenced.

  Once downloaded, XPAF assumes that the font remains in the printer's memory, and will only download the font again when the XPAF printer is drained and restarted. Because the DocuSP printers store permanent soft fonts on their hard drives, this restriction does not apply.
- Named fonts are permanently stored on the printer's hard drive. This allows XPAF to select the font based on their unique name and eliminates the need for XPAF to download those fonts. Named fonts are always available unless physically deleted by the FSDELETE PJL command.

Loading and maintaining fonts

Table 18-1 identifies the options you use and the chapter to which you should refer for each function needed to manage font resources.

Table 18-1. Font management functions

If you want to ...	Use this option ...	Refer to this chapter ...
Load fonts (.FNT format) to a centralized font library	XOAF option: Load Centralized Fonts option on the Load Resources menu	Chapter 20, "Loading resources to a native library"
	TSO/Batch command: LOAD FONT	
Load fonts (sixelized format) to a decentralized font library	XOAF option: Load Decentralized Fonts option on the Load Resources menu	Chapter 20, "Loading resources to a native library"
	TSO/Batch command: LOAD FONT	
Convert fonts from centralized (.FNT) to decentralized (sixelized) format for printing to a decentralized or PCL-capable printer	XOAF option: Convert Centralized Fonts to Decentralized Fonts option on the Convert Resources menu	Chapter 21, "Converting resources"
	TSO/Batch command: CONVERT XFONT	
Use Xerox fonts in a DCF document	XOAF option: Convert Xerox Fonts to IBM Format option on the Convert Resources menu	Chapter 21, "Converting resources"
	TSO/Batch command: CONVERT FONT	
Use custom Xerox fonts	(Refer to chapter 24, "Managing custom fonts" for options and procedures)	Chapter 24, "Managing custom fonts"
Use custom replica fonts	(Refer to chapter 24, "Managing custom fonts" for options and procedures)	Chapter 24, "Managing custom fonts"

Forms

A form is an electronically composed arrangement of predefined items such as lines, boxes, text, and images that may be printed as is or merged with data during the printing process. This term is used in XPAF to indicate one of these resources:

- A centralized form stored in .FRM file format
- A decentralized form stored in XES or XPAF-internal file format
- A PCL form stored in PCL macro file format

Specifying form libraries

XPAF stores forms in these types of native libraries:

- A centralized form library for forms in .FRM format that will be downloaded to a centralized printer
- A decentralized form library for forms in XES or XPAF-internal format that will be downloaded to a decentralized printer
- A PCL form library for forms in PCL macro format that will be downloaded to a PCL-capable printer

During installation, your systems programmer specified these libraries to XPAF by using the following parameters:

- CFORMLIB initialization parameter or FORMLIB printer profile parameter, which names the XOSF DD statement that specifies the centralized form library for each printer.
- DFORMLIB initialization parameter or FORMLIB printer profile parameter, which names the XOSF DD statement that specifies the decentralized form library for each printer.
- SFORMLIB printer profile parameter, which names the XOSF DD statement that specifies the secondary (centralized) form library for the printer. XPAF searches the secondary library when a form cannot be found in the primary (decentralized) form library. If a corresponding centralized form is found, XPAF will convert it dynamically to decentralized format. This parameter is applicable only to DJDE data streams sent to a decentralized or PCL-capable printer.
- PFORMLIB initialization or printer profile parameter, which names the XOSF DD statement that specifies the PCL form library for a PCL-capable printer.

If you will be sending AFP documents to Xerox printers, your systems programmer also specified the XOSF DD statement that identifies your overlay library by using the OVERLAYDD initialization parameter.

Other parameters that may be specified during system installation and which can affect your centralized form libraries and resource downloading to centralized printers are listed below:

- The DELFORM printer profile parameter can be used to indicate that forms which are downloaded with a document be deleted from the printer after the document has been printed.

- The MERGEOVL initialization or printer profile parameter can be used to merge all AFP overlays in a copy group the first time the copy group is used in an AFP document. Each overlay in the copy group is converted, then the individual converted overlays are consolidated into a single .FRM file. The .FRM file is not saved in the native form library, and is deleted from the printer at the completion of the document.
- The NOSTORE initialization or printer profile parameter can be used to override the storing of converted AFP overlays in the centralized form library. This will result in the AFP overlays being converted and downloaded for every job. The downloaded resources will be deleted from the printer at the end of the job.
- The UNIQNAME initialization or printer profile parameter can be used to specify that XPAF append a unique 6-character suffix to the form name for any converted AFP overlay.

For additional information about these parameters, refer to *Section Five: XPAF Parameter and Keyword Reference*.

NOTE: On an individual job basis, the DELFORM, MERGEOVL, REVFORM, and REVOVLY extended JCL keywords and the USERLIB IBM JCL keyword can affect the storing of forms in the form library or on the printer. Refer to *Section Five: XPAF Parameter and Keyword Reference* for information about the function and format of these keywords. Refer to *Section Four: Printing Documents with XPAF* for information about their usage.

Understanding dynamic form conversions

During data stream processing, XPAF searches the form library specified by the CFORMLIB, DFORMLIB, FORMLIB, or PFORMLIB parameters to determine if a form already resides in the library. If it does, XPAF uses the form stored in the library. If it does not or if you have requested a revision of the form, XPAF will perform dynamic conversions only for the following types of printers and data streams:

- For data streams sent to centralized printers, XPAF converts an overlay in an AFP data stream to .FRM format the first time it is referenced in a document and stores it in the centralized form library with a 20-character name. The last six characters of this member name are used as the form name on the printer. The converted overlay is stored on the printer if the printer can store resources.
- For data streams sent to decentralized printers:
  - XPAF searches the secondary (centralized) library specified by the SFORMLIB printer profile parameter if a decentralized form referenced in a DJDE data stream is not found in the primary (decentralized) form library. If it finds one, XPAF dynamically converts the form from .FRM to XES format the first time it is referenced and stores the converted form in the decentralized form library. The converted form also will be stored on the printer if the printer can store resources.

— Any dynamically converted colorized form in a DJDE data stream will print in black when sent to a monochrome decentralized printer and will print in color when sent to a color decentralized printer.

— Forms which are included inline in the data stream are not dynamically converted.

— XPAF converts a form in a page-formatted data stream from .FRM to XES format the first time it is referenced in a document. The converted form is stored in the decentralized form library for that printer, and on the printer if the printer can store resources.

— XPAF converts an overlay in an AFP data stream to a form in XPAF-internal format the first time it is referenced in a document and stores the form in the decentralized form library. The form is then converted from XPAF-internal format to XES format before being downloaded to the printer. The XES form is stored on the printer if the printer can store resources.

- For data streams sent to PCL-capable printers, XPAF converts an XES form to a PCL macro which contains a set of PCL commands that define the form. XPAF then stores the macro in the PCL form library.

  Forms which are included inline in the data stream are converted to PCL macro format but are not stored in the PCL form library.

  XPAF downloads the necessary forms every time a PCL job is printed but does not store them on the printer.

Loading and maintaining forms

Table 18-2 identifies the options you use and the chapter to which you should refer for each function needed to manage form resources.

Table 18-2. Form management functions

If you want to ...	Use this option ...	Refer to this chapter ...
Load forms (.FRM format) to a centralized form library	XOAF option: Load Centralized Forms option on the Load Resources menu	Chapter 20, “Loading resources to a native library”
	TSO/Batch command: LOAD FORM	
Load forms (XES format) to a decentralized form library	XOAF option: Load Decentralized Forms option on the Load Resources menu	Chapter 20, “Loading resources to a native library”
	TSO/Batch command: LOAD FORM	

Images

An image is a resource that contains visual data such as a picture, map, or graph. This term is used in XPAF to indicate one of these types of Xerox resources:

- A centralized image stored in .IMG file format
- A decentralized image stored in sixelized or .IMG file format
- A PCL image stored in bitmapped file format

For an IBM resource, this term is used in XPAF to indicate an image referenced in an AFP data stream.

Specifying image libraries

XPAF stores images in these types of native libraries:

- A centralized image library for images in .IMG format that will be downloaded to a centralized printer
- A decentralized image library for images in sixelized and .IMG format that will be downloaded to a decentralized printer
- A PCL image library for images in bitmapped format that will be downloaded to a PCL-capable printer

During installation, your systems programmer specified these libraries to XPAF by using the following parameters:

- CIMAGELIB initialization parameter or IMAGELIB printer profile parameter, which names the XOSF DD statement that specifies the centralized image library for each printer.
- DIMAGELIB initialization parameter or IMAGELIB printer profile parameter, which names the XOSF DD statement that specifies the decentralized image library for each printer.
- SIMAGELIB printer profile parameter, which names the XOSF DD statement that specifies the secondary (centralized) image library for the printer. XPAF searches the secondary library when an image cannot be found in the primary (decentralized) image library. If a corresponding centralized image is found, XPAF will convert it dynamically to decentralized format. This parameter is applicable only to DJDE data streams sent to a decentralized or PCL-capable printer.
- PIMAGELIB initialization or printer profile parameter, which names the XOSF DD statement that specifies the PCL image library for a PCL-capable printer.

If you will be sending AFP documents to Xerox printers, your systems programmer also specified the XOSF DD statement that identifies your page segment library by using the PAGESEGDD initialization parameter.

Other parameters that may be specified during system installation and which can affect your centralized image libraries and resource downloading to centralized printers are listed below:

- The DELIMAGE printer profile parameter can be used to indicate that images which are downloaded with a document be deleted from the printer after the document has been printed.
- The NOSTORE initialization or printer profile parameter can be used to override the storing of converted AFP images in the centralized image library. This will result in the AFP images being converted and downloaded for every job. The downloaded resources will be deleted from the printer at the end of the job.
- The PRINTENV initialization parameter can be used to specify how XPAF should dynamically convert AFP images colorized via the IID structured field for printing on a centralized printer. Refer to "Understanding dynamic conversions for colorized AFP IM-type images" later in this chapter for more information about the function of this parameter.

For additional information about these parameters, refer to *Section Five: XPAF Parameter and Keyword Reference*.

NOTE: On an individual job basis, the DELIMAGE, REVIMAGE, REVOPSEG, and REVPSEG extended JCL keywords and the USERLIB IBM JCL keyword can affect the storing of images in the image library or on the printer. Refer to *Section Five: XPAF Parameter and Keyword Reference* for information about the function and format of these keywords. Refer to *Section Four: Printing Documents with XPAF* for information about their usage.

Understanding dynamic image conversions

During data stream processing, XPAF searches the image library specified by the CIMAGELIB, DIMAGELIB, IMAGELIB or PIMAGELIB parameters to determine if an image already resides in the library. If it does, XPAF uses the image stored in the library. If it does not or if you have requested a revision of the image, XPAF will perform dynamic conversions only for the following types of printers and data streams:

- For data streams sent to centralized printers:
  - — XPAF converts a page segment in an AFP data stream to .IMG format the first time it is referenced in a document and stores it in the centralized image library. The converted page segment is stored on the printer if the printer can store resources.

    When naming your page segments for use with XPAF, the names should not begin with the letter O. If you have page segments that begin with O, they may not be converted or they may cause unpredictable results when printed with XPAF.
  - — XPAF converts an AFP IM image which is colorized via the IID structured field to .IMG or RES .IMG format. Unless the image is inline, the converted image is stored in the centralized image library and on the printer if the printer can store resources.

Refer to "Understanding dynamic conversions for colorized AFP IM-type images" later in this chapter for detailed information on how XPAF handles dynamic conversion for these types of images.

— XPAF performs consolidation in AFP data streams for images within a single IBM resource type. Images referenced within an overlay, excluding those that are included in a page segment referenced by the overlay, are consolidated and converted into a single .IMG, then downloaded to the printer. Images referenced within a page segment are consolidated and converted into a single .IMG, then downloaded to the printer.

  The converted image is stored in the centralized image library and on the printer if the printer can store resources.

  Images which are inline on a page but not referenced by another resource (overlay or page segment) are consolidated and converted to a single .IMG, then downloaded to the printer. The .IMG file is neither stored in the centralized image library nor on the printer.

  For detailed information about AFP resource consolidation, refer to *Section Four: Printing Documents with XPAF*.

- For data streams sent to decentralized printers:

  — XPAF searches the secondary (centralized) library specified by the SIMAGELIB parameter if a decentralized image referenced in a DJDE data stream is not found in the primary (decentralized) image library. If it finds one, XPAF dynamically converts the image from .IMG to sixelized format the first time it is referenced and stores the converted image in the decentralized image library. The converted image also is stored on the printer if the printer can store resources.

  Any dynamically converted colorized centralized images will print in black when sent to a monochrome decentralized printer and in color when sent to a color decentralized printer. RES .IMG files will print in black when sent to a monochrome decentralized printer and will print in black and the specified highlight color when sent to a color decentralized printer.

  Images which are included inline in the data stream are not dynamically converted.

  — XPAF converts any image referenced by a form in a page-formatted data stream from .IMG to sixelized format, but does not store it in the decentralized image library.

  — XPAF converts a page segment in an AFP data stream to an image in .IMG format the first time it is referenced in a document and stores the image in the decentralized image library. The image is then converted from .IMG format to sixelized format before being downloaded to the printer. The sixelized image is stored on the printer if the printer can store resources.

  When naming your page segments for use with XPAF, the names should not begin with the letter O. If you have page segments that

begin with O, they may not be converted or they may cause unpredictable results when printed with XPAF.

- For data streams sent to PCL-capable printers, XPAF converts an image from sixelized format to bitmapped (HP raster graphic) format the first time it is referenced in a document. XPAF then stores the converted image in the PCL image library.

  Images which are included inline in the data stream are converted to PCL format but are not stored in the PCL image library.

  XPAF downloads the necessary images every time a PCL job is printed but does not store them on the printer.

Understanding dynamic conversions for colorized AFP IM-type images

During image processing, XPAF converts AFP image resources to the appropriate .IMG format required for the target printer. For IM-type images colorized via the IID structured field and sent to a centralized printer, XPAF converts the image to a monochrome black .IMG file, a monochrome RES .IMG file, and/or a two-color RES .IMG file, based on these factors:

- The value specified for the PRINTENV initialization parameter
- The target printer (whether monochrome or highlight color)
- Whether the color of the image is black only, color only, or both black and color
- Whether the image will be stored in the native centralized image library

The final printed color of the image is dependent upon the ink color loaded at the target printer.

Print factor relationships

The print factors identified previously only affect the resource when the image is first converted or if it is revised. If the resource has been previously converted, no change is made.

The relationship of how the print factors work together is shown in table 18-3. If you specify PRINTENV=MONO, XPAF only creates and prints a monochrome black .IMG file, regardless of the other print factors.

Table 18-3. Print factors for colorized images

	Target printer is ...			
	Mono	Highlight	Mono	Highlight
AFP resource is ...	**PRINTENV=COLR**		**PRINTENV=BOTH**	
Black only Not stored in native library	A[1]	A	A	A
Black only Stored in native library	A[1]	A	A	A
Color only (no black) Not stored in native library	A[1]	B	A	B
Color only (no black) Stored in native library	C[1]	B	C	D
Both black and color Not stored in native library	A[1]	E	A	E
Both black and color Stored in native library	F[1]	E	F	G

[1] XPAF forces the PRINTENV=COLR parameter to PRINTENV=BOTH, and creates the specified image type.

where

A XPAF only creates and prints a monochrome black .IMG file.

B XPAF only creates and prints a monochrome RES .IMG file.

C XPAF creates both a monochrome black .IMG file and a monochrome RES .IMG file, but only prints the monochrome black .IMG file.

D XPAF creates both a monochrome black .IMG file and a monochrome RES .IMG file, but only prints the monochrome RES .IMG file.

E XPAF only creates and prints a two-color RES .IMG file.

F XPAF creates both a monochrome black .IMG file and a two-color RES .IMG file, but only prints the monochrome black .IMG file.

G XPAF creates both a monochrome black .IMG file and a two-color RES .IMG file, but only prints the two-color RES .IMG file.

Restrictions and limitations

These restrictions and limitations apply to color IID structured field processing:

- XPAF support is limited to IM-type images.
- XPAF support does not include these features:
  - Reverse video processing
  - Image print impression processing
- XPAF does not convert an image every time it is printed. If XPAF does not revise the image, the existing image will be printed instead of the updated image. Therefore, if you change the color in the IID structured field for an image, you must also specify either the REVOVLY or REVPSEG extended JCL keyword to reconvert the image.
- If you store color images in the centralized image library and you specify PRINTENV=BOTH, XPAF maintains two separate copies of the image: one black and the other color. When the image is printed, XPAF downloads the appropriate file to the specified printer, using the last six characters of the file name as the resource name stored on the printer. Because the last six characters are the same for both files, they will both have the same name when downloaded to a printer. However, the two files will never be downloaded to or stored on the same printer, so no naming conflict will exist.
- All individual colors of a RES .IMG format image, other than black, will be represented in a consolidated image as a single color. This color will match the first colorized IID image color attribute value encountered within the AFP resource or data stream.

Loading and maintaining images

Table 18-4 identifies the options you use and the chapter to which you should refer for each function needed to manage image resources.

Table 18-4. Image management functions

If you want to ...	Use this option ...	Refer to this chapter ...
Load images (.IMG format) to a centralized image library	XOAF option: Load Centralized Images option on the Load Resources menu	Chapter 20, "Loading resources to a native library"
	TSO/Batch command: LOAD IMAGE	
Load images (sixelized format) to a decentralized image library	XOAF option: Load Decentralized Images option on the Load Resources menu	Chapter 20, "Loading resources to a native library"
	TSO/Batch command: LOAD IMAGE	
Convert AFP page segments to centralized or decentralized format	XOAF option: Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format option on the Convert Resources menu	Chapter 21, "Converting resources"
	Batch utility: XRFBATCH	Chapter 29, "XRFBATCH utility"
Convert AFP IM-type images colorized via the IID structured field to monochrome .IMG, monochrome RES .IMG, and/or two-color RES .IMG format	XOAF option: Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format option on the Convert Resources menu	Chapter 21, "Converting resources"
	Batch utility: XRFBATCH	Chapter 29, "XRFBATCH utility"

Logos

A logo is a resource that contains an identifying graphical symbol such as a trademarked company or product name. This term is used in XPAF to indicate any Xerox centralized resource stored in .LGO file format.

Specifying a logo library

XPAF stores logos in a native centralized logo library. During installation, your systems programmer used the CLOGOLIB initialization parameter or LOGOLIB printer profile parameter to name the XOSF DD statement that specifies the logo library for each centralized printer.

NOTE: Logos do not use a decentralized logo library. XPAF emulates logos on decentralized printers through the use of decentralized fonts.

Another parameter that may be specified during system installation and which can affect your logo library and resource downloading is the DELLOGO printer profile parameter. DELLOGO can be used to indicate that logos which are downloaded with a document be deleted from the printer after the document has been printed. For additional information about the DELLOGO printer profile parameter, refer to *Section Five: XPAF Parameter and Keyword Reference*.

NOTE: On an individual job basis, the DELLOGO and REVLOGO extended JCL keywords can affect the storing of logos in the logo library or on the printer. Refer to *Section Five: XPAF Parameter and Keyword Reference* for information about the function and format of these keywords. Refer to *Section Four: Printing Documents with XPAF* for information about their usage.

Loading and maintaining logos

Table 18-5 identifies the options you use and the chapter to which you should refer for each function needed to manage logo resources.

NOTE: XPAF does not dynamically convert logos. If you want to send a centralized form that contains a logo to either a decentralized or PCL-capable printer, you must first convert the logo to a decentralized font using the Convert Centralized Logos to Decentralized Fonts option on the Convert Resources menu.

Table 18-5. Logo management functions

If you want to ...	Use this option ...	Refer to this chapter ...
Load logos (.LGO format) to a centralized logo library	XOAF option: Load Centralized Logos option on the Load Resources menu	Chapter 20, "Loading resources to a native library"
	TSO/Batch command: LOAD LOGO	
Convert logos (.LGO format) that are referenced in a centralized form to decentralized fonts for printing on a decentralized or PCL-capable printer	XOAF option: Convert Centralized Logos to Decentralized Fonts option on the Convert Resources menu	Chapter 21, "Converting resources"

Printer-resident resource lists

This section describes resource lists, which are lists of resources that are resident on a selected printer. Resident resource list processing depends on whether a printer supports and stores downloaded resources. This ability is dependent on the printer's hardware. If multiple printers store exactly the same resources, they can share a single resource list.

Resource lists can be used in two ways:

- You can use resource lists to avoid unnecessary resource downloading each time a job is sent to a printer that normally stores resources but does not have two-way communication with XPAF. For example, you can use resource lists for a 4635 printer in non-XNS mode to enable XPAF to retain a list of resources for the printer when the printer is drained and then restarted.
- You can use resource lists for a printer that does not normally store resources but may have resources (such as cartridge fonts) resident on the printer. For example, you can use resource lists for a 4213 printer that uses cartridge fonts to avoid the unnecessary downloading of fonts as the fonts are already resident on the printer.

Resource lists can be maintained for each of these types of resources:

- Fonts
- Forms
- Images
- Logos

In addition to fonts that have been downloaded, a resident font list should include default fonts that are built into the hard disk on the printer and any cartridge fonts.

NOTE: Decentralized printers do not use logo lists. If you convert logos to decentralized fonts for printing on decentralized printers, XPAF will automatically include the decentralized fonts in the decentralized printer's font list if the printer can store resources.

Understanding resource list processing

XPAF maintains resource lists for each printer defined to XOSF. They list the resources which are resident on the printer, either on a printer disk, in the printer firmware, or on a resource cartridge in the printer.

XPAF maintains a separate resource list for each resource type (font, form, image, and logo). You can define the list names via the FONTLIST, FORMLIST, IMAGELIST, and LOGOLIST printer profile parameters, or you can allow the list name to default to a unique name for each printer and resource type.

XOSF updates resource lists every time resources are downloaded to a printer that can store resources, such as a printer that has a disk storage system. You should store resource lists in an XPAF native library so that any updates made to them are maintained when you stop and restart the printer. If a list is not stored in an XPAF native library, XOSF rebuilds a new list each time you start the printer.

When you start a centralized V2/V3/V4 OSS printer that has XNS=YES specified in its printer profile, XOSF dynamically builds or updates the resource lists.

During printing, XOSF searches the resource lists to determine if the requested resource must be downloaded to the printer. When a document references a resource that is not in the resource list, XPAF downloads the resource and XOSF updates the resource list. The next time that resource is referenced, XOSF determines from the resource list that the resource already resides on the printer and does not download it again. If you do not store resource lists, XPAF will download every resource referenced in a document the first time the document is printed after you restart a printer. This download occurs even if the resource is already resident on the printer since the initial resource list will be empty.

Because XPAF cannot use resources that are resident on PCL-capable printers, resource lists are not required for this type of printer.

Automatic revision of Xerox native resources

If you have loaded a Xerox native resource into a native resource library and you want XPAF to download the most current resource to a printer, specify AUTOREV=XEROX (to indicate Xerox native resources) in the XINSXOSF member in XINPARM or in the printer's profile. This feature applies to Xerox native resources only.

You should store all of the resource lists in the XPAF native library to maintain the date and time stamps for the XOSF automatic revision feature.

When a resource is referenced in a document, XPAF compares the date and time stamp of the resource in the resource list with the date and time stamp of the resource in the native resource library. If the native library resource is newer than the one indicated in the resource list, XOSF forces a download of the newer resource to the printer.

For example, if the most current resource is the one in the native resource library, XPAF downloads that resource to the printer and updates the resource list. If the most current resource is on the printer, no download occurs.

If most current resource is . . .	Download to printer occurs?	Resource list is . . .
In a native resource library	Yes	Updated
On the printer	No	Not updated

For centralized printers that specify XNS=YES in their printer profile, when you start the printer, XPAF uploads the resource file directory from the printer and compares the entries with the existing resource list. For any resources that exist in the file directory but not in the resource list, XPAF adds those resources to the resource list and stamps them with the current date and a time of 0. For any resources that are listed in the resource list but are no longer in the file directory, XPAF deletes those resources from the resource list.

Specifying permanent resources

You should create and maintain resource lists for printers that do not store resources. These lists allow XOSF to know which resources are present in the printer's firmware or resource cartridges. When you create these resource lists, specify that the resources are permanent to ensure that the XOSF automatic revision feature will not try to revise them.

Because XOSF does not update resource lists for this type of printer, you must maintain the resource lists using these options on the Manage Resource Lists menu to specify that resources are permanent:

- Manage Resident Font Lists
- Manage Resident Form Lists
- Manage Resident Image Lists
- Manage Resident Logo Lists

You can also use these TSO/batch commands to specify permanent resources:

- TABLE LOAD
- TABLE UPDATE

Refer to chapter 22, "Managing resource lists" for more information on these options and commands.

Specifying list processing

The DOWNLOAD/NODOWNLOAD setting of the FEATURE printer profile parameter defines whether a printer supports downloaded resources. The FILEKEEP/NOFILEKEEP setting of the FEATURE printer profile parameter indicates whether a printer can store downloaded resources permanently.

- A printer that has a FEATURE setting of FILEKEEP can store downloaded resources permanently. XPAF automatically adds the resource name to the printer's resource list when it downloads a resource. Each printer that uses FEATURE=FILEKEEP must have its own resource list.

  CAUTION: If you delete a resource from a printer, you must delete it from the corresponding printer's resource list. This ensures that XPAF will download the resource if it is referenced again. Otherwise, unpredictable results may occur. Refer to chapter 22, "Managing resource lists" for instructions on deleting a resource from a resource list.

- A printer that has a FEATURE setting of NOFILEKEEP cannot store downloaded resources permanently. XPAF downloads all resources needed for each job but does not update a resource list. This means that if the same job is printed a second time, the resources will be downloaded again.

  Printers using FEATURE=NOFILEKEEP can share a resource list if they have the same resident resources (for example, if they use the same cartridge fonts).

  NOTE: XPAF ignores the FILEKEEP/NOFILEKEEP setting of the FEATURE printer profile parameter for PCL-capable printers because PCL-capable printers do not store resources.

Table 18-6 identifies the default FILEKEEP/NOFILEKEEP setting of the FEATURE printer profile parameter for each centralized and decentralized printer model.

Table 18-6. FILEKEEP/NOFILEKEEP default settings

Printer type	Models defaulting to FILEKEEP	Models defaulting to NOFILEKEEP
Centralized	9790 8790 4890 4850 4650 4635 4635MX 4235 (XPPM mode) 4135 4090 4050 DP180LPS DP96LPS	9700 8700
Decentralized	4700 II 4235 (XPDM mode) 3700	4213 II 4197 MICR 4045 4030 II

NOTE: If you specified FEATURE=NODOWNLOAD in your printer's profile, XPAF ignores the FILEKEEP/NOFILEKEEP setting.

Specifying list libraries and list names

During system installation, your systems programmer specified the following information to XPAF for each printer that can support list processing:

- The XOSF DD statement that identifies the native library in which the lists for resident fonts, forms, images, and logos are maintained for each printer. This is specified by the LIBRARY printer profile parameter.
- The names of each resident font, form, image, and logo list for that printer. These are specified by the FONTLIST, FORMLIST, IMAGELIST, and LOGOLIST printer profile parameters.

If your systems programmer specified the LIBRARY parameter but omitted a list parameter (that is, FONTLIST, FORMLIST, IMAGELIST, or LOGOLIST) in the printer profile, XPAF will automatically create a list for that resource type on the printer the first time it downloads a corresponding resource to the printer. Depending on the resource type, the list name is created using this convention:

- For a channel-attached centralized printer, the list name is FONT*cuu*, FORM*cuu*, IMAG*cuu*, or LOGO*cuu*, where *cuu* is the value specified for the UNIT printer profile parameter.
- For a remotely-attached centralized printer or a decentralized printer, the list name is FONT*slu*, FORM*slu*, IMAG*slu*, or LOGO*slu*, where *slu* is the value specified for the SLU printer profile parameter.

However, if your systems programmer did not specify a LIBRARY parameter in the printer profile, XPAF cannot create resource lists for the printer.

NOTE: You can cause XPAF to download resources even though they are named in a particular resource list by including the REVFONT, REVFORM, REVIMAGE, or REVLOGO extended JCL keywords in the JCL used to submit a job. Refer to *Section Four: Printing Documents with XPAF* for more information about overriding resources.

Creating and maintaining resource lists

Table 18-7 identifies the options you use and the chapter to which you should refer for each function needed to manage resident resource lists.

Table 18-7. Resident resource list functions

If you want to ...	Use this option ...	Refer to this chapter ...
Create, update, or delete resident font lists	XOAF option: Manage Resident Font Lists option on the Manage Resource Lists menu	Chapter 22, "Managing resource lists"
	TSO/Batch command: TABLE LOAD TABLE UPDATE TABLE DELETE	
Create, update, or delete resident form lists	XOAF option: Manage Resident Form Lists option on the Manage Resource Lists menu	Chapter 22, "Managing resource lists"
	TSO/Batch command: TABLE LOAD TABLE UPDATE TABLE DELETE	
Create, update, or delete resident image lists	XOAF option: Manage Resident Image Lists option on the Manage Resource Lists menu	Chapter 22, "Managing resource lists"
	TSO/Batch command: TABLE LOAD TABLE UPDATE TABLE DELETE	
Create, update, or delete resident logo lists	XOAF option: Manage Resident Logo Lists option on the Manage Resource Lists menu	Chapter 22, "Managing resource lists"
	TSO/Batch command: TABLE LOAD TABLE UPDATE TABLE DELETE	Chapter 22, "Managing resource lists"

Automatic revision of AFP resources

XPAF supports the automatic revision of AFP resources for centralized, decentralized, and PCL-capable printers. This support allows you to automatically revise updated AFP resources when they are first referenced within a document. XPAF will read the latest copy of an AFP resource whenever access to that AFP resource is required for processing. You do not have to explicitly specify a revision of these resources or a refresh of the entire AFP resource library. AFP documents will print using the most current version of the resource, not a copy that was available at initialization or refresh time.

When processing AFP applications, XPAF also examines the ISPF statistics field for the IBM PDS members to identify changes to those members since the last XPAF conversion.

Limitations of support

Automatic revision of AFP resources is limited to the following types of AFP resources:

- Overlays
- Page segments
- Form definitions
- Page definitions

NOTE: AFP font resources are not eligible for automatic revision.

Processing Xerox native resources within AFP data streams

Because AFP overlay and page segment resources are converted into Xerox .FRMs and .IMGs, Xerox native resources within AFP data streams are subject to automatic revision. This support includes Xerox AFP replica fonts.

Processing page segments embedded within overlays

When a page segment embedded within an unchanged AFP overlay is revised automatically, the entire overlay, including any embedded page segments, is also revised.

Enabling support

Automatic revision of AFP resources is enabled via the AUTOREV initialization or printer profile parameter. Specify AUTOREV=A to indicate revision of AFP resources or AUTOREV=B to indicate revision of both AFP resources and Xerox native resources. Refer to *Section Five: XPAF Parameter and Keyword Reference* for additional information.

Determining changes in AFP resource members

AFP resources reside as members in a PDS or PDS/E library. Whenever a PDS or PDS/E member is updated, the unique TTR address of that member is changed. This unique TTR value is accessible via the directory entry of the modified member. Statistics, such as the date and time of the latest update to a member, may also be present in the directory entry. XPAF uses the TTR value and any available date and time statistics to determine whether an AFP resource member has changed.

Print description language

Print description language (PDL) is the language used to describe printing jobs to a laser printer. PDL describes the input (type, format, characteristics), performs the processing functions (logical processing), and describes the output (type, format, font selection, accounting options).

PDL files can be created on a centralized printer or on your host computer. For instructions on coding and compiling PDL, refer to the PDL reference manual distributed with your Xerox printer.

Before using XPAF to print documents that reference PDL, you must ensure that the same PDL members which are compiled on the printer are loaded into the native PDL library for that printer. When they have been loaded to the native library, PDL members are available for centralized processing and for using in DJDE data streams sent to decentralized and PCL-capable printers.

PDL object management

XPAF can manage PDL object resource files (types of JDL, PDE, CME, TST, STK, LIB, or IDR) for centralized printers in the same manner as fonts, forms, images and logos. This means that when a data stream references a PDL object, it will be downloaded to the centralized printer if it is determined that the resource is not already on the printer. This feature is enabled by specifying PDLOBJ=YES in the printer profile.

JDL objects must first be loaded into the PDLLIB with the PDL loader in the same manner as JSL source is loaded. It is important that the PDL object corresponds to the source JSL for that object and that the source JSL is also loaded into the same PDLLIB.

XOSF processing will recognize when a JDL object is referenced in the data stream or the started JDL. By keeping a list of all JDL objects already downloaded to a printer, the centralized conditioner will determine when a referenced JDL object needs to be downloaded to the printer and will retrieve it from the PDLLIB and download it to the printer. The PDLOBJ resource list will be updated so that future references to the same JDL object will not cause the resource to be downloaded again. If LIBRARY= is specified in the printer profile the resource lists will be saved in that library when the printer is stopped and retrieved when the printer is started again. This will ensure that unnecessary downloading is avoided between printer stops and starts. If AUTOREV=XEROX or BOTH has been specified, it will also apply to PDL object resources.

It is important to note that different versions of printer OSS software generate different levels of PDL object code. This may be generated by the PDL command at the printer or by using an offline tool such as XJDC. The printer OSS software level is typically known as V35 for 4050 and 4090 printers, V37 for 4850 and 4890 printers, and V3A for 4135, 4635 and any of the other channel-attached printers that support large paper sizes such as 11x17-inches. There is a printer profile parameter to inform XPAF which software version is running on any particular printer. The parameter is LPSRELEASE= and the default values are as listed above under the typical values.

When the PDL loader is used to load PDL objects, the PCLVER value is used as part of the member name in the PDLLIB. When the centralized conditioner downloads a PDL object, it attempts to match the PCLVER in the member name to the LPSRELEASE value in the printer profile to ensure that the downloaded code is the "best-fit" for the destination printer. If an exact match to LPSRELEASE is not found, the first object

with the correct name and type will be downloaded. If none is found a message is produced. If incorrect default values are entered, unpredictable results may occur. In some cases (PDEs, STKs, TSTs, LIBs, and IDRs) the object code has no PCLVER restrictions. JDL and CME objects may be fully compatible also, for example, a JDL compiled for a 4090 (V35) will run perfectly on a 4890 or 4635 because it will have no unique requirements that the 4890 or 4635 do not support. This may not be true of a JDL compiled on a 4890 or 4635 because they may have ink or large paper size requirements that the 4090 does not support.

Enabling PDL object management

Follow these steps to enable PDL object management:

Step 1. Load source JSL to the PDLLIB (existing requirement).

Step 2. Load PDL objects to the PDLLIB with the appropriate PCLVER value. The default is V35 and, if there are no color or large paper requirements, this value will be sufficient.

Step 3. Specify PDLOBJ=YES in your printer profile(s). This is honored for centralized printers only.

Step 4. Ensure that LIBRARY= has been specified in the printer profiles if you want the resource lists maintained between printer stops and starts. The recommended library to use is LIBRARY=XWRLIB.

Specifying PDL source file types

PDL consists of two file types:

- Job source library (JSL) files
- Cataloged member files

JSL format

A JSL file begins with a JDL command, includes system, catalog, and job level commands, and ends with an END command. For example:

```
SAMPLE: JDL;

VFU1:   VFU      ASSIGN=(1,1),
                 TOF=1,
                 BOF=255;

FMT01:  PDE      PMODE=LANDSCAPE,
                 FONTS=L0112B,
                 BEGIN=(.18,.66);

STK2:   STOCKSET ASSIGN=('MAIN',MAIN),
                 ASSIGN=('AUX',AUX),
                 INIFEED='MAIN',
                 SYSPAGE='MAIN';
.
.  (additional JSL statements)
.
END;
```

Cataloged member format

A cataloged member (also referred to as a global member) is one of the following types of statements that will be referenced globally.

- A copy modification entry (CME) is a set of statements that modifies the output printing characteristics of a report by defining fonts, inks, and constant data to be applied to specific print lines and columns.
- A page description entry (PDE) is a set of statements that defines page characteristics. These characteristics are the page orientation (PMODE), logical page definitions (BEGINs), and fonts used with line spacing (FONTS).
- A stockset (STK) is a set of statements that defines a set of stocks used in a report. Stocksets are also the means of associating stock references (FEED=) with stock names (CLUSTERs).
- An RTEXT (TST) definition is a set of statements defining text to be printed on a separate page at the beginning of a report.
- An ink descriptor entry (IDR) is a set of statements that defines the ink catalogs, palette, and ink list to be used for used in a report.
- A short-edge-feed MAP (LIB) is a set of statements that defines a font substitution list to be used to print a document on large paper that is fed short edge rather than long edge.

Some examples are shown below.

```
CME1:  CME LINE=1, POS=1, CONSTANT='MONTHLY TOTALS:';
END;
```

```
FMT1:   PDE  BEGIN=(.18,.66),FONT=L0112B,PMODE=LANDSCAPE;
FMT2:   PDE  BEGIN=(.18,.50),FONT=L0212A,PMODE=LANDSCAPE;
FMT3:   PDE  BEGIN=(.14,.66),FONT=L0312A,PMODE=LANDSCAPE;
END;
```

Using distributed sample PDL members

XPAF provides several sample PDL members in XPFSAMP, as shown in table 18-8. You can copy and edit any of these members to create your own PDL.

Table 18-8. Sample PDL members in XPFSAMP

Member name	Description
DFAULT	Contains a JSL you can use to print online jobs or output that was written to tape.
GLOBJSL	Contains standard PDE members that can be referenced by multiple JSLs or DJDEs.
HIP871	Contains a JSL you can use with a centralized printer that is remotely-attached to the host using the 871 CM.

Specifying a native PDL library

XPAF provides a native library for storing PDL called PDLLIB, which contains the same JSL and cataloged members as the DFAULT and GLOBJSL members in XPFSAMP.

You also can name your own native library by specifying it in the XOSF start-up proc DD statement named by the PDLLIB initialization or printer profile parameter. Each printer can name its own native PDL library, or all printers can share one common native PDL library.

Creating and loading PDL

Before using XPAF to print documents that reference PDL, you must ensure that the same PDL members which are compiled on the printer are loaded into the native PDL library for that printer. When they have been loaded to the native library, PDL members are available for centralized processing and for using in DJDE data streams sent to decentralized and PCL-capable printers.

CAUTION: You must ensure that the PDL members compiled on the printer are identical to those loaded to the native PDL library, or your results will be unpredictable.

Perform one of the following procedures to ensure that the PDL on the printer matches the PDL on the host:

Option 1: Maintaining PDL on the printer

Step 1. Create or update PDL source members on the printer.

Step 2. Compile the members into object code on the printer.

Step 3. Upload the PDL source members to a PDS on the host.

Step 4. Use one of these options to load the host members to a native PDL library:

- Load PDL option on the Load Resources menu
- Load PDL TSO/batch command

Refer to chapter 20, "Loading resources to a native library" for more information on the Load PDL option or LOAD PDL TSO/batch command.

Option 2: Maintaining PDL on the host

Step 1. Create or update PDL source members on the host.

Step 2. Download the host members to the printer and compile them into object code on the printer.

NOTE: For the 4235 printer running in XPPM mode, you must compile the PDL on the host and then download it to the printer.

Step 3. Use one of these options to load the host members to a native PDL library:

- Load PDL option on the Load Resources menu
- LOAD PDL TSO/batch command

Refer to chapter 20, "Loading resources to a native library" for more information on the Load PDL option or LOAD PDL TSO/batch command.

Page formats

A Xerox page format is a set of specifications used to format line-mode data streams before sending them to the printer. A page format allows you to enhance the effectiveness of your line-mode applications without changing the application program.

You can incorporate fonts, forms (.FRM format only), images, logos, highlight color, and many other features by using page formats. In addition, the conditional formatting feature allows you to change page features dynamically based on conditions within the input stream.

Specifying a page format library

During system installation, your systems programmer named the XOSF DD statement that specifies the name of the page format library at the system level using the PGFRMDD initialization parameter or at the printer level using the PAGEFORMLIB printer profile parameter. For more information about these parameters, refer to *Section Five: XPAF Parameter and Keyword Reference*.

Understanding page format processing

You use the Xerox page format editor to create and compile a Xerox page format. The page format then can be invoked in a line-mode application by using the PAGEFORM extended JCL keyword. Refer to *Section Eight: Xerox Page Format Editor User Guide* for information about creating and using page formats.

During processing, XPAF will retrieve the page format from the page format library and use it to convert line-mode data into either a Metacode or XES data stream. Any .FRM forms referenced in a page-formatted document and sent to a decentralized printer will be converted dynamically to XES format. The XES version of the form will be stored in the decentralized library named by the DFORMLIB initialization parameter or FORMLIB printer profile parameter.

NOTE: On an individual job basis, the USERLIB IBM JCL keyword can affect the storing of forms referenced by a page format on the printer. Refer to *Section Five: XPAF Parameter and Keyword Reference* for information about the function and format of this keyword. Refer to *Section Four: Printing Documents with XPAF* for information about its usage.

Creating and maintaining page format datasets

You can create and maintain page format datasets through option P on the System Services menu. Refer to *Section Eight: Xerox Page Format Editor User Guide* for detailed information about setting up and maintaining page format datasets.

19. XPAF tables

This chapter describes the following tables that XPAF uses during processing:

- Paper-related tables
- Font tables
- Color cross-reference tables
- Color conversion table

NOTE: Before you can manage your resources, you will need to know the names of the table libraries at your site. The XOAF and/or XOSF DD statements that specify the library names typically are identified by your systems programmer during installation using initialization and printer profile parameters. Refer to appendix C, "Resource management parameters" for a list of parameters whose values you will need to know.

Paper-related tables

The paper-related tables are a set of tables used by XPAF to determine paper size, AFP bin number, and paper tray processing. The paper-related tables are stored in a native library specified by the XOSF DD statement identified by your systems programmer during installation using the PAPTBLDD initialization or printer profile parameter. XPAF supplies default paper-related tables in TABLELIB.

XPAF uses three types of paper-related tables:

Table 19-1. Types of paper-related tables

Table	Function
Paper name	This table is used to assign paper sizes to paper names. XPAF uses these values to determine which paper size to use when formatting a document. You can specify the currently active paper name table with the PAPNAMTB initialization parameter, printer profile parameter, or extended JCL keyword.
Varying paper size	This table is used to map AFP bin numbers to paper names. These paper names are then matched to paper sizes in the currently active paper name table. You can specify the currently active varying paper size table with the VARPAPTB initialization parameter, printer profile parameter, or extended JCL keyword.
Cluster mapping	This table is used to map centralized paper tray cluster names to paper trays on decentralized and PCL-capable printers. Each paper tray is mapped to a tray select character and a paper name which is then matched to a paper size in the currently active paper name table. You can specify the currently active cluster mapping table with the CLUSTRTB printer profile parameter or extended JCL keyword.

XPAF uses the currently active paper name table to determine the paper size that corresponds to a paper name specified in any of these locations:

- The PAPERSIZ initialization parameter, printer profile parameter, or extended JCL keyword
- A varying paper size table
- A cluster mapping table

Refer to *Section Five: XPAF Parameter and Keyword Reference* for more information about how to use the PAPTBLDD, PAPNAMTB, VARPAPTB, CLUSTRTB, and PAPERSIZ parameters and keywords.

CAUTION: XPAF cannot verify that the specified paper size matches the paper size that actually is loaded in the specified paper tray on the target printer. You must ensure that each printer tray contains the paper that corresponds to the currently active XPAF paper-related tables.

Creating a new paper-related table

You can create a new paper-related table or modify or delete any existing paper-related tables through the Maintain Paper Tables option on the Manage Tables menu. Refer to chapter 23, "Managing XPAF tables" for information about how to use the XOAF panels to maintain the paper-related tables.

Table type prefixes

When you specify a paper-related table name in the applicable parameters, keywords, or XOAF panels, XPAF automatically will prefix that name with one of these table type abbreviations:

- PNAM for paper name table
- VPSZ for varying paper size table
- CMAP for cluster mapping table

For example, if you specify PAPER01 for the PAPNAMTB initialization parameter, XPAF will reference the table in TABLELIB as PNAMPAPER01. Or, if you create a varying paper size table using the Maintain Paper Tables option and specify VARSIZE01 in the 'Member Name' field, XPAF stores the member as VPSZVARSIZE01 in TABLELIB.

If you use the Maintain Paper Tables option to edit this table, do not specify the prefix portion of the name in the 'Member Name' field. However, you will see these prefixes if you view the contents of TABLELIB during an LDM OFFLOAD or if you use the Display a Directory of Library Members option on the Manage Libraries menu.

Default table names

Each paper-related table has a default table named DEFAULT. These default tables are used during XOAF processing. When you create a new table, the entries from the default table are used as initial field values, which you can then modify. When you update a table, if you leave the 'Member Name' field blank, the default table will be substituted. Each default table is stored in TABLELIB using the appropriate table type prefix as previously defined.

Cluster mapping tables also have a default table for every decentralized and PCL-capable printer model supported by XPAF. These tables use the naming convention DEFAULT*xxxx*, where *xxxx* is the printer model. For example, the 4235's default cluster mapping table is named DEFAULT4235. The default cluster mapping table for all NPS printers is named DEFAULTDPNP. Printers configured with the same paper tray definitions can share the same cluster mapping table.

NOTE: The paper name in the default varying paper size and cluster mapping tables defaults to LETTER. To set the default paper name in these tables to A4, specify OPTIONS=A4 in the #GENRSC macro. For further information, refer to *Section Two: Installing and Customizing XPAF*.

Paper name table

The paper name table allows you to assign a paper size to a generic name. For example, 8-1/2- by 11-inch paper is known as LETTER. You could define your company letter head as LTRHEAD or another name of your choice.

This section provides the following information about the paper name table:

- The default values supplied with XPAF
- How to define and use values other than the supplied defaults for the paper name table
- How XPAF processes the paper name table

Default table values

A default paper name table called DEFAULT is supplied with XPAF in TABLELIB. Table 19-2 shows the values defined for the default paper name table.

Table 19-2. Default paper name table values

Paper name	Width	Height	Unit measure
#10	4.25	9.5	IN
#7	3.78	7.5	IN
A3	11.69	16.54	IN
A4	8.27	11.69	IN
A5	5.83	8.27	IN
A6	4.12	5.83	IN
B4	9.84	13.9	IN
B5	6.93	9.84	IN
C5	6.38	9.02	IN
DL	4.33	8.66	IN
EXEC	7.25	10.5	IN
LEGAL	8.5	14	IN
LEGL13	8.5	13	IN
LETTER	8.5	11	IN
LONG	11	17	IN
POST	3.5	5.5	IN
STATMT	5.5	8.5	IN

Table specification

You can change the dimensions for a paper name already defined in a paper name table by using the Maintain Paper Tables option. For example, you may change the dimensions for LEGAL from 8.5 by 14 inches to 8.25 by 13.5 inches. Then, when you specify LEGAL in the PAPERSIZ initialization parameter, printer profile parameter, or extended JCL keyword, XPAF will use the dimensions of 8.25 by 13.5 inches to format your document.

You can also add new paper names to a paper name table by using the Maintain Paper Tables option, then specify those names in PAPERSIZ. For example, you may add a new paper name called NEWSIZ which has the dimensions of 7 by 8 inches. If you then specify PAPERSIZ=NEWSIZ in your initialization parameters, printer profile, or extended JCL, XPAF will reference the NEWSIZ dimensions in the currently active paper name table and format the document for the paper size of 7 by 8 inches.

NOTE: For these examples to work, you must specify the paper name table in which you have defined LEGAL or NEWSIZ in the PAPNAMTB initialization parameter, printer profile parameter, or extended JCL keyword.

Table processing

XPAF looks up the paper name specified in the PAPERSIZ initialization parameter, printer profile parameter, or extended JCL keyword in the currently active paper name table. However, if you enter the width, height, and unit dimensions in the PAPERSIZ printer profile parameter or extended JCL keyword, XPAF uses those dimensions and not the ones from the paper name table.

If you specify a paper name (such as LEGAL) for PAPERSIZ, XPAF checks to see if a paper name table has been specified through the PAPNAMTB initialization parameter, printer profile parameter, or extended JCL keyword.

- If no paper name table is specified, XPAF uses the default paper name table (DEFAULT) to determine the paper dimensions for the document.
- If a paper name table is specified or if the default paper name table is used, XPAF looks in that table to determine the paper dimensions to use for the document.
  - If the specified paper name exists in the currently active paper name table, XPAF uses the paper size defined for that paper name.
  - If the specified paper name is not defined in the currently active paper name table but is defined through PAPERSIZ (for example, LEGAL is predefined as 8.5 by 14 inches), XPAF uses PAPERSIZ's definition for the paper dimensions.
  - If the specified paper name is not defined either in the currently active paper name table or through PAPERSIZ, XPAF uses the hard-coded default value of 8.5 by 11 inches for the paper dimensions.

Table 19-3 summarizes the overrides for paper size processing as related to the paper name table.

Table 19-3. Paper name table processing overrides

IF PAPERSIZ value is ...	And paper name table is ...	And paper name in table ...	The value used is...
Width, Height, Units (for printer profile parameter and extended JCL keyword only)	ignored	not applicable	Width, Height, Units
Example: PAPERSIZ=(9P5,11P0,IN)			9.5 by 11 inches
Paper name	specified	does exist	Dimensions defined for LEGAL in paper name table
Example: PAPERSIZ=LEGAL	PAPNAMTB=PAPER01	LEGAL (8.5 by 20 inches[1])	8.5 by 20 inches
Paper name	specified	does not exist	Default dimensions defined for A4 in PAPERSIZ
Example: PAPERSIZ=A4	PAPNAMTB=PAPER01	no entry for A4	8.27 by 11.69 inches
Paper name	specified	does not exist	Default value of 8.5 by 11 inches
Example: PAPERSIZ=NEWSIZ	PAPNAMTB=PAPER01	no entry for NEWSIZ	8.5 by 11 inches
Paper name	not specified or invalid table	not applicable	Dimensions defined for LEGAL in PAPERSIZ
Example: PAPERSIZ=LEGAL	PAPNAMTB=		8.5 by 14 inches
Paper name	not specified or invalid table	not applicable	Default value of 8.5 by 11 inches
Example: PAPERSIZ=NEWSIZ	PAPNAMTB=		8.5 by 11 inches

[1] You updated the value of LEGAL in PAPER01 to be 8.5 by 20 inches.

Varying paper size table

An AFP document can use more than one paper size if you specify a different bin number for each paper size in the MMC structured field of the copy subgroup within the medium map. For example, you may include oversized statement sheets with a cover letter.

For XPAF to process this type of document, each bin number must be mapped to a paper name in the varying paper size table. The paper name is then mapped to a paper size in the paper name table.

This section provides the following information about the varying paper size table:

- The default values supplied with XPAF
- How to define and use values other than the supplied defaults for the varying paper size table
- How XPAF processes the varying paper size table

Default table values

A default varying paper size table called DEFAULT is supplied with XPAF in TABLELIB. Table 19-4 shows the values defined for the default varying paper size table. The first row is the table's default entry and is used if a bin number error is encountered during processing.

Table 19-4. Default varying paper size table values

AFP bin #	Paper name	XES tray	CEP FEED	JDE	JDL
00	LETTER	1	MAIN	PGMODE	DFAULT
01	LETTER	1	MAIN	PGMODE	DFAULT
02	A4	1	MAIN	PGA4	DFAULT
03	LEGAL	1	MAIN	PG14	DFAULT
04	LONG	1	MAIN	PG1711	DFAULT

NOTE: The paper name for the default entry (AFP Bin # 00) defaults to LETTER. To set the default paper name to A4 (which also changes the JDE to PGA4), specify OPTIONS=A4 in the #GENRSC macro. For further information, refer to *Section Two: Installing and Customizing XPAF*.

Table specification

To enable this feature, you must specify a varying paper size table using the VARPAPTB initialization parameter, printer profile parameter, or extended JCL keyword.

For varying paper size table processing to work correctly, you must add a table entry using the Maintain Paper Tables option to the varying paper size table for each AFP bin number specified in the MMC structured fields. This table entry includes a paper name, an XES printer tray value, a centralized FEED command, and the associated JDE and JDL commands.

When userlibs are used in conjunction with varying paper size tables, and a JDL/JDE switch occurs, the RSTACK initialization parameter may affect document processing. For RSTACK settings E, N, or O, resources may be referenced across JDL/JDE environments. For RSTACK settings S, B, or G, resources referenced in the previous JDL/JDE environment will not be valid because a program and printer reset is performed when the RSTACK is processed. You must determine the correct setting for your environment.

NOTE: The JDE/JDL commands from the varying paper size table will be included in the data stream. The corresponding JDE/JDL on the printer must specify paper size dimensions which match the paper size dimensions obtained from the paper name table for this paper name.

Table processing

When XPAF encounters an AFP bin number in a data stream, processing for the varying paper sizes occurs as follows:

- If the bin number matches an entry in the varying paper size table, the paper name in the varying paper size table is matched to a paper name in the paper name table to determine the paper size.
- If the bin number does not match an entry in the varying paper size table, XPAF uses the default entry in the varying paper size table to determine the paper size. The first entry is always the default entry in a varying paper size table.

  NOTE: The default paper name for the default entry in the varying paper size table is either LETTER or A4, depending on your entry in the OPTIONS parameter of the #GENRSC macro. However, if you have modified either the paper name value in this table or the dimensions specified for this paper name in a paper name table, the modified value is used as the paper size.

- If any errors are encountered while processing the paper name or varying paper size tables, XPAF uses the value from the PAPERSIZ initialization parameter, printer profile parameter, or extended JCL keyword.

Once a paper name is obtained from PAPERSIZ, XPAF matches it to a paper name in the paper name table to determine the paper size.

Table 19-5 shows examples of the relationship between the varying paper size table, the paper name table, and the PAPERSIZ value.

Table 19-5. Varying paper size table processing examples

Varying paper size table entries	Paper name table specified?	Paper name found in table?	PAPERSIZ value	Actual paper size used
AFP Bin #: 1 Paper Name: NEWSIZ	Yes	Yes	Not applicable	Dimensions for NEWSIZ from paper name table
AFP Bin #: 1 Paper Name: NEWSIZ	Yes	No	LETTER	Dimensions for LETTER from paper name table
AFP Bin #: 1 Paper Name: NEWSIZ	No	Not applicable	A4	Dimensions for A4 from PAPERSIZ
AFP Bin #: undefined Paper Name: uses default value (LETTER)	Yes	Yes	Not applicable	Dimensions for LETTER from paper name table
AFP Bin #: undefined Paper Name: uses default value (LETTER)	Yes	No	LEGAL	Dimensions for LEGAL from paper name table
AFP Bin #: undefined Paper Name: uses default value (LETTER)	No	Not applicable	A4	Dimensions for A4 from PAPERSIZ
No varying paper size table defined	Yes[1]	Not applicable[1]	LEGAL[2]	Dimensions for LEGAL from paper name table

[1] If there is no valid varying paper size table defined, XPAF looks at PAPERSIZ to obtain a paper name. Then, XPAF looks at the currently active paper name table to determine the paper size associated with the paper name.

[2] The tray selection processing described in "Tray selection for undefined/invalid varying paper size table conditions" later in this chapter takes affect when the varying paper size table is not valid or undefined.

Tray selection for undefined/invalid varying paper size table conditions

If the varying paper size table is either not specified, invalid, or specified but cannot be opened, tray selection is determined in the following manner:

- For centralized printers, XOSF uses the bin number specified in the MMC structured field to generate a DJDE FEED command. Table 19-6 shows the DJDE FEED command generated for each bin number.

Table 19-6. AFP paper tray selection without varying paper size table for centralized printers

Bin number	DJDE FEED command
0, 1	MAIN
2	AUX
3	TRAY3[1]
4	TRAY4[1]
5	TRAY5[1]
6	TRAY6[1]
7	TRAY7[1]
8	TRAY8[1]
9	TRAY9[1]

[1] If bins 3 through 9 are specified in the MMC structured field, these cluster names must be valid for the printer on which the document will be printed.

- For decentralized and PCL-capable printers, XOSF issues a tray select command based on three criteria:
  - AFP bin number within the copy group
  - Paper name specified in PAPERSIZ
  - Printer type

Table 19-7 lists the tray select command XOSF issues to decentralized printers based on whether the primary or auxiliary feed is used and based on the paper name specified in PAPERSIZ. Table 19-8 lists the tray select command XOSF issues to PCL-capable printers based on whether the primary or auxiliary feed is used and based on the paper name specified in PAPERSIZ.

For both decentralized and PCL-capable printers, if no AFP bin number or AFP bin number 1 is specified within the copy group, XOSF uses the primary feed. If any AFP bin number other than 1 is specified within the copy group, XOSF uses the auxiliary feed.

For example, as shown in table 19-7, if AFP bin number 1 is specified within the copy group and LEGAL is specified in PAPERSIZ, XOSF will issue tray select command 1 to the 3700 printer, 1 to the 4030 printer, 0 to the 4045 printer, and so forth. If AFP bin number 2 is specified within the copy group and LEGAL is specified in PAPERSIZ, XOSF will issue tray select command 2 to the 3700 printer, 2 to the 4030 printer, 0 to the 4045 printer, and so forth.

Table 19-7. AFP paper tray selection without varying paper size table for decentralized printers

PAPERSIZ value	4700		4235		4213		4197		4045		4030		3700	
	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux
#10					9	9	5	5			5	5		
#7					9	9	5	5			5	5		
A3	3	3	3	2									4	4
A4	1	2	1	2	1[1]	2	1	2	0	0	1	2	1	2
A5			3	2	9	9	5	5			5	5		
A6					9	9	5	5			5	5		
B4			3	2										
B5					9	9	5	5			5	5		
C5					9	9	5	5			5	5		
DL					9	9	5	5			5	5		
EXEC					9	9	5	5			5	5		
LEGAL	3	3	2	2	1[1]	2	1	2	0	0	1	2	1	2
LEGL13	3	3	3	2	9	9	5	5			5	5		
LETTER	1	2	1	2	1[1]	2	1	2	0	0	1	2	1	2
LONG	3	3	3	2									4	4
POST					9	9	5	5			5	5		
STATMT			3	2	9	9	5	5			5	5		

[1] If the high capacity feeder (HCF) feature is selected for 4213 printers, the HCF is selected instead of tray 1.

Table 19-8. AFP paper tray selection without varying paper size table for PCL-capable printers[1]

PAPER-SIZ value	4900		4517		4512		4508		4230		4220/ 4219		4215		NPS printers		DocuSP Printers	
	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux	prim	aux
#10	2	2							3	2	3	2	1	2			2	2
#7																	2	2
A3									3	2	3	2	1	2			1	4
A4	1	4	1	2	1	2	1		4	1	1	2	1	2	1		1	4
A5					1	2			3	2	3	2	1	2			1	4
A6				2													1	4
B4									3	2	3	2	1	2			1	4
B5	2	2		2					3	2	3	2	1	2			1	4
C5				2					3	2	3	2	1	2			2	2
DL	2	2															2	2
EXEC	1	4	1	2	1	2	1		3	2	3	2	1	2			1	4
LEGAL	1	4	1	2	1	2	1		4	1	1	2	1	2	1		1	4
LEGL13	2	2	1	2					3	2	3	2	1	2			1	4
LETTER	1	4	1	2	1	2	1		4	1	1	2	1	2	1		1	4
LONG	1	4							3	2	3	2	1	2			1	4
POST																	2	2
STATMT				2					3	2	3	2	1	2			1	4

[1] Refer to table 19-7 for AFP paper tray selection information for the 4700, 4235, and 4213 printers.

Cluster mapping table

When printing DJDE data streams on decentralized or PCL-capable printers, XPAF uses cluster mapping tables to map a centralized paper tray cluster name to a paper tray on the decentralized or PCL-capable printer. Each cluster name is mapped to an XES or PCL tray select code and a paper name. The paper name is then matched to a paper size in the currently active paper name table at print time.

NOTE: Remapping paper trays on the printer is not supported by XPAF. Use the cluster mapping tables instead to map a centralized paper tray cluster name to a paper tray on a decentralized or PCL-capable printer.

This section provides the following information about the cluster mapping table:

- The default values supplied with XPAF
- How to define and use values other than the supplied defaults for the cluster mapping table
- How XPAF processes the cluster mapping table

Default table values

A default cluster mapping table is supplied with XPAF in TABLELIB for each decentralized or PCL-capable printer model. Each table is named DEFAULT*xxxx*, where *xxxx* represents the first four characters of the printer model.

Once the cluster mapping table name has been determined, the entry within that table with blanks for the cluster name is the default entry and will be used when a cluster name is referenced that is not in the table.

A default cluster mapping table named DEFAULT is also supplied in TABLELIB. This default table, shown in table 19-9, is used by XOAF and represents a generic printer.

Table 19-9. Default cluster mapping table values

Cluster name	Paper name	XES tray
	LETTER	1
AUX	LETTER	2
MAIN	LETTER	1
OPR	LETTER	1
TRAY1	LETTER	1
TRAY2	LETTER	2
TRAY3	LETTER	3
TRAY4	LETTER	4

The paper name for each entry defaults to LETTER. To set the default paper name to A4, specify OPTIONS=A4 in the #GENRSC macro during the resource installation. For more information, refer to *Section Two: Installing and Customizing XPAF*.

Table specification

You can create new cluster mapping tables using the Maintain Paper Tables option and specify them in the CLUSTRTB printer profile parameter or extended JCL keyword. Printers configured with the same paper tray definitions can share the same cluster mapping table.

For cluster mapping table processing to work correctly, each value specified in the FEED DJDE or extended JCL keyword must match a cluster name in the cluster mapping table.

Table processing

CAUTION: If you specify a value for PAPERSIZ in your extended JCL, that value overrides all paper name values in your currently active cluster mapping table. Therefore, the paper name processing described in this section does not apply. However, all other cluster mapping table processing occurs normally.

When XPAF encounters a value for the FEED= parameter (in PDLLIB, a DJDE, or extended JCL), while processing a data stream being sent to a decentralized or PCL-capable printer, cluster mapping table processing occurs as follows:

- If the cluster name matches an entry in the cluster mapping table, the tray select code and the paper name are retrieved. The tray select code is used to select the correct paper tray on the decentralized or PCL-capable printer. The paper name is matched to a paper name in the paper name table to determine the paper size.
- If the cluster name does not match an entry in the cluster mapping table, XPAF uses the default entry (with a blank cluster name) to determine the tray select code and paper name.
- If any errors are encountered while processing the paper name table, XPAF uses the value from the PAPERSIZ initialization or printer profile parameter to determine the paper size.

Table 19-10 shows examples of the relationship between the cluster mapping table, the paper name table, and the PAPERSIZ value. Note that if you have PAPERSIZ specified in your extended JCL, this value will override the paper name value in your printer's cluster mapping table that would normally be used by XPAF.

Table 19-10. Cluster mapping table processing examples

Cluster mapping table entries	Paper name table specified?	Paper name found in table?	PAPERSIZ value	Actual paper size used
Cluster name: MAIN Paper Name: NEWSIZ	Yes	Yes	Not applicable	Dimensions for NEWSIZ from paper name table
Cluster name: MAIN Paper Name: NEWSIZ	Yes	No	LETTER	Dimensions for LETTER from paper name table
Cluster name: MAIN Paper Name: NEWSIZ	No	Not applicable	A4	Dimensions for A4 from PAPERSIZ
Cluster name: undefined Paper Name: uses default value (LETTER)	Yes	Yes	Not applicable	Dimensions for LETTER from paper name table

Table 19-10. Cluster mapping table processing examples (Continued)

Cluster mapping table entries	Paper name table specified?	Paper name found in table?	PAPERSIZ value	Actual paper size used
Cluster name: undefined Paper Name: uses default value (LETTER)	Yes	No	LEGAL	Dimensions for LEGAL from paper name table
Cluster name: undefined Paper Name: uses default value (LETTER)	No	Not applicable	A4	Dimensions for A4 from PAPERSIZ
No cluster mapping table defined	Yes[1]	Not applicable[1]	LEGAL	Dimensions for LEGAL from paper name table

[1] If there is no valid cluster mapping table defined, XPAF looks at PAPERSIZ to obtain a paper name. Then, XPAF looks at the currently active paper name table to determine the paper size associated with the paper name.

Tray selection for invalid/override paper name conditions

If the paper name entry that matches the cluster name field in the cluster mapping table is not used because of an invalid or override condition, XPAF still determines tray selection based on the valid cluster name in the table. You must ensure that the correct size paper is loaded in the correct tray of the target printer. For example, if you specify FEED=MAIN and PAPERSIZ=LEGAL in your extended JCL, XPAF would assume that legal size paper is loaded in tray 1 for this cluster mapping table:

Cluster name	Paper name	XES tray
	LETTER	1
AUX	LEGAL	2
MAIN	LETTER	1

Font tables

The font tables are a set of tables related to font processing. The font tables are stored in the native library identified by the XOAF and XOSF DD statements that were specified by your systems programmer during installation using the FNTTBLDD initialization parameter. For more information about this parameter, refer to *Section Five: XPAF Parameter and Keyword Reference*.

The font table members can be categorized as follows:

- Xerox font-related tables. These tables are used by XPAF when converting centralized fonts to decentralized fonts, for printing centralized (DJDE) documents on decentralized printers, and for printing page-formatted documents.
- Replica font-related tables. These tables are used by XPAF when printing AFP documents on Xerox printers.

Some of the table members can be updated through various XOAF options and their TSO/batch equivalents. Those members that cannot be updated through XOAF can be viewed through the Display a Directory of Library Members option on the Manage Libraries menu. Refer to chapter 26, "Managing XPAF libraries" for information about how to use this option.

The role of each table during XPAF processing and the XOAF options available to update each table are discussed in detail later in this chapter. The conditions under which you will need to update one or more of the tables also are identified.

NOTE: If you plan to use only the XPAF-distributed Xerox and replica fonts without any modification, you do need to update these tables.

Concepts

Before you can update the font table members, you should be familiar with the following concepts.

Character identifier

A character identifier (also known as a CHARID) is a unique 8-character name that identifies a single IBM character. A given character identifier will map to the same character. For example, the character identifier LA020000 always maps to "A".

Character set

A character set is a collection of character properties and raster images for a group of character identifiers. A character set may contain any number of characters.

The character set properties define characteristics at two levels:

- Those that apply to all characters within the character set. This includes the following information:
  - Typeface name
  - Point size
  - Weight, style, and font width (such as condensed) of the characters
- Those that apply to individual characters. This includes the following information:
  - Baseline of a character showing its general alignment
  - Dimensions of the character
  - Position of the raster within the character cell

Character map

A character map links a character identifier to an ASCII or EBCDIC value that identifies a location within a font.

Code page

A code page links a code point (X'00' – X'FF') to a character identifier. This disassociation of the code point from the raster pattern allows for the dynamic mapping of hexadecimal values to the same or different images, depending on the code page mapping.

A code page can contain a complete character set or a subset of that character set. A single IBM code page can identify up to 256 code point/character identifier pairs.

For fonts used on a centralized printer, the code page (which is also called a character map) can define no more than 240 printable characters. For fonts used on a decentralized printer, the code page definition cannot exceed 192 printable characters. In the Xerox environment, some characters are reserved for print commands such as Form Feed.

A default character is defined in each code page. This character is printed if an undefined code point is encountered during printing.

Coded font

A coded font links a code page, which typically is EBCDIC, to a character set, as shown in this example.

Coded font			
Code page		**Character set**	
Code point	**CHARID**	**CHARID**	**Raster**
X'81'	LA010000	LA010000	a
X'C1'	LA020000	LA020000	A
X'82'	LB010000	LB010000	b
X'C2'	LB020000	LB020000	B
X'83'	LC010000	LC010000	c
…		…	
X'C9'	LI020000	LI020000	I
…		…	
X'7B'	SM010000	SM010000	#

Plane mapping

The Xerox printer architecture limits the size of each centralized font to a maximum of 240 printable characters and 256K of raster data. For decentralized fonts, the size limit is a maximum of 192 printable characters and 64K of raster data.

To accommodate character sets that exceed the size limitations, one font must be split into multiple fonts; these resulting fonts are called planes. For example, more than one replica font may be required for an IBM character set because a single IBM character set can have over 800 rasters.

XPAF uses plane mapping, which is the linking of more than one font to a character set, to place characters into centralized or decentralized fonts. To accommodate both centralized and decentralized fonts, Xerox limits the font mapping size to a maximum of 192 printable characters and 64K of raster data.

XPAF uses two types of plane mapping:

- Centralized-to-decentralized plane mapping, which allows a centralized font to be linked to a maximum of 8 decentralized planes. All planes (planes 01 through 08) can be used by your site. For more information about this type of plane mapping, refer to “Converting centralized fonts to decentralized fonts” in chapter 21, “Converting resources.”

- ISO8859-1 plane mapping, which allows more than 192 characters of a replica font to be associated together. ISO8859-1 plane mapping provides for up to 16 planes for one replica font:

  — Planes 0 to 11 (‘0’ to ‘B’) are reserved for Xerox use.
  — Planes 12 to 15 (‘C’ to ‘F’) can be used by your site.

  For more information about this type of plane mapping, refer to “Using custom replica fonts” in chapter 24, “Managing custom fonts.” Refer to “ISO8859-1 split plane mapping” later in this chapter for information about how XPAF handles the 64K of raster data limitation.

All characters to be defined are assigned a unique character identifier. Each character identifier (CHARID) is allocated to a certain ASCII code point. For example:

- The character “A” (CHARID LA020000) is assigned to plane 0, code point X'41'.
- The character “™” (CHARID SM540000) is assigned to plane 2, code point X'C1'.

Different characters can be assigned the same code points in different planes. For example, the uppercase I, the semicolon, the left brace, and the equal sign may have the same code point but reside in different planes.

ISO8859-1 split plane mapping

For IBM character sets above the 14 point size, the 64K raster area in a plane is quickly exceeded. Therefore, the characters assigned to each plane will not fit into one replica font.

Because of this, each plane for font point sizes above 14 must be split further into more replica fonts. Each replica font will contain a subset of characters from the original plane. For example, if plane 0 is split into two split planes:

- Some characters will be placed in split plane 1 for plane 0.
- The rest of the characters will be placed in split plane 2 for plane 0.

The planes are named in this manner: the split number is followed by the number of the original plane (‘0’ to ‘F’). For example:

- 00: No split, plane 0
- 10: Split 1 of plane 0
- 21: Split 2 of plane 1
- 0F: No split, plane 15
- 4F: Split 4 of plane 15

Xerox uses a defined split plane mapping for each type of replica font:

- For standard replica fonts, a single plane is split into several split planes. The number of split planes depends on the point size of the font. For example, an 18-to-22 point font requires plane 0 to be split into two split planes. A 36-point font requires 4 split planes for each plane 0 to 3.
- To minimize the number of split planes, Xerox places characters in the fonts so that as much of raster area is filled as possible.

- For custom replica fonts, if the point size is greater than 13, planes 12 to 15 (‘C’ to ‘F’) are divided evenly into split planes:

Point size	No. of splits per original plane
4–12	0
13–17	2
18–24	4
25–36	8

Xerox font-related tables

The font table members used during the processing of Xerox fonts are summarized in table 19-11 and discussed in detail following the table.

Table 19-11. Xerox font processing tables

Member name	Description	Function
XPAFA2A	ASCII-to-ASCII	Links the character mapping of the centralized version of the font to the character mapping of the decentralized version of the font.
XPAFEFW	EBCDIC font widths	Contains information that is needed to position characters in Xerox fonts correctly at print time for a page-formatted document.
XPAFE2A	EBCDIC-to-ASCII	Links EBCDIC values for IBM code pages to ASCII values for Xerox fonts specified in a page-formatted document. ***NOTE:*** A Xerox font can use either a Xerox code page or an IBM code page.
XPAFFFI	Font family information	Contains information used to create a font descriptor structured field when a Xerox font is converted for use in a DCF document.
XPAFXFI	Xerox font information	Contains information about centralized and decentralized fonts, including character mapping information.
Various	Character mapping	Consists of a number of character mapping tables. Some of these tables contain centralized and decentralized ASCII character mapping; others contain EBCDIC mapping.

ASCII-to-ASCII (XPAFA2A) table

The XPAFA2A table is used when printing centralized (DJDE) documents on decentralized printers to determine where a character is mapped within the decentralized version of the font being used.

Entries within the XPAFA2A table are created or modified only when the XPAFXFI table is updated. Each entry is created using the character mapping tables for the centralized and decentralized formats in the XPAFXFI table entries.

EBCDIC font widths (XPAFEFW) table

The XPAFEFW table contains the Xerox font widths for a given IBM character set in order based on the code page width (X'00' – X'FF') of each character. Typically, this arrangement is in EBCDIC format.

XPAF uses this table when processing page-formatted documents to position characters correctly at print time. If a particular code page/character set pair is encountered that does not have an XPAFEFW table entry, XPAF attempts to build an entry dynamically before terminating processing and requeueing the document.

The XPAFEFW table is created and updated during installation by RJOB105. For Xerox fonts that will be used in page-formatted documents, the XPAFE2A table also can be created or updated by using either the Update Xerox Font Characteristics Information option on the Xerox Page Format Editor menu or the CONVERT FONT TSO/batch command. Refer to *Section Eight: Xerox Page Format Editor User Guide* for more information about using this option or command.

NOTE: The XPAFEFW also is used when processing replica fonts. Refer to “Replica font-related tables” later in the chapter for more information.

EBCDIC-to-ASCII (XPAFE2A) table

The XPAFE2A table translates EBCDIC values for IBM code pages to ASCII values for Xerox fonts. XPAF uses this table to translate the incoming IBM code point to the appropriate code point in the correct plane.

NOTE: If a document references a code page for which there is no XPAFE2A table entry, the printing of the document is terminated, and the document is requeued.

The XPAFE2A table is created or updated during installation by running RJOB105. For Xerox fonts that will be used in page-formatted documents, the XPAFE2A table also can be created or updated by using either the Update Xerox Font Characteristics Information option on the Xerox Page Format Editor menu or the CONVERT FONT TSO/batch command. Refer to *Section Eight: Xerox Page Format Editor User Guide* for more information about using this option or command.

Each XPAFE2A table entry contains the IBM code page name, Xerox centralized or decentralized character mapping name, and the EBCDIC code point of the character defined as the default character in the named code page.

NOTE: The XPAFE2A also is used when processing replica fonts. Refer to "Replica font-related tables" later in the chapter for more information.

Font family information (XPAFFFI) table

The XPAFFFI table supports the use of Xerox centralized fonts in IBM's DCF/SCRIPT software product. This table provides font characteristics that are used with .DF control words and that permit the font to be referenced by font type as well as by font name.

When Xerox font characteristics are converted to IBM format during the processing of the Convert Xerox Fonts to IBM Format option on the Convert Resources menu or the CONVERT FONT TSO/batch command, this table is used to create the font descriptor structured field in the character set member.

XPAF provides font family information table entries for Universe and Press Roman fonts. If you use any fonts other than these, you must update the font family information table.

You can display, create, or modify the XPAFFFI table by using the Maintain the Font Family Information (XPAFFFI) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables" for more information about this option.

Xerox font information (XPAFXFI) table

The XPAFXFI table contains font naming and metrics information (for example, typeface, weight, width, point size, and print direction) for centralized and decentralized fonts stored in native font libraries. This table also identifies the name of the character mapping tables that contain the centralized and decentralized character mappings and the code page for each font.

The XPAFXFI table is used under these conditions:

- Whenever a DJDE application is printed on a decentralized printer.
- When fonts are converted from centralized to decentralized format. XPAF uses the centralized and decentralized formats to determine where to place the centralized characters in the decentralized font. It uses the values associated with the code page to determine which characters to include in the decentralized font.
- During the conversion of Xerox fonts for use in IBM DCF documents. This table is referenced during the processing of the Convert Xerox Fonts to IBM Format option on the Convert Resources menu, which makes Xerox fonts available to IBM's DCF product.

Entries to this table are generated automatically for each font that you load using either the Load Centralized Fonts option on the Load Resources menu or the LOAD FONT TSO/batch command. Optionally, entries can be generated for this table when you load fonts using the Load Decentralized Fonts option on the Load Resources menu or the LOAD FONT TSO/batch command.

You can display, create, or modify the XPAFXFI table by using the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables" for more information about this option.

Character mapping tables

Character mapping tables contain mapping information for characters within a character mapping variation. These tables link a character identifier to a location within a font in ASCII or EBCDIC representation. Each entry in a character mapping table contains a character identifier (CHARID) and a corresponding code point.

Character mapping tables can be categorized as follows:

- Centralized and decentralized character mapping tables define code points, which typically are ASCII.
  - — A centralized character mapping table is a mapping variation that relates a character ID to a location, expressed as an ASCII value, in the centralized font map.
  - — A decentralized character mapping table is a mapping variation that relates a character ID to a location within a specific plane number, expressed as an ASCII value, in the decentralized font map.

  The centralized and decentralized mapping tables are used during centralized-to-decentralized font conversion to determine the character mapping of the resulting decentralized font. Refer to chapter 21, "Converting resources" for more information about centralized-to-decentralized font conversion.
- Code page tables define code points, which typically are EBCDIC. A code page mapping relates a character ID to a location, expressed as an EBCDIC value, in the centralized font map. These tables are used to replicate an IBM code page during a conversion of Xerox fonts for use in a DCF document.

Appendix D describes the naming conventions for XPAF-supplied character mapping tables and identifies the default tables used during the centralized-to-decentralized font and DCF conversions. The source for the character mapping tables is distributed with XPAF in XPFSAMP.

You can display or create new character mapping tables or add entries to existing tables by using the Maintain Character Mapping Tables option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables" for more information about this option.

Replica font-related tables

The font table members used during the processing of replica fonts for AFP data streams are summarized in table 19-12 and discussed in detail following the table.

Table 19-12. Replica font processing tables

Member name	Description	Function
CPGID	Code page global identifier	Contains the code page names and corresponding character set global identifier/code page global identifier pair for each name.
FGID	Font global identifier	Contains the character set names and the corresponding font global identifier and space character width for each name.
IPDFLT	IPDFLT	Contains the default version of the IPSTND table.
IPSTND	IPSTND	Links an IBM character identifier (CHARID) to a particular plane and ASCII code point within that plane.
XPAFAFW	ASCII font widths	Contains information about each replica font, including the widths of all characters within that font.
XPAFCFN	Coded font name	Contains the code page/character set pair to be used for each IBM coded font.
XPAFEFW	EBCDIC font widths	Contains the width (at 300 dpi) of each character contained in the IBM font.
XPAFE2A	EBCDIC-to-ASCII	Links each character in a Xerox or replica font to a split/plane and the ASCII code point within that split/plane.
XPAFIFW	IBM font widths	Contains the widths (at 240 dpi) of each character in the IBM font.
XPAFIFW3	IBM font widths	Contains the widths (at 300 dpi) of each character in the IBM font.
XPAFI2I	IBM-to-IBM	Contains identification text taken from the IBM character set.
XPAFI2X	IBM-to-Xerox	Links each IBM character set to a group of replica fonts. Each replica font references one plane or split of a plane.

Throughout this section, references are made to RJOB105, which is a batch job that is run when XPAF resources are installed. This job creates or modifies the following font table members to ensure that the table information is in synchronization with the information contained in your IBM font library:

- CPGID
- FGID
- XPAFCFN
- XPAFEFW
- XPAFE2A
- XPAFIFW
- XPAFIFW3

Thereafter, XPAF provides several options you can use to create or update the IBM font table entries. You should run the appropriate IBM font table update option to ensure synchronization whenever changes are made to the IBM font library or additional replica fonts are installed:

- If you change an IBM coded font or add new fonts to your IBM font library, use one of these options to update the tables:
  - Update IBM Font Characteristics Information on the Manage Tables menu
  - CONVERT IBM TSO/batch command

  Refer to chapter 23, "Managing XPAF tables" for information about using this option or command.
- If you install custom replica fonts, you must run one of these options to rebuild the tables:
  - Update IBM Font Characteristics Information on the Install Custom Replica Fonts (version 5 encoding or below) menu or the CONVERT IBM TSO/batch command
  - Install Custom Replica Fonts (version 6 encoding or above) on the Manage Custom Replica Fonts menu

  Refer to chapter 24, "Managing custom fonts" for information about how to use these options when installing custom replica fonts.

Code page global identifier (CPGID) table

The CPGID table contains IBM code page names and the corresponding graphic character set global identifier and code page global identifier for each code page name. XPAF uses the CPGID table to support the processing of MCF-2 structured fields that contain global resource identifiers (GRIDs).

When an MCF-2 structured field is encountered by XPAF during the processing of an AFP data stream, XPAF examines the repeating group for the Fully Qualified Name triplet to determine whether it specifies a code page name type. If a code page name type exists, XPAF uses the specified code page name for the processing of the current font.

If the repeating group for the Fully Qualified Name triplet does not contain a code page name type but does contain a GRID, XPAF uses the graphic character set global identifier and code page global identifier values in the GRID to obtain the code page name of the font being processed from the CPGID table. If XPAF does not find the graphic character set global identifier or code page global identifier value in this table, document processing is terminated, an error message is issued, and the document is requeued.

The CPGID table is created during installation by running RJOB105. The CPGID table also is created or updated automatically whenever you run one of XPAF's IBM font table update options. RJOB105 and the update options extract the graphic character set global identifier and code page global identifier values from the code page descriptor record of each code page member in your IBM font library. XPAF uses these values to create an entry in the CPGID table.

You can create or update entries in this table manually by using the Maintain the Code Page Global Identifier (CPGID) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables" for more information about this option. Manual updates may be necessary if, for example, an entry cannot be found in the CPGID table when XPAF processes an MCF-2 structured field's GRID.

Font global identifier (FGID) table

The FGID table contains IBM character set names and the corresponding font global identifier and width of the space character for each character set name. XPAF uses the FGID table to support the processing of MCF-2 structured fields that contain GRIDs.

When an MCF-2 structured field is encountered by XPAF during the processing of an AFP data stream, XPAF examines the repeating group for the Fully Qualified Name triplet to determine whether it specifies a character set name type. If a character set name type exists, XPAF uses the specified character set for the processing of the current font.

If the repeating group for the Fully Qualified Name triplet does not contain a character set name type but does contain a GRID, XPAF uses the font global identifier and space character width values in the GRID to obtain the character set name from the FGID table. If XPAF does not find the font global identifier value in this table, document processing is terminated, an error message is issued, and the document is requeued.

Once a valid entry is retrieved from the FGID table, the character set name is adjusted. To adjust the name, the code page name value for the font being processed is used as a key into an internal XPAF table to determine a font family complement ID value. The complement ID value is then substituted as the sixth character of the character set name. This revised character set name is the name used by XPAF for the processing of the current font. Refer to figure 19-1 for an example of this substitution process.

The FGID table is created during installation by running RJOB105. The FGID table also is created or updated automatically whenever you run one of XPAF's IBM font table update options. RJOB105 and the update options extract the font global identifier and the nominal horizontal font size values for each character set name from the font descriptor record in your IBM font library. XPAF uses these values to create an entry in the FGID table.

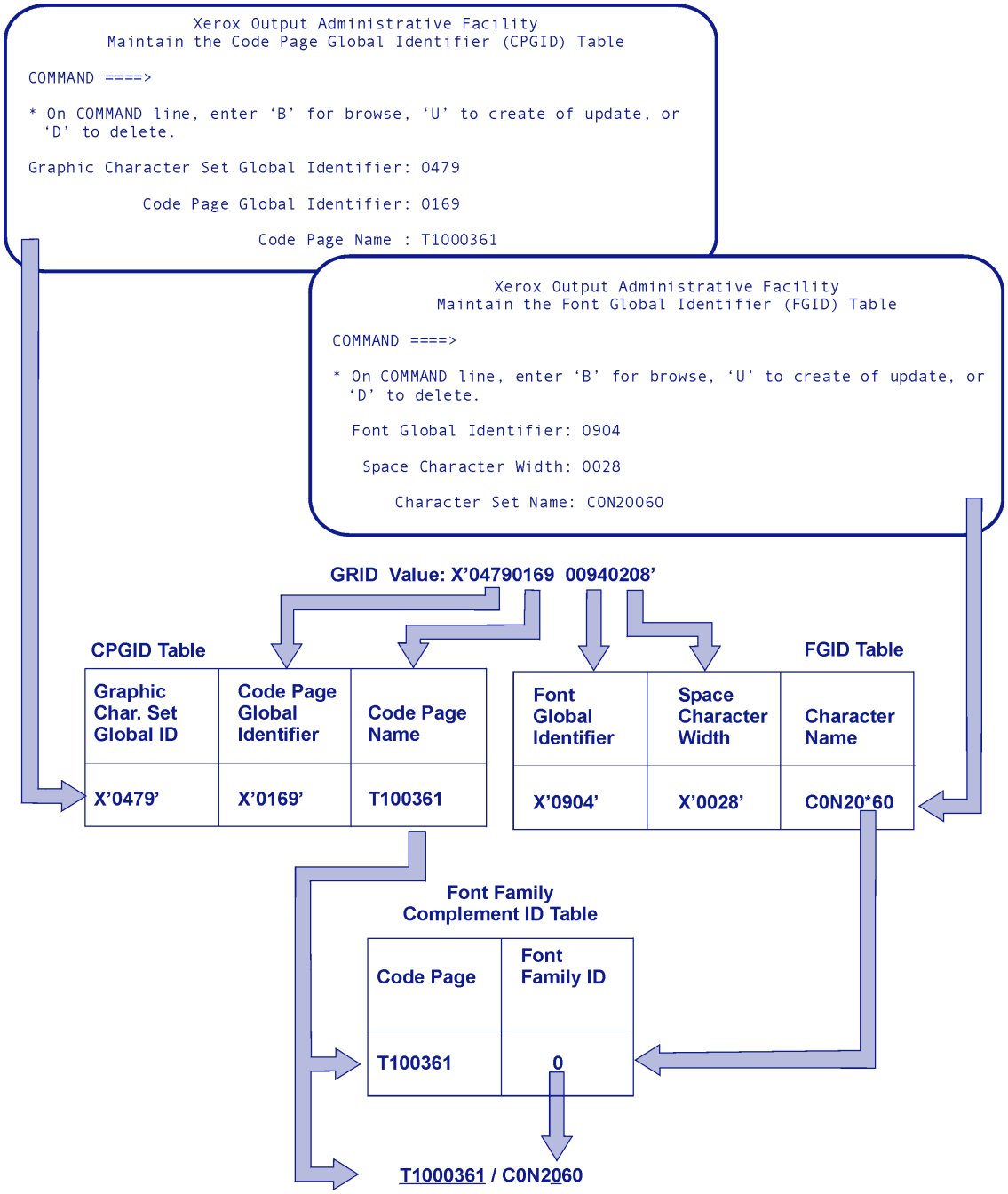
NOTE: XPAF stores the nominal horizontal font size in the font global identifier table as the space character width.

You can create or update entries in this table manually by using the Maintain the Font Global Identifier (FGID) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables" for more information about this option. Manual updates may be necessary if, for example, an entry cannot be found in the FGID table when XPAF processes an MCF-2 structured field's GRID.

IPDFLT table

The IPDFLT table is identical to the IPSTND table that is supplied with XPAF in TABLELIB. However, it cannot be altered and is retained as the default version of the IPSTND table.

Figure 19-1. CPGID and FGID table processing for GRIDs



IPSTND table

The IPSTND table defines every character for each IBM font supported by replica fonts. For each character, this table links the IBM character identifier (CHARID) value to a Xerox plane number and an ASCII code point location within that plane. RJOB105 uses this table to build the XPAFE2A table.

NOTE: If a character identifier does not appear in this table, XPAF cannot support that character. During printing, any unsupported character prints using the default character for that code page.

The IPSTND table is supplied with XPAF in TABLELIB. If you install custom replica fonts, you must run one of these options on the Manage Custom Replica Fonts menu to update the table:

- Update the IPSTND Table on the Install Custom Replica Fonts (version 5 encoding or below) menu
- Install Custom Replica Fonts (version 6 encoding or above)

Refer to chapter 24, “Managing custom fonts” for information about how to use these options.

ASCII font widths (XPAFAFW) table

The XPAFAFW table contains an entry for every replica font. Each entry contains the replica font name, general information about the font (for example, baseline to top of cell and kerning information), and the width of every character in that font.

XPAF uses this table to correct the positioning of characters when converting character placements from 240 to 300 dpi. If an XPAFAFW table entry cannot be found for a font during processing, XPAF terminates processing and requeues the document.

The XPAFAFW table is supplied with XPAF in TABLELIB and is updated automatically whenever additional replica fonts are loaded into the centralized font library using the Install Custom Replica Fonts (version 6 encoding or above) option on the Manage Custom Replica Fonts menu.

You also can update the XPAFAFW table when you load replica fonts into the decentralized font library using either the Load Custom Replica Fonts option on the Install Custom Replica Fonts (version 5 encoding or below) menu or the LOAD FONT TSO/batch command.

Coded font name (XPAFCFN) table

The XPAFCFN table provides XPAF with the names of the code page and character set that make up the IBM coded fonts in your IBM font library. XPAF uses this table to determine which code page/character set pair is required for a specified coded font. If a coded font is found that does not have a XPAFCFN table entry, XPAF searches the IBM font library identified by the XOSF DD statement that was specified using the IBMFONTDD initialization parameter and creates an entry dynamically.

The XPAFCFN table is created during installation by running RJOB105. The XPAFCFN table also is created or updated automatically whenever you run one of XPAF's IBM font table update options. RJOB105 and the update options create an entry in this table for every coded font contained in the referenced IBM font library. Each table entry contains the IBM coded font name followed by the code page name and character set name specified in that coded font.

You can use Maintain the Coded Font Name (XPAFCFN) Table on the Maintain Font Tables menu if you need to make a small amount of changes or additions to this table. Otherwise, use the Update IBM Font Characteristics Information option on the Manage Tables menu or the CONVERT IBM TSO/batch command to rebuild the XPAFCFN table and other tables that are needed to support replica fonts.

Refer to chapter 23, "Managing XPAF tables" for more information about using these options.

EBCDIC font widths (XPAFEFW) table

The XPAFEFW table contains the Xerox font widths for a given IBM character set in order based on the code page width (X'00' – X'FF') of each character. Typically, this arrangement is in EBCDIC format.

XPAF uses this table in conjunction with the XPAFIFW table to calculate where each character from the replica font should be placed when emulating the spacing of an IBM font. If a particular code page/character set pair is encountered that does not have an XPAFEFW table entry, XPAF attempts to build an entry dynamically before terminating processing and requeueing the document.

The XPAFEFW table is created and updated during installation by RJOB105 using data from the XPAFAFW table, the IBM code page, and the XPAFI2X table. The XPAFEFW table also is created or updated automatically whenever you run one of XPAF's IBM font table update options.

Each table entry contains a code page name, character set name, and font information (that is, baseline to top of cell, kern values etc.) for each plane used to replicate that code page/character set pair.

The table also contains the widths at 300 dpi of each character referenced in the code page/character set pair. The width information in this table is calculated by dividing the corresponding width from the XPAFIFW table entry by 240 and then multiplying by 300. The result is rounded down to the nearest whole number.

EBCDIC-to-ASCII (XPAFE2A) table

The XPAFE2A table translates EBCDIC values for IBM code pages to ASCII values for Xerox and replica fonts. XPAF uses this table to translate the incoming IBM code point to the appropriate code point in the correct plane. The XPAFI2X table is then used to establish which Xerox or replica font should be used for the plane specified in the XPAFE2A table.

NOTE: If a document references a code page for which there is no XPAFE2A table entry, the printing of the document is terminated, and the document is requeued.

The XPAFE2A table is created or updated during installation by running RJOB105. The XPAFE2A table also is created or updated automatically when you run one of XPAF's IBM font table update options. RJOB105 and the update options create or update table entries, each of which contains the IBM code page name, Xerox centralized or decentralized character mapping name, and the EBCDIC code point of the character defined as the default character in the named code page.

If you load a new centralized font, you must run either the Convert Xerox Fonts to IBM Format option on the Convert Resources menu or CONVERT FONT TSO/batch command before you use a centralized or decentralized version of the font in a DCF/SCRIPT document. This ensures that the XPAFEFW table is updated with information that is needed to position characters correctly at print time. Refer to chapter 21, "Converting resources" for more information about using this option or command.

IBM font widths (XPAFIFW) table

The XPAFIFW table contains the width of each IBM character in an IBM character set/code page pair. The widths in this table are used for text string placement comparisons to ensure that an XPAF formatted document prints the same as an AFP document.

XPAF uses this table to establish the widths of the characters referenced in the specified IBM code page/character set pair. If a particular code page/character set pair is found that does not have an XPAFIFW table entry, XPAF searches the IBM font library identified by the XOSF DD statement that was specified using the IBMFONTDD initialization parameter and creates an entry dynamically. If the character set cannot be found in the IBM font library, the processing of the document is terminated, and the document is requeued.

The XPAFIFW table is created and updated during installation by RJOB105 and XPAF. The XPAFIFW table also is created or updated automatically when you run one of XPAF's IBM font table update options.

This table contains the widths at 240 dpi of all characters referenced by each code page/character set pair found by RJOB105 when processing the coded font members of the IBM font library referenced. Each entry contains the code page name and character set name followed by width information for each character referenced by the named code page.

IBM font widths (XPAFIFW3) tables

The XPAFIFW3 table contains the width of each IBM character in an IBM character set/code page pair. The widths in this table are used for text string placement comparisons to ensure that an XPAF formatted document prints the same as an AFP document.

XPAF uses this table to establish the widths of the characters referenced in the specified IBM code page/character set pair. If a particular code page/character set pair is found that does not have an XPAFIFW3 table entry, XPAF searches the IBM font library identified by the XOSF DD statement that was specified using the IBMFONTDD initialization parameter and creates an entry dynamically. If the character set cannot be found in the IBM font library, the processing of the document is terminated, and the document is requeued.

The XPAFIFW3 table is created and updated during installation by RJOB105 and XPAF. The XPAFIFW table also is created or updated automatically when you run one of XPAF's IBM font table update options.

This table contains the widths at 300 dpi of all characters referenced by each code page/character set pair found by RJOB105 when processing the coded font members of the IBM font library referenced. Each entry contains the code page name and character set name followed by width information for each character referenced by the named code page.

IBM-to-IBM (XPAFI2I) table

The XPAFI2I table contains an entry for every IBM character set distributed with XPAF (that is, every character set supported as standard). Each table entry contains the character set name followed by the first 36 bytes of data from the font descriptor structured field in that character set.

The XPAFI2I table is supplied with XPAF in TABLELIB. This table is used to allow the standard IBM character sets to be renamed without having to create new XPAFI2X table entries.

IBM-to-Xerox (XPAFI2X) table

The XPAFI2X table identifies the Xerox fonts needed to replicate the fonts represented by an IBM character set. The XPAFI2X table links each IBM character set to a group of replica fonts. Each replica font references a specific plane or split of a plane. A plane is split when all of the characters specified in that plane do not fit into one replica font.

NOTE: Even if a plane is empty, it may still be listed in the XPAFI2X table in order to reserve the name for future use.

The XPAFI2X table also contains the point size of the IBM character set. This value is used by XPAF to establish which characters are in which split. RJOB105 uses this table in conjunction with the IPSTND table to build the XPAFE2A table.

NOTE: During document processing, if XPAF encounters a character set that does not have a corresponding XPAFI2X table entry, XPAF searches the XPAFI2I table for a matching entry. This allows XPAF to recognize a character set that is a copy of a supported font.

The XPAFI2X table is supplied with XPAF in TABLELIB. If you install custom replica fonts, you must run one of these options to update the table:

- Update the IBM-to-Xerox (XPAFI2X) Table on the Install Custom Replica Fonts (version 5 encoding or below) menu
- Install Custom Replica Fonts (version 6 encoding or above) on the Manage Custom Replica Fonts menu

Refer to chapter 24, “Managing custom fonts,” for information about how to use these options.

Color cross-reference tables

The color cross-reference tables are a set of tables used to support Xerox highlight color printing capabilities for centralized printers. Highlight color is the use of a single solid (spot) color to accentuate or contrast material from monochromatic (usually black) printed areas. Xerox uses the term “highlight color” to mean printing with black plus one color.

DJDE, page-formatted, or AFP documents can be set up for a particular color. If the colors in your document do not match the colors on your highlight printer, you can use a color-cross reference table to map the color specified in the document to the color specified in the printer ink source language (ISL).

For example, you can map blue to red. Or, let’s say a page-formatted document references the colors turquoise and green, but the printer ISL defines the highlight color as red. Using a color cross-reference table, you can map both turquoise and green to red. For more information about how to use highlight color in documents, refer to *Section Four: Printing Documents with XPAF*.

NOTE: Xerox printers that support full color printing do not require color cross-reference tables. For the 4700 printer, XPAF supports highlight color printing through the use of the color conversion table, which is discussed later in this chapter.

Library and default table definition

The color cross-reference tables are stored in the library which was identified by the XOSF DD statement specified by your systems programmer during installation using the INKXLIB initialization or printer profile parameter. During installation, your systems programmer also may have identified a default color cross-reference table by specifying the INKXREF initialization or printer profile parameter.

For more information about these parameters, refer to *Section Five: XPAF Parameter and Keyword Reference*.

Table maintenance

Your application programmers will need to identify the highlight color to be substituted for colors specified in DJDE, page-formatted, or AFP documents. You can then use the Maintain Color Cross-Reference Tables option on the Manage Tables menu to create and maintain color cross-reference tables. Each table you create can be used by multiple highlight color printers. Refer to Chapter 23, “Managing XPAF tables” for information about using this option.

Color conversion table

The color conversion table maps highlight colors to decentralized color values, allowing you to print DJDE documents that contain highlight color on the 4700 printer without modifying the documents. XPAF uses the color conversion table to map centralized printer ink names to RGB color values which are used by the 4700 printer.

NOTE: The color conversion table cannot be used to print highlight color documents on the 4900 printer because the 4900 printer's operating system software (OSS) does not support PCL color commands.

Library and default table definition

XPAF provides a default color conversion table, named COLR4700, in XPFSAMP. The color conversion table is preloaded for you and resides in the native library specified in the XOSF start-up proc DD statement named by the INKXLIB initialization parameter or printer profile parameter. For more information about the INKXLIB parameter, refer to *Section Five: XPAF Parameter and Keyword Reference*.

Table maintenance

You can modify a copy of the color conversion table to add custom colors. If you do, you must then reload it using one of these options:

- Maintain the Color Conversion Table option on the Manage Tables menu
- LOAD INKS TSO/batch command

Refer to chapter 23, "Managing XPAF tables," for information about maintaining the color conversion table.

20. Loading resources to a native library

This chapter describes how to use the options available through the Load Resources menu to load these types of resources:

- Fonts. Use the Load Centralized Fonts and Load Decentralized Fonts options to load fonts to the native centralized and decentralized font libraries. These options must be performed for any .FNT or sixelized (2700 format) font files that are referenced in a document but not resident on the selected printer.

  For centralized fonts, XPAF automatically builds XPAFXFI table entries for the fonts during the load process. For decentralized fonts, you can specify whether you want XPAF to build the table entries.

  NOTE: You do not want to build XPAFXFI table entries for a decentralized font if a centralized version of the font already exists in the native centralized font library.

- Forms. Use the Load Centralized Forms and Load Decentralized Forms options to load forms to the native centralized and decentralized form libraries. These options must be performed for any .FRM or XES form files that are referenced in a document but not resident on the selected printer.
- Images. Use the Load Centralized Images and Load Decentralized Images options to load images to the native centralized and decentralized image libraries. These options must be performed for any .IMG or sixelized image files that are referenced in a document but not resident on the selected printer.
- Logos. Use the Load Centralized Logos option to load .LGO files to the native centralized logo library. This option must be performed for any .LGO file that is referenced in a form but not resident on the selected printer.
- PDL. Use the Load PDL option to load PDL members to a native PDL library. Whenever you change PDL on a printer, you also must update it on the host and use this option to load the updated host version to a native library.

Before resource files can be processed by any of the options on the Load Resources menu, they must be transferred from their existing location, such as on a printer, by tape and stored in the same format as on the tape. After the files have been transferred, they can be loaded to a native library. Refer to *Section Two: Installing and Customizing XPAF* for information about uploading printer resources.

Loading centralized fonts

To load fonts to the centralized font library, enter **1** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Load Centralized Fonts to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:

  XPAFXFI TABLE SPECIFICATIONS
      Centralized Character Mapping Name:
    Decentralized Character Mapping Name:
                          Code Page Name:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS, sequential dataset, or native centralized font library that contains the centralized font(s) to be loaded. If you have multiple fonts concatenated in a single file, they must be loaded from a sequential dataset with valid headers. All fonts within the sequential dataset will be loaded. The dataset specifications for a PDS or sequential dataset are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Member Name	• Enter a 1- to 8-character member name if the font is stored in a PDS or a 1- to 20-character member name if the font is stored in a native library. You can enter a specific font name in this field, or use a wildcard character to select all fonts or fonts beginning with a certain prefix. For example: * Selects all members. RX* Selects all members that begin with RX. RX?ABC Selects all members that begin with RX, end with ABC, and have one character in between RX and ABC. RX1ABC Selects the single member RX1ABC. • Leave this field blank if the font is stored in a sequential dataset.

Field	Action
OUTPUT **Dataset Name**	Enter the name of the native centralized font library. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the centralized font library by the CFONTLIB initialization parameter or the FONTLIB printer profile parameter. For each font loaded, the output member name is constructed from the name in the font header record.
XPAFXFI TABLE SPECIFICATIONS **Centralized Character Mapping Name**	Enter the 1- to 6-character name of the character mapping table that contains the centralized character mapping of the font. For each character in the font, this table contains the character ID and its ASCII hexadecimal mapping value. This name is passed to the 'Centralized Character Mapping Name' field in the XPAFXFI table. Default: CCMV01
Decentralized Character Mapping Name	Enter the 1- to 6-character name of the character mapping table that contains the decentralized character mapping of the font. For each character in the font, this table contains the character ID, plane number, and its ASCII hexadecimal mapping value. This name is passed to the 'Decentralized Character Mapping Name' field in the XPAFXFI table. Default: DCMV01
Code Page Name	• Enter the 1- to 6-character name of the character mapping table that contains the code page mapping for the font (for example, XCP5). This name is passed to the 'Code Page Name' field in the XPAFXFI table. ***NOTE:*** You can specify either the name of an XPAF-supplied code page mapping, the name of an IBM code page mapping, or the name of a code page mapping that you have created. Refer to Chapter 28, "Character mapping tables" for more information about XPAF-supplied code page mappings. Refer to chapter 23, "Managing XPAF tables," for information about using IBM code pages or creating your own character mapping tables. • Leave this field blank if an entry already exists in the XPAFXFI table for this font. Default: Six space characters

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load Centralized Fonts option:

LOAD FONT('*input-dataset-name*[(*member-name* | *)]')

[TO]('*output-dataset-name*') TYPE(9700) [IFORMAT(*centralized-format* | *CCMV01*)

OFORMAT(*decentralized-format* | *DCMV01*) CODEPAGE(*code-page-name*)]

Loading centralized forms

To load forms to the centralized form library, enter **2** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Load Centralized Forms to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     Member Name:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS or sequential dataset that contains the centralized form(s) to be loaded. If you have multiple forms concatenated in a single file, they must be loaded from a sequential dataset with valid headers. The dataset specifications are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Member Name	• Enter a 1- to 8-character member name if the form is stored in a PDS. • Enter an asterisk (*) to load all forms in a PDS. • Leave this field blank if the form is stored in a sequential dataset.
OUTPUT **Dataset Name**	Enter the name of the native centralized form library. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the centralized form library in the CFORMLIB initialization parameter or FORMLIB printer profile parameter.
Member Name	• Enter the 1- to 6-character name of the form as it will be known to the printer. • The output member name is required when the input is from a sequential dataset with no centralized form header record. • Leave this field blank if you want the output member name to be constructed from the form name in the centralized form header record. The member name must conform to the form naming conventions required for your centralized printer. Refer to your centralized printer manual for more information.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load Centralized Forms option:

LOAD FORM('*input-dataset-name*[(*member-name* | *)]')

[TO]('*output-dataset-name*[(*member-name*)]') CENTRALIZED

Loading centralized images

To load images to the centralized image library, enter **3** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Load Centralized Images to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     Member Name:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS or sequential dataset that contains the centralized image(s) to be loaded. If you have multiple images concatenated in a single file, they must be loaded from a sequential dataset with valid headers. The dataset specifications are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Member Name	• Enter a 1- to 8-character member name if the image is stored in a PDS. • Enter an asterisk (*) to load all images in a PDS. • Leave this field blank if the image is stored in a sequential dataset.
OUTPUT **Dataset Name**	Enter the name of the native centralized image library. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the centralized image library by the CIMAGELIB initialization parameter or the IMAGELIB printer profile parameter.
Member Name	• Enter the 1- to 6-character image name as it will be known to the printer. • The output member name is required when the input is from a sequential dataset with no centralized image header record. • Leave this field blank if you want the output member name to be constructed from the image name in the centralized image header record.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load Centralized Images option:

LOAD IMAGE('*input-dataset-name*[({ *member-name* | * })]')

[TO]('*output-dataset-name*[(*member-name*)]') CENTRALIZED

Loading centralized logos

To load logos to the centralized logo library, enter **4** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Load Centralized Logos to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     Member Name:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS or sequential dataset that contains the logo(s) to be loaded. If you have multiple logos concatenated in a single file, they must be loaded from a sequential dataset with valid headers. The dataset specifications are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Member Name	• Enter a 1- to 8-character member name if the logo is stored in a PDS. • Enter an asterisk (*) to load all logos in a PDS. • Leave this field blank if the logo is stored in a sequential dataset.
OUTPUT **Dataset Name**	Enter the name of the native centralized logo library. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the centralized logo library by the CLOGOLIB initialization parameter or the LOGOLIB printer profile parameter.
Member Name	• Enter the 1- to 6-character logo name as it will be known to the printer. • Leave this field blank if you want the output member name to be constructed from the logo name in the centralized logo header record. The member name must conform to the logo naming conventions required for your centralized printer. Refer to your centralized printer manual for more information.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load Centralized Logos option:

LOAD LOGO('*input-dataset-name*[(*member-name* | *)]')

[TO]('*output-dataset-name*[(*member-name*)]')

Loading decentralized fonts

To load fonts to the decentralized font library, enter **5** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                Load Decentralized Fonts to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:

  XPAFXFI TABLE SPECIFICATIONS
    Create Table Entry? (Y/N):
               Code Page Name:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS, sequential dataset, or native decentralized font library that contains the decentralized font(s) to be loaded. If you have multiple fonts concatenated in a single file, they must be loaded from a sequential dataset with valid headers. All fonts within the sequential dataset will be loaded. The dataset specifications for a PDS or sequential dataset are: RECFM=F or FB LRECL=80 BLKSIZE=A value appropriate for your site
Member Name	• Enter a 1- to 8-character member name if the font is stored in a PDS or a 1- to 20-character member name if the font is stored in a native library. You can enter a specific font name in this field, or use a wildcard character to select all fonts or fonts beginning with a certain prefix. For example: * Selects all members. RX* Selects all members that begin with RX. RX?ABC Selects all members that begin with RX, end with ABC, and have one character in between RX and ABC. RX1ABC Selects the single member RX1ABC. • Leave this field blank if the font is stored in a sequential dataset.

Field	Action
OUTPUT **Dataset Name**	Enter the name of the native decentralized font library. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the decentralized font library by the DFONTLIB initialization parameter or the FONTLIB printer profile parameter. For each font loaded, the output member name is constructed from the font name in the font header record.
XPAFXFI TABLE SPECIFICATIONS **Create Table Entry?**	Specify whether you want a XPAFXFI table entry created automatically for this font. Valid values: Y Automatically creates an XPAFXFI table entry for this font. Select this value only if you are not loading a centralized version of this font. N Does not create an entry. Default: N ***NOTE:*** The name of the table entry is constructed from the first six characters of the font name in the font header record.
Code Page Name	If you specified a value of Y in the 'Create Table Entry?' field, enter the 1- to 6-character name of the character mapping table that contains the code page mapping for the font (for example, XCP12). ***NOTE:*** You can specify either the name of an XPAF-supplied code page mapping, the name of an IBM code page mapping, or the name of a code page mapping that you have created. Refer to Chapter 28, "Character mapping tables" for more information about XPAF-supplied code page mappings. Refer to chapter 23, "Managing XPAF tables," for information about using IBM code pages or creating your own character mapping tables. Default: None

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load Decentralized Fonts option:

LOAD FONT('*input-dataset-name*[(*member-name* | *)]')

[TO]('*output-dataset-name*') TYPE (*2700*) | (270X) CODEPAGE(*code-page-name*)

Loading decentralized forms

To load forms to the decentralized form library, enter **6** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Load Decentralized Forms to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     Member Name:



NOTE: Output member name is required if input file is sequential with no tape
header label record.
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS that contains the decentralized form(s) to be loaded. Decentralized forms must be stored in a PDS. The dataset specifications are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Member Name	• Enter a 1- to 8-character member name. • Enter an asterisk (*) to load all forms in a PDS.
OUTPUT **Dataset Name**	Enter the name of the native decentralized form library. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the decentralized form library by the DFORMLIB initialization parameter or the FORMLIB printer profile parameter.
Member Name	• Enter the 1- to 20-character form name as it will be known to the printer. • Leave this field blank if you want the output member name to be the same as the input member name. The member name must conform to the form naming conventions required for your decentralized printer. Refer to your decentralized printer manual for more information.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load Decentralized Forms option:

LOAD FORM('*input-dataset-name*({ *member-name* | * })')

[TO]('*output-dataset-name*[(*member-name*)]') DECENTRALIZED

Loading decentralized images

To load images to the decentralized image library, enter **7** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Load Decentralized Images to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     Member Name:



NOTE: Output member name is required if input file is sequential with no tape
header label record.
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS that contains the decentralized image(s) to be loaded. The recommended dataset specifications are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Member Name	• Enter a 1- to 8-character member name. • Enter an asterisk (*) to load all images in a PDS.
OUTPUT **Dataset Name**	Enter the name of the native decentralized image library. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the decentralized image library by the DIMAGELIB initialization parameter or the IMAGELIB printer profile parameter.
Member Name	• Enter the 1- to 20-character image name as it will be known to the printer. • Leave this field blank if you want the output member name to be the same as the input member name. The member name must conform to the image naming conventions required for your decentralized printer. Refer to your decentralized printer manual for more information.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load Decentralized Images option:

LOAD IMAGE('*input-dataset-name*({ *member-name* | * })')

[TO]('*output-dataset-name*[(*member-name*)]') DECENTRALIZED

Loading PDL

To load a PDL member, enter **8** on the Load Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                        Load PDL to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     PCL Version:

NOTE:
   Use the following PCL versions if using JDL with large paper size
   or color options:
                        V3A FOR 11 X 17 (4635)
                        V37 FOR COLOR   (4890)
                        V35 FOR NORMAL  (4090) - Default
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS where the source members are stored. The recommended dataset specifications are: RECFM=FB For JSL source files, use RECFM=FB, LRECL=80 For PDL object files, use RECFM=FB, LRECL=128 BLKSIZE=A value appropriate for your site ***NOTE:*** The PDL loader identifies text in 80-byte records as JSL source files. 128-byte records containing binary data with a standard tape header preceding them are identified as PDL objects.
Member Name	Enter the 1- to 8-character name of the member in which the PDL resides. Wild cards may be specified in the input member name to facilitate mass loading. The * and ? wild cards may be specified. Any text following an “ * “ is considered to match the member name character position. Any text in the position indicated with a “ ? “is considered to match.

Field	Action
OUTPUT **Dataset Name**	Enter the name of the native library to which the PDL member is being loaded. This is the dataset in the XOSF start-up proc DD statement named by the PDLLIB initialization or printer profile parameter.
PCL Version	Enter the version of the printer control language software running on the centralized printer. Any eight characters can be used to indicate the software version. Default: V35 For PDL object files the PCLVER is saved as a part of the member name. When an attempt is made to match the PCLVER to the printer definition LPSRELEASE and an exact match cannot be found, the first object with the correct name and type will be used. Refer to chapter 18, "XPAF resources," for more information. ***CAUTION:*** If incorrect default values are entered, unpredictable results may occur. ***NOTE:*** Specify V37 when PDL object files contain color references. Specify V3A when you have specified large paper sizes such as 11x17 inches.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Load PDL option:

LOAD PDL('*input-dataset-name*(*member-name*)')

[TO]('*output-dataset-name*')[PCLVER({ V*nn* / V35 })]

PDL loader member naming conventions

When you load PDL to the native library, the PDL loader creates a separate member for each labeled statement included in the PDL and assigns it a 20-byte name. The format is as follows:

Table 20-1. PDL member name processing

File type	Member name format
JSL format	Each member name is a 20-byte name constructed using the JDL name, the statement identifier, and the type separated by periods. The first 6 characters contain the JDL name, which may be padded with space characters at the end of the name if it is not 6 characters. After a period, the next 6 characters contain the statement identifier, which may be padded with space characters at the end of the name if it is not 6 characters. After a period, the 3-character type is followed by 3 space characters. For example, if the JDL name is DFAULT, the statement identifier is DFLT, and the type is JDE, the member name generated would be “DFAULT.DFLT .JDE ”.
Cataloged member format	Each member name is a 20-byte name constructed using a constant string, the statement identifier, and the type separated by periods. The first 6 characters is the constant string ‘$GLOB$’. After a period, the next 6 characters is the statement identifier, which may be padded with space characters at the end of the name if it is not 6 characters. After a period, the 3-character type is followed by 3 space characters. For example, if the statement identifier is FMT1 and the type is PDE, the member name generated would be “$GLOB$.FMT1 .PDE ”.
PDL object files	Each object name is a 20-byte name constructed using the file name, the file type, and the PCL version separated by periods. The first 6 characters is the file name, which may be padded with space characters at the end of the name if it is not 6 characters. After a period the next 3 characters are the file type. After a period, the PCL version may be padded with space characters if it is not 8 characters. For example, if the file name is DFAULT, the file type is JDL, and the PCL version is 3.5, the PDL object name would be “DFAULT.JDL.V35 ”.

PDL processing considerations

The PDL loader loads PDL as coded. The loader is not designed to handle PDL coding errors. Should errors exist within the PDL, the results may be unpredictable.

In addition, note these considerations when using the PDL loader:

- If your PDL contains statements with duplicate names, they will be flagged as errors during the loading process.
- If you have used the PDL loader to load an updated PDL member, you must drain and restart the printer before using the updated PDL.
- If you simultaneously load PDL members to a native library and print documents through XOSF, you may receive error messages indicating that a requested resource is unavailable. As a result, decentralized documents may be printed incorrectly. If there are errors in a document, resubmit the print job after PDL loading has completed and the printer has been restarted.
- If you reload a PDL object member and a corresponding JSL source member and are using AUTOREV, you must drain and restart the printer for the source object to remain in sync.

PDL loader report

The PDL loader generates a report that shows the contents of each PDL library member created during loading. Figure 20-1 shows a sample report.

The report is written to a dataset with the DD name UJLLIST, included in the XOAF logon proc and XOAF batch JCL. As shown in the following examples, you can specify a dataset name in place of SYSOUT.

```
//XOAFBAT   PROC   CORE=4096K,USER=
//XOAF      EXEC   PGM=XOASUP00,REGION=&CORE,PARM=(&USER)
                      .
            additional DD statements
                      .
//UJLLIST   DD     SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=1330)
//XOAIN     DD     DDNAME=SYSIN
```

```
//XOAFBAT   PROC   CORE=4096K,USER=
//XOAF      EXEC   PGM=XOASUP00,REGION=&CORE,PARM=(&USER)
                      .
            additional DD statements
                      .
//UJLLIST   DD     DSN=prefix.UJLLIST,DISP=SHR
//XOAIN     DD     DDNAME=SYSIN
```

If you specify a dataset name in the XOAF logon proc or batch JCL, you must preallocate a sequential dataset with these specifications:

RECFM=FBA
LRECL=133
BLKSIZE=1330

Deleting obsolete PDL members

You can delete the obsolete members from a native PDL library by using either the Display a Directory of Library Members option or the Delete a Member option on the Manage Libraries menu. Refer to chapter 26, "Managing XPAF libraries," for information about how to use these options.

Alternatively, you can use the LIBRARY DIRECTORY or LIBRARY DELETE TSO/batch commands to display or delete obsolete members. Refer to chapter 26, "Managing XPAF libraries," for the format for these commands.

Figure 20-1. Sample PDL loader report

```
                  X E R O X   P D L   L O A D E R   R E P O R T         PAGE   1
 INPUT-DSN=XPAF30.PDLSOURCE                              INPUT-MEMBER=SAMPLE1
OUTPUT-DSN=XPAF30.PDLLIB                                          PCLVER=V35
*************************   DFAULT.DFLT  .JDE   ************************
DFLT:   JDE;
        ACCT         USER=NONE;
        BANNER       HCOUNT=1,
                     HJOBNO=(12,5),
                     HRPTNA=(18,8),
                     TCOUNT=1,
                     TEST=(C1 OR C2);
        IDEN         OFFSET=0,
                     OPRINFO=NO,
                     PREFIX='@@@DJDE',
                     SKIP=8;
        LINE         DATA=(0,250),
                     FCB=IGNORE,
                     UCSB=IGNORE,
                     VFU=VFU1;
        OUTPUT       DUPLEX=YES,
                     FORMAT=FMT01,
                     GRAPHICS=YES,
                     OFFSET=NONE,
                     STAPLE=NO,
                     STOCKS=STK2;
        RAUX         TEST=(C1 OR C5);
        RECORD       LENGTH=214;
        RSTACK       ACCTINFO=(32,20),
                     DELIMITER=YES,
                     HRPTNA=(16,16),
                     PRINT=NONE,
                     TEST=(C4);
*********************************************************************
*************************   $GLOB$.FMT1  .PDE   ************************
FMT1:   PDE          BEGIN=(.18,.66),
                     FONT=L0112B,
                     PMODE=LANDSCAPE;
*********************************************************************
*************************   $GLOB$.FMT2  .PDE   ************************
FMT2:   PDE          BEGIN=(.18,.50),
                     FONT=L0212A,
                     PMODE=LANDSCAPE;
*********************************************************************
UJL0701I PDL LOADER COMPLETED SUCCESSFULLY
```

21. Converting resources

This chapter describes how to use the options available through the Convert Resources menu to perform these types of conversions:

- Convert centralized fonts in .FNT format to decentralized (sixelized) format. You must use this option when you want to print a document that was originally coded for a centralized printer on a decentralized or PCL-capable printer.
- Convert logos in .LGO format to decentralized fonts. You must use this option when you want to print a document that was originally coded for a centralized printer on a decentralized or PCL-capable printer. Any logos included in a centralized form must be converted separately and made available to the printer prior to printing the job.
- Convert a Xerox font to IBM format for use in a DCF/SCRIPT document.
- Preconvert AFP page segments to .IMG or RES .IMG format and load them to native libraries. By preconverting the page segments, your document can be printed without having to wait for a dynamic conversion during processing.

Converting centralized fonts to decentralized fonts

Before using this option, you should be aware of certain considerations related to performing a centralized-to-decentralized font conversion. You also should verify that the XPAFXFI table contains valid character mapping information for the fonts to be converted.

Conversion considerations

Note these considerations when performing a centralized-to-decentralized font conversion:

- You cannot convert licensed fonts. To print a centralized document that contains a licensed font on a decentralized or PCL-capable printer, you must obtain a decentralized version of the licensed font from Xerox Font Services or a third-party vendor.
- Inverse portrait and inverse landscape centralized replica fonts cannot be converted to decentralized fonts. Decentralized inverse portrait and inverse landscape fonts are actually portrait and landscape fonts with the rasters inverted. When these fonts are converted for use with AFP documents they will be positioned incorrectly in your document. You must obtain the correct versions of these fonts from Xerox Font Services or a third-party vendor.
- One centralized font can be mapped to up to eight decentralized fonts, also known as planes, during centralized-to-decentralized font conversion. While a centralized font can contain up to 240

characters, a decentralized font can contain only a maximum of 192 characters. For example, DCMV01, the default decentralized character mapping table provided with XPAF, places the most commonly used 192 code points in plane 01, also known as the primary plane. The remaining code points are placed in plane 02.

- If you are converting a centralized font that contains more than 192 characters to a decentralized font, you may want to adjust which characters will reside in the primary plane, plane 01, and which characters will be mapped to the remaining planes (02 through 08). Refer to "Adjusting your decentralized character mapping tables" later in this chapter for instructions about how to adjust the way characters in your font are distributed in each plane.
- Each plane can contain a maximum of 64K of raster data. During centralized-to-decentralized font conversion, if a font contains more than 64K of raster data, its characters must be placed in more than one plane. If the 64K storage memory limit for a decentralized font is reached during conversion, this means that a plane is full. XPAF issues a message telling you which plane is full and stops processing all remaining character IDs. You must edit the appropriate decentralized character mapping table, change the plane numbers for the remaining character IDs and code points to a plane number that is not full, and run the centralized-to-decentralized conversion again.
- If you attempt to convert a font and exceed the 64K storage limit, refer to "Adjusting your decentralized character mapping tables" later in this chapter for information about the steps you must take to perform the conversion successfully.
- Some ASCII code points are reserved for XPAF or printer use, and therefore cannot have any characters assigned to them. For more information about reserved code points, refer to the discussions about creating character mapping tables from a dataset and online in chapter 23, "Managing XPAF tables."
- If you have two character IDs mapped to the same code point and plane number combination, XPAF issues a message telling you which character ID in the font is in error. Font conversion continues, but the character ID that tried to use an existing code point/plane number combination is dropped from font processing and will not be found in the new font. You must edit the appropriate decentralized character mapping table, change the plane number of the character ID in error to an unused code point and plane number combination, and run centralized-to- decentralized font conversion again.

Verifying XPAFXFI table entries

Before you use this option, you must ensure that the XPAFXFI table entry for the centralized font contains valid centralized and decentralized character mapping names. During centralized-to-decentralized conversion, XOAF uses the centralized and decentralized character mapping names to determine where to place the centralized characters in the decentralized font. If the XPAFXFI table does not contain valid centralized and decentralized character mapping name entries, XOAF terminates centralized-to-decentralized font conversion and issues an error message.

To ensure that the XPAFXFI table contains the necessary entries, complete these steps:

Step 1. Use the Load Centralized Fonts option on the Load Resources menu or the LOAD FONT TSO/batch command to load the centralized version of the font to the centralized font library. Specify the centralized and decentralized character mapping table names here. If none are specified, default names are generated to the XPAFXFI table during loading. Refer to chapter 20, "Loading resources to a native library," for more information about this option.

Step 2. Use the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu to verify that the appropriate character mapping table names are listed in the 'Centralized Character Mapping Name' and 'Decentralized Character Mapping Name' fields. Refer to chapter 23, "Managing XPAF tables," for more information about this option.

Step 3. Use the Maintain the Character Mapping Tables option on the Maintain Font Tables menu to verify that all expected character IDs exist in the centralized character mapping table, and that the character IDs in the decentralized character mapping table are mapped to the desired code point and plane number combinations. Refer to chapter 23, "Managing XPAF tables," for more information about this option.

If you need to modify the decentralized character mapping table, refer to "Adjusting your decentralized character mapping tables" later in this chapter before performing centralized-to-decentralized font conversion.

Using this option

To convert fonts from centralized to decentralized format, enter **1** on the Convert Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                Convert Centralized Fonts to Decentralized Fonts

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:

  OUTPUT SPECIFICATIONS
        Message Listing:
    Font Sample (Y/N/R):
      Lower Range Limit:
      Upper Range Limit:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS, sequential dataset, or native centralized font library that contains the centralized font you want to convert. If you have multiple fonts concatenated in a single file, they must be converted from a sequential dataset with valid headers. All fonts within the sequential dataset will be converted. The dataset specifications for a PDS or sequential dataset are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site

Field	Action
Member Name	• Enter the 1- to 8-character member name if the font is stored in a PDS or native library. The member name may or may not match the logical font name. You can enter a specific font name in this field, or use a wildcard character to select all fonts or fonts beginning with a certain prefix. For example: * Selects all members. RX* Selects all members that begin with RX. RX?ABC Selects all members that begin with RX, end with ABC, and have one character in between RX and ABC. RX1ABC Selects the single member RX1ABC. • Leave this field blank if the font is stored in a sequential dataset. ***NOTE:*** Remember that you cannot convert a licensed centralized font to a decentralized font. Instead, you must obtain a licensed decentralized version of the font.
OUTPUT **Dataset Name**	Enter the name of the native decentralized font library where the converted font will be stored. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the decentralized font library by the DFONTLIB initialization parameter or FONTLIB printer profile parameter. The decentralized font name is constructed from the name in the centralized font header record.
OUTPUT SPECIFICATIONS **Message Listing**	Enter the name of the sequential dataset to which you want conversion messages to be written. The dataset contents are in XES format and can be sent to any decentralized printer. Do not specify the XOAF message dataset. Refer to *Section Six: XPAF Messages* for an explanation of font conversion messages and any required user action. The recommended dataset specifications are: RECFM=FB LRECL=133 BLKSIZE=A value appropriate for your site Default: None

Field	Action
Font Sample	Identify the type of font information to be stored in the dataset specified in the 'Message Listing' field. It can be either the font sample for the converted decentralized font, the font sample plus a raster breakdown for each character in a specified range, or nothing. Valid values: Y Generates the font sample for the converted decentralized font and stores it in the dataset identified in the 'Message Listing' field. N Does not generate anything in the message listing dataset. R Generates the font sample for the converted decentralized font plus a raster breakdown for each character in a specified range. This information is stored in the dataset identified in the 'Message Listing' field. You also must specify values in the 'Lower Range Limit' and 'Upper Range Limit' fields. Default: None
Lower Range Limit	Enter the ASCII code point starting value for the raster breakdown, which will be stored in the dataset identified in the 'Message Listing' field. Valid values: A 2-digit hexadecimal value from 20 through FF. To select all characters, enter **20** here and **FF** in the 'Upper Range Limit' field. Default: None ***NOTE:*** Some ASCII code points are reserved for XPAF or printer use, and therefore cannot have any characters assigned to them. For more information about reserved code points, refer to the discussions about creating character mapping tables from a dataset and online in chapter 23, "Managing XPAF tables."
Upper Range Limit	Enter the ASCII code point ending value for the raster breakdown, which will be stored in the dataset identified in the 'Message Listing' field. Valid values: A 2-digit hexadecimal value from 20 through FF. To select all characters, enter **20** in the 'Lower Range Limit' field and **FF** here. Default: None ***NOTE:*** The output created by the 'Lower Range Limit' and 'Upper Range Limit' fields may be large depending upon the font size and the number of characters specified in these fields.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Convert Centralized Fonts to Decentralized Fonts option:

CONVERT XFONT('*input-dataset-name*[({ *member-name* | * })]')

[TO]('*output-dataset-name*') SAMPLE({ Y | N | R }) [LIST('list-dataset-name')

LOWER(*nn*) UPPER(*nn*)]

NOTE: If SAMPLE is set to Y, LIST is required. If SAMPLE is set to R, LIST, LOWER, and UPPER are required. *nn* is a hexadecimal value from 20 to FF.

Adjusting your decentralized character mapping tables

You will need to adjust your character mapping tables under these conditions:

- If you exceed the 64K storage limitation during the centralized-to-decentralized font conversion
- If you want to adjust the way the characters in your font are distributed to which planes for greater printing performance

Adjusting to accommodate the 64K storage limitation

Perform one of these procedures if XPAF issues a message during the centralized-to-decentralized font conversion telling you the plane is full.

- If you specified DCMV01 as the decentralized character mapping table for the font in the XPAFXFI table and exceeded the 64K storage limitation during font conversion, perform these steps:

  1. Use the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu to specify DCMV02 in the ‘Decentralized Character Mapping Name’ field for the font. DCMV02 more evenly distributes the code points for large fonts between two planes rather than placing the most commonly used 192 code points in plane 01.

  2. Run the centralized-to-decentralized font conversion again using either the Convert Centralized Font to Decentralized Fonts option on the Convert Resources menu or the CONVERT XFONT TSO/batch command.

3. Use the Convert Xerox Fonts to IBM Format option on the Convert Resources menu or the CONVERT FONT TSO/batch command to ensure that the XPAFEFW and XPAFE2A tables are updated with information that is needed to position characters correctly at print time. Refer to "Converting Xerox fonts to IBM format" later in this chapter for more information.

- If you specified DCMV02 as the decentralized character mapping table for the font in the XPAFXFI table and exceeded the 64K storage limitation during font conversion, perform these steps:

  1. Create a site-specific decentralized character mapping table which maps the code points for the font across more than two planes. Then load the table using the Create/Update a Character Mapping Table from a Dataset option on the Maintain Character Mapping Tables menu. Refer to chapter 23, "Managing XPAF tables," for more information about creating and loading character mapping tables.

  2. Use the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu to specify the name of the new decentralized character mapping table in the 'Decentralized Character Mapping Name' field for the font.

  3. Run the centralized-to-decentralized font conversion again using either the Convert Centralized Font to Decentralized Fonts option on the Convert Resources menu or the CONVERT XFONT TSO/batch command.

  4. Use the Convert Xerox Fonts to IBM Format option on the Convert Resources menu or the CONVERT FONT TSO/batch command to ensure that the XPAFEFW and XPAFE2A tables are updated with information that is needed to position characters correctly at print time. Refer to "Converting Xerox fonts to IBM format" later in this chapter for more information.

- If you specified your site-specific character mapping table as the decentralized character mapping table for the font in the XPAFXFI table and exceeded the 64K storage limitation during font conversion, perform these steps:

  1. Edit the PDS member that is the input source for the decentralized character mapping table you want to modify. Change the plane numbers for the remaining character IDs and code points to a plane number that is not full. Then load the table using the Create/Update a Character Mapping Table from a Dataset option on the Maintain Character Mapping Tables menu. Refer to chapter 23, "Managing XPAF tables," for more information about creating and loading character mapping tables.

  2. Use the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu to specify the name of the new decentralized character mapping table in the 'Decentralized Character Mapping Name' field for the font.

3. Run the centralized-to-decentralized font conversion again using either the Convert Centralized Font to Decentralized Fonts option on the Convert Resources menu or the CONVERT XFONT TSO/batch command.

4. Use the Convert Xerox Fonts to IBM Format option on the Convert Resources menu or the CONVERT FONT TSO/batch command to ensure that the XPAFEFW and XPAFE2A tables are updated with information that is needed to position characters correctly at print time. Refer to "Converting Xerox fonts to IBM format" later in this chapter for more information.

Adjusting for performance optimization

If all of your converted characters fit into one plane, you can either leave them in this configuration, or you can move the characters you do not use frequently into a second plane. You must determine if you receive greater printing performance by loading one large font, or by loading two smaller fonts and switching between them during a print job.

If more than one plane is needed to represent a font, place all of your most commonly used characters in the primary plane. The less font switching that occurs during a print job, the greater printing performance you will receive. For example, if the 26 characters of the English alphabet are mapped to plane 01 and the é character is mapped to plane 02, moving the é character to the primary plane would result in less font switching when printing documents containing French text.

To adjust a decentralized character mapping table, follow this procedure.

Step 1. Offload your existing font tables so that you have a backup. Refer to chapter 26, "Managing XPAF libraries," for instructions about offloading members of a library.

Step 2. Edit the PDS member that is the input source for the decentralized character mapping table you want to modify. Adjust which code point and plane number each character ID will reside in after conversion. Then load the table using the Create/Update a Character Mapping Table from a Dataset option on the Maintain Character Mapping Tables menu.

Step 3. Run the centralized-to-decentralized font conversion using either the Convert Centralized Font to Decentralized Fonts option on the Convert Resources menu or the CONVERT XFONT TSO/batch command.

Step 4. Use the Convert Xerox Fonts to IBM Format option on the Convert Resources menu or the CONVERT FONT TSO/batch command to ensure that the XPAFEFW and XPAFE2A tables are updated with information that is needed to position characters correctly at print time. Refer to "Converting Xerox fonts to IBM format" later in this chapter for more information.

Step 5. For all printers using font lists, use the REVFONT extended JCL keyword to download the newly converted font.

Font conversion sample

As part of the XPAF centralized-to-decentralized font conversion, you can specify that a sample of the converted font be generated to a message dataset. The sample can be generated with just a decentralized code points table and font sample or with these items plus a raster sample.

On the following pages, a centralized-to-decentralized font conversion scenario is given. In this example, the contents of the XPAFXFI table, centralized character mapping table, and decentralized character mapping table for font RA12BP are shown. Then the Convert Centralized Fonts to Decentralized Fonts panel entries which initiate the font conversion are shown. Lastly, the contents of the resulting message dataset are shown and explained.

NOTE: This example is meant only to explain the contents of the message dataset generated during centralized-to-decentralized font conversion. You already should be familiar with the required components and procedures related to centralized-to-decentralized font conversion before you read this example.

Sample Xerox font information table requirements

The font RA12BP must have the XPAFXFI table set up with entries for its centralized and decentralized character mapping tables. In this example, the centralized character mapping table for RA12BP is CSAMP1, and its decentralized character mapping table is DSAMP1. A sample panel is shown below.

Refer to chapter 23, “Managing XPAF tables,” for more information about updating the XPAFXFI table.

```
                    Xerox Output Administrative Facility
             Maintain the Xerox Font Information (XPAFXFI) Table

COMMAND ===>

* On COMMAND line, enter 'U' to create or update an entry.

  Logical Font Name: RA12BP

  SPECIFICATIONS
                                 Font Name: RA12BP
      Centralized Character Mapping Name: CSAMP1
    Decentralized Character Mapping Name: DSAMP1
                           Code Page Name: RXCP08
                               Font Width: 0017
                              Font Height: 0024
                  Baseline to Top of Cell: 0019
                  Decentralized Font Name:
```

Sample centralized character mapping table requirements

The contents of the sample centralized character mapping table CSAMP1 are:

```
CHARID=LA010000  ASCII=61
CHARID=LA020000  ASCII=41
CHARID=LB010000  ASCII=62
CHARID=LB020000  ASCII=42
CHARID=LC010000  ASCII=63
CHARID=LC020000  ASCII=43
CHARID=LD010000  ASCII=64
CHARID=LD020000  ASCII=44
CHARID=LE010000  ASCII=65
CHARID=LE020000  ASCII=45
CHARID=LF010000  ASCII=66
CHARID=LF020000  ASCII=46
CHARID=LG010000  ASCII=67
CHARID=LG020000  ASCII=47
CHARID=LH010000  ASCII=68
CHARID=LH020000  ASCII=48
CHARID=LI010000  ASCII=69
CHARID=LI020000  ASCII=49
CHARID=LJ010000  ASCII=6A
CHARID=LJ020000  ASCII=4A
CHARID=LK010000  ASCII=6B
CHARID=LK020000  ASCII=4B
CHARID=LL010000  ASCII=6C
CHARID=LL020000  ASCII=4C
CHARID=LM010000  ASCII=6D
CHARID=LM020000  ASCII=4D
CHARID=LN010000  ASCII=6E
CHARID=LN020000  ASCII=4E
CHARID=LO010000  ASCII=6F
CHARID=LO020000  ASCII=4F
CHARID=LP010000  ASCII=70
CHARID=LP020000  ASCII=50
CHARID=LQ010000  ASCII=71
CHARID=LQ020000  ASCII=51
CHARID=LR010000  ASCII=72
CHARID=LR020000  ASCII=52
CHARID=LS010000  ASCII=73
CHARID=LS020000  ASCII=53
CHARID=LT010000  ASCII=74
CHARID=LT020000  ASCII=54
CHARID=LU010000  ASCII=75
CHARID=LU020000  ASCII=55
CHARID=LV010000  ASCII=76
CHARID=LV020000  ASCII=56
CHARID=LW010000  ASCII=77
CHARID=LW020000  ASCII=57
CHARID=LX010000  ASCII=78
CHARID=LX020000  ASCII=58
CHARID=LY010000  ASCII=79
CHARID=LY020000  ASCII=59
CHARID=LZ010000  ASCII=7A
CHARID=LZ020000  ASCII=5A
```

Sample decentralized character mapping table requirements

The contents of the decentralized character mapping table DSAMP1 are:

```
CHARID=LA010000  ASCII=41  PLANE=01
CHARID=LA020000  ASCII=41  PLANE=02
CHARID=LB010000  ASCII=42  PLANE=01
CHARID=LB020000  ASCII=42  PLANE=02
CHARID=LC010000  ASCII=43  PLANE=01
CHARID=LC020000  ASCII=43  PLANE=02
CHARID=LD010000  ASCII=44  PLANE=01
CHARID=LD020000  ASCII=44  PLANE=02
CHARID=LE010000  ASCII=45  PLANE=01
CHARID=LE020000  ASCII=45  PLANE=02
CHARID=LF010000  ASCII=46  PLANE=01
CHARID=LF020000  ASCII=46  PLANE=02
CHARID=LG010000  ASCII=47  PLANE=01
CHARID=LG020000  ASCII=47  PLANE=02
CHARID=LH010000  ASCII=48  PLANE=01
CHARID=LH020000  ASCII=48  PLANE=02
CHARID=LI010000  ASCII=49  PLANE=01
CHARID=LI020000  ASCII=49  PLANE=02
CHARID=LJ010000  ASCII=4A  PLANE=01
CHARID=LJ020000  ASCII=4A  PLANE=02
CHARID=LK010000  ASCII=4B  PLANE=01
CHARID=LK020000  ASCII=4B  PLANE=02
CHARID=LL010000  ASCII=4C  PLANE=01
CHARID=LL020000  ASCII=4C  PLANE=02
CHARID=LM010000  ASCII=4D  PLANE=01
CHARID=LM020000  ASCII=4D  PLANE=02
CHARID=LN010000  ASCII=4E  PLANE=01
CHARID=LN020000  ASCII=4E  PLANE=02
CHARID=LO010000  ASCII=4F  PLANE=01
CHARID=LO020000  ASCII=4F  PLANE=02
CHARID=LP010000  ASCII=50  PLANE=01
CHARID=LP020000  ASCII=50  PLANE=02
CHARID=LQ010000  ASCII=51  PLANE=01
CHARID=LQ020000  ASCII=51  PLANE=02
CHARID=LR010000  ASCII=52  PLANE=01
CHARID=LR020000  ASCII=52  PLANE=02
CHARID=LS010000  ASCII=53  PLANE=01
CHARID=LS020000  ASCII=53  PLANE=02
CHARID=LT010000  ASCII=54  PLANE=01
CHARID=LT020000  ASCII=54  PLANE=02
CHARID=LU010000  ASCII=55  PLANE=01
CHARID=LU020000  ASCII=55  PLANE=02
CHARID=LV010000  ASCII=56  PLANE=01
CHARID=LV020000  ASCII=56  PLANE=02
CHARID=LW010000  ASCII=57  PLANE=01
CHARID=LW020000  ASCII=57  PLANE=02
CHARID=LX010000  ASCII=58  PLANE=01
CHARID=LX020000  ASCII=58  PLANE=02
CHARID=LY010000  ASCII=59  PLANE=01
CHARID=LY020000  ASCII=59  PLANE=02
CHARID=LZ010000  ASCII=5A  PLANE=01
CHARID=LZ020000  ASCII=5A  PLANE=02
```

Notice how the lowercase characters (LA010000, LB010000, and so on) in the decentralized character mapping table will be mapped to different ASCII code points after font conversion than they are mapped to in the centralized character mapping table. Also, all lowercase characters will be mapped to plane 01, and all uppercase characters will be mapped to plane 02 after font conversion.

Sample Convert Centralized Fonts to Decentralized Fonts panel requirements

The sample panel entries for the Convert Centralized Fonts to Decentralized Fonts option are shown below.

```
                    Xerox Output Administrative Facility
                 Convert Centralized Fonts to Decentralized Fonts

COMMAND ===>

  INPUT
    Dataset Name: 'XRESC.XPAF30.CFONTLIB'
     Member Name: RA12BP

  OUTPUT
    Dataset Name: 'XRESC.XPAF30.DFONTLIB'

  OUTPUT SPECIFICATIONS
        Message Listing: 'TJONES.XPAF30.FONTSAMP'
    Font Sample (Y/N/R): R
      Lower Range Limit: 40
      Upper Range Limit: 42
```

In this example, a sample of the converted font, including raster samples, was requested by entering R in the ‘Font Sample’ field. The message dataset in which the font sample will be produced is TJONES.XPAF30.FONTSAMP. A raster sample of code points 40, 41, and 42 will be produced in this message dataset if those code points exist in the decentralized character mapping table for this font.

Sample message dataset produced

Given the contents of the XPAFXFI table, centralized character mapping table, and decentralized character mapping table for font RA12BP shown previously, and the entries made on the sample Convert Centralized Fonts to Decentralized Fonts panel, the output shown in figures 21-1 through 21-8 is representative of what would be generated to the message dataset TJONES.XPAF30.FONTSAMP. These figures follow an explanation of the output. Each figure represents one page of output in the message dataset, and the order in which the information is presented in this example is the same order that you would find in the message dataset.

In this example, the centralized font RA12BP was converted into two planes, as specified in its decentralized character mapping table. Figures 21-1 through 21-4 represent the output for plane 01, and figures 21-5 through 21-8 represent the output for plane 02.

The decentralized font name shown in all these figures is the centralized font name appended with the @ symbol and a number. This number represents the plane number to which this information pertains. For example, RA12BP@1 is plane 01 of the converted font, and RA12BP@2 is plane 02 of the converted font.

Since R was specified in the ‘Font Sample’ field on the XOAF panel, there are three sections of information produced in the message dataset:

- A raster sample of the specified decentralized code points
- A decentralized code points table
- A font sample

This font information is listed in this order for each plane of the converted font.

NOTE: If Y had been specified in the ‘Font Sample’ field, only the decentralized code points table and font sample for each plane would be produced in the message dataset. If N had been specified in the ‘Font Sample’ field, nothing would be generated to a message dataset, but the centralized font would still have been converted to decentralized format based on the entries in the centralized and decentralized character mapping tables.

Raster sample for plane 01

The first item in the message dataset, the raster sample, consists of a representation of each character in the specified code point range, one page per code point. Each page gives the font statistics in the upper left, the character statistics in the upper right, and a raster sample of the converted character at the bottom of the page. Figures 21-1 and 21-2 show the raster samples for the decentralized code points 41 and 42, respectively.

Only the applicable statistics for a font are listed. This list contains all possible fields, but not all of these statistics will be relevant for every font:

- Kerning
- Orientation
- Pitch
- Line spacing (in dots)
- Top of cell to baseline (in dots)
- Bottom of cell to baseline (in dots)
- Highest character code
- Centralized character mapping name
- Decentralized character mapping name

The decentralized font name, which includes the plane number, is given on the first line in the upper left. Other important fields to note are the 'Highest character code' field which reflects the largest code point listed in the decentralized character mapping table. For example, the highest code point in the DSAMP1 table is 5A. The 'Centralized Character Mapping' field and the 'Decentralized Character Mapping' field correspond to the 'Centralized Character Mapping Name' field and the 'Decentralized Character Mapping Name' field, respectively, in the XPAFXFI table.

The statistics for the character that is shown at the bottom of the page are listed in the upper right under the heading 'Glyph characteristics.' These fields are included:

- Code point
- Bytes per raster
- Number of rasters
- Escapement
- Alignment
- Scaling
- Kerning

The value listed in the 'Code point' field is the centralized code point of the character shown in the raster sample. However, the character shown in the raster sample is a decentralized character, which is assigned a decentralized code point. The code point of the same character in the centralized and decentralized character mapping tables may or may not match.

The raster sample shown in figure 21-1 is the lowercase letter 'a', which is character ID LA010000. This character ID is assigned to code point 61 in the centralized character mapping table, and it is assigned to code point 41 and plane 01 in the decentralized character mapping table. Because code point 41 was specified to be part of the raster sample range, the lowercase letter 'a' is shown in the raster sample area, and the value of '61' is shown in the 'Code Point' field in the font statistics section.

Similarly, figure 21-2 shows the lowercase 'b' character, which is stored at code point 62 in the centralized character mapping table and at code point 42 and plane 01 in the decentralized character mapping table. Note that regardless of the contents of the decentralized character mapping table, the space character is always mapped to code point 20. Also, there can be no decentralized characters stored in code points 00 through 1F.

Each raster sample shown at the bottom of the page is a character that matches a decentralized code point value that falls in the range entered in the 'Lower Range Limit' and 'Upper Range Limit' fields on the XOAF panel. If a value entered here does not exist in the decentralized character mapping table, it will not be included in the message dataset. For this example, code points 40 through 42 were requested. Since there is no code point 40 in this font's decentralized character mapping table, there is no raster sample generated for it.

Decentralized code points table for plane 01

The next item in the message dataset shows the code points that were converted in the decentralized code points table with their widths. The decentralized code points table for font RA12BP@1 is shown in figure 21-3.

The code point values are read by starting with a number on the Y-axis and then reading a number on the X-axis. For example, the entry for code point 20 is shown in the third row and the first column of the table, and its width is 17. Code points that were not converted either have no entry or two dots.

The information at the bottom of the decentralized code points table gives you all the statistics about the decentralized font that are applicable. These are the same statistics that are listed in the upper left of each raster sample page.

Font sample for plane 01

The last item in the message dataset shows the font sample. The font sample for font RA12BP@1 is shown in figure 21-4. A font sample consists of a box for each converted code point that contains the decentralized code point number in the lower left, the font width in the lower right, and a representation of the actual character in the top of the box. Note that in this example, the decentralized code point 41 is the lowercase letter ‘a’ which you saw in the raster sample in figure 21-1.

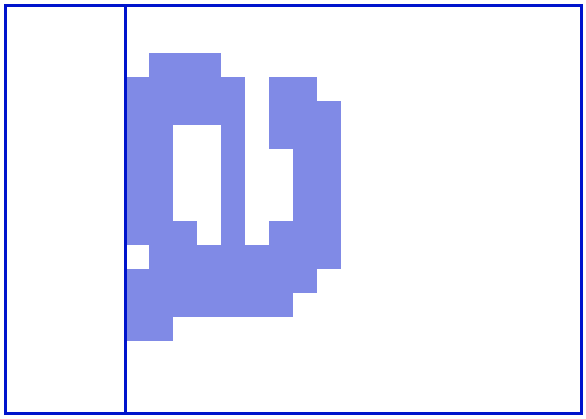
Dataset contents for plane 02

For plane 02, the raster samples of the specified decentralized code points, a decentralized code points table, and a font sample are shown in figures 21-5 through 21-8. These figures contain the same type of information that was previously described for plane 01. For more information about how plane numbers are used with decentralized fonts, refer to “Adjusting your decentralized character mapping tables” earlier in this chapter.

Figure 21-1. Raster sample for decentralized code point 41, plane 01

```
Font Characteristics for RA12BP@1
    Orientation:  PORTRAIT
    Pitch:  FIXED
    Linespacing:  24
    Top of Cell to Baseline:  19
    Bottom of cell to Baseline:  5
    Highest character code:  5A
    Centralized character mapping:  CSAMP1
    Decentralized character mapping:  DSAMP1
```

```
Glyph characteristics
     Code point:  61
     Bytes per raster:  2
     Number of rasters  14
     Escapement:  17
     Alignment:  5
     Scaling:  30
     Kerning:  0
```

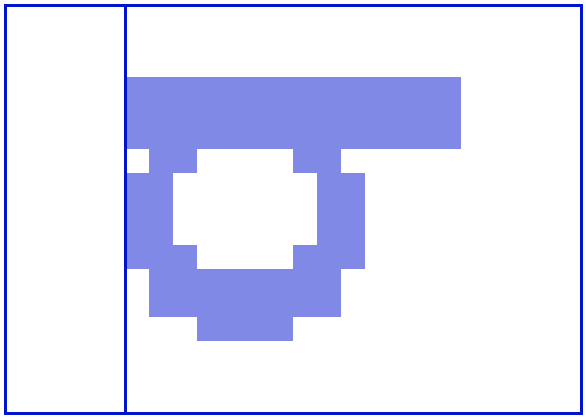



```
BC = BOTTOM OF CELL
BL = BASELINE
TC = TOP OF CELL
```

Figure 21-2. Raster sample for decentralized code point 42, plane 01

```
Font Characteristics for RA12BP@1
    Orientation:  PORTRAIT
    Pitch:  FIXED
    Linespacing:  24
    Top of Cell to Baseline:  19
    Bottom of cell to Baseline:  5
    Highest character code:  5A
    Centralized character mapping:  CSAMP1
    Decentralized character mapping:  DSAMP1
```

```
Glyph characteristics
     Code point:  62
     Bytes per raster:  2
     Number of rasters  14
     Escapement:  17
     Alignment:  5
     Scaling:  30
     Kerning:  0
```




```
BC = BOTTOM OF CELL
BL = BASELINE
TC = TOP OF CELL
```

Figure 21-3. Decentralized code points table for converted font RA12BP, plane 01

```
XFC0310I FONT RA12BP@1 CONVERTED WITH 27 CHARACTERS.
Decentralized code points (Widths Table)
    -0   -1   -2   -3   -4   -5   -6   -7   -8   -9   -A   -B   -C   -D   -E   -F
0-
1-
2-  17    ..   ..   ..   ..   ..   ..  ..   ..   ..   ..   ..   ..   ..    ..   ..
3-  ..    ..   ..   ..   ..   ..   ..  ..   ..   ..   ..   ..   ..   ..    ..   ..
4-  ..   17   17   17   17   17   17   17   17   17   17   17   17   17   17   17
5-  17   17   17   17   17   17   17   17   17   17   17
6-
7-
8-
9-
A-
B-
C-
D-
E-
F-
Font Characteristics for RA12BP@1
    Orientation: PORTRAIT
    Pitch: FIXED
    Linespacing: 24
    Top of Cell to Baseline: 19
    Bottom of cell to Baseline: 5
    Highest character code:  5A
    Input Format: CSAMP1
    Output Format: DSAMP1
```

Figure 21-4. Font sample for converted font RA12BP, plane 01

RA12BP@1

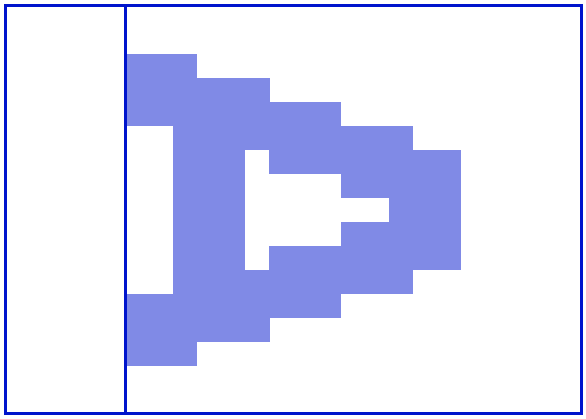
20 17	

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	41 17	42 17	43 17	44 17	45 17	46 17	47 17	48 17	49 17	4A 17	4B 17	4C 17	4D 17	4E 17	4F 17
p	q	r	s	t	u	v	w	x	y	z					
50 17	51 17	52 17	53 17	54 17	55 17	56 17	57 17	58 17	59 17	5A 17					

Figure 21-5. Raster sample for decentralized code point 41, plane 02

```
Font Characteristics for RA12BP@2
    Orientation:  PORTRAIT
    Pitch:  FIXED
    Linespacing:  24
    Top of Cell to Baseline:  19
    Bottom of cell to Baseline:  5
    Highest character code:  5A
    Centralized character mapping:  CSAMP1
    Decentralized character mapping:  DSAMP1
```

```
Glyph characteristics
     Code point:  41
     Bytes per raster:  2
     Number of rasters  15
     Escapement:  17
     Alignment:  5
     Scaling:  30
     Kerning:  0
```

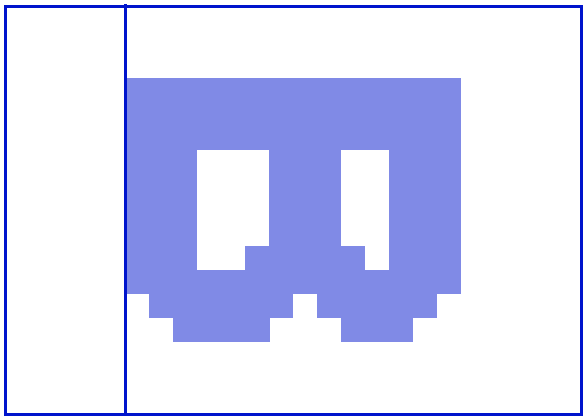



```
BC = BOTTOM OF CELL
BL = BASELINE
TC = TOP OF CELL
```

Figure 21-6. Raster sample for decentralized code point 42, plane 02

```
Font Characteristics for RA12BP@2
    Orientation:  PORTRAIT
    Pitch:  FIXED
    Linespacing:  24
    Top of Cell to Baseline:  19
    Bottom of cell to Baseline:  5
    Highest character code:  5A
    Centralized character mapping:  CSAMP1
    Decentralized character mapping:  DSAMP1

Glyph characteristics
     Code point:  42
     Bytes per raster:  2
     Number of rasters  14
     Escapement:  17
     Alignment:  5
     Scaling:  30
     Kerning:  0
```



```
BC      BL                              TC

BC = BOTTOM OF CELL
BL = BASELINE
TC = TOP OF CELL
```

Figure 21-7. Decentralized code points table for converted font RA12BP, plane 02

```
XFC0310I FONT RA12BP@2 CONVERTED WITH 27 CHARACTERS.
Decentralized code points (Widths Table)
    -0   -1   -2   -3   -4   -5   -6   -7   -8   -9   -A   -B   -C   -D   -E   -F
0-
1-
2-  17    ..   ..   ..   ..   ..   ..  ..   ..   ..   ..   ..   ..   ..    ..   ..
3-  ..    ..   ..   ..   ..   ..   ..  ..   ..   ..   ..   ..   ..   ..    ..   ..
4-  ..   17   17   17   17   17   17   17   17   17   17   17   17   17   17   17
5-  17   17   17   17   17   17   17   17   17   17   17
6-
7-
8-
9-
A-
B-
C-
D-
E-
F-
Font Characteristics for RA12BP@2
    Orientation: PORTRAIT
    Pitch: FIXED
    Linespacing: 24
    Top of Cell to Baseline: 19
    Bottom of cell to Baseline: 5
    Highest character code:  5A
    Input Format: CSAMP1
    Output Format: DSAMP1
```

Figure 21-8. Font sample for converted font RA12BP, plane 02

RA12BP@2

20 17	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	41 17	42 17	43 17	44 17	45 17	46 17	47 17	48 17	49 17	4A 17	4B 17	4C 17	4D 17	4E 17	4F 17
P	Q	R	S	T	U	V	W	X	Y	Z					
50 17	51 17	52 17	53 17	54 17	55 17	56 17	57 17	58 17	59 17	5A 17					

Converting centralized logos to decentralized fonts

To convert centralized logos to decentralized fonts, enter **2** on the Convert Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
               Convert Centralized Logos to Decentralized Fonts

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:

  OUTPUT SPECIFICATIONS
    Message Listing:
       Logo Sample (Y/N):
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS, sequential dataset, or native logo library that contains the centralized logo(s) you want to convert. If you have multiple logos concatenated in a single file, they must be converted from a sequential dataset with valid headers. The dataset specifications for a PDS or sequential dataset are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Member Name	• Enter the 1- to 8-character member name if the logo is stored in a PDS or native library. The logo name must be unique and must not match a decentralized font name. • Enter an asterisk (*) to load all logos in the PDS or native library. • Leave this field blank if the logo is stored in a sequential dataset.

Field	Action
OUTPUT **Dataset Name**	Enter the name of the native decentralized font library where the converted logos will be stored. In the XOSF start-up proc, this is the dataset name in the DD statement specified for the decentralized font library by the DFONTLIB initialization parameter or the FONTLIB printer profile parameter. The name of the converted font is constructed from the name in the logo header record.
OUTPUT SPECIFICATIONS **Message Listing**	Enter the name of the sequential dataset to which you want conversion-related messages to be written. The recommended dataset specifications are: RECFM=FB LRECL=133 BLKSIZE=A value appropriate for your site The dataset contents are in XES format and can be sent to a decentralized printer with duplexing capability (for example, the 4213 printer). Do not specify the XOAF log dataset. Refer to *Section Six: XPAF Messages* for an explanation of logo conversion messages and any required user action. The message dataset contains a code point table for each logo you convert. This table is similar to the sample shown in figure 21-9.
Logo Sample	Indicate whether you want XPAF to generate a sample of the converted logo and store that sample in the message dataset identified in the 'Message Listing' field. Valid values: Y Generates a sample of the converted logo and stores it in the dataset identified in the 'Message Dataset Name' field. N Does not generate a sample in the message listing dataset. Default: N

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Convert Centralized Logos to Decentralized Fonts option:

CONVERT LOGO('*input-dataset-name*[({ *member-name* | * })]')

[TO]('*output-dataset-name*') SAMPLE({ Y | N }) [LIST('*list-dataset-name*')]

NOTE: If SAMPLE is set to Y, LIST is required.

Sample logo code points table

Figure 21-9 shows a sample code points table. The code points table indicates the available decentralized code points for the centralized logo you converted. The bottom of the code point table provides additional information about the logo, including:

- Orientation
- Logo height and width
- Highest character code used
- Coding sequence for first and second lines

Figure 21-9. Sample logo code points table

```
Processing begins for logo 1; EAGLE
 XLC0321I LOGO EAGLE CONVERTED WITH 7 CHARACTERS.
  Decentralized code points (Widths Table)
      -0   -1   -2   -3   -4   -5   -6   -7   -8   -9   -A   -B   -C   -D   -E   -F
  0-
  1-
  2- 100   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..
  3-  ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..   ..
  4-  ..  100  100  100  100  100  100   ..
  5-
  6-
  7-
  8-
  9-
  A-
  B-
  C-
  D-
  E-
  F-
  Logo Characteristics
      Orientation: PORTRAIT
      Logo Height: 184
      Logo Width: 285
      Highest character code:  47
      Coding Sequence for 1st line: ABC
             Sequence for 2nd line: DEF
  Note: The origin must be set before each line.
```

Converting Xerox fonts to IBM format

Before using this option to convert a Xerox font to a format that is recognized by DCF/SCRIPT, you must ensure that you have entered a code page name for the font in the XPAFXFI table. If a code page name is not specified, the conversion will fail and a series of messages will be displayed indicating that a member was not found.

To ensure that the XPAFXFI table contains the necessary entries, complete these steps:

Step 1. Use the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu to enter a valid code page name for the font(s).

Step 2. Reconvert the Xerox font to IBM format using either the Convert Xerox Fonts to IBM Format option or the CONVERT FONT TSO/batch command.

Using this option

To convert Xerox fonts to IBM format, enter **3** on the Convert Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                      Convert Xerox Fonts to IBM Format

COMMAND ===>

  INPUT
         Dataset Name:
    Logical Font Name:

  OUTPUT
    Dataset Name:
```

Complete these fields and press **ENTER**:

NOTE: This conversion requires a region of at least eight megabytes to run successfully.

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS or native centralized library in which the font is stored. The dataset specifications for a PDS are: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site
Logical Font Name	• Enter the 1- to 6-character name of the Xerox centralized font that you want to use in a DCF document. The name must match the logical font name in the XPAFXFI table. • Enter an asterisk (*) to convert all fonts in the PDS or native centralized library.
OUTPUT **Dataset Name**	Enter the name of the PDS set up to store the IBM-format fonts to be referenced by DCF/SCRIPT. The dataset specifications are: RECFM=VBM LRECL=8205 or greater BLKSIZE=A value equal to the LRECL value plus 4 The name of the font in the output dataset is constructed from the name in the font header record of the font in the input dataset.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Convert Xerox Fonts to IBM Format option:

CONVERT FONT('*input-dataset-name*({ *member-name* | * })')

[TO]('*output-dataset-name*')

Making a new Xerox font available to DCF/SCRIPT

Follow this procedure to make a new Xerox font available to DCF/SCRIPT:

NOTE: You do not need to run this procedure for the set of replica fonts distributed with XPAF. XPAF provides the converted version of these fonts in the AFPFONTS dataset.

Step 1. Offload your existing font tables so that you have a backup. Refer to chapter 26, "Managing XPAF libraries," for instructions about how to offload resources.

Step 2. Upload the centralized font to a PDS or sequential dataset on the host. Refer to *Section Two: Installing and Customizing XPAF* for instructions about how to upload resources.

Step 3. Load the font from the PDS or sequential dataset to the centralized font library using either the Load Centralized Fonts option on the Load Resources menu or the LOAD FONT TSO/batch command. The system automatically generates entries to the XPAFXFI table. Refer to chapter 20, "Loading resources to a native library," for more information about using this option.

Step 4. If necessary, create an entry for the font in the XPAFFFI table, using the Maintain the Font Family Information (XPAFFFI) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables," for more information about using this option.

Step 5. Update the XPAFXFI table with the character mapping and code page information for the font, using the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables," for more information about using this option.

To reference the font by an alias, enter the alias name as the logical font name. This is the name by which the font is known to DCF.

Step 6. Convert the Xerox font using either the Convert Xerox Font to IBM Format option on the Convert Resources menu or the CONVERT FONT TSO/batch command. This conversion creates an IBM look-alike version of the font that DCF recognizes. If you use an IBM code page with this font, the code page must reside in the same library in which the converted font is stored.

Step 7. Create a DCF index with the new font by executing the JCL provided with DCF.

Associating a Xerox font with a code page

A Xerox font can use either a Xerox code page or an IBM code page. If you use an IBM code page, ensure that the Xerox font supports the characters defined in the code page.

If you change the code page used by a Xerox font, you must make the new code page information available to DCF/SCRIPT. To do this, perform these steps:

Step 1. Update the XPAFXFI table with the character mapping and code page information for the font, using the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables," for more information about using this option.

To reference the font by an alias, enter the alias name as the logical font name. This is the name by which the font is known to DCF.

Step 2. Convert the Xerox font using either the Convert Xerox Font to IBM Format option on the Convert Resources menu or the CONVERT FONT TSO/batch command. This conversion creates an IBM look-alike version of the font that DCF recognizes. If you use an IBM code page with this font, the code page must reside in the same library in which the converted font is stored.

Converting IBM AFP page segments to Xerox .IMG and/or RES format

This option can be used to convert all the AFP page segments in a PDS to .IMG and/or RES .IMG format and load the resulting images to a native image library. The option converts AFP page segments from their original resolution to images in either Xerox .IMG or Xerox RES .IMG format. The conversion method is specified by the 'Conversion Type' field. By using this option to preconvert page segments to images instead of letting XPAF perform the conversion dynamically at print time, you will save processing time when you print the images for the first time.

NOTE: The utility, XRFBATCH, also can be used to perform this function. Refer to Chapter 29, "XRFBATCH utility" for more information about XRFBATCH.

You can include IOCA-encoded images in your page segment library. However, these images will be converted only into .IMG format. They cannot be converted to RES .IMG format.

There is no revision support in XOAF. After you convert a page segment using this option, it will not be reconverted if you change it. To use a revised version of a page segment, you must perform either of these actions:

- Delete the converted version from the native image library and rerun this option.
- Revise the page segment via XOSF by specifying the REVPSEG extended JCL keyword when you print the document. Refer to *Section Five: XPAF Parameter and Keyword Reference* for information about the REVPSEG extended JCL keyword.

Using this option

To convert IBM AFP page segments to .IMG and/or RES .IMG format, enter **4** on the Convert Resources menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
        Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format

COMMAND ===>

  INPUT
    Dataset Name:

  OUTPUT
    Dataset Name:

  SPECIFICATIONS
          Message Dataset Name:
    Destination Printer (C/D): C
    Maximum Images (1 to 999): 16
      Conversion Type (0/1/3): 1
        Orientation (P/L/I/J): P
    Print Environment (M/C/B): M
```

NOTE: Additional keywords not covered by this panel display may be entered when the Edit JCL option is presented. At that point enter E to see Appendix E for additional keywords.

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS that contains the IBM page segments that you want to convert to Xerox images. The recommended dataset specifications are: RECFM=VBM or VBA LRECL=A value greater than or equal to the length of the longest record within a resource contained in the library BLKSIZE=A value equal to the LRECL value plus 4 All page segments in the named library will be converted to 300-dpi Xerox images with scaling based on the value you specify in the 'Conversion Type' field. ***NOTE:*** XPAF does not convert page segments that have names which start with the letter O.
OUTPUT **Dataset Name**	Enter the name of the native centralized or decentralized image library that has been allocated and formatted to contain images. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the CIMAGELIB or DIMAGELIB initialization parameter or by the IMAGELIB printer profile parameter.
SPECIFICATIONS **Message Dataset Name**	Enter the name of the dataset to be used for logging messages. You can specify the XOAF log dataset, or enter the name of a sequential dataset with these specifications: RECFM=VB LRECL=256 BLKSIZE=4096 If you leave this field blank, you may specify a message dataset name in the XPAFXLOG DD statement in the generated JCL. The dataset name defaults to XPAFXLOG, preceded by the prefix you specified for the XPAF load library. If you specify a message dataset in this field, it will override the dataset name specified in the XPAFXLOG DD statement. If you do not want to log XPAF messages, edit the generated JCL and specify **DD DUMMY** for XPAFXLOG.
Destination Printer	Specify whether the page segments should be converted to images in centralized or decentralized format. Valid values: C Specifies that your destination printer is a centralized printer. D Specifies that your destination printer is a decentralized printer. Default: C
Maximum Images	Enter the maximum number of images within a single page segment in the library that is to be converted. Valid values: 1 through 999. Default: 16

Field	Action
Conversion Type	Specify the image resolution conversion type. Valid values: 0 Does not scale the image dimension but does scale the position of the image. Image position scaling allows the image to print in the correct relative location on the page when printed on a Xerox printer as opposed to printing on an IBM printer. Image position scaling is increased by a factor of 25%. 1 Scales the image dimension and image position of an AFP image to 300 dpi before sending it to the printer. IOCA-encoded images are scaled from any resolution to 300 dpi. All other AFP images are scaled from 240-to-300 dpi, an increase of 25%. 3 Scales the image dimension and image position of an AFP image to 300 dpi based on the current L-units value specified in the IDD or IID structured field of the image. IOCA-encoded images are scaled from any resolution to 300 dpi. For IM-type images, any L-units value that does not specify 300 dpi is assumed to be 240 dpi. Default: 1 **NOTE:** If you specify 0, the size of the converted image will print smaller in XPAF (by a factor of 20%) than the original 240 dpi image printed in AFP.

Field	Action
Orientation	Specify the hardware orientation for the page. Valid values: P Portrait. Use P if PMODE=PORT and the image will be printed on a simplex or duplex page or on the front of a tumble duplex page. L Landscape. Use L if PMODE=LAND or the printer uses short-edge feed and the image will be printed on a simplex or duplex page or on the front of a tumble duplex page. I Inverse portrait. Use I if PMODE=PORT and the image will be printed on the back of a tumble duplex page. J Inverse landscape. Use J if PMODE=LAND or the printer uses short-edge feed and the image will be printed on the back of a tumble duplex page. Default: P ***NOTE:*** AFP images that were generated for IBM printers are rotated 0 degrees. For these images, regardless of document orientation, be sure to specify a rotation of P.
Print Environment	Identify the type of centralized printers you use to print AFP data streams through XPAF. This field is used to determine how XPAF converts images colorized via the IID structured field for printing on a centralized printer. This field only applies to AFP data streams containing images colorized via the IID structured field that will be sent to centralized printers. Valid values: M Specifies that XPAF jobs are printed only on monochrome printers. XPAF converts any colorized images to monochrome black .IMG files. C Specifies that XPAF jobs are printed only on highlight color printers. XPAF converts any colorized images to color RES .IMG files. B Specifies that XPAF jobs are printed on both monochrome and highlight color printers. XPAF converts any colorized images to both monochrome black .IMG and color RES .IMG files. Default: M

After you enter all necessary field values and press ENTER, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
         Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format

COMMAND ===>

  DATASET PREFIX
    XPFLOAD Library:

  JOB CARD INFORMATION
  ===> //JOBNAME JOB (ACCOUNT),'NAME',CLASS=A
  ===> //*
  ===> //*
  ===> //*
```

Complete these fields and press **ENTER**:

Field	Action
DATASET PREFIX **XPFLOAD Library**	Enter the high-level and mid-level qualifiers for your system load library.
JOB CARD INFORMATION	Enter site-specific job card information.

After you verify the information and press ENTER, this panel appears:

```
                    Xerox Output Administrative Facility
        Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format

OPTION ===>

  C.  Cancel JCL

  E.  Edit JCL

  K.  Keep JCL

  S.  Submit JCL
```

On this panel, select the option you want to use and press **ENTER**. Valid values are:

C Cancels the generated JCL and returns to the initial Convert IBM Page Segments to Xerox .IMG Format panel.

E Displays the generated JCL for editing purposes.

K Keeps the generated JCL in a sequential dataset. After you save the JCL, you can access this dataset and submit the job without regenerating the JCL each time.

S Submits the JCL. Standard TSO/ISPF JCL submission error or confirmation messages are displayed.

NOTE: You cannot use the END command or the PF3 key to exit this panel. If you want to return to the previous panel and do not want to display, submit or keep the JCL, you must enter **C** on the COMMAND line and press **ENTER**.

Editing the JCL

If you enter E in the OPTION line on the JCL options panel, a panel containing JCL similar to this appears:

```
//job-name JOB job-information
//*
//*
//*
//*********************************************************************/
//*                                                                   */
//*   DESCRIPTION: CONVERT PAGE SEGMENTS TO .IMG/RES FORMAT - XOAJ0260.*/
//*                                                                   */
//*********************************************************************/
//XRFBATCH EXEC PGM=XRFBATCH,COND=(0,NE),
//             PARM=('DESTPRTR=destination-printer',
//             'MAXIMGPS=nnn',
//             'CONVTYPE=conversion-type',
//             'ROTATION=rotation',
//             'PRINTENV=printer-environment')
//STEPLIB    DD DSN=prefix.XPFLOAD,DISP=SHR
//INFILE     DD DSN=input-dataset-name,DISP=SHR
//IMAGELIB   DD DSN=output-dataset-name,DISP=SHR
//XPAFXLOG   DD DSN=prefix.XPAFXLOG,DISP=OLD
//
```

You can edit and save the JCL and cancel or submit the job using standard TSO/ISPF commands.

Keeping the JCL

If you enter K in the OPTION line on the JCL options panel, this panel appears:

```
                    Xerox Output Administrative Facility
         Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format

COMMAND ===>

* To keep the JCL, enter a new sequential dataset name.

  Dataset Name:
```

Complete this field and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the sequential dataset that is not currently cataloged. This is the dataset in which your JCL will be stored.

To return to the previous panel, enter **END** and press **ENTER**.

22. Managing resource lists

This chapter describes how to use the options available on the Manage Resource Lists menu to maintain printer-resident font, form, image, and logo lists. XOSF uses the lists to determine whether a requested resource must be downloaded. For more information about XPAF list processing, refer to "Printer-resident resource lists" in chapter 18, "XPAF resources."

Managing resident font lists

To create, delete, or update resident font lists, enter **1** on the Manage Resource Lists menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                         Manage Resident Font Lists

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a list.

  Dataset Name:

     List Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

- C Create a new list.
- D Delete an existing list.
- U Update an existing list.

Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library that contains all the resident resource lists. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the LIBRARY printer profile parameter.
List Name	Enter the name of the font list to be created or updated. The name can be one of the following: • A 1- to 20-character name that matches the name assigned to the FONTLIST printer profile parameter • FONT*cuu* for an existing list that was generated by XOSF for a channel-attached centralized printer • FONT*slu* for an existing list that was generated by XOSF for a remotely-attached centralized printer or a decentralized printer ***NOTE:*** Font list names are case-sensitive. When deleting or updating a list, type the name exactly as it was entered originally (uppercase/lowercase letters).

Creating a resident font list

If you enter C on the COMMAND line of the Manage Resident Font Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                          Creating List - FONTPRT1

COMMAND ===>

      NAME                  PERMANENT?       NAME                  PERMANENT?
   1.                           Y        2.                           Y
   3.                           Y        4.                           Y
   5.                           Y        6.                           Y
   7.                           Y        8.                           Y
   9.                           Y       10.                           Y
  11.                           Y       12.                           Y
  13.                           Y       14.                           Y
  15.                           Y       16.                           Y
  17.                           Y       18.                           Y
  19.                           Y       20.                           Y
  21.                           Y       22.                           Y
  23.                           Y       24.                           Y
  25.                           Y       26.                           Y

                                     Element Count = 0
```

In the sample panel, a resident font list named FONTPRT1 is being created.

The numbers provided on the panel are for convenience. Use these conventions when entering font names:

- Enter one or more font names and press **ENTER**:
  - Enter a 1- to 20-character, case-sensitive font name in the 'NAME' field.
  - Enter **N** in the 'PERMANENT?' field if the font is not a cartridge or resident font. Otherwise, leave Y in the 'PERMANENT?' field.
  - You can enter font names in any order on the panel. Although the panel displays 26 fields for entering fonts, you can enter more than 26 font names. Each time you press ENTER, XPAF processes the fonts and clears the panel. You may then enter additional font names.
  - When you press ENTER, 'Element Count' displays the number of fonts added to the list during this session. This is a display-only field.
  - Enter **END** on the COMMAND line and press **ENTER** to save the list and return to the preceding option panel.
- Enter **CANCEL** or **ABORT** on the COMMAND line and press **ENTER** to end the session without creating the list.

Before you modify a list, you must stop all printers using that list. When you restart the printer, XPAF activates the new list.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Font Lists option to create a new font list:

TABLE LOAD('*list-dataset-name*(*list-name*)')

FROM('*input-dataset-name*[(*member-name*)]') TYPE(FNTL)

The format of the records within the dataset must be fixed-length records that are 21 bytes long. The first 20 bytes of each record is the font name. The last byte (Y or N) indicates whether the font is permanent.

Deleting a resident font list

Enter **D** on the COMMAND line of the Manage Resident Font Lists panel, and enter the name of the library in which the list resides and the list name. Then press **ENTER**.

XOAF displays a message indicating whether the list was deleted successfully.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Font Lists option to delete a font list:

TABLE DELETE('*list-dataset-name*(*list-name*)')

Updating a resident font list

If you enter U on the COMMAND line of the Manage Resident Font Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                        Update a Resident Font List

COMMAND ===>

* On COMMAND line, enter 'A' to add an entry.
* Next to name, enter 'D' to delete an entry.

  NAME                PERMANENT?          NAME                PERMANENT?
  UN107A                  N               UN104A                  N
  UN107B                  N               UN107C                  N
  PR111A                  N               L01BOA                  N
```

Under the ‘NAME’ headings, XOAF displays the names of the fonts that have been entered in the list. A Y in the ‘PERMANENT?’ field indicates that the font is permanent. In the sample panel, the list being updated already contains the font names UN107A, UN104A, UN107B, UN107C, PR111A, and L01BOA.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Font Lists option to update a font list:

TABLE UPDATE('*list-dataset-name*(*list-name*)') TYPE(FNTL)

FUNCTION(ADD | DELETE) NAME(*font-name*)[(P)]

Use the (P) option after *font-name* to indicate that the font being added is a permanent font, either printer-resident or cartridge.

Adding a new font to the list

Enter **A** on the COMMAND line and press **ENTER**. A panel similar to this appears:

```
                    Xerox Output Administrative Facility
                          Updating List - FONTPRT1

COMMAND ===>

      NAME                  PERMANENT?       NAME                  PERMANENT?
   1.                           Y        2.                           Y
   3.                           Y        4.                           Y
   5.                           Y        6.                           Y
   7.                           Y        8.                           Y
   9.                           Y       10.                           Y
  11.                           Y       12.                           Y
  13.                           Y       14.                           Y
  15.                           Y       16.                           Y
  17.                           Y       18.                           Y
  19.                           Y       20.                           Y
  21.                           Y       22.                           Y
  23.                           Y       24.                           Y
  25.                           Y       26.                           Y
```

In the sample panel, the resident font list named FONTPRT1 is being updated.

The numbers provided on the panel are for convenience. Use these conventions when entering font names:

- Enter one or more font names and press **ENTER**:
  - — Enter a 1- to 20-character, case-sensitive font name in the 'NAME' field.
  - — Enter **N** in the 'PERMANENT?' field if the font is not a cartridge or resident font. Otherwise, leave Y in the 'PERMANENT?' field.
  - — You can enter font names in any order on the panel. Although the panel displays 26 fields for entering fonts, you can enter more than 26 font names. Each time you press ENTER, XPAF processes the fonts and clears the panel. You may then enter additional font names.
- After you add all your new fonts to the list, press **ENTER**. The system returns to the Update a Resident Font List panel and displays

  * ADDED *

  to the right of each new font added to the list. To add more fonts to the font list, enter **A** on the COMMAND line and repeat this procedure.

Deleting a font from the list

Tab to the font name and enter **D** to the left of each font name you want to delete. Press **ENTER**. The system deletes the font from the list and displays

DELETED

to the right of the font name deleted from the list.

Managing a PCL font list

Each printer profile can contain a PCL font list (a PDS member contained in the XINPARM dataset). The printer profile parameter, FONTLIST=, points to the PDS member name.

PDS member names are entered in the following manner:

FONTLIST=*membername*

where

membername The PDS member name.

Within the PDS member, the PCL fonts are listed as:

fontname 0

or

fontname nnn

where

fontname 0 Indicates a named font on the printer.

fontname nnn Indicates a permanent soft font identified by a unique 3-digit number.

The following list is an example of a PCL font list.

```
L0112B  0
P0612B  0
XGT50L  700
XGT50P  701
```

In the example above, the first two fonts, L0112B and P0612B, already exist on the printer's hard drive and will be invoked by name within the XPAF generated PCL data stream. They will not be downloaded by XPAF.

Fonts XGT50L and XGT50P are permanent soft fonts and are only downloaded after the XPAF printer is started. These fonts are downloaded with he first job to reference them. Subsequent jobs will invoke the fonts with the 3-digit font identification number assigned in the FONTLIST member (700, or 701 in the sample above).

NOTE: For XPAF to use named fonts, they must be based on XPAF generated 2700 type fonts. This is required to correctly calculate page positioning. The PCL transform calculates positioning within a page on font metrics, therefore, XPAF must use the same font as loaded on the printer.

A sample REXX procedure, FONTEXTR, is included in SAMPLIB. FONTEXTR extracts and formats a font suitable for downloading.

Keeping permanent soft fonts in printer memory

As long as the printer remains powered on, permanent soft fonts will remain in the printer's memory and XPAF does not have to download them for each job. In the event that the XPAF printer is powered off, the XPAF printer must be drained and restarted. Draining and restarting the XPAF printer will reload the fonts into the printer's memory when they are first referenced in a document, and will maintain your data integrity.

Managing resident form lists

To create, delete, or update resident forms lists, enter **2** on the Manage Resource Lists menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                         Manage Resident Form Lists

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a list.

  Dataset Name:

     List Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

- C Create a new list.
- D Delete an existing list.
- U Update an existing list.

Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library that contains all the resident resource lists. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the LIBRARY printer profile parameter.
List Name	Enter the name of the form list to be created or updated. The name can be one of the following: • A 1- to 20-character name that matches the name assigned to the FORMLIST printer profile parameter • FORM*cuu* for an existing list that was generated by XOSF for a channel-attached centralized printer • FORM*slu* for an existing list that was generated by XOSF for a remotely-attached centralized printer or a decentralized printer ***NOTE:*** Form list names are case-sensitive. When deleting or updating a list, type the name exactly as it was entered originally (uppercase/lowercase letters).

Creating a resident form list

If you enter C on the COMMAND line of the Manage Resident Form Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                          Creating List - FORMPRT1

COMMAND ===>

      NAME                PERMANENT?      NAME                PERMANENT?
  1.                         Y        2.                         Y
  3.                         Y        4.                         Y
  5.                         Y        6.                         Y
  7.                         Y        8.                         Y
  9.                         Y       10.                         Y
 11.                         Y       12.                         Y
 13.                         Y       14.                         Y
 15.                         Y       16.                         Y
 17.                         Y       18.                         Y
 19.                         Y       20.                         Y
 21.                         Y       22.                         Y
 23.                         Y       24.                         Y
 25.                         Y       26.                         Y

                                                   Element Count = 0
```

In the sample panel, a resident form list named FORMPRT1 is being created.

The numbers provided on the panel are for convenience. Use these conventions when entering form names:

- Enter one or more form names and press **ENTER**:
  - Enter a 1- to 6-character, case-sensitive form name in the 'NAME' field.
  - Enter **N** in the 'PERMANENT?' field if the form is not a cartridge or resident form. Otherwise, leave Y in the 'PERMANENT?' field.
  - You can enter form names in any order on the panel. Although the panel displays 26 fields for entering forms, you can enter more than 26 form names. Each time you press ENTER, XPAF processes the forms and clears the panel. You may then enter additional form names.
  - When you press ENTER, 'Element Count' displays the number of forms added to the list during this session. This is a display-only field.
- Enter **END** on the COMMAND line and press **ENTER** to save the list and return to the preceding option panel.
- Enter **CANCEL** or **ABORT** on the COMMAND line and press **ENTER** to end the session without creating the list.

Before you modify a list, you must stop all printers using that list. When you restart the printer, XPAF activates the new list.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Form Lists option to create a new form list:

TABLE LOAD('*list-dataset-name*(*list-name*)')

FROM('*input-dataset-name*[(*member-name*)]') TYPE(FRML)

The format of the records within the dataset must be fixed-length records that are 7 bytes long. The first 6 bytes of each record is the form name. The last byte (Y or N) indicates whether the form is permanent.

Deleting a resident form list

Enter **D** on the COMMAND line of the Manage Resident Form Lists panel, and enter the name of the library in which the list resides and the list name. Then press **ENTER**.

XOAF displays a message indicating whether the list was deleted successfully.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Form Lists option to delete a form list:

TABLE DELETE('*list-dataset-name*(*list-name*)')

Updating a resident form list

If you enter U on the COMMAND line of the Manage Resident Form Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                         Update a Resident Form List

COMMAND ===>

* On COMMAND line, enter 'A' to add an entry.
* Next to name, enter 'D' to delete an entry.

  NAME                 PERMANENT?      NAME                 PERMANENT?
  ORDER                    N           SUPPLY                   N
  MEDICAL                  N           ADDRESS                  N
  DENTAL                   N
```

Under the ‘NAME’ headings, XOAF displays the names of the forms that have been entered in the list. A Y in the ‘PERMANENT?’ field indicates that the form is permanent. In the sample panel, the list being updated already contains the form names ORDER, SUPPLY, MEDICAL, ADDRESS, and DENTAL.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Form Lists option to update a form list:

TABLE UPDATE('*list-dataset-name*(*list-name*)') TYPE(FRML)

FUNCTION(ADD | DELETE) NAME(*form-name*)[(P)]

Use the (P) option after *form-name* to indicate that the form being added is a permanent form, either printer-resident or cartridge.

Adding a new form to the list

Enter **A** on the COMMAND line and press **ENTER**. A panel similar to this appears:

```
                    Xerox Output Administrative Facility
                          Updating List - FORMPRT1

COMMAND ===>

      NAME                  PERMANENT?       NAME                  PERMANENT?
  1.                            Y        2.                            Y
  3.                            Y        4.                            Y
  5.                            Y        6.                            Y
  7.                            Y        8.                            Y
  9.                            Y       10.                            Y
 11.                            Y       12.                            Y
 13.                            Y       14.                            Y
 15.                            Y       16.                            Y
 17.                            Y       18.                            Y
 19.                            Y       20.                            Y
 21.                            Y       22.                            Y
 23.                            Y       24.                            Y
 25.                            Y       26.                            Y
```

In the sample panel, the resident form list named FORMPRT1 is being updated.

The numbers provided are for convenience. Use these conventions when entering form names:

- Enter one or more form names and press **ENTER**:
  - Enter a 1- to 6-character, case-sensitive form name in the 'NAME' field.
  - Enter **N** in the 'PERMANENT?' field if the form is not a cartridge or resident form. Otherwise, leave Y in the 'PERMANENT?' field.
  - You can enter form names in any order on the panel. Although the panel displays 26 fields for entering forms, you can enter more than 26 form names. Each time you press ENTER, XPAF processes the forms and clears the panel. You may then enter additional form names.
- After you add the first group of form names, press **ENTER**. The system returns to the Update a Resident Form List panel and displays

  * ADDED *

  to the right of each new form added to the list. To add more forms to the form list, enter **A** on the COMMAND line and repeat this procedure.

Deleting a form from the list

Tab to the form name and enter **D** to the left of each form name you want to delete. Press **ENTER**. The system deletes the form from the list and displays

DELETED

to the right of the form deleted from the list.

Managing resident image lists

To create, delete, or update resident image lists, enter **3** at the Manage Resource Lists menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                        Manage Resident Image Lists

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a list.

  Dataset Name:

     List Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

C Create a new list.
D Delete an existing list.
U Update an existing list.

Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library that contains all the resident resource lists. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the LIBRARY printer profile parameter.
List Name	Enter the name of the image list to be created or updated. The name can be one of the following: • A 1- to 20-character name that matches the name assigned to the IMAGELIST printer profile parameter • IMAG*cuu* for an existing list that was generated by XOSF for a channel-attached centralized printer • IMAG*slu* for an existing list that was generated by XOSF for a remotely-attached centralized printer or a decentralized printer ***NOTE:*** Image list names are case-sensitive. When deleting or updating a list, type the name exactly as it was entered originally (uppercase/lowercase letters).

Creating a resident image list

If you enter C on the COMMAND line of the Manage Resident Image Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                          Creating List - IMAGPRT1

COMMAND ===>

      NAME                  PERMANENT?       NAME                  PERMANENT?
   1.                           Y        2.                           Y
   3.                           Y        4.                           Y
   5.                           Y        6.                           Y
   7.                           Y        8.                           Y
   9.                           Y       10.                           Y
  11.                           Y       12.                           Y
  13.                           Y       14.                           Y
  15.                           Y       16.                           Y
  17.                           Y       18.                           Y
  19.                           Y       20.                           Y
  21.                           Y       22.                           Y
  23.                           Y       24.                           Y
  25.                           Y       26.                           Y

                                                   Element Count = 0
```

In the sample panel, a resident image list named IMAGPRT1 is being created.

- Enter one or more image names and press **ENTER**:
  - — Enter a 1- to 6-character, case-sensitive image name in the ‘NAME’ field.
  - — Enter **N** in the ‘PERMANENT?’ field if the image is not a cartridge or resident image. Otherwise, leave Y in the ‘PERMANENT?’ field.
  - — You can enter image names in any order on the panel. Although the panel displays 26 fields for entering images, you can enter more than 26 image names. Each time you press ENTER, XPAF processes the images and clears the panel. You may then enter additional image names.
  - — When you press ENTER, ‘Element Count’ displays the number of images added to the list during this session. This is a display-only field.
- Enter **END** on the COMMAND line and press **ENTER** to save the list and return to the preceding option panel.
- Enter **CANCEL** or **ABORT** on the COMMAND line and press **ENTER** to end the session without creating the list.

Before you modify a list, you must stop all printers using that list. When you restart the printer, XPAF activates the new list.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Image Lists option to create a new image list:

TABLE LOAD('*list-dataset-name*(*list-name*)')

FROM('*input-dataset-name*[(*member-name*)]') TYPE(IMGL)

The format of the records within the dataset must be fixed-length records that are 7 bytes long. The first 6 bytes of each record is the image name. The last byte (Y or N) indicates whether the image is permanent.

Deleting a resident image list

Enter **D** on the COMMAND line of the Manage Resident Images List panel, and enter the name of the library in which the list resides and the list name. Then press **ENTER**.

XOAF displays a message indicating whether the list was deleted successfully.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Image Lists option to delete an image list:

TABLE DELETE('*list-dataset-name*(*list-name*)')

Updating a resident image list

If you enter U on the COMMAND line of the Manage Resident Images Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                        Update a Resident Image List

COMMAND ===>

* On COMMAND line, enter 'A' to add an entry.
* Next to name, enter 'D' to delete an entry.

  NAME                PERMANENT?      NAME                PERMANENT?
  PLANE                   N           CAR                     N
  TRAIN                   N           BOAT                    N
  BIKE                    N
```

Under the ‘NAME’ headings, XOAF displays the names of the images that have been entered in the list. A Y in the ‘PERMANENT?’ field indicates that the image is permanent. In the sample panel, the list being updated already contains the image names PLANE, CAR, TRAIN, BOAT, and BIKE.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Image Lists option to update an image list:

TABLE UPDATE('*list-dataset-name*(*list-name*)') TYPE(IMGL)

FUNCTION(ADD | DELETE) NAME(*image-name*)[(P)]

Use the (P) option after *image-name* to indicate that the image being added is a permanent image, either printer-resident or cartridge.

Adding a new image to the list

Enter **A** on the COMMAND line and press **ENTER**. A panel similar to this appears.

```
                    Xerox Output Administrative Facility
                          Updating List - IMAGPRT1

COMMAND ===>

      NAME                  PERMANENT?       NAME                  PERMANENT?
  1.                            Y        2.                            Y
  3.                            Y        4.                            Y
  5.                            Y        6.                            Y
  7.                            Y        8.                            Y
  9.                            Y       10.                            Y
 11.                            Y       12.                            Y
 13.                            Y       14.                            Y
 15.                            Y       16.                            Y
 17.                            Y       18.                            Y
 19.                            Y       20.                            Y
 21.                            Y       22.                            Y
 23.                            Y       24.                            Y
 25.                            Y       26.                            Y
```

In the sample panel, the resident image list named IMAGPRT1 is being updated.

The numbers provided are for convenience. Use these conventions when entering image names:

- Enter one or more image names and press **ENTER**:
  - — Enter a 1- to 6-character, case-sensitive image name in the ‘NAME’ field.
  - — Enter **N** in the ‘PERMANENT?’ field if the image is not a cartridge or resident image. Otherwise, leave Y in the ‘PERMANENT?’ field.
  - — You can enter image names in any order on the panel. Although the panel displays 26 fields for entering images, you can enter more than 26 image names. Each time you press ENTER, XPAF processes the images and clears the panel. You may then enter additional image names.
- After you add the first group of image names, press **ENTER**. The system returns to the Update a Resident Image List panel and displays

  * ADDED *

  to the right of each new image added to the list. To add more images to the image list, enter **A** on the COMMAND line and repeat this procedure.

Deleting an image from the list

Tab to the image name and enter **D** to the left of each image name you want to delete. Press **ENTER**. The system deletes the image from the list and displays

DELETED

to the right of the image name deleted from the list.

Managing resident logo lists

To create, delete, or update resident logo lists, enter **4** at the Manage Resource Lists menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                         Manage Resident Logo Lists

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a list.

  Dataset Name:

     List Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

C Create a new list.
D Delete an existing list.
U Update an existing list.

Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library that contains all the resident resource lists. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the LIBRARY printer profile parameter.
List Name	Enter the name of the logo list to be created or updated. The name can be one of the following: • A 1- to 20-character name that matches the name assigned to the LOGOLIST printer profile parameter • LOGO*cuu* for an existing list that was generated by XOSF for a channel-attached centralized printer • LOGO*slu* for an existing list that was generated by XOSF for a remotely-attached centralized printer ***NOTE:*** Logo list names are case-sensitive. When deleting or updating a list, type the name exactly as it was entered originally (uppercase/lowercase letters).

Creating a resident logo list

If you enter C on the COMMAND line of the Manage Resident Logo Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                          Creating List - LOGOPRT1

COMMAND ===>

      NAME                  PERMANENT?       NAME                  PERMANENT?
   1.                           Y        2.                           Y
   3.                           Y        4.                           Y
   5.                           Y        6.                           Y
   7.                           Y        8.                           Y
   9.                           Y       10.                           Y
  11.                           Y       12.                           Y
  13.                           Y       14.                           Y
  15.                           Y       16.                           Y
  17.                           Y       18.                           Y
  19.                           Y       20.                           Y
  21.                           Y       22.                           Y
  23.                           Y       24.                           Y
  25.                           Y       26.                           Y

                                                     Element Count = 0
```

In the sample panel, a resident logo list named LOGOPRT1 is being created.

The numbers provided on the panel are for convenience. Use these conventions when entering logo names:

- Enter one or more logo names and press **ENTER**:
  - — Enter a 1- to 6-character, case-sensitive logo name in the ‘NAME’ field.
  - — Enter **N** in the ‘PERMANENT?’ field if the logo is not a cartridge or resident logo. Otherwise, leave Y in the ‘PERMANENT?’ field.
  - — You can enter logo names in any order on the panel. Although the panel displays 26 fields for entering logos, you can enter more than 26 logo names. Each time you press ENTER, XPAF processes the logos and clears the panel. You may then enter additional logo names.
  - — When you press ENTER, ‘Element Count’ displays the number of logos added to the list during this session. This is a display-only field.
- Enter **END** on the COMMAND line and press **ENTER** to save the list and return to the preceding option panel.
- Enter **CANCEL** or **ABORT** on the COMMAND line and press **ENTER** to end the session without creating the list.

Before you modify a list, you must stop all printers using that list. When you restart the printer, XPAF activates the new list.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Logo Lists option to create a new logo list:

TABLE LOAD('*list-dataset-name*(*list-name*)')

FROM('*input-dataset-name*[(*member-name*)]') TYPE(LGOL)

The format of the records within the dataset must be fixed-length records that are 7 bytes long. The first 6 bytes of each record is the logo name. The last byte (Y or N) indicates whether the logo is permanent.

Deleting a resident logo list

Enter **D** on the COMMAND line of the Manage Resident Logo Lists panel, and enter the name of the library in which the list resides and the list name. Then press **ENTER**.

XOAF displays a message indicating whether the list was deleted successfully.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Logo Lists option to delete a logo list:

TABLE DELETE('*list-dataset-name*(*list-name*)')

Updating a resident logo list

If you enter U on the COMMAND line of the Manage Resident Logo Lists panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                         Update a Resident Logo List

COMMAND ===>

* On COMMAND line, enter 'A' to add an entry.
* Next to name, enter 'D' to delete an entry.

  NAME                 PERMANENT?      NAME                 PERMANENT?
  BIKE                     N           car                      N
  PLANE                    N           Train                    N
  TRUCK                    N
```

Under the ‘NAME’ headings, XOAF displays the names of the logos that have been entered in the list. A Y in the ‘PERMANENT?’ field indicates that the logo is permanent. In the sample panel, the list being updated already contains the logo names BIKE, car, PLANE, Train, and TRUCK.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Manage Resident Logo Lists option to update a logo list:

TABLE UPDATE('*list-dataset-name*(*list-name*)') TYPE(FRML)

FUNCTION({ ADD | DELETE }) NAME(*logo-name*)[(P)]

Use the (P) option after *logo-name* to indicate that the logo being added is a permanent logo, either printer-resident or cartridge.

Adding a new logo to the list

Enter **A** on the COMMAND line and press **ENTER**. A panel similar to this appears:

```
                    Xerox Output Administrative Facility
                          Updating List - LOGOPRT1

COMMAND ===>

      NAME                 PERMANENT?       NAME                 PERMANENT?
  1.                           Y        2.                           Y
  3.                           Y        4.                           Y
  5.                           Y        6.                           Y
  7.                           Y        8.                           Y
  9.                           Y       10.                           Y
 11.                           Y       12.                           Y
 13.                           Y       14.                           Y
 15.                           Y       16.                           Y
 17.                           Y       18.                           Y
 19.                           Y       20.                           Y
 21.                           Y       22.                           Y
 23.                           Y       24.                           Y
 25.                           Y       26.                           Y
```

In the sample panel, the resident logo list named LOGOPRT1 is being updated.

The numbers provided are for convenience. Use these conventions when entering logo names:

- Enter one or more logo names and press **ENTER**:
  - — Enter a 1- to 6-character, case-sensitive logo name in the ‘NAME’ field.
  - — Enter **N** in the ‘PERMANENT?’ field if the logo is not a cartridge or resident logo. Otherwise, leave Y in the ‘PERMANENT?’ field.
  - — You can enter logo names in any order on the panel. Although the panel displays 26 fields for entering logos, you can enter more than 26 logo names. Each time you press ENTER, XPAF processes the logos and clears the panel. You may then enter additional logo names.
- After you add the first group of logo names, press **ENTER**. The system returns to the Update a Resident Logo List panel and displays

  * ADDED *

  to the right of each new logo added to the list. To add more logos to the logo list, enter **A** on the COMMAND line and repeat this procedure.

Deleting a logo from the list

Tab to the logo name and enter **D** to the left of each logo name you want to delete. Press **ENTER**. The system deletes the logo from the list and displays

DELETED

to the right of the logo name deleted from the list.

23. Managing XPAF tables

This chapter describes how to use the options available on the Manage Tables menu to maintain these XPAF tables:

- Paper-related
- XPAFXFI
- Character mapping
- XPAFFFI
- XPAFCFN
- CPGID
- FGID
- XPAFEFW
- XPAFE2A
- XPAFIFW
- XPAFIFW3
- Color cross-reference
- Color conversion

The chapter also identifies an option that is available for deleting font tables or table entries.

Maintaining paper-related tables

To access the paper-related tables, enter **1** on the Manage Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                            Maintain Paper Tables

OPTION ===>

  1.  Maintain the Paper Name Table

  2.  Maintain the Varying Paper Size Table

  3.  Maintain the Cluster Mapping Table
```

Enter the number of the option you want to select and press **ENTER**.

Paper name table

To access a paper name table, enter **1** on the Maintain Paper Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                        Maintain the Paper Name Table

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a table.

  Dataset Name:

   Member Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

C Create a new table.
D Delete an existing table.
U Update an existing table.

Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library that contains the paper-related tables. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the PAPTBLDD initialization or printer profile parameter.
Member Name	• Enter the 1- to 16-character member name of the paper name table you want to maintain. The name can include alphanumeric or national ($, #, @) characters. • When creating a new table or updating an existing table, leave this field blank to select the default paper name table. • When deleting an existing table, a member name is required.

Creating or updating a paper name table

If you enter C or U on the COMMAND line of the Maintain the Paper Name Table panel, complete the fields, and press ENTER, a panel similar to this appears:

```
                    Xerox Output Administrative Facility Row 1 to 13 of 17
                          Maintain Paper Name Table

COMMAND ===>                                                SCROLL===> PAGE

* Next to entry, enter 'A' to add, 'D' to delete, or 'U' to update.

  Table Name: TAB01

                                              UNIT
  PAPER NAME                WIDTH HEIGHT  MEASURE
  #10                        4.25    9.5  IN
  #7                         3.78    7.5  IN
  A3                        11.69  16.54  IN
  A4                         8.27  11.69  IN
  A5                         5.83   8.27  IN
  A6                         4.12   5.83  IN
  B4                         9.84   13.9  IN
  B5                         6.93   9.84  IN
  C5                         6.38   9.02  IN
  DL                         4.33   8.66  IN
  EXEC                       7.25   10.5  IN
  LEGAL                       8.5     14  IN
  LEGL13                      8.5     13  IN
```

You can use this panel to add a new entry, delete an entry, or update an entry:

- To add a new entry, use one of two methods:
  - — Enter **A** on the COMMAND line and press **ENTER**.

    NOTE: If you enter A on the COMMAND line, all other table entries listed are ignored.

  - — Tab to the table entry that has attributes similar to the entry you want to add, enter **A** to the left of the entry, and press **ENTER**.

  For both options, XPAF displays the Add Entry panel for the paper name table.
- To delete an entry, tab to the table entry you want to delete, enter **D** to the left of the entry, and press **ENTER**. No other panel is displayed.
- To update an entry, tab to the table entry you want to update, enter **U** to the left of the entry, and press **ENTER**. XPAF displays the Update Entry panel for the paper name table.

Adding or updating a paper name table entry

If you enter A on the COMMAND line or next to a table entry on the Maintain Paper Name Table panel and press ENTER, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                        Add Entry to Paper Name Table

COMMAND ===>

    Table Name: TAB01

    Paper Name:

         Width:

        Height:

  Unit Measure:
```

If you enter U next to a table entry on the Maintain Paper Name Table panel and press ENTER, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                      Update Entry in Paper Name Table

COMMAND ===>

    Table Name: TAB01

    Paper Name: LETTER

         Width: 8.5

        Height: 11

  Unit Measure: IN
```

NOTE: If you entered A on the COMMAND line, the panel is displayed without any field entries. If you entered A or U next to a table entry, the information for the selected entry is displayed on the panel.

Complete these fields and press **ENTER**:

Field	Action
Table Name	Displays the name of the paper name table for which this entry will be added or updated.
Paper Name	• On the Add panel, enter the name associated with the specified page dimensions. This must be a unique name. Valid values: A 1- to 6-character name. The name can include alphanumeric or national ($, #, @) characters. • On the Update panel, this field displays the paper name to be updated. This field cannot be changed.
Width	Enter the length of the short edge side of the page. Valid values: A 1- to 5-digit number in decimal format (for example, 11.25).
Height	Enter the length of the long edge side of the page. Valid values: A 1- to 5-digit number in decimal format (for example, 11.25).
Unit Measure	Enter the unit of measure in which the height and width are defined. Valid values: CM Centimeters DOTS 300 dots per inch IN Inches MM Millimeters XDOTS 600 dots per inch

You should be aware of the following items when using this panel:

- The dimensions entered in the ‘Width’, ‘Height’, and ‘Unit Measure’ fields for the paper name will be converted into dots for use by XPAF. In the conversion process, some rounding may occur. The Add or Update panel will show the actual value used by XPAF after rounding. For example, if you enter a ‘Width’ value of 11.269 and a ‘Unit Measure’ value of INCHES, XPAF converts and rounds the dimension from INCHES to DOTS. Then, when converted back to inches, XPAF displays a value of 11.27 in the ‘Width’ field, which is the nearest rounded value.
- The value entered for the ‘Height’ field must be equal to or greater than the value entered in the ‘Width’ field. If the ‘Width’ value is greater than the ‘Height’ value, XPAF will exchange the two values (that is, place the greater value in the ‘Height’ field).
- If you change the ‘Unit Measure’ field and press **ENTER**, the values in the ‘Width’ and ‘Height’ fields are now expressed in the newly entered unit of measure. If the values in these fields are not correct, enter the correct values.

- The maximum dimensional value, based on ‘Unit Measure,’ that can be entered in either the ‘Width’ or the ‘Height’ field is:
  - 277.42 CM
  - 32767 DOTS
  - 109.22 IN
  - 2774.5 MM
  - 65534 XDOTS

After you enter the required information and press **ENTER**, XPAF either adds this new entry to the specified table, or updates the selected existing entry, and returns to the previous panel.

NOTE: If XOAF displays a message when you press ENTER, review the values in the ‘Width’ and ‘Height’ fields. Press ENTER to accept the displayed values, or enter the correct values in the fields and then press **ENTER**. To ignore the changes you made, and return to the previous panel, press **PF3**.

Deleting a paper name table

If you enter D on the COMMAND line of the Maintain the Paper Name Table panel, complete the fields, and press ENTER. XPAF displays a message indicating whether the table was deleted successfully.

Varying paper size table

To access a varying paper size table, enter **2** on the Maintain Paper Tables menu OPTION line, and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                   Maintain the Varying Paper Size Table

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a table.

  Dataset Name:

   Member Name:
```

On the COMMAND line, specify the function you want to perform. Valid functions are:

C Create a new table.
D Delete an existing table.
U Update an existing table.

Then complete these fields, and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library that contains the paper-related tables. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the PAPTBLDD initialization or printer profile parameter.
Member Name	• Enter the 1- to 16-character member name of the varying paper size table you want to maintain. The name can include alphanumeric or national ($, #, @) characters. • When creating a new table or updating an existing table, leave this field blank to select the default paper name table. • When deleting an existing table, a member name is required.

Creating or updating a varying paper size table

If you enter C or U on the COMMAND line of the Maintain the Varying Paper Size Table panel, complete the fields, and press ENTER, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                     Maintain Varying Paper Size Table

COMMAND ===>

* Next to entry, enter 'A' to add, 'D' to delete, or 'U' to update.

  Table Name: TAB02

   AFP                          XES   CEP
  BIN #  PAPER NAME             TRAY  FEED  JDE     JDL
     00  LETTER                    1  MAIN  PGMODE  DFAULT
     01  LETTER                    1  MAIN  PGMODE  DFAULT
     02  A4                        1  MAIN  PGA4    DFAULT
     03  LEGAL                     1  MAIN  PG14    DFAULT
     04  LONG                      1  MAIN  PG1711  DFAULT
     **** END OF VARYING PAPER SIZE TABLE ****
```

You can use this panel to add a new entry, delete an entry, or update an entry:

- To add a new entry, use one of these two methods:
  - — Enter **A** on the COMMAND line and press **ENTER**.

    NOTE: If you enter A on the COMMAND line, all other table entries listed are ignored.

  - — Tab to the table entry that has attributes similar to the entry you want to add, enter **A** to the left of the entry, and press **ENTER**.

  For both options, XPAF displays the Add Entry panel for the varying paper size table.
- To delete an entry, tab to the table entry you want to delete, enter **D** to the left of the entry, and press **ENTER**. No other panel is displayed.
- To update an entry, tab to the table entry you want to update, enter **U** to the left of the entry, and press **ENTER**. XPAF displays the Update Entry panel for the varying paper size table.

Adding or updating a varying paper size table entry

If you enter A on the COMMAND line or next to a table entry on the Maintain Varying Paper Size Table panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                   Add Entry to Varying Paper Size Table

COMMAND ===>

  Table Name: TAB02

   AFP Bin #:

  Paper Name:

    XES Tray:

    CEP FEED:

         JDE:

         JDL:
```

If you enter U next to a table entry on the Maintain Varying Paper Size Table panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                  Update Entry in Varying Paper Size Table

COMMAND ===>

  Table Name: TAB02

   AFP Bin #: 00

  Paper Name: LETTER

    XES Tray: 1

    CEP FEED: MAIN

         JDE: PGMODE

         JDL: DFAULT
```

NOTE: If you entered A on the COMMAND line, the panel is displayed without any field entries. If you entered A or U next to a table entry, the information for the selected entry is displayed on the panel.

Complete these fields and press **ENTER**:

Field	Action
Table Name	Displays the name of the varying paper size table for which this entry will be added or updated.
AFP Bin #	• On the Add panel, enter the AFP bin number within the copy subgroup in the form definition medium map you want to map to the specified paper trays. This must be a unique number. Valid values: A 2-digit hexadecimal value from 00 through FF. Default: 00 • On the Update panel, this field displays the AFP bin number to be updated. This field cannot be changed.
Paper Name	Enter the name of the paper size to be used in this tray. This name must be defined in a paper name table. Valid values: A 1- to 6-character name. The name can include alphanumeric or national ($, #, @) characters.
XES Tray	Enter the parameter for the XES tray select command you want to map to the specified AFP bin number. The actual paper tray this command maps to depends on your printer's setup. For example, a 3 XES tray select command could map to tray 4 on your printer. Refer to your printer's PDL reference manual for paper tray mapping information. Valid values: A 1-character command (0 through 9, A through F).
CEP FEED	Enter the centralized paper tray cluster name to map to the specified AFP bin number. Valid values: A 1- to 6-character name.
JDE	Enter the JDE name to be used for this copy subgroup. Valid values: A 1- to 6-character name.
JDL	Enter the JDL name to be used for this copy subgroup. Valid values: A 1- to 6-character name.

After you enter the required information and press ENTER, XPAF adds this entry to the specified table or updates the selected entry and returns to the previous panel.

Deleting a varying paper size table

If you enter D on the COMMAND line of the Maintain the Varying Paper Size Table panel, complete the fields, and press ENTER. XPAF displays a message indicating whether the table was deleted successfully.

Cluster mapping table

To access a cluster mapping table, enter **3** on the Maintain Paper Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                     Maintain the Cluster Mapping Table

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a table.

  Dataset Name:

   Member Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

C Create a new table.
D Delete an existing table.
U Update an existing table.

Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library that contains the paper-related tables. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the PAPTBLDD initialization or printer profile parameter.
Member Name	• Enter the 1- to 16-character member name of the cluster mapping table you want to maintain. The name can include alphanumeric and national ($, #, @) characters. • If the member name is left blank for a create or update function, the default member name (DEFAULT) will be assumed. • When deleting an existing table, a member name is required.

Creating or updating a cluster mapping table

If you enter C or U on the COMMAND line of the Maintain the Cluster Mapping Table panel, complete the fields, and press ENTER, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                       Maintain Cluster Mapping Table

COMMAND ===>

* Next to entry, enter 'A' to add, 'D' to delete, or 'U' to update.

  Table Name: TAB03


  CLUSTER NAME  PAPER NAME           XES TRAY
                LETTER                     1
  AUX           LETTER                     2
  MAIN          LETTER                    21
  OPR           LETTER                     1
  TRAY1         LETTER                     1
  TRAY2         LETTER                     2
  TRAY3         LETTER                     3
  TRAY4         LETTER                     4
****  END OF CLUSTER MAPPING TABLE  ****
```

You can use this panel to add a new entry, delete an entry, or update an entry:

- To add a new entry, use one of two methods:
  - — Enter **A** on the COMMAND line and press **ENTER**.

    NOTE: If you enter A on the COMMAND line, all other table entries listed are ignored.

  - — Tab to the table entry that has attributes similar to the entry you want to add, enter **A** to the left of the entry, and press **ENTER**.

  For both options, XPAF displays the Add Entry panel for the cluster mapping table.
- To delete an entry, tab to the table entry you want to delete, enter **D** to the left of the entry, and press **ENTER**. No other panel is displayed.
- To update an entry, tab to the table entry you want to update, enter **U** to the left of the entry, and press **ENTER**. XPAF displays the Update Entry panel for the cluster mapping table.

Adding or updating a cluster mapping table entry

If you enter A on the COMMAND line or next to a table entry on the Maintain Cluster Mapping Table panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                     Add Entry to Cluster Mapping Table

COMMAND ===>

    Table Name: TAB03

  Cluster Name:

    Paper Name:

      XES Tray:
```

If you enter U next to a table entry on the Maintain Cluster Mapping Table panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                   Update Entry in Cluster Mapping Table

COMMAND ===>

    Table Name: TAB03

  Cluster Name: MAIN

    Paper Name: LETTER

      XES Tray: 21
```

NOTE: If you entered A on the COMMAND line, the panel is displayed without any field entries. If you entered A or U next to a table entry, the information for the selected entry is displayed on the panel.

Complete these fields and press **ENTER**:

Field	Action
Table Name	Displays the name of the cluster mapping table for which this entry will be added or updated.
Cluster Name	• On the Add panel, enter the centralized paper tray cluster name that this entry is being created for. This name must be unique. Valid values: Any combination of alphanumeric and/or national ($, #, @) characters. All blanks are also valid and define the entry to be used as the default when a user referenced cluster name does not exist. • On the Update panel, this field displays the centralized paper tray cluster name entry that is being updated. This field cannot be changed.
Paper Name	Enter the name of the paper size to be used in this tray. This name must be defined in a paper name table. Valid values: A 1- to 6-character name. The name can include alphanumeric and national ($, #, @) characters.
XES Tray	Enter the value for the XES or PCL tray select command which will select the desired paper tray on the decentralized or PCL-capable printer. The values used will depend on the specific printer being used. For example, a 4 XES tray select command maps to physical tray 2 on a 4517 printer. Refer to your printer's PDL reference manual for paper tray mapping information. Valid values: A 1- to 3-character command code. The command code can be any valid tray select character, but cannot be all spaces or include imbedded spaces.

After you enter the required information and press ENTER, XPAF adds this entry to the specified table or updates the selected entry and returns to the previous panel.

Deleting a cluster mapping table

If you enter D on the COMMAND line of the Maintain the Cluster Mapping Table panel, complete the fields, and press ENTER. XPAF displays a message indicating whether the table was deleted successfully.

Maintaining font tables

XPAF font tables can be viewed and/or modified. Using this option, you can:

- Display or maintain the XPAFXFI table, which contains information about fonts used by XPAF.
- Display or update the character mapping tables, which map the characters in the centralized and decentralized versions of a font.
- Display or maintain the XPAFFFI table, which permits the font to be referred to by font type as well as by font name.
- Display or maintain the XPAFCFN table, which maps IBM coded font names to code page names and character set names.
- Browse, create, update, or delete entries in the CPGID and FGID tables. The CPGID and FGID tables are used by XPAF to support the processing of MCF-2 structured fields that contain process global resource identifier (GRID) values.

To access the font table options, enter **2** on the Manage Tables menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                            Maintain Font Tables

OPTION ===>

  1.  Maintain the Xerox Font Information (XPAFXFI) Table

  2.  Maintain the Character Mapping Tables

  3.  Maintain the Font Family Information (XPAFFFI) Table

  4.  Maintain the Coded Font Name (XPAFCFN) Table

  5.  Maintain the Code Page Global Identifier (CPGID) Table

  6.  Maintain the Font Global Identifier (FGID) Table
```

Enter the number of the option you want to select and press **ENTER**.

XPAFXFI table

To access the XPAFXFI table, enter **1** on the Maintain Font Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
             Maintain the Xerox Font Information (XPAFXFI) Table

COMMAND ===>

* Enter font name, or leave blank for a member list.

  Font Name:
```

Complete this field and press **ENTER**:

Field	Action
Font Name	• Enter the 1- to 6-character name of the logical font for which you want to create or update an entry. • Leave this field blank to display a selection list.

If you leave the ‘Font Name’ field blank, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                    Selection List of Font Table Members

COMMAND ===>

* Next to name, enter 'S' to select a member.

  FFMT01
  FFMT02
  FFMT10
  FFMT11
  FORMSL
  FORMSP
```

To select an XPAFXFI table entry from this list, tab to the appropriate member name, enter **S**, and then press **ENTER**.

Updating or creating an XPAFXFI table entry

After you enter a font name on the Maintain the Xerox Font Information (XPAFXFI) Table panel or select a font from the Selection List of Font Table Members panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
             Maintain the Xerox Font Information (XPAFXFI) Table

COMMAND ===>

* On COMMAND line, enter 'U' to create or update an entry.

  Logical Font Name: L02BOA

  SPECIFICATIONS
                              Font Name: FFMT01
      Centralized Character Mapping Name: CCMV01
    Decentralized Character Mapping Name: DCMV01
                        Code Page Name: XCP5
                            Font Width: 0020
                           Font Height: 0037
                Baseline to Top of Cell: 0029
                Decentralized Font Name:
```

Enter **U** on the COMMAND line to either change the font characteristics or create a new logical font name with the same or different characteristics. You can type over the existing entries.

Complete these fields and press **ENTER**:

Field	Action
Logical Font Name	Enter the 1- to 6-character logical name of the font. This is the name by which the font is known to XPAF: • For fonts used in native mode documents, this name must be the same as the value in the 'Font Name' field. • For fonts used in page-formatted documents or AFP documents at 300 dpi using Xerox fonts, XPAF uses this name to determine which code page to use. By changing the logical font name and the code page name, you can use different character mappings for the same font. • If you are using a licensed font and the true centralized font name is entered in the 'Font Name' field, you can enter an alternate name for the centralized version of the font. This allows you to use the name of your choice rather than the licensed font name, which may not conform to your font naming conventions. When you change the logical font name and the new font name is unique, the system creates a new member in the XPAFXFI table.
SPECIFICATIONS **Font Name**	Enter the 1- to 6-character Xerox font name. This is the name of the font as it resides in the font library. During native mode processing, this field is not examined.
Centralized Character Mapping Name	Enter the 1- to 6-character name of the character mapping table that contains the centralized character mapping of the font. This table contains the character ID and ASCII hexadecimal mapping value for each character in the font. Default: CCMV01
Decentralized Character Mapping Name	Enter the 1- to 6-character name of the character mapping table that contains the decentralized character mapping of the font. This table contains the character ID, plane number, and ASCII hexadecimal mapping value for each character in the font. Default: DCMV01
Code Page Name	Enter the 1- to 6-character name of the character mapping table that contains the code page mapping for this font. The code page contains the character IDs and their associated EBCDIC code points when used in an AFP document.
Font Width	Enter the average width in dots of the characters in the font.
Font Height	Enter the height in dots of the font.
Baseline to Top of Cell	Enter the number of dots between the baseline and the top of the font cell.
Decentralized Font Name	If the font is a licensed font, enter the 1- to 20-character name of the decentralized version of the font.

Deleting an XPAFXFI table entry

To delete entries from this table, use the Delete a Font Table or Table Entry option on the Manage Tables menu panel. Refer to "Deleting a font table or table entry" later in this chapter for information about using this option.

Specifying the code page for a Xerox font

You can associate a Xerox font with one or more code pages by creating new aliases through the XPAFXFI table and assigning a different code page to each alias. Follow this procedure:

Step 1. Create a character mapping table that contains the new code page information. Follow the procedure described in "Creating a new character mapping table from a dataset" later in this chapter.

Step 2. Use Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu to update the XPAFXFI table to reference the new code page name.

Step 3. If you are associating the font with more than one code page, enter the new logical name for this font when used with the code page specified in step 2.

If the font is used in DCF documents, perform the next two steps:

Step 4. Convert the Xerox font by using the Convert Xerox Font to IBM Format option on the Convert Resources menu. This conversion creates an IBM look-alike version of the font that DCF recognizes.

NOTE: If you use an IBM code page with this font, the code page must reside in the output font library in which the converted font is stored.

Step 5. Create a DCF index for the new font by executing the JCL provided with DCF.

Character mapping tables

To access the character mapping table options, enter **2** on the Maintain Font Tables menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                  Maintain the Character Mapping Tables

OPTION ===>

  1.  Display an Existing Character Mapping Table

  2.  Create/Update a Character Mapping Table from a Dataset

  3.  Create/Update a Character Mapping Table On-line
```

Enter the number of the option you want to perform and press **ENTER**.

Displaying an existing character mapping table

To display the values assigned to each character identifier in a character mapping table, enter **1** on the Maintain the Character Mapping Tables menu OPTION line. Press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Display an Existing Character Mapping Table

COMMAND ===>

  Character Mapping Name:

   Table Type (CC/DC/CP):
```

Complete these fields and press **ENTER**:

Field	Action
Character Mapping Name	Enter the name of the centralized character mapping, decentralized character mapping, or code page table you want to display.
Table Type	Enter the type of table you want to display. Valid values: CC Specifies a centralized character mapping table which shows each character ID in the table with its associated ASCII value. DC Specifies a decentralized character mapping table which shows each character ID in the table with its associated ASCII value and plane number. CP Specifies a Xerox code page table which shows each character ID in the table with its associated EBCDIC value. Default: None ***NOTE:*** If you select a table type other than the type of table you want to display, the displayed information will not be correct. For example, if you want to display a decentralized character mapping table, and you enter CC instead of DC, XPAF will display the information for a centralized character mapping table, which will not be accurate.

After you press ENTER, a panel similar to the panel shown below will appear.

```
                    Xerox Output Administrative Facility
                 Display an Existing Character Mapping Table

COMMAND ===>

  Character Mapping Name: CCMV01

  CHARACTER ID        ASCII VALUE
  CEPHEXBA            BA
  CEPHEXBF            BF
  CEPHEXB2            B2
  CEPHEXDF            DF
  CEPHEXD2            D2
  CEPHEXEA            EA
  CEPHEXEB            EB
  CEPHEXEC            EC
  CEPHEXED            ED
```

The sample panel shown above displays information for a centralized character mapping.

NOTE: The column headings that appear on the panel will differ, depending on the type of table selected:

- *The ASCII VALUE column appears only for centralized or decentralized character mappings.*
- *The PLANE NUMBER column appears only for decentralized character mappings.*
- *The EBCDIC VALUE column appears only for Xerox code pages.*

The following fields/columns may appear on this panel:

Field/Column	Action
Character Mapping Name	Displays the name of the centralized mapping, decentralized mapping, or code page table you want to display.
CHARACTER ID	Displays the standard font character identifier that uniquely identifies each character.
PLANE NUMBER	Displays the plane number in which the associated code point resides.
ASCII VALUE	Displays the location of the character, in ASCII representation, in the centralized or decentralized font.
EBCDIC VALUE	Displays the location of the character, in EBCDIC representation, in the Xerox code page.

The following panel displays information for a decentralized character mapping:

```
                    Xerox Output Administrative Facility
                 Display an Existing Character Mapping Table

COMMAND ===>

  Character Mapping Name: DCMV01

  CHARACTER ID       PLANE NUMBER       ASCII VALUE
  CEPHEXBA           02                 46
  CEPHEXBF           02                 47
  CEPHEXB2           02                 45
  CEPHEXDF           02                 49
  CEPHEXD2           02                 48
  CEPHEXEA           02                 4A
  CEPHEXEB           02                 4B
  CEPHEXEC           02                 4C
  CEPHEXED           02                 4D
```

The following panel displays information for a code page:

```
                    Xerox Output Administrative Facility
                 Display an Existing Character Mapping Table

COMMAND ===>

  Character Mapping Name: RXCP08

  CHARACTER ID       EBCDIC VALUE
  GF020000           0F
  LA010000           81
  LA020000           C1
  LA110000           52
  LA120000           DF
  LA130000           49
  LA140000           DB
  LA150000           48
  LA160000           DA
```

Creating a new character mapping table from a dataset

Use this option to create or update character mapping tables by loading character mapping information from a dataset. The input data must be stored in a PDS.

During the load process, if the character mapping name you provide does not correspond to an existing table, XPAF creates a new table. If you are updating a table, XPAF replaces the existing table with the revised table. For this reason, the input dataset must contain character mapping information for both the existing entries and new entries you are adding.

To create or update a character mapping table using a PDS as the input source, use either a new PDS or an existing PDS. The steps for each method are discussed in the following sections.

Using a new PDS

Step 1. Create a PDS with these attributes:

RECFM=FB
LRECL=80

Step 2. Within a member of the PDS, enter the character mapping information that you want to load to an XPAF character mapping table.The member name within the PDS must be the same as the character mapping name you want to use. The member name becomes the character mapping name when you load the information to XPAF.

The format of the data in the input PDS member varies depending on the character information you load. For centralized font information, include the character ID and ASCII value. For decentralized font information, include the character ID, ASCII value, and plane number.

You should use the primary plane, plane 01, for your most commonly used characters. Characters that will not fit in plane 01 should be placed in plane 02 until it is full, and then planes 03-08 should be used in ascending order. For code page information, include the character ID and EBCDIC value.

The format for a centralized character mapping table entry is:

CHARID=*xxxxxxxx* ASCII=*nn*

The format for a decentralized character mapping table entry is:

CHARID=*xxxxxxxx* ASCII=*nn* PLANE=*nn*

The format for a Xerox code page table entry is:

CHARID=*xxxxxxxx* EBCDIC=*nn*

where

- *xxxxxxxx* is the 8-digit character ID name.
- *nn* is the 2-digit ASCII or EBCDIC hexadecimal value, or the 2-digit decimal value for the plane number (01 to 08).
- One or more spaces separate each value in the PDS member.

Note these restrictions when creating or updating table entries:

- Do not assign EBCDIC X'40' or ASCII X'20' to a character other than a space. The ASCII X'20' code point always represents the space character in a decentralized font, whether the code point X'20' is listed in the decentralized character mapping table or not.
- Decentralized character mapping tables cannot map characters to these ASCII code points:

  X'00' through X'1F'

- When printing documents on decentralized printers in EBCDIC mode, do not map characters in decentralized character mapping tables to these ASCII code points:

  X'80' through X'97'
  X'D6' through X'DB'
  X'E5'

The following example shows an entry for a centralized character mapping table:

```
CHARID=LA010000  ASCII=61
CHARID=LA020000  ASCII=41
```

The following example shows an entry for a decentralized character mapping table:

```
CHARID= LA010000  ASCII=61  PLANE=01
CHARID= LA020000  ASCII=41  PLANE=01
```

The following example shows an entry for a Xerox code page table:

```
CHARID=LA010000  EBCDIC=81
CHARID=LA020000  EBCDIC=C1
```

Using an existing PDS

Edit an existing PDS member to change the appropriate character mapping values. You can edit a PDS you created previously or one of the sample character mapping tables provided in XPFSAMP.

After completing either your entries to the input PDS or your changes to the character mapping table in XPFSAMP, you can load the information to XPAF.

Enter **2** on the Maintain the Character Mapping Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
            Create/Update a Character Mapping Table from a Dataset

COMMAND ===>

  Character Mapping Name:

            Dataset Name:
```

Complete these fields and press **ENTER**:

Field	Action
Character Mapping Name	• Enter the character mapping name. This is the name of the character mapping table you are creating or updating. This name must correspond to a member name in the input PDS. • Leave this field blank to create or update a character mapping table for each member contained in the input PDS.
Dataset Name	Enter the name of the PDS that contains the character mapping information that will be loaded to XPAF. Do not include the member name; XPAF uses the 'Character Mapping Name' value as the input member name.

Creating a new character mapping table online

This option allows you to define characters one at a time. You can create a new table or add entries to an existing table, but you cannot modify existing entries.

NOTE: To delete entries from this table, use the Delete a Font Table or Table Entry option on the Manage Tables menu panel. Refer to "Deleting a font table or table entry" later in this chapter for information about using this option.

To create a new character mapping online, enter **3** on the Maintain the Character Mapping Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                Create/Update a Character Mapping Table On-line

COMMAND ===>

        Character Mapping Name:

                  Character ID:

  EBCDIC Value or Plane Number:

                   ASCII Value:
```

Complete the following fields and press **ENTER**:

NOTE: Enter only the values required for the appropriate type of character mapping table:

- The required fields for centralized character mapping tables are: 'Character Mapping Name', 'Character ID', and 'ASCII Value'.
- The required fields for decentralized character mapping tables are: 'Character Mapping Name', 'Character ID', 'Plane Number', and 'ASCII Value'.
- The required fields for Xerox code page tables are: 'Character Mapping Name', 'Character ID', and 'EBCDIC Value'.

Field	Action
Character Mapping Name	Enter the centralized or decentralized character mapping name as found in the XPAFXFI table.
Character ID	Enter the 8-character standard font character identifier that uniquely identifies each character. This name is used to match characters between centralized fonts and decentralized fonts as well as centralized mapping variations and code pages.
EBCDIC Value or Plane Number	• For Xerox code page tables, enter the 2-digit hexadecimal EBCDIC value which represents the location of the character in the Xerox code page. ***NOTE:*** Do not assign EBCDIC X'40' to a character other than a space or your font conversion results may be unpredictable. • For decentralized character mapping tables, enter the 2-digit plane number (01–08).
ASCII Value	Enter the 2-digit hexadecimal ASCII value which represents the location of the character in either the centralized or the decentralized font. Note these restrictions: • Do not assign ASCII X'20' to a character other than a space. The ASCII X'20' code point always represents the space character in a decentralized font, whether the code point X'20' is listed in the decentralized character mapping table or not. • Decentralized character mapping tables cannot map characters to these ASCII code points: X'00' through X'1F' • When printing documents on decentralized printers in EBCDIC mode, do not map characters in decentralized character mapping tables to these ASCII code points: X'80' through X'97' X'D6' through X'DB' X'E5'

XPAFFFI table

To access the font family information table, enter **3** on the Maintain Font Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
             Maintain the Font Family Information (XPAFFFI) Table

COMMAND ===>

* Enter font family name, or leave blank for a member list.

  Font Family Name:
```

Complete this field and press **ENTER**:

Field	Action
Font Family Name	• Enter the 1- to 6-character name of the font family for which you want to display, create, or update an entry. • Leave this field blank to display a selection list.

If you leave the ‘Font Family Name’ field blank, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                    Selection List of Font Table Members

COMMAND ===>

* Next to name, enter 'S' to select a member.

  L00TPA
  L00TPB
  L00TPC
  L01BOA
  L01BOB
  L01ITA
```

To select the font family you want to update, tab to the appropriate member name, enter **S**, and press **ENTER**.

When you enter a font name on the Maintain the Font Family Information (XPAFFFI) Table panel, or select a font from the Selection List of Font Table Members panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
             Maintain the Font Family Information (XPAFFFI) Table

COMMAND ===>

* On COMMAND line, enter 'U' to create or update an entry.

  Font Name: L00TPC

  FONT CHARACTERISTICS
                      Typeface: TRENDPS
                        Weight: MEDIUM
                    Font Width: NORMAL
                    Point Size: 12
    Rotation (000/090/180/270): 000
         Orientation (P/L/I/J): L

  FONT ATTRIBUTES
       Italics (Y/N): N
      Outlined (Y/N): N
    Overstruck (Y/N): N
    Underlined (Y/N): N
```

Enter **U** on the COMMAND line to either update or create a table entry. Then complete these fields and press **ENTER**:

Field	Action
Font Name	This field displays the name of the font: • Do not change this name if you want to update an existing table. • Enter a unique 1- to 6-character font name if you want to create a new table. • Enter the name of an existing font in the table if you want to display information for a different font.
FONT CHARACTERISTICS **Typeface**	Enter the descriptive name of the font family.

Field	Action
Weight	Enter the weight of the font. Valid values: ULTRALIGHT EXTRALIGHT LIGHT SEMILIGHT MEDIUM SEMIBOLD BOLD EXTRABOLD ULTRABOLD
Font Width	Enter the width of the font. Valid values: ULTRACONDENSED EXTRACONDENSED CONDENSED SEMICONDENSED NORMAL SEMIEXPANDED EXPANDED EXTRAEXPANDED ULTRAEXPANDED
Point Size	Enter the actual point size of the font.
Rotation	Enter the angle of rotation of the characters in degrees relative to the baseline. Valid values: 000 090 180 270
Orientation	Enter the print direction. Valid values: P Portrait L Landscape I Inverse portrait J Inverse landscape
FONT ATTRIBUTES **Italics**	Indicate whether the font's attributes include italics. Valid values: Y Includes the italics font attribute. N Does not include the italics font attribute.

Field	Action
Outlined	Indicate whether the font's attributes include outline. Valid values: Y Includes the outline font attribute. N Does not include the outline font attribute.
Overstruck	Indicate whether the font's attributes include overstruck. Valid values: Y Includes the overstruck font attribute. N Does not include the overstruck font attribute.
Underlined	Indicate whether the font's attributes include underline. Valid values: Y Includes the underline font attribute. N Does not include the underline font attribute.

XPAFCFN table

To access the coded font name table, enter **4** on the Maintain Font Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Maintain the Coded Font Name (XPAFCFN) Table

COMMAND ===>

* Enter coded font name, or leave blank for a member list.

  Coded Font Name:
```

Complete this field and press **ENTER**:

Field	Action
Coded Font Name	• Enter the 1- to 8-character name of the coded font for which you want to update table entries. • Leave this field blank to display a selection list.

NOTE: To delete entries from this table, use the Delete a Font Table or Table Entry option on the Manage Tables menu panel. Refer to "Deleting a font table or table entry" later in this chapter for information about using this option.

If you leave the ‘Coded Font Name’ field blank, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                   Selection List of Font Table Members

COMMAND ===>

* Next to name, enter 'S' to select a member.

  X0AD0A
  X0AD0B
  X0AD10
  X0AD2A
  X0AD2B
  X0AE10
  X0AG0A
```

To select a coded font from this list, tab to the appropriate member name, enter **S**, and press **ENTER**.

When you enter a font name on the Maintain the Coded Font Name (XPAFCFN) Table panel, or select a font from the Selection List of Font Table Members panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                 Maintain the Coded Font Name (XPAFCFN) Table

COMMAND ===>

* On COMMAND line, enter 'U' to create or update an entry.

     Coded Font Name: X0AD0A

      Code Page Name: T1000293

  Character Set Name: C0L0AD10
```

Enter **U** on the COMMAND line to either update or create a table entry. Then complete these fields and press **ENTER**:

Field	Action
Coded Font Name	Enter the 1- to 8-character IBM coded font name. Include the X*n* prefix, where: • *n* = 0 for 3820 fonts • *n* = 1, 2, 3, or 4 for 3800 fonts
Code Page Name	Enter the 1- to 8-character IBM code page name associated with this coded font name. Include the T1 prefix.
Character Set Name	Enter the 1- to 8-character IBM character set name associated with this coded font name. Include the C*n* prefix, where: • *n* = 0 for 3820 fonts • *n* = 1, 2, 3, or 4 for 3800 fonts

If the coded font name is a new name, a new coded font will be added to the table.

CPGID table

To access the CPGID table, enter **5** on the Maintain Font Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
            Maintain the Code Page Global Identifier (CPGID) Table

COMMAND ===>

* On COMMAND line, enter 'B' to browse, 'U' to create or update, or
  'D' to delete.

  Graphic Character Set Global Identifier:

              Code Page Global Identifier:

                            Code Page Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

B Browse an entry. You also must enter values in the ‘Graphic Character Set Global Identifier’ and the ‘Code Page Global Identifier’ fields to browse an entry.

U Create or update an entry. You also must enter values in all three fields to create or update an entry.

D Delete an entry. You also must enter values in the ‘Graphic Character Set Global Identifier’ and the ‘Code Page Global Identifier’ fields to delete an entry.

NOTE: The default option is B (browse).

Depending on the value you selected, complete these fields and press **ENTER**:

Field	Action
Graphic Character Set Global Identifier	Enter the graphic character set global identifier. This value must specify a 2-byte hexadecimal number (for example, 0479). Valid values: A 4-digit hexadecimal value from 0000 through FFFF.
Code Page Global Identifier	Enter the code page global identifier. This value must specify a 2-byte hexadecimal number (for example, 0169). Valid values: A 4-digit hexadecimal value from 0000 through FFFF.
Code Page Name	Enter the 8-character IBM code page name. The name must begin with the letter “T” (for example, T1000361).

NOTE: If you update or delete an entry using this option and later run any of XPAF’s IBM font table update options, the original entry that you updated or deleted may be recreated or changed in the CPGID table. This will occur because the values in your IBM font library will override any value in the CPGID table.

FGID table

To access the FGID table, enter **6** on the Maintain Font Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
              Maintain the Font Global Identifier (FGID) Table

COMMAND ===>

* On COMMAND line, enter 'B' to browse, 'U' to create or update, or
  'D' to delete.

  Font Global Identifier:

   Space Character Width:

      Character Set Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

B Browse an entry. You also must enter values in the ‘Font Global Identifier’ and the ‘Space Character Width’ fields to browse an entry.

U Create or update an entry. You also must enter values in all three fields to create or update an entry.

D Delete an entry. You also must enter values in the ‘Font Global Identifier’ and the ‘Space Character Width’ fields to delete an entry.

NOTE: The default option is B (browse).

Depending on the value you selected, complete these fields and press **ENTER**:

Field	Action
Font Global Identifier	Enter the font global identifier. This value must specify a 2-byte hexadecimal number (for example, 0904). Valid values: A 4-digit hexadecimal value from 0000 through FFFF.
Space Character Width	Enter the width of the space character. This value must specify a 2-byte hexadecimal number (for example, 0028). The value should match the nominal horizontal font size specified for the character set in the font descriptor record in your IBM font library. Valid values: A 4-digit hexadecimal value from 0000 through FFFF.
Character Set Name	Enter the 8-character name of the IBM character set. The name must begin with the letter “C” (for example, C0N20060).

NOTE: If you update or delete an entry using this option and later run any of XPAF’s IBM font table update options, the original information you updated or the entry you deleted may be recreated or changed in the FGID table. This will occur because the values in your IBM font library will override any value in the FGID table.

Updating IBM font characteristics information

Use this option to submit a batch job that creates entries to the font tables containing IBM font information required by XPAF. The batch job creates entries for these font tables:

- CPGID
- FGID
- XPAFCFN
- XPAFEFW
- XPAFE2A
- XPAFIFW
- XPAFIFW3

The font tables are built by RJOB105 during resource installation. Use this option to rebuild the tables if you change the code page assigned to a font or if you add new IBM fonts.

Submit a job for each library included in the IBM font library concatenation in your XOSF start-up proc. Execute the jobs in the reverse order of the library concatenation (that is, the first library included must be the last converted). Because the table entries created by this option replace any duplicate entries already present in the font tables, this procedure ensures that the table entries created for the first library in your concatenation are not overwritten.

Using this option

To update IBM font characteristics information, enter **3** on the Manage Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Update IBM Font Characteristics Information

COMMAND ===>

  IBM FONT LIBRARY
    Dataset Name:

  DATASET PREFIX
       XPFLOAD Library:
       XINPARM Library:
    Font Table Library:

  JOB CARD INFORMATION
  ===> //JOBNAME JOB (ACCOUNT),'NAME',CLASS= ,MSGCLASS=
  ===> //*
  ===> //*
  ===> //*
```

Complete these fields:

Field	Action
IBM FONT LIBRARY **Dataset Name**	Enter the name of the IBM font library dataset, including the high-level qualifier. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the IBMFONTDD initialization parameter. Be sure to enclose the dataset name in single quotation marks.
DATASET PREFIX **XPFLOAD Library**	Enter the high-level and mid-level qualifiers for your system load library.
XINPARM Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library containing your initialization parameters.
Font Table Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library in which the font tables are stored. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the FNTTBLDD initialization parameter.
JOB CARD INFORMATION	Enter site-specific job card information.

Press **ENTER**, and this panel appears:

```
                    Xerox Output Administrative Facility
                 Update IBM Font Characteristics Information

OPTION ===>

  C.  Cancel JCL

  E.  Edit JCL

  K.  Keep JCL

  S.  Submit JCL
```

Select the option you want to perform and press **ENTER**. Valid values are:

C Cancels the generated JCL and returns to the initial Update IBM Font Characteristics panel.

E Displays the generated JCL for editing purposes.

K Keeps the generated JCL in a sequential dataset. After you save the JCL, you can access this dataset and submit the job without regenerating the JCL each time.

S Submits the JCL. Standard TSO/ISPF JCL submission error or confirmation messages are displayed.

NOTE: You cannot use the END command or the PF3 key to exit this panel. If you want to return to the previous panel and do not want to display, submit, or keep the JCL, you must enter **C** on the COMMAND line and press **ENTER**.

Editing the JCL

If you enter E in the OPTION line on the JCL options panel, a panel containing JCL similar to this appears:

```
// job-name JOB job-information
//*
//*************************************************************/
//*  CREATE IBM FONT CHARACTERISTICS - XOAJ0360               */
//*************************************************************/
//*
//S1 EXEC  PGM=XOASUP00,REGION=8192K,PARM=userid
//STEPLIB   DD  DISP=SHR,
//       DSN=prefix.XPFLOAD
//SYSPRINT  DD  SYSOUT=X
//TABLELIB  DD  DISP=SHR,
//       DSN=prefix.font-table-library-name
//XINPARM   DD  DISP=SHR,
//       DSN=prefix.XINPARM
//XOAPRINT  DD  SYSOUT=*,DCB=(LRECL=121,RECFM=FB,BLKSIZE=6050)
//XOAIN     DD  *
CONVERT IBM('ibm-font-library-dataset-name')
/*
```

You can edit and save the JCL and cancel or submit the job by using standard TSO/ISPF commands.

Keeping the JCL

If you enter K in the OPTION line on the JCL options panel, this panel appears:

```
                    Xerox Output Administrative Facility
                 Update IBM Font Characteristics Information

COMMAND ===>

* To keep the JCL, enter a new sequential dataset name.

  Dataset Name:
```

Complete this field and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the sequential dataset that is not currently cataloged. This is the dataset in which your JCL will be stored.

To return to the previous panel, enter **END** and press **ENTER**.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Update IBM Font Characteristics Information option:

CONVERT IBM('*ibm-font-library-dataset-name*')

Deleting a font table or table entry

You can use this option to delete any of the XPAF font tables listed below. You also can use this option to delete entries that are used by XPAF within these tables.

- CPGID
- FGID
- XPAFAFW
- XPAFA2A
- XPAFCFN
- XPAFEFW
- XPAFE2A
- XPAFFFI
- XPAFIFW
- XPAFIFW3
- XPAFI2X
- XPAFXFI
- Character mapping tables you have created

CAUTION: Do not delete any XPAF-generated tables without a thorough understanding of their use or without providing a replacement table, if appropriate. For example, the XPAFEFW and XPAFE2A tables that are distributed with XPAF contain information which is required for successful processing of page-formatted documents. Therefore, these tables must not be deleted.

Deleting a font table

To delete a font table, enter **4** on the Manage Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                     Delete a Font Table or Table Entry

COMMAND ===>

* On COMMAND line, enter '1' to delete a table or '2' to delete a table entry.

  Dataset Name:

    Table Name:
```

Enter **1** on the COMMAND line to delete a table. Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the dataset containing the tables to be processed. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the FNTTBLDD initialization parameter.
Table Name	Enter the name of the table you are deleting. Select a table name from this list or enter the name of a character mapping table: CPGID FGID XPAFAFW XPAFA2A XPAFCFN XPAFEFW XPAFE2A XPAFFFI XPAFIFW XPAFIFW3 XPAFI2X XPAFXFI

NOTE: If you delete an entry in the CPGID or FGID tables using this option and later run any of XPAF's IBM font table update options, the entry you deleted may be recreated in the table. This will occur because the values in your IBM font library will override any value in the CPGID or FGID tables.

Deleting a table entry

To delete a font table entry, enter **4** at the Maintain XPAF Tables menu OPTION line and press **ENTER**. The Delete a Font Table or Table Entry panel (already shown) appears.

Enter **2** on the COMMAND line to delete a table entry. Then complete these fields:

Field	Action
Dataset Name	Enter the name of the dataset containing the tables to be processed. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the FNTTBLDD initialization parameter.
Table Name	Enter the name of the table from which you want to delete an entry. Select a table name from this list or enter the name of a character mapping table: CPGID FGID XPAFAFW XPAFA2A XPAFCFN XPAFEFW XPAFE2A XPAFFFI XPAFIFW XPAFIFW3 XPAFI2X XPAFXFI

After you complete your entries, press **ENTER**. A panel similar to this appears:

```
                    Xerox Output Administrative Facility
                           Delete a Table Entry

COMMAND ===>

* Next to name, enter 'D' to delete an entry.

  FFMT01                                    FFMT02
  FFMT03                                    FFMT04
  FFMT10                                    FFMT11
  FORMSL                                    FORMSP
  FRMS7L                                    FRMS7P
  L00TPA                                    L00TPB
  L00TPC                                    L01BOA
```

Tab to the table entry you want to delete and enter **D** to the left of the entry. Press **ENTER**. The system deletes the entry from the table and displays

* DELETED *

to the right of the entry.

Maintaining color cross-reference tables

To create, delete, or update color cross-reference tables, enter **5** on the Manage Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                   Maintain Color Cross-Reference Tables

COMMAND ===>

* On COMMAND line, enter 'C' to create, 'D' to delete, or 'U' to update a table.

  Dataset Name:

    Table Name:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

- C Create a new color cross-reference table.
- D Delete an existing color cross-reference table.
- U Update an existing color cross-reference table.

Then complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the native library where the color cross-reference table is or will be stored. This is the dataset name referenced by the INKXLIB initialization or printer profile parameter, or extended JCL keyword.
Table Name	Enter the 1- to 8-character name of the table you are creating or updating. This is the table name referenced by the INKXREF initialization or printer profile parameter, or extended JCL keyword.

Creating/Updating a color cross-reference table

If you enter C (create) or U (update) on the COMMAND line of the Maintain Color Cross-Reference Tables panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                           Creating Table - COLOR

COMMAND ===>                                            SCROLL ===>

* On COMMAND line, enter 'A' to add an entry.
* Next to “Set“ field, enter 'U' to update an entry, then overtype value
  in “To“ field.
* Next to “Set“ field, enter 'D' to delete an entry.

Set: BLACK
 To: BLACK

Set: BLUE
 To: BLUE

Set: BROWN
 To: BROWN

Set: GREEN
 To: GREEN

Set: PINK
 To: PINK
```

If you are creating a new table, the title reads “Creating Table - NAME”. If you are updating an existing table, the title reads “Updating Table - NAME”. In either case, NAME is the table name you specified on the previous panel. For example, in the sample panel, a cross-reference table named COLOR is being created.

Use this panel to add, update, or delete color cross-references within the table.

- If you are creating a new table, the default values are displayed in the ‘Set’ and ‘To’ fields, as shown in the sample panel.
- If you are updating a table, the previously established cross-references are displayed.

You can page forward or backward using standard scroll commands.

Adding a new color cross-reference entry

To add a new color cross-reference entry to the table, enter **A** on the COMMAND line and press **ENTER**. A panel similar to this appears:

```
                    Xerox Output Administrative Facility
                           Updating Table - COLOR

COMMAND ===>

Set:
 To:

Set:
 To:

Set:
 To:

Set:
 To:

Set:
 To:
```

Add the new color cross-reference entries to the table. You can page forward or backward using standard scroll commands.

Complete these fields:

Field	Action
Set	Enter the ink color that you want to change.
To	Enter the Xerox color to which you are cross-referencing the color named in the 'Set' field. For example: Set: CAT.NEW PALETTE.ORANGE To: CAT2.OLD PALETTE.LIGHT PINK

After you complete your entries, press **ENTER**. XOAF returns to the Updating Table panel. The new entries are displayed at the beginning of the table. The next time you update the table, all of the entries will be displayed in alphabetic order.

Updating a color cross-reference entry

To update a color cross-reference entry in the table, enter **U** to the left of the 'Set' field, type the new name over the existing color cross-reference name in the 'To' field, and press **ENTER**.

Use these fields on the panel:

Field	Action
Set	Displays the color that you want to change.
To	Enter the Xerox color to which you are cross-referencing the color named in the 'Set' field. This must be a color name that exists in your printer ISL. The color cross-reference name can be specified in this format: *inkcat.palette.color* where *inkcat* Name of the ink catalog defined in the printer ISL. This name, which is optional, can be up to 6 characters long. *palette* Name of a palette defined in the ink catalog. This name, which also is optional, can be up to 32 characters long. *color* Name of the color within the palette. This name can be up to 32 characters long. For example, PROD.SOLID.RED refers to the red ink in the solid palette in the catalog named PROD.

Deleting a color cross-reference entry

To delete a color cross-reference entry from the table, enter **D** to the left of the 'Set' field for the color cross-reference entry you want to delete and press **ENTER**. No additional panels are displayed.

Deleting a color cross-reference table

To delete a color cross-reference table, enter **D** on the COMMAND line on the Maintain Color Cross-Reference Tables panel. Then enter the name of the library in which the table resides and the table name. Press **ENTER**.

XOAF displays a message indicating whether the table was deleted. No additional panels are displayed.

Maintaining the color conversion table

To modify the default color conversion table to add custom colors, follow this procedure:

Step 1. Make a copy of the default table. The default color conversion table, named COLR4700, is provided with XPAF and is stored in XPFSAMP.

Step 2. Edit the new PDS member.

Step 3. Load the edited color conversion table using either of these methods:

- Use the Maintain the Color Conversion Table option on the Manage Tables menu. Refer to the next section, "Using this option," for detailed information about how to use the Maintain the Color Conversion Table option.
- Use the LOAD INKS TSO/batch command. Refer to "TSO/Batch command" later in this chapter for the format for this command.

Using this option

To load the color conversion table, enter **6** on the Manage Tables menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                    Maintain the Color Conversion Table

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS where the color conversion table is stored. The recommended dataset specifications are: RECFM=FB LRECL=80 BLKSIZE=A value appropriate to your site
Member Name	Enter the 1- to 8-character name of the member in which the color conversion table resides.
OUTPUT **Dataset Name**	Enter the name of the native library to which the color conversion table is being loaded. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the INKXLIB initialization parameter or printer profile parameter.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Maintain the Color Conversion Table option:

LOAD INKS('*input-dataset-name*(*member-name*)')

[TO]('*output-dataset-name*')

Color conversion table loader report

The color conversion table loader automatically generates a report that shows the ISL source as it is read from the PDS member. Figure 23-1 shows a sample report.

The report is written to a dataset with the DD name UJLLIST, included in the XOAF logon proc and XOAF batch JCL. As shown in the following examples, you can specify a dataset name in place of SYSOUT.

```
//XOAFBAT   PROC   CORE=4096K,USER=
//XOAF      EXEC   PGM=XOASUP00,REGION=&CORE,PARM=(&USER)
                     .
            additional DD statements
                     .
//UJLLIST   DD   SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=1330)
//XOAIN     DD    DDNAME=SYSIN
```

```
//XOAFBAT   PROC   CORE=4096K,USER=
//XOAF      EXEC   PGM=XOASUP00,REGION=&CORE,PARM=(&USER)
                     .
                   additional DD statements
                     .
//UJLLIST   DD     DSN=prefix.UJLLIST,DISP=SHR
//XOAIN     DD     DDNAME=SYSIN
```

If you specify a dataset name in the XOAF logon proc or batch JCL, you must preallocate a sequential dataset with these specifications:

RECFM=FBA
LRECL=133
BLKSIZE=1330

Figure 23-1. Sample color conversion table loader report

```
                        XEROX COLOR CONVERSION TABLE LOADER REPORT         PAGE   1
   INPUT-DSN=XPAF30.XPFSAMP                                INPUT-MEMBER=COLR4700
  OUTPUT-DSN=XPAF30.TABLELIB
OUTPUT-TABLE=COLOR-CONV-4850-4700

 /* BLACKS */
'K0'                   : COLOR GRAY=0;
'WHITE'                : COLOR GRAY=0;
'K1'                   : COLOR GRAY=0.06666;
'K3'                   : COLOR GRAY=0.13333;
'K9'                   : COLOR GRAY=0.20000;
'EXTREMELY LIGHT GRAY': COLOR GRAY=0.20000;
'K15'                  : COLOR GRAY=0.26666;
'K23'                  : COLOR GRAY=0.33333;
'DARK GRAY'            : COLOR GRAY=0.80000;
'K95'                  : COLOR GRAY=0.86666;
'VERY DARK GRAY'       : COLOR GRAY=0.86666;
'K98'                  : COLOR GRAY=0.93333;
'K100'                 : COLOR GRAY=1.00000;
'BLACK'                : COLOR GRAY=1.00000;

 /* CYAN */
'CYAN'                 : COLOR RGB=(-0.1458,0.3090,0.7985);
'TURQ'                 : COLOR RGB=(-0.1500,0.4450,0.7880);
'TURQUOISE'            : COLOR RGB=(-0.1500,0.4450,0.7880);

 /* MAGENTA */
'MAGENTA'              : COLOR RGB=(0.83266,-0.039,0.4142);
'PINK'                 : COLOR RGB=(0.83266,-0.039,0.4142);

 /* OTHERS */
'BROWN'                : COLOR RGB=(0.30000,0.0600,0.0170);
'YELLOW'               : COLOR RGB=(1.05570,0.8865,-0.083);
'MUSTARD'              : COLOR RGB=(1.02000,0.7200,0.1600);
'ORANGE'               : COLOR RGB=(0.95010,0.2511,0.0048);
'PURPLE'               : COLOR RGB=(0.18000,-0.030,0.3940);

 /* BLUES */
'B1K96'                : COLOR RGB=(0.07480,0.0779,0.0818);
'B2K20'                : COLOR RGB=(0.78521,0.7972,0.8006);
'B2K93'                : COLOR RGB=(0.08348,0.0922,0.1002);
'B3K75'                : COLOR RGB=(0.23677,0.2502,0.2625);
END;
UIL0701I COLOR CONVERSION TABLE LOADER COMPLETED SUCCESSFULLY
```

24. Managing custom fonts

This chapter describes how to make custom Xerox or custom replica fonts (that is, fonts which were purchased from Xerox or a third-party vendor) available to XPAF.

Using custom Xerox fonts

Before using Xerox fonts that were not provided with XPAF, you must use various XOAF options to load the fonts and update the appropriate XPAF font tables. To print documents prepared for a centralized printer on a decentralized or PCL-capable printer, you must load both centralized and decentralized versions of the font to native libraries.

Follow this procedure to load custom Xerox fonts to native libraries.

Step 1. Offload your existing font tables so that you have a backup. Refer to chapter 26, "Managing XPAF libraries," for instructions about offloading members of a library.

Step 2. Upload the fonts to a PDS or sequential dataset on the host. The dataset can contain either centralized fonts or decentralized fonts; you cannot store both types of fonts in the same dataset. Refer to *Section Two: Installing and Customizing XPAF* for instructions about uploading datasets.

Step 3. Load the fonts from the PDS or sequential dataset to the native font library using either the Load Centralized Fonts option or Load Decentralized Fonts option on the Load Resources menu or the LOAD FONT TSO/batch command.

When loading centralized fonts, the system automatically generates entries to the XPAFXFI table; when loading decentralized fonts, you optionally specify whether entries are generated to this table.

You can view and update the XPAFXFI table using the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu. Refer to chapter 23, "Managing XPAF tables," for information about how to use this option.

Step 4. Create character mapping tables for each of the following using the Maintain Character Mapping Tables option on the Maintain Font Tables menu:

- Centralized mapping which contains the character IDs and the ASCII mapping values for the centralized font.
- Decentralized mapping which contains the character IDs, plane numbers, and the ASCII mapping values for the decentralized font.
- Code page that contains the character IDs and the EBCDIC mapping values. This table defines the characters that are available in the font.

Be sure to use the same name for these tables that you used when you loaded the font to the native font library.

Step 5. Update the XPAFXFI table with information for the font using the Maintain the Xerox Font Information (XPAFXFI) Table option on the Maintain Font Tables menu. If the decentralized font name is different from the centralized font name, enter the name in the 'Decentralized Font Name' field. You also can set up a different logical font name that allows you to use the same font with a different code page.

Step 6. If you do not have a decentralized version of the font, but want to use that same font in documents printed on a decentralized or PCL-capable printer, convert the centralized font using either the Convert Centralized Fonts to Decentralized Fonts option on the Convert Resources menu or the CONVERT XFONT TSO/batch command.

Using custom replica fonts

Before using custom replica fonts (that is, replica fonts which were not provided with XPAF), you must use the options on the Manage Custom Replica Fonts menu to load the fonts and update the appropriate XPAF font tables.

Limitations and considerations

Review these limitations and considerations before adding custom replica fonts to your XPAF system.

IBM resources

You cannot use the Manage Custom Replica Fonts menu options to add Xerox fonts to XPAF to be used in the 240 dpi environment. You must have the necessary IBM character sets and associated code pages.

To add Xerox fonts for which corresponding IBM resources do not exist, refer to "Converting Xerox fonts to IBM format" in chapter 21, "Converting resources."

Font names

If you have acquired custom replica fonts from Xerox Font Services, a third-party vendor, or a software utility, use this naming convention:

CU*nnno*

where

CU*nnn*	A unique 5-character font name.
o	The orientation, either P, L, I, or J.

CAUTION: To avoid name conflicts with existing and future XPAF-provided fonts, use CU as the first two characters for all custom font names.

The 5-character font name limitation also applies to decentralized fonts. Even though decentralized fonts can have 20-character font names, you must adhere to this font naming convention because the XPAFAFW table is keyed from the first 5 characters of the font name.

Truncation of fractional differences

Before you load custom fonts to a native font library, ensure that the widths of the characters in the input dataset have been truncated rather than rounded. At print time, your documents will contain lateral positioning errors if the character widths are rounded.

When printing AFP documents, XPAF performs an error correction to compensate for font truncation. It calculates the accumulated loss due to truncation and adjusts for it by adding a pel as needed. Font rounding causes the current position to be greater than expected, leading to placement problems.

If you did not acquire your fonts from Xerox Font Services, check with your typestroke vendor to verify that the fonts they generate are truncated.

Orientation

To use all four IBM orientations, you must create a separate font for each orientation (landscape, portrait, inverse landscape, and inverse portrait).

Split fonts (version 5 encoding or below only)

Before you can load a custom font to XPAF, you must create a replica font using ISO8859-1 mapping. ISO8859-1 mapping limits character data to 64K. Therefore, 18-point or larger fonts must be split over several planes. For example, to add a 36-point font, you might use 3 planes (10, 20, and 30, where 1, 2, and 3 represent the split planes within plane 0).

If you add a new typeface that uses an existing character name, you must adopt the split convention. If you add a character set that contains only new characters, you do not need to use the split convention. When creating the XPAFI2X table entry using the Maintain the IBM-to-Xerox (XPAFI2X) Table option on the Install Custom Replica Fonts menu, use your own mapping convention and specify a point size of zero (P00). The point size value is used only to determine whether to use the split convention.

Font widths (version 5 encoding or below only)

To use both centralized and decentralized fonts, you must be aware of how the XPAFAFW table is generated and how it is used. This table contains information from the font header that XPAF requires to correctly position characters on the page. For example, XPAF requires the left and right kerning values of the font to align italic fonts correctly.

When you load a centralized custom font, an XPAFAFW table entry is automatically generated, and both left and right kerning values are available. When you load a decentralized custom font, you can optionally generate an XPAFAFW table entry.

NOTE: For both centralized and decentralized custom replica fonts using version 5 encoding and below, the orientation specified by the last character of the font name must match the orientation specified by the ‘Orientation’ field in the Load Custom Replica Fonts option. Otherwise, an XPAFAFW table entry will not be generated.

If you do not generate an XPAFAFW table entry, only the right kerning value is available. XPAF requires both kerning values. To provide XPAF with the required left and right kerning values, load a centralized version of each custom replica font.

To produce a decentralized version of the font, use either the Convert Centralized Fonts to Decentralized Fonts option on the Convert Resources menu or the CONVERT XFONT TSO/batch command.

Selecting custom font support

To access the Manage Custom Replica Fonts menu, enter **5** on the System Services menu OPTION line and press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
                         Manage Custom Replica Fonts

OPTION ===>

  1.  Install Custom Replica Fonts (version 5 encoding or below)

  2.  Install Custom Replica Fonts (version 6 encoding or above)
```

Select the option you want to perform and press **ENTER**:

- Enter **1** to load custom replica fonts using version 5 encoding or below from a PDS or sequential dataset to a native library.
- Enter **2** to load custom replica fonts using version 6 encoding or above from a PDS or sequential dataset to a native library.

Installing custom replica fonts (version 5 encoding or below)

Select option **1** on the Manage Custom Replica Fonts menu if you are installing custom replica fonts using version 5 encoding or below. Press **ENTER**. This menu appears:

```
                    Xerox Output Administrative Facility
          Install Custom Replica Fonts (version 5 encoding or below)

OPTION ===>

  1.  Load Custom Replica Fonts

  2.  Update the IPSTND Table (optional)

  3.  Update the IBM-to-Xerox (XPAFI2X) Table (optional)

  4.  Update IBM Font Characteristics Information
```

Use this menu to load the font to XPAF as you perform the following steps:

NOTE: For each font you load, you must have these two corresponding AFP resources:

Appropriate character sets (C0xxxxxx)

Associated code pages (T1xxxxxx)

Step 1. Obtain the replica font from Xerox Font Services or a third-party vendor. This step is required to generate a custom replica of the IBM font you want to use.

Step 2. Upload the font from the delivery tape into a PDS or a sequential dataset. This dataset can contain either centralized fonts or decentralized fonts. Refer to *Section Two: Installing and Customizing XPAF* for information about uploading datasets.

NOTE: You cannot store both types of fonts in the same dataset.

Step 3. Use the Load Custom Replica Fonts option on the Install Custom Replica Fonts menu or the LOAD FONT TSO/batch command to load the font to XPAF from a PDS or a sequential dataset into the appropriate native font library. During the load process, an entry is made in the XPAFAFW table to provide XPAF with font metrics information.

Step 4. Use the Update the IPSTND Table option on the Install Custom Replica Fonts menu to update the IPSTND table. The IPSTND table provided with XPAF contains the character identifiers that are supported by XPAF.

If the font you are loading contains characters that are not included in the standard IPSTND table, add the new characters to the table using this option. This table reflects your site's variance from ISO8859-1.

To help prevent the possibility of corrupting existing font information, you cannot update entries for the XPAF-supported character identifiers.

Step 5. Use the Update the IBM-to-Xerox (XPAFI2X) option on the Install Custom Replica Fonts menu to update the XPAFI2X table. This table links an IBM font character set name to the corresponding custom replica font name(s). This step is required only if you are adding a new character set or modifying an existing replica font.

Step 6. Use the either the Update IBM Font Characteristics Information option on the Install Custom Replica Fonts menu or the CONVERT IBM TSO/batch command to create IBM font characteristics for the custom replica font. This step submits a batch job that generates entries for the IBM fonts to these XPAF tables:

- CPGID
- FGID
- XPAFCFN
- XPAFEFW
- XPAFIFW3
- XPAFE2A
- XPAFIFW

Loading custom replica fonts

To load custom replica fonts to a native library, enter **1** on the Install Custom Replica Fonts menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                         Load Custom Replica Fonts

COMMAND ===>

  Processing Mode (BG/FG):

  INPUT
    Dataset Name:
     Member Name:

  INPUT SPECIFICATIONS
                        Orientation (P/L/I/J):
    Centralized or Decentralized Fonts (C/D):

  OUTPUT
    Dataset Name:

  OUTPUT SPECIFICATIONS
    Create XPAFAFW Table Entry? (Y/N):
```

Complete these fields and press **ENTER**:

Field	Action
Processing Mode	Specify the processing mode in which to load fonts. Valid values: BG Loads the fonts in batch mode. The Load Custom Replica Fonts batch job panel appears. FG Load the fonts in foreground. ***NOTE:*** Loading a large number of fonts may take a significant amount of time.
INPUT **Dataset Name**	Enter the name of the PDS or sequential dataset that contains the fonts to be loaded. This dataset must contain either centralized fonts or decentralized fonts; you cannot mix font types in the same dataset. If you have multiple fonts concatenated in a single file, they must be loaded from a sequential dataset with valid headers. The dataset specifications are: Centralized: RECFM=F or FB LRECL=128 BLKSIZE=A value appropriate for your site Decentralized: RECFM=F or FB LRECL=80 BLKSI ZE=A value appropriate for your site
Member Name	• Enter the 1- to 8-character member name if the font is stored in a PDS. • Enter an asterisk (*) to load all fonts in a PDS. • Leave this field blank if the font is stored in a sequential dataset.
INPUT SPECIFICATIONS **Orientation**	Enter the font orientation. If the orientation specified by the last character of the font name does not match the value for this field, an XPAFAFW table entry will not be generated. Valid values: P Portrait L Landscape I Inverse portrait J Inverse landscape Default: L
Centralized or Decentralized Fonts?	Specify the type of fonts to be loaded. Valid values: C Loads centralized fonts. D Loads decentralized fonts.

Field	Action
OUTPUT **Dataset Name**	Enter the name of the native centralized or decentralized font library to which the fonts will be loaded. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the CFONTLIB or DFONTLIB initialization parameter or the FONTLIB printer profile parameter.
OUTPUT SPECIFICATIONS **Create XPAFAFW Table Entry?**	If you are loading a decentralized font, indicate whether you want to generate entries to the XPAFAFW table. If you are loading a centralized font, an XPAFAFW table entry automatically will be generated; any entry in this field will be ignored. Valid values: Y Generates entries to the XPAFAFW table. Enter this value if you are not loading the equivalent centralized version of this font. N Does not generate entries to the XPAFAFW table. Enter this value if you have loaded or intend to load the equivalent centralized version of this font.

Using background mode

When you load fonts in background mode, this panel appears:

```
                    Xerox Output Administrative Facility
                         Load Custom Replica Fonts

COMMAND ===>

  DATASET PREFIX
       XPFLOAD Library:
       XINPARM Library:
    Font Table Library:

  JOB CARD INFORMATION
  ===> //JOBNAME JOB (ACCOUNT),'NAME' ,CLASS= ,MSGCLASS=
  ===> //*
  ===> //*
  ===> //*
```

Complete these fields:

Field	Action
DATASET PREFIX **XPFLOAD Library**	Enter the high-level and mid-level qualifiers for your system load library.
XINPARM Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library containing your initialization parameters.
Font Table Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library in which the font tables are stored. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the FNTTBLDD initialization parameter.
JOB CARD INFORMATION	Enter site-specific job card information.

Press **ENTER**, and this panel appears:

```
                    Xerox Output Administrative Facility
                          Load Custom Replica Fonts

OPTION ===>

  C.  Cancel JCL

  E.  Edit JCL

  K.  Keep JCL

  S.  Submit JCL
```

Select the option you want to perform and press **ENTER**. Valid values are:

C Cancels the generated JCL and returns to the initial Load Custom Fonts to a Native Library panel.

E Displays the generated JCL for editing purposes.

K Keeps the generated JCL in a sequential dataset. After you save the JCL, you can access this dataset and submit the job without regenerating the JCL each time.

S Submits the JCL. Standard TSO/ISPF JCL submission error or confirmation messages are displayed.

NOTE: You cannot use the END command or the PF3 key to exit this panel. If you want to return to the previous panel and do not want to display, submit, or keep the JCL, you must enter **C** on the COMMAND line and press **ENTER**.

Editing the JCL

If you enter E in the OPTION line on the JCL options panel, a panel containing JCL similar to this appears:

```
//job-name JOB job-information
//*
//*
//*************************************************************/
//*  CUSTOM REPLICA FONT LOADER  -  XOAJ0381                  */
//*************************************************************/
//*
//S1 EXEC  PGM=XOASUP00,REGION=8192K,PARM=userid
//STEPLIB   DD  DISP=SHR,
//       DSN=prefix.XPFLOAD
//SYSPRINT  DD  SYSOUT=X
//TABLELIB  DD  DISP=SHR,
//       DSN=prefix.font-table-library-name
//XINPARM   DD  DISP=SHR,
//       DSN=prefix.XINPARM
//XOAPRINT  DD  SYSOUT=*,DCB=(LRECL=121,RECFM=FB,BLKSIZE=6050)
//XOAIN     DD  *
LOA FONT('prefix.input-dataset-name') ('prefix.output-dataset-name')
   TYPE(type) ORIEN(orientation)
/*
```

You can edit and save the JCL and cancel or submit the job using standard TSO/ISPF commands.

Keeping the JCL

If you enter K in the OPTION line on the JCL options panel, this panel appears:

```
                    Xerox Output Administrative Facility
                         Load Custom Replica Fonts

COMMAND ===>

* To keep the JCL, enter a new sequential dataset name.

  Dataset Name:
```

Complete this field and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the sequential dataset that is not currently cataloged. This is the dataset in which your JCL will be stored.

To return to the previous panel, enter **END** and press **ENTER**.

TSO/Batch command

You can use this TSO/batch command as an alternative to the Load Custom Replica Fonts option:

LOAD FONT('*input-dataset-name*[({ *member-name* | * })]')

[TO]('*output-dataset-name*') TYPE({ REPL | 270R }) ORIEN({ P | L | I | J })

NOTE: Specify one of these options for TYPE:

- REPL (for centralized replica fonts)
- 270R (for decentralized replica fonts, create an ASCII font widths table entry)

Updating the IPSTND table (optional)

The IPSTND table shipped with XPAF contains the standard character set supported by XPAF. If the fonts you are loading include new characters that are not currently contained in the existing ISO8859-1 character set supported by XPAF, you must add them to the IPSTND table. If the new fonts do not contain new characters, you do not need to perform this step.

You can add or update custom replica font entries in this table. You cannot update the entries for the XPAF-provided replica fonts. This limitation reduces the possibility of corrupting existing font entries.

Using this option

To update the IPSTND table, enter **2** on the Install Custom Replica Fonts menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                           Update the IPSTND Table

COMMAND ===>

* On COMMAND line, enter 'U' to create or update an entry, or 'D' to
  delete an existing entry.
* Leave COMMAND line blank to view an existing entry.

  Character ID:

  Plane Number:

   ASCII Value:
```

On the COMMAND line, specify the function you want to perform. Valid values are:

U	Create or update a table entry. You also must enter values in all three fields to create or update an entry.
D	Delete a table entry. You also must enter values in all three fields to delete an entry.
blank	Display an existing table entry. You also must enter a value in the ‘Character ID’ field to display an entry.

Then complete these fields and press **ENTER**:

Field	Action
Character ID	Enter the 8-character IBM identifier for the character you are displaying, creating, updating, or deleting.
Plane Number	Enter the number of the plane to which you are adding this character or where the character is stored. Valid values: A 2-character value between 0C and 0F. ***NOTE:*** Planes 00 through 0B are reserved for future character support; therefore, you must add your characters to planes 0C through 0F. This will ensure that added characters will not be overwritten as new support is added to the XPAF-supplied default table.
ASCII Value	Enter the 2-digit hexadecimal ASCII code that represents the character's position in the plane defined above.

Updating the XPAFI2X table (optional)

If you are loading a character set that is completely new to XPAF, you must update the XPAFI2X table. The XPAFI2X table provides a link between the IBM font character set name and its corresponding replica font(s).

You can add or update entries for the custom replica fonts in the XPAFI2X table. After an entry is made, XPAF verifies that the specified fonts associated with the new character set have been loaded into the appropriate font library. You cannot update the entries for the XPAF-provided replica fonts.

Using this option

To update the XPAFI2X table, enter **3** on the Install Custom Replica Fonts menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                  Update the IBM-to-Xerox (XPAFI2X) Table

COMMAND ===>

* On COMMAND line, enter 'C' to create an entry, or 'D' to delete an
  existing entry.
* Leave COMMAND line blank to view an existing entry.

  Character Set Name:
```

You can add a new entry, update an entry, or delete an entry:

- To create a new entry, use one of two methods:
  - Enter **C** on the COMMAND line, a unique name in the ‘Character Set Name’ field, and press **ENTER**.
  - Leave the COMMAND line blank and, in the ‘Character Set Name’ field, enter the name of an existing character set that you want to use as a model for the new character set you are creating. Press **ENTER**.
- To delete an existing entry, enter **D** on the COMMAND line and the character set name in the ‘Character Set Name’ field. Press **ENTER**.
- To update an existing entry, enter the character set name in the ‘Character Set Name’ field and press **ENTER**. To display a list of members, leave this field and the COMMAND line blank, and press **ENTER**.

If you leave the ‘Character Set Name’ field blank, a member selection panel similar to this appears:

```
                    Xerox Output Administrative Facility
                    Selection List of Font Table Members

COMMAND ===>

* Next to name, enter 'S' to select a member.

  A055A0
  A055B0
  A055D0
  A055F0
  A055H0
  A055J0
```

To select a character set name from this list, tab to the field next to the character set name, enter **S**, and press **ENTER**.

When you enter a character set name on the Update the IBM-to-Xerox (XPAFI2X) Table panel or select a character set from the Selection List of Font Table Members panel, a panel similar to this appears:

```
                    Xerox Output Administrative Facility
                  Update the IBM-to-Xerox (XPAFI2X) Table

COMMAND ===>

* On COMMAND line, enter 'U' to create or update an entry.

  IBM Character Set Name: A055A0          Replica Font Point Size: P11

  NO.   FONT NAME         PLANE           NO.     FONT NAME      PLANE
   1    XAR80             00              11
   2    XAR81             01              12
   3    XAR82             02              13
   4    XAR83             03              14
   5    XAR84             04              15
   6                                      16
   7                                      17
   8                                      18
   9                                      19
  10                                      20
```

If you are creating a new table, the panel is blank with the exception of the IBM character set name. If you are displaying an existing table, the information for the character set is displayed.

- To update the table, enter **U** in the COMMAND line and type over the existing entries with the new information. Do not change the IBM character set name.
- To create a new table from an existing one, first type over the existing entries with the new information. Then enter **U** in the COMMAND line and a new name in the 'IBM Character Set Name' field.

Complete these fields and press **ENTER**:

Field/Column	Action
IBM Character Set Name	Enter the name of the IBM character set you are updating. This is the name of the IBM font as found in the IBM system font library, excluding the C*n* prefix.
Replica Font Point Size	Enter the point size of the custom replica font in the format P*nn*, where *nn* is the point size. For a character set that has only new characters, use a point size of zero (P00).
FONT NAME	Enter the 1- to 5-character name of the custom replica font. Do not include a suffix to indicate the font orientation. You can enter up to 20 replica fonts for a single IBM character set name.
PLANE	Enter a 2-character value specifying the plane where the custom replica font is stored. The first character represents the split plane to which split fonts are loaded. The second character identifies the plane. For example, to add a custom replica font to plane C, enter 0C. If you are not entering a split plane font, the first character must be a zero. ***NOTE:*** Planes 00 through 4B are reserved for Xerox use.

Updating IBM font characteristics information

Use this option to submit a batch job that creates entries to the font tables containing IBM font information required by XPAF. The batch job creates entries for these font tables:

- CPGID
- FGID
- XPAFCFN
- XPAFEFW
- XPAFE2A
- XPAFIFW
- XPAFIFW3

The font tables are built by RJOB105 during resource installation. Use this option to rebuild the tables if you change the code page assigned to a font or if you add new IBM fonts.

Submit a job for each library included in the IBM font library concatenation in your XOSF start-up proc. Execute the jobs in the reverse order of the library concatenation (that is, the first library included must be the last converted). Because the table entries created by this option replace any duplicate entries already present in the font tables, this procedure ensures that the table entries created for the first library in your concatenation are not overwritten.

Using this option

To update IBM font characteristics information in the appropriate font tables, enter **4** on the Install Custom Replica Fonts menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                 Update IBM Font Characteristics Information

COMMAND ===>

  IBM FONT LIBRARY
    Dataset Name:

  DATASET PREFIX
       XPFLOAD Library:
       XINPARM Library:
    Font Table Library:

  JOB CARD INFORMATION
  ===> //JOBNAME JOB (ACCOUNT),'NAME' ,CLASS= ,MSGCLASS=
  ===> //*
  ===> //*
  ===> //*
```

Complete these fields:

Field	Action
IBM FONT LIBRARY **Dataset Name**	Enter the name of the IBM font library dataset, including the high-level qualifier. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the IBMFONTDD initialization parameter. Be sure to enclose the dataset name in single quotation marks.
DATASET PREFIX **XPFLOAD Library**	Enter the high-level and mid-level qualifiers for your system load library.
XINPARM Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library containing your initialization parameters.

Field	Action
Font Table Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library in which the font tables are stored. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the FNTTBLDD initialization parameter.
JOB CARD INFORMATION	Enter site-specific job card information.

Press **ENTER**, and this panel appears:

```
                    Xerox Output Administrative Facility
                 Update IBM Font Characteristics Information

OPTION ===>

  C.  Cancel JCL

  E.  Edit JCL

  K.  Keep JCL

  S.  Submit JCL
```

Select the option you want to perform and press **ENTER**. Valid values are:

C Cancels the generated JCL and returns to the initial Update IBM Font Characteristics panel.

E Displays the generated JCL for editing purposes.

K Keeps the generated JCL in a sequential dataset. After you save the JCL, you can access this dataset and submit the job without regenerating the JCL each time.

S Submits the JCL. Standard TSO/ISPF JCL submission error or confirmation messages are displayed.

NOTE: You cannot use the END command or the PF3 key to exit this panel. If you want to return to the previous panel and do not want to display, submit, or keep the JCL, you must enter **C** on the COMMAND line and press **ENTER**.

Editing the JCL

If you enter E in the OPTION line on the JCL options panel, a panel containing JCL similar to this appears:

```
//job-name JOB job-information
//*
//*****************************************************************/
//*  CREATE IBM FONT CHARACTERISTICS - XOAJ0360                   */
//*****************************************************************/
//*
//S1 EXEC  PGM=XOASUP00,REGION=8192K,PARM=userid
//STEPLIB   DD  DISP=SHR,
//       DSN=prefix.XPFLOAD
//SYSPRINT  DD  SYSOUT=X
//TABLELIB  DD  DISP=SHR,
//       DSN=prefix.font-table-library-name
//XINPARM   DD  DISP=SHR,
//       DSN=prefix.XINPARM
//XOAPRINT  DD  SYSOUT=*,DCB=(LRECL=121,RECFM=FB,BLKSIZE=6050)
//XOAIN     DD  *
CONVERT IBM('ibm-font-library-dataset-name')
/*
```

You can edit and save the JCL and cancel or submit the job by using standard TSO/ISPF commands.

Keeping the JCL

If you enter K in the OPTION line on the JCL options panel, this panel appears:

```
                    Xerox Output Administrative Facility
                 Update IBM Font Characteristics Information

COMMAND ===>

* To keep the JCL, enter a new sequential dataset name.

  Dataset Name:
```

Complete this field and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the sequential dataset that is not currently cataloged. This is the dataset in which your JCL will be stored.

To return to the previous panel, enter **END** and press **ENTER**.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Update IBM Font Characteristics Information option:

CONVERT IBM('*ibm-font-library-dataset-name*')

Example

This example illustrates the procedure for adding a custom replica font to XPAF. The example is based on these assumptions:

- X0MKSIG1 is the IBM coded font that you want to use with XPAF.
- X0MKSIG1 points to character set C0CSSIG1 and code page T1SIG1.
- C0MKSIG1 contains the raster patterns and related information that define two character s SIGMK001 and SIGMK002.
- T1SIG1 maps SIGMK001 and SIGMK002 to the EBCDIC code points X'C1' and X'C2'.
- X0MKSIG1 is currently used in DCF to add a signature to memos, as illustrated by these DCF commands in the DCF source:

```
.
.
.df sig1 font X0MKSIG1  [df = define font, define a font to DCF with a DCF name of SIG1]
.bf sig1           [bf = begin font, tells DCF to start using the font defined as SIG1]
AB                 ["A" = X'C1' and "B" = X'C2']
.pf                [pf = previous font, tells DCF to restore the previous font]
.
.
```

- The point size is 14.
- Four custom replica fonts are created, one for each rotation: CMKSGI, CMKSGJ, CMKSGL, and CMKSGP.

NOTE: The sixth character of the font name identifies the character rotation.

Follow this procedure to load this font:

Step 1. To use X0MKSIG1 with XPAF, first obtain a custom replica font that contains the new characters (SIGMK001 and SIGMK002). You can obtain a custom replica font from Xerox Font Services or a third-party vendor.

During font conversion, the two new characters (SIGMK001 and SIGMK002) are converted and placed in CMKSGI, CMKSGJ, CMKSGL, and CMKSGP in positions X'41' and X'42', respectively. It is your responsibility to instruct Xerox Font Services or the third-party vendor which positions to use for the new characters.

Step 2. After you receive the custom replica fonts from your vendor, you are ready to add them to XPAF. Begin by offloading the font table dataset so you have a backup.

Step 3. Upload the fonts to a PDS or a sequential dataset on the host. This dataset can contain either centralized fonts or decentralized fonts; you cannot store both types of fonts in the same dataset. This example assumes that CMKSGI, CMKSGJ, CMKSGL, and CMKSGP are centralized fonts.

Step 4. Use the Load Custom Replica Fonts option on the Install Custom Replica Fonts menu to load the fonts into the native centralized font library. This step generates an XPAFAFW table entry, which makes the custom replica fonts' characteristics available to XPAF.

You can browse the XPAFAFW table to ensure that the new entries have been correctly created.

Step 5. Use the Update the IPSTND Table option on the Install Custom Replica Fonts menu to add character mapping entries for the two new characters (SIGMK001 and SIGMK002). The sample shown here illustrates the type of entries you must make on this panel:

```
Character ID: SIGMK001

Plane Number: 0F

 ASCII Value: 41
```

Step 6. Use the Update the IBM-to-Xerox (XPAFI2X) Table option on the Install Custom Replica Fonts menu to create an entry to indicate that CMKSG is related to IBM character set C0CSSIG1. The sample shown here illustrates the type of entries you must make on this panel:

```
IBM Character Set Name: CSSIG1          Replica Font Point Size: P14

NO.   FONT NAME    PLANE                NO.    FONT NAME   PLANE
 1    CMKSG        0F                   11
 2                                      12
```

Omit the sixth character of the font name (the rotation).

Step 7. Use the Update IBM Font Characteristics Information option on the Install Custom Replica Fonts menu to generate and then submit the JCL to extract the necessary information from the IBM font library and create entries to these tables:

- CPGID
- FGID
- XPAFCFN
- XPAFEFW
- XPAFE2A
- XPAFIFW
- XPAFIFW3

After the job completes successfully, you can begin using font X0MKSIG1 in documents that are printed through XPAF.

Installing custom replica fonts (version 6 encoding or above)

Select option **2** on the Manage Custom Replica Fonts menu to install custom replica fonts using version 6 encoding or above. This option loads the specified fonts into the appropriate native font library and generates entries to these tables:

- CPGID
- FGID
- IPSTND
- XPAFAFW
- XPAFCFN
- XPAFEFW
- XPAFE2A
- XPAFIFW
- XPAFIFW3
- XPAFI2X

If you have already uploaded the fonts from tape to a PDS or sequential dataset on the host, you can use this option to install your custom fonts from disk. Otherwise, you can use this option to install the fonts directly from tape.

Custom replica font distribution tape

Xerox Font Services distributes custom replica fonts (version 6 encoding or above) on a tape containing these three files:

Table 24-1. Version 6 encoding or above tape files for custom fonts

File	Function
File 1 (FNTFILE)	Contains the centralized or decentralized fonts to be installed.
File 2 (I2XFILE)	Identifies the IBM character set you are updating, the replica font(s) corresponding to the IBM character set, and the point size(s) of the custom replica font(s). The information in this file is used to update the XPAFI2X table.
File 3 (CD#FILE)	Identifies the character identifiers (CHARIDs) for this character set. The information in this file is used to update the IPSTND table if the font contains character identifiers that are not already in the table.

Font library space requirements

Before you use this option, use the following guidelines to determine the amount of space required in the native font libraries to load custom replica fonts successfully.

On average, centralized fonts require about four blocks of storage per font, and decentralized fonts require about five blocks of storage per font. However, a font can require as much as 18 blocks of storage.

To calculate the approximate space required for a font, multiply the file block size by the number of blocks in the font, then divide by the record size used to define the native font library. Increase the value by 15% to handle variations within the fonts. Add the final amount to the REC value in the JCL used to allocate the native library.

For example, if the decentralized font Z2Y8AP has a block size of 80, the decentralized font library is defined with a record size of 4089, and there are 107 blocks in the font, then:

80 x 107 = 8560

8560 / 4089 = 2.10

2.10 x .15 = 0.32

2.10 + 0.32 = 2.42, which rounds up to a value of 3

Therefore, you will need 3 free records in the decentralized font library dataset. Refer to *Section Two: Installing and Customizing XPAF* for more information on determining the size of and expanding native libraries.

Using this option

To install custom replica fonts (version 6 encoding or above), enter **2** on the Manage Custom Replica Fonts menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
          Install Custom Replica Fonts (version 6 encoding or above)

COMMAND ===>

  Font Name(s):

  Centralized Font (Y/N):

  INSTALL INPUT FROM DISK
              Font Dataset Name:
    XPAFI2X Table Dataset Name:
    Character Map Dataset Name:

  INSTALL INPUT FROM TAPE
    Storage Unit:
          VOLSER:

  OUTPUT
    Native Font Library Name:
        Message Dataset Name:
       IBM Font Library Name:
```

You must complete the ‘Font Name(s)’ and ‘Centralized Font’ fields whether you are installing your fonts from tape or disk. Then complete either the section for disk or tape, but not both.

- If you install your custom fonts from disk, enter the names of the font, XPAFI2X table, and character mapping datasets, and omit the unit and volume serial number.
- If you install your custom fonts from tape, you must specify the unit and volume serial number for the tape. Do not enter values for the font, XPAFI2X table, and character mapping datasets. XOAF will automatically locate the files on the tape.

CAUTION: Depending on the number of fonts on your custom font distribution tape, installing custom replica fonts using this option can be a lengthy process. While the fonts are being installed, you cannot print documents though XPAF. Therefore, you should schedule your custom font installation for a time when print jobs are not run.

Complete these fields:

Field	Action
Font Name(s)	Enter the name of the font(s) to be loaded. You can enter a specific font name in this field, or use a wildcard character to select all fonts or fonts beginning with a specified prefix. For example: * Selects all fonts. AF* Selects fonts beginning with AF. AF1?JP Selects fonts that begin with AF1, end with JP, and have one character between AF1 and JP. AF18JP Selects the single font AF18JP.
Centralized Font	Indicate whether you are loading centralized or decentralized fonts. Valid values: Y Loads centralized fonts. N Loads decentralized fonts. ***NOTE:*** If you are installing both centralized and decentralized versions of a custom replica font, you must install the decentralized version BEFORE the centralized version to ensure that the correct font widths information is made available to XPAF.
INSTALL INPUT FROM DISK **Font Dataset Name**	Enter the name of the PDS or sequential dataset that contains the fonts to be loaded. This dataset must contain either centralized fonts or decentralized fonts; you cannot mix font types within a dataset. If you have multiple fonts concatenated in a single file, they must be loaded from a sequential dataset with valid headers. The dataset specifications are: Centralized: RECFM=FB LRECL=128 BLKSIZE=A value appropriate for your site Decentralized: RECFM=FB LRECL=80 BLKSI ZE=A value appropriate for your site
XPAFI2X Table Dataset Name	Enter the name of the sequential dataset that contains the XPAFI2X table entries. The dataset specifications are: RECFM=FB LRECL=168 BLKSIZE=A value appropriate for your site

Field	Action
Character Map Dataset Name	• Enter the name of the sequential dataset that contains the character mapping table entries. The dataset specifications are: RECFM=FB LRECL=12 BLKSIZE=A value appropriate for your site • Leave this field blank if there are no new character IDs to be added to the IPSTND table.
INSTALL INPUT FROM TAPE **Storage Unit**	Enter the unit for the device on which the files from the tape will be read.
VOLSER	Enter the 6-character volume serial number of the tape that contains the fonts to be installed. This name is displayed at the system operator console to identify the tape to be mounted. Because custom font tapes are non-labeled, this field is optional. Examples: C6X034 FONTS1 XPAFNT Default: FONTAP
OUTPUT **Native Font Library Name**	Enter the name of the native centralized or decentralized font library to which the fonts will be loaded. In the XOSF start-up proc, this is the dataset in the DD statement specified by the CFONTLIB or DFONTLIB initialization parameter or the FONTLIB printer profile parameter. For each font loaded, the member name is constructed from the name in the font header.
Message Dataset Name	Enter the name of the sequential dataset to which you want custom font installation-related messages to be written. The dataset specifications are: RECFM=FB LRECL=133 BLKSIZE=A value appropriate for your site Do not specify the XOAF log dataset. Refer to *Section Six: XPAF Messages* for an explanation of custom font installation-related messages and any required user actions.

Field	Action
IBM Font Library Name	Enter the name of the library that contains the IBM fonts. This is the dataset identified by the IBMFONT DD statement in the XOSF start-up proc. Verify that the IBM fonts have already been loaded into this library before you install custom replica fonts. Information from the IBM font library is used to generate entries to these font tables: • CPGID • FGID • XPAFCFN • XPAFEFW • XPAFE2A • XPAFIFW • XPAFIFW3 These tables make the IBM fonts' characteristics available to XPAF.

After you complete your entries on the Install Custom Fonts panel, press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
          Install Custom Replica Fonts (version 6 encoding or above)

COMMAND ===>

  DATASET PREFIX
       XPFLOAD Library:
       XINPARM Library:
    Font Table Library:

  JOB CARD INFORMATION
  ===> //JOBNAME JOB (ACCOUNT),'NAME',CLASS=A
  ===> //*
  ===> //*
  ===> //*
```

The dataset prefixes you enter on this panel are used when generating the custom font installation JCL.

Complete these fields and press **ENTER**:

Field	Action
DATASET PREFIX **XPFLOAD Library**	Enter the high-level and mid-level qualifiers for your system load library.
XINPARM Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library containing your initialization parameters. This is the dataset identified by the XINPARM DD statement in the XOSF start-up proc.
Font Table Library	Enter the high-level and mid-level qualifiers (if different from XPFLOAD) for the library in which the font tables are stored. In the XOSF start-up proc, this is the dataset name in the DD statement specified by the FNTTBLDD initialization parameter.
JOB CARD INFORMATION	Enter site-specific job card information.

After you verify the information and press **ENTER**, this panel appears:

```
                    Xerox Output Administrative Facility
          Install Custom Replica Fonts (version 6 encoding or above)

OPTION ===>

  C.  Cancel JCL

  E.  Edit JCL

  K.  Keep JCL

  S.  Submit JCL
```

Select the option you want to perform and press **ENTER**. Valid values are:

C Cancels the generated JCL and returns to the Install Custom Fonts batch job card panel.

E Displays the generated JCL for editing purposes.

K Keeps the generated JCL in a sequential dataset. After you save the JCL, you can access this dataset and submit the job without regenerating the JCL each time.

S Submits the JCL. Standard TSO/ISPF JCL submission error or confirmation messages are displayed.

NOTE: You cannot use the END command or the PF3 key to exit this panel. If you want to return to the previous panel and do not want to display, submit, or keep the JCL, you must enter **C** on the COMMAND line and press **ENTER**.

Editing the JCL

If you enter E in the OPTION line on the JCL options panel, a panel containing JCL similar to this appears (this panel contains dataset names that were generated based on the entries you made on the previous panels):

```
//job-name JOB job-information
//*
//*
//*
//*****************************************************************
//*  You are installing Xerox DECENTRALIZED fonts from DISK.
//*  Ensure you are installing to a DECENTRALIZED library.
//*  Centralized and Decentralized fonts must not be mixed.
//*  Selection criteria: (*)
//*****************************************************************
//STEP1    EXEC PGM=XOASUP00,REGION=8192K,PARM=userid
//STEPLIB  DD  DISP=SHR,DSN=prefix.XPFLOAD
//SYSPRINT DD  SYSOUT=X
//XINPARM  DD  DISP=SHR,DSN=prefix.XINPARM
//TABLELIB DD  DISP=SHR,DSN=prefix.font-table-library-name
//XOAPRINT DD  SYSOUT=*,DCB=(LRECL=121,RECFM=FB,BLKSIZE=6050)
//FNTFILE  DD DISP=SHR,DSN=font-dataset-name
//I2XFILE  DD DISP=SHR,DSN=xpafi2x-table-dataset-name
//CD#FILE  DD DISP=SHR,DSN=character-mapping-dataset-name
//XOAIN    DD  *
INSTALL FONTS (*,XCCM5,XFONT,XCP12,N,)
              (native-font-library-name)
              (message-dataset-name)
/*
//STEP2    EXEC PGM=XOASUP00,REGION=8M,PARM=(userid),COND=(4,LT)
//STEPLIB  DD  DISP=SHR,DSN=prefix.XPFLOAD
//SYSPRINT DD  SYSOUT=X
//XINPARM  DD  DISP=SHR,DSN=prefix.XINPARM
//TABLELIB DD  DISP=SHR,DSN=prefix.font-table-library-name
//XOAPRINT DD  SYSOUT=*,DCB=(LRECL=121,RECFM=FB,BLKSIZE=6050)
//XOAIN    DD  *
CONVERT IBM('ibm-font-library-name')
/*
```

Keeping the JCL

If you enter K in the OPTION line on the JCL options panel, this panel appears:

```
                    Xerox Output Administrative Facility
          Install Custom Replica Fonts (version 6 encoding or above)

COMMAND ===>

* To keep the JCL, enter a new sequential dataset name.

  Dataset Name:
```

Complete this field and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the sequential dataset that is not currently cataloged. This is the dataset in which your JCL will be stored.

To return to the previous panel, enter **END** and press **ENTER**.

TSO/Batch command

You should access the INSTALL FONTS batch command only through the JCL generated by the XOAF option to ensure that the proper datasets are defined and that the JCL is set up correctly.

25. Refreshing PDSs or displaying printer status information

To enhance performance, XOSF maintains a copy of partitioned dataset (PDS) directory information for XPAF partitioned datasets in storage. Therefore, you must refresh a directory any time you add, delete, or replace a PDS member, or when you compress a dataset.

NOTE: You do not need to initiate a refresh for changes to a PAGEDEF or FORMDEF PDS member. XOSF automatically updates these changes.

To automatically update changes to an OVERLAY or PAGESEG PDS member, the AUTOREV feature for AFP resources can be used. For more information about the AUTOREV parameter, refer to *Section Five: XPAF Parameter and Keyword Reference*.

This chapter describes how to use the options available on the Refresh PDS/Display Printer Status menu or through TSO/batch commands to refresh the in-storage copies of partitioned dataset directories. With these options, you can refresh:

- A specific resource type
- A specific printer
- A specific dataset

You also can refresh all resource types by using these options, which eliminates the need to halt and restart the functional subsystem (FSS) to refresh all PDSs.

Initiating a refresh request

To initiate a refresh request, enter **1** on the Refresh PDS/Display Printer Status menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                         Initiate a Refresh Request

COMMAND ===>

* If you enter a value for Type, enter a value for XOSF Job Name or
  Printer Name, but not both.

  REFRESH BY TYPE
              Type:
    XOSF Job Name:
     Printer Name:

  REFRESH BY DATASET
      Dataset Name:
```

Complete these fields and press **ENTER**:

Field	Action
REFRESH BY TYPE **Type**	Specify the type of resource library you want to refresh. If you enter a type, you also must enter an XOSF job (that is, task) name or a printer name. Valid values: FONT240 FONT300 FORMDEF OVERLAY PAGEDEF PAGEFORM PAGESEG ALL ***NOTE:*** To automatically refresh an OVERLAY or PAGESEG library, the AUTOREV feature for AFP resources can also be used. For more information about the AUTOREV parameter, refer to *Section Five: XPAF Parameter and Keyword Reference*.
XOSF Job Name	Specify the job (that is, task) name of the XOSF address space. This name appears in the FSS= JES parameter keyword where FSS-controlled printers are defined.

Field	Action
Printer Name	Specify the name of the printer, as it is known to JES, for which the PDS directory information will be updated.
REFRESH BY DATASET **Dataset Name**	Specify a dataset for which the PDS directory information will be updated. This is a global request, regardless of which XOSF is using this dataset.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Initiate a Refresh Request option to refresh a specific resource type:

REFRESH TYPE({ FONT240 | FONT300 | FORMDEF | OVERLAY | PAGEDEF | PAGEFORM | PAGESEG | ALL }) { XOSF*(xosf-jobname)* | PRT*(printer-name)* }

You can use this TSO/batch command as an alternative to using the Initiate a Refresh Request option to refresh a dataset:

REFRESH DSN('*dataset-name*')

Displaying the status of PDSs and printers

To display a PDS or printer status, enter **2** on the Refresh PDS/Display Printer Status menu OPTION line. Press **ENTER**. A panel similar to this appears:

```
                    Xerox Output Administrative Facility
                 Display the Status of PDS(s) and Printers

COMMAND ===> NEXT                                        SCROLL===>   1

  Address Space (Job) Name: XP92       Display Number:     1 of   10
  Interval:      60 SECONDS            Processed:     25
  Limit:      25                       Last Reset: 95.342 10:43:01.17

  LIBRARY  REFRESH COUNT  REQUEST BY     DATE AND TIME
  ALL                  1  XP99999        95.342 10:43:11.88
  F240                 1  XP99999        95.342 10:43:06.74
  FDEF                 1  XP99999        95.342 10:43:08.38
  OVLY                 1  XP99999        95.342 10:43:09.50
  PSEG                 1  XP99999        95.342 10:43:10.37
  PDEF                 1  XP99999        95.342 10:43:11.72
  PFRM                 1  XP99999        95.342 10:43:11.88
  F300                 1  XP99999        95.342 10:49:08.38
  PRINTERS
  PRT1182          PRT1900
```

The following fields appear on the Display the Status of PDS(s) and Printers panel. Use the COMMAND line in conjunction with the ‘SCROLL’ field to move between address spaces.

Field	Action
COMMAND	Enter a value to scroll through the display. Valid values: NEXT Pages forward through the XOSF address spaces. BACK Pages backward through address spaces. END Terminates the display.

Field	Action
SCROLL	Enter a value to scroll through the display. Valid values: MAX Pages to the beginning or end of an address space. *integer* Pages a specific number of address spaces forward or backward. Default: 1
Address Space (Job) Name	Displays the job name for the address space.
Display Number of	Displays the current and maximum available address spaces. For example, 3 of 15 means that this is the third address space being displayed of a possible 15.
Interval	Displays the interval in seconds at which XPAF checks for refresh requests.
Limit	Displays the maximum number of refresh requests that can be processed for the day. This value is specified using the REFRSHMAX initialization parameter. Refer to *Section Five: XPAF Parameter and Keyword Reference* for more information about this parameter.
Processed	Displays the number of refresh requests initiated so far this day.
Last Reset	Displays the time of day the 'Processed' field was set to zero by the console operator.
LIBRARY	Displays the libraries for which refreshes have been requested since the address space was initialized.
REFRESH COUNT	Displays the number of refreshes requested on this day for each library.
REQUEST BY	Displays the user ID of the person requesting each refresh.
DATE AND TIME	Displays the time and date of each refresh.
PRINTERS	Displays the status of all printers assigned to this address space. If a printer is active, the job number is displayed. Printers that have been drained do not appear on the display.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Display the Status of PDS(s) and Printers option:

DISPLAY { REFRESH | PRINTERS }

26. Managing XPAF libraries

This chapter describes how to use the options available on the Manage Libraries menu. These options enable you to perform these functions:

- Display a list of members of a PDS or native library and browse, delete, or offload members on the list
- Browse a member of a PDS or native library
- Delete a member of a PDS or native library
- Reload a member to a native library

Displaying a directory of library members

Enter **1** on the Manage Libraries menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                  Display a Directory of Library Members

COMMAND ===>

  Dataset Name:
```

Complete this field:

Field	Action
Dataset Name	Enter the dataset name of the library for which you want to list members. The dataset can be either a PDS or a native library.

After you complete the dataset name, press **ENTER**. A panel similar to this appears:

```
                        Xerox Output Administrative Facility
                         Selection List of Library Members

COMMAND ===>                                                  SCROLL ===> PAGE
  Library Name:                                 Library  Total  Used  Avail
  XPAF30.TESTING.PDLLIB                         Blocks:    360   210    150

* Next to name, enter 'B' to browse, 'D' to delete, or 'O' to offload.
|
v NAME    CREATE DATE/TIMEUPDATE DATE/TIME   RECORDS DIRLEN
  $GLOB$.FMT1  .PDE    1996.081 15:47:25   1996.081 15:47:25        3      0
  $GLOB$.FMT1A .PDE    1996.081 15:47:27   1996.081 15:47:27        3      0
  $GLOB$.FMT10 .PDE    1996.081 15:47:26   1996.081 15:47:26        3      0
  $GLOB$.FMT10A.PDE    1996.081 15:47:28   1996.081 15:47:28        3      0
  $GLOB$.FMT10B.PDE    1996.081 15:47:26   1996.081 15:47:26        3      0
  $GLOB$.FMT11 .PDE    1996.081 15:47:26   1996.081 15:47:26        3      0
  $GLOB$.FMT11A.PDE    1996.081 15:47:28   1996.081 15:47:28        3      0
  $GLOB$.FMT12 .PDE    1996.081 15:47:27   1996.081 15:47:27        3      0
  $GLOB$.FMT13 .PDE    1996.081 15:47:27   1996.081 15:47:27        3      0
  $GLOB$.FMT2  .PDE    1996.081 15:47:26   1996.081 15:47:26        3      0
  $GLOB$.FMT2A .PDE    1996.081 15:47:27   1996.081 15:47:27        3      0
  $GLOB$.FMT3  .PDE    1996.081 15:47:26   1996.081 15:47:26        3      0
  $GLOB$.FMT3A .PDE    1996.081 15:47:27   1996.081 15:47:27        3      0
  $GLOB$.FMT4  .PDE    1996.081 15:47:26   1996.081 15:47:26        3      0
```

Use this panel to perform the following functions:

- To browse a member, enter **B** (browse) next to the name of the member you want to browse. Then press **ENTER**.
- To delete a member, enter **D** next to the name of the member you want to delete. Then press **ENTER**.

  NOTE: If you try to delete a member of a resource library using this option, XPAF will not allow the member to be deleted if the printer FSS is active.

- To offload a member, enter **O** next to the name of the member you want to offload. Then press **ENTER**. The offloaded member will be placed in the *userid*.XLDWORK.OFFLOAD dataset. To offload more than one member at a time, enter **O** next to the names of the members that you want to offload. Then press **ENTER**.

When using this option, members are offloaded without user directory information. Check the value under the 'DIRLEN' column and verify that the resource will function correctly without the user directory information. If unusable resources are produced, use the LDM batch offload/reload process as an alternative.

NOTE: When offloading a native library member to a PDS library, XOAF may change the member name to a valid PDS member name. A message with the resulting PDS member name is issued indicating a successful offload. If you intend to reload the PDS member, note the altered member name given in the offload message. You will need to use this altered name as well as the original native library member name during the reload process.

After completing the desired functions, enter **END** and press **ENTER** to return to the display of the directory of members in that library.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Display a Directory of Library Members option:

LIBRARY DIRECTORY('*library-dataset-name*')

NOTE: This command only lists the contents of the library; you cannot use this command to browse, delete, or offload library members.

Browsing a copy of a member

Enter **2** on the Manage Libraries menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                              Browse a Member

COMMAND ===>

  Dataset Name:

   Member Name:
```

Complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the dataset in which the member you want to browse resides.
Member Name	Enter the name of the member you want to browse.

An ISPF browse panel similar to this is displayed:

```
-----------------------------------------------------------------
BROWSE    XPAF.XLDWORK                        Line 00000000 Col 001 080
Command ===>                                          Scroll ===> PAGE
************************** Top of Data ********************************
DSN=library-name  LIST=member-name
member-name               .j.?.....l.................
/* ******************************************************* */
/* *********             V F U 'S              ********** */
/* ******************************************************* */

VFU1:   VFU      ASSIGN=(1,1),
                 TOF=1,
                 BOF=255;


/* ******************************************************* */
/* *********             P D E 'S              ********** */
/* ******************************************************* */
                 FONTS=L0112B,
                 BEGIN=(.18,.66);
************************** Bottom of Data  ****************************
```

Input is not allowed. Standard ISPF browse options, such as scroll forward and backward, are available. To exit this panel and return to the previous panel, enter **END** and press **ENTER**.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Browse a Member option:

LIBRARY DISPLAY('*library-dataset-name*(*member-name*)')

HEX({ OFF / ON })

NOTE: In the XPAF PDLLIB, each member name may be padded with space characters to the right of the double entry name. If you do not include the complete member name in the TSO/batch command, XOAF will be unable to locate the member. For more information about PDL member names, refer to chapter 20, "Loading resources to a native library."

Deleting a member

Enter **3** on the Manage Libraries menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                              Delete a Member

COMMAND ===>

  Dataset Name:

   Member Name:
```

Complete these fields and press **ENTER**:

Field	Action
Dataset Name	Enter the name of the dataset in which the member you want to delete resides.
Member Name	Enter the name of the member you want to delete.

NOTE: If you try to delete a member of a resource library using this option, XPAF will not allow the member to be deleted if the printer FSS is active.

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Delete a Member option:

LIBRARY DELETE('*library-dataset-name*(*member-name*)')

Reloading a member to a native library

Enter **4** on the Manage Libraries menu OPTION line and press **ENTER**. This panel appears:

```
                    Xerox Output Administrative Facility
                     Reload a Member to a Native Library

COMMAND ===>

  INPUT
    Dataset Name:
     Member Name:

  OUTPUT
    Dataset Name:
     Member Name:
```

Complete these fields and press **ENTER**:

Field	Action
INPUT **Dataset Name**	Enter the name of the PDS from which the resource is being loaded.
Member Name	Enter the name of the PDS member to be loaded. ***NOTE:*** When you offloaded a native library member to a PDS library, XOAF may have changed the member name to make it a valid PDS member name. If this is the case, enter the altered member name here.
OUTPUT **Dataset Name**	Enter the name of the native library to which the resource will be loaded.
Member Name	Enter a name only if it is different than the input PDS member. ***NOTE:*** When you offloaded a native library member to a PDS library, XOAF may have changed the member name to make it a valid PDS member name. If this is the case, enter the original native library member name here, or print jobs referencing the member could fail.

After you load a member, XOAF automatically creates a report and writes it to a dataset that can be browsed or printed. The dataset is defined by the DD name UJLLIST in the XOAF logon procedure. The report shows the contents of the newly created library member(s).

When using this option, members are reloaded without user directory information. Verify that the resource will function correctly without the user directory information. If unusable resources are produced, use the LDM batch offload/reload process as an alternative.

NOTE: This option reloads only individual members of a dataset to a native library. If you need to reload multiple members or all members to a native library, use the LDM batch utility. Refer to *Section Two: Installing and Customizing XPAF* for more information about this utility.

27. Supported IBM character sets

This chapter lists the IBM character sets that can be used in documents sent to Xerox printers. For a more current list of fonts that are available to XPAF, in the U.S., call Xerox Font Services at 1-800-445-3668. If you are a Xerox Limited customer, contact your local support representative.

Proportionally spaced character sets

Helvetica:

- Roman Medium (H200A0, H200B0, H200D0, H200F0, H200H0, H200J0, H200N0, H200T0, H200Z0, H20000, H20060, H20070, H20080, H20090, H202A0, H202B0, H202D0, H202F0, H202H0, H202J0, H202N0, H202T0, H202Z0, H20200, H20020, H20270, H20280, H20290, H203A0, H203B0, H203D0, H203F0, H203H0, H203J0, H203N0, H203T0, H203Z0, H20300, H20360, H20370, H20380, H20390)
- Roman Bold (H400A0, H400B0, H400D0, H400F0, H400H0, H400J0, H400N0, H400T0, H400Z0, H40000, H40060, H40070, H40080, H40090, H402A0, H402B0, H402D0, H402F0, H402H0, H402J0, H402N0, H402T0, H402Z0, H40200, H40020, H40270, H40280, H40290, H403A0, H403B0, H403D0, H403F0, H403H0, H403J0, H403N0, H403T0, H403Z0, H40300, H40360, H40370, H40380, H40390)
- Italic Medium (H300A0, H300B0, H300D0, H300F0, H300H0, H300J0, H300N0, H300T0, H300Z0, H30000, H30060, H30070, H30080, H30090, H302A0, H302B0, H302D0, H302F0, H302H0, H302J0, H302N0, H302T0, H302Z0, H30200, H30020, H30270, H30280, H30290, H303A0, H303B0, H303D0, H303F0, H303H0, H303J0, H303N0, H303T0, H303Z0, H30300, H30360, H30370, H30380, H30390)
- Italic Bold (H500A0, H500B0, H500D0, H500F0, H500H0, H500J0, H500N0, H500T0, H500Z0, H50000, H50060, H50070, H50080, H50090, H502A0, H502B0, H502D0, H502F0, H502H0, H502J0, H502N0, H502T0, H502Z0, H50200, H50020, H50270, H50280, H50290, H503A0, H503B0, H503D0, H503F0, H503H0, H503J0, H503N0, H503T0, H503Z0, H50300, H50360, H50370, H50380, H50390)

Pi Serif:

- Roman Medium (Q05500, Q05560, Q05580, Q055B0)
- Roman Bold (Q07500, Q07560, Q07580, Q075B0)

Pi Sans Serif:

- Roman Medium (P05500, P05560, P05580, P055B0)
- Roman Bold (P07500, P07560, P07580, P075B0)

Sonoran Display (J055J0, J055Z0)

Sonoran Petite (Z05640)

Sonoran Sans Serif:

- Roman Medium (A05500, A05560 A05570, A05580, A05590, A055A0, A055B0, A055D0, A055F0, A055J0, A055N0, A055T0, A055Z0)
- Roman Bold (A07500, A07560 A07570, A07580, A07590, A075A0, A075B0, A075D0, A075F0, A075J0, A075N0, A075T0, A075Z0)
- Italic Medium (A15500, A15560 A15570, A15580, A15590, A155A0, A155B0, A155D0, A155F0, A155J0, A155N0, A155T0, A155Z0)
- Italic Bold (A17500, A17560 A17570, A17580, A17590, A175A0, A175B0, A175D0, A175F0, A175J0, A175N0, A175T0, A175Z0)

Sonoran Serif:

- Roman Medium (T05500, T05560 T05570, T05580, T05590, T055A0, T055B0, T055D0, T055F0, T055J0, T055N0, T055T0, T055Z0)
- Roman Bold (T07500, T07560 T07570, T07580, T07590, T075A0, T075B0, T075D0, T075F0, T075J0, T075N0, T075T0, T075Z0)
- Italic Medium (T15500, T15560 T15570, T15580, T15590, T155A0, T155B0, T155D0, T155F0, T155J0, T155N0, T155T0, T155Z0)
- Italic Bold (T17500, T17560 T17570, T17580, T17590, T175A0, T175B0, T175D0, T175F0, T175J0, T175N0, T175T0, T175Z0)

Times New Roman:

- Roman Medium (N200A0, N200B0, N200D0, N200F0, N200H0, N200J0, N200N0, N200T0, N200Z0, N20000, N20060, N20070, N20080, N20090, N202A0, N202B0, N202D0, N202F0, N202H0, N202J0, N202N0, N202T0, N202Z0, N20200, N20020, N20270, N20280, N20290, N203A0, N203B0, N203D0, N203F0, N203H0, N203J0, N203N0, N203T0, N203Z0, N20300, N20360, N20370, N20380, N20390)
- Roman Bold (N400A0, N400B0, N400D0, N400F0, N400H0, N400J0, N400N0, N400T0, N400Z0, N40000, N40060, N40070, N40080, N40090, N402A0, N402B0, N402D0, N402F0, N402H0, N402J0, N402N0, N402T0, N402Z0, N40200, N40020, N40270, N40280, N40290, N403A0, N403B0, N403D0, N403F0, N403H0, N403J0, N403N0, N403T0, N403Z0, N40300, N40360, N40370, N40380, N40390)
- Italic Medium (N300A0, N300B0, N300D0, N300F0, N300H0, N300J0, N300N0, N300T0, N300Z0, N30000, N30060, N30070, N30080, N30090, N302A0, N302B0, N302D0, N302F0, N302H0, N302J0, N302N0, N302T0, N302Z0, N30200, N30020, N30270, N30280, N30290, N303A0, N303B0, N303D0, N303F0, N303H0, N303J0, N303N0, N303T0, N303Z0, N30300, N30360, N30370, N30380, N30390)
- Italic Bold (N500A0, N500B0, N500D0, N500F0, N500H0, N500J0, N500N0, N500T0, N500Z0, N50000, N50060, N50070, N50080, N50090, N502A0, N502B0, N502D0, N502F0, N502H0, N502J0, N502N0, N502T0, N502Z0, N50200, N50020, N50270, N50280, N50290, N503A0, N503B0, N503D0, N503F0, N503H0, N503J0, N503N0, N503T0, N503Z0, N50300, N50360, N50370, N50380, N50390)

Uniformly spaced character sets

APL (S0AE10, S0AE20)

Document (S0DOTR)

Boldface (S0BRTR) Bold

Boldface Italic (S0BITR) Bold Italic

Courier:

- Medium (S0CR10, S0CR12, S0CR15)
- Bold (S0CB10, S0CB12, S0CB15)
- Italic (S0CI10, S0CI12, S0CI15)
- Ultra Expanded (S0CD15)
- Ultra Expanded Italic (S0CW15)
- Overstrike (S0CO10)
- Extended (S0CE10)
- Overstruck (S0CH10)
- Courier12 (S0CR12)
- Roman Medium (4200B0, 4200D0, 4200J0, 420000, 420070, 420080, 4202B0, 4202D0, 4202J0, 420200, 420270, 420280, 4203B0, 4203D0, 4203J0, 420300, 420370, 420380)
- Roman Bold (4400B0, 4400D0, 4400J0, 440000, 440070, 440080, 4402B0, 4402D0, 4402J0, 440200, 440270, 440280, 4403B0, 4403D0, 4403J0, 440300, 440370, 440380)
- Italic Medium (4300B0, 4300D0, 4300J0, 430000, 430070, 430080, 4302B0, 4302D0, 4302J0, 430200, 430270, 430280, 4303B0, 4303D0, 4303J0, 430300, 430370, 430380)
- Italic Bold (4500B0, 4500D0, 4500J0, 450000, 450070, 450080, 4502B0, 4502D0, 4502J0, 450200, 450270, 450280, 4503B0, 4503D0, 4503J0, 450300, 450370, 450380)

Dump (L0DUMP)

Essay (S0ESTR)

Essay (S0ELTR) Light

Essay (S0EBTR) Bold

Essay (S0EITR) Italic

Essay (S0EOTR) Overstruck

Gothic (D0GT10, D0GT12, D0GT15, D0GT18, D0GT20, D0GT24)

Gothic (D0GL10, D0GL12, D0GL15) Semilight

Gothic (D0GC15) Semicondensed

Gothic (D0GB10, D0GB12) Bold

Gothic (D0GI12) Italic

Gothic Proportional (D0GP12)

Gothic Reverse (D0GR10)

Gothic Uppercase (L00GSC) Condensed

Gothic Uppercase (L00GUC) Condensed Underscored

Gothic Uppercase (L0GU10, L0GU12, L0GU15) Underscored

ISIL Gothic (Bookmaster)

- Medium (0005ZA, 0007ZA, 0008ZA, 0009ZA, 0010ZA, 0011ZA, 0012ZA, 0014ZA, 0016ZA, 0018ZA)
- Bold (0007ZB, 0008ZB, 0009ZB, 0010ZB, 0011ZB, 0012ZB, 0014ZB, 0016ZB, 0018ZB)
- Italic (0007ZC, 0008ZC, 0009ZC, 0010ZC, 0011ZC, 0012ZC, 0014ZC, 0016ZC, 0018ZC)
- Bold italic (0007ZD, 0008ZD, 0009ZD, 0010ZD, 0011ZD, 0012ZD, 0014ZD, 0016ZD, 0018ZD)
- Reverse medium (0007ZE, 0008ZE, 0009ZE, 0010ZE, 0011ZD, 0012ZE, 0014ZE, 0016ZE, 0018ZE)
- Specials (0007XA, 0008XA, 0009XA, 0010XA, 0011XA, 0012XA, 0014XA, 0016XA, 0018XA)
- Specials reverse (0007XE, 0008XE, 0009XE, 0010XE, 0011XE, 0012XE, 0014XE, 0016XE, 0018XE)
- Screen Corner (0018SC)

Katakana (L0KATA)

Letter Gothic (S0LR12)

Letter Gothic (S0LB12) Bold

OCR AOA (L00AOA)

OCR AON (L00AON)

OCR BOA (L00BOA)

OCR OAB (L00OAB)

Orator (S0OR10)

Orator (S0OB10) Bold

Prestige (S0PR10, S0PR12)

Prestige (S0PB12) Bold

Prestige (S0PI12) Italic

Roman (D0RT10)

Script (S0SR12)

Serif (D0ST10, D0ST12, D0ST15)

Serif (D0SB12) Bold

Serif (D0SI10, D0SI12) Italic

Serif (D0SO12) Overstruck

Symbols (S0S193, S0S198)

Symbols OS6 (S0S192)

Text (L00T11)

Text (L0TU10) Underscored

28. Character mapping tables

This chapter describes some of the character mapping tables that relate to XPAF font processing.

Table naming conventions

Character mapping tables are named in the following manner:

- For centralized and decentralized character mapping tables, names beginning with “C” indicate a centralized font mapping and names beginning with “D” indicate a decentralized font mapping.
- For code page tables, names beginning with “X” or “XC” indicate the A03 (American) family of fonts. Names beginning with “RX” indicate the R03 (European) family of fonts.
- A name including the characters CM indicates that the table is a character mapping table and can be specified in either the ‘Centralized Mapping Name’ or the ‘Decentralized Mapping Name’ field of an XPAFXFI entry.
- A name including the characters CP (instead of CM) indicates that the table is a code page table and can be specified in the ‘Code Page Name’ field of an XPAFXFI table entry.
- The last two digits indicate the number of the table in *A03 Font Reference Manual* or *R03 Font Reference Manual* that details the character set. For example, the name RXCM08 indicates a code page table containing the character mapping for the R03 character set, which is defined in table 8 of the *R03 Font Reference Manua*l.

Xerox code page tables (XCP1 through XCP19)

Table 28-1 identifies the code pages which are supplied with XPAF in TABLELIB for the A03 family of fonts. These tables are used for printing DCF/SCRIPT documents. The source for the code page tables is distributed with XPAF in XPFSAMP.

Table 28-1. Xerox code page tables (XCP1 through XCP19)

Table name	Description
XCP1	A03 character set 1
XCP2	A03 character set 2
XCP3	A03 character set 3
XCP4	A03 character set 4
XCP5	A03 character set 5
XCP6	A03 character set 6
XCP7	A03 character set 6 with extension 1
XCP8	A03 character set 7
XCP9	A03 character set 8
XCP10	A03 character set 8 with extension 1
XCP11	A03 character set 8 with extension 2
XCP12	A03 character set 9
XCP13	A03 character set 10
XCP14	A03 character set 10A
XCP15	A03 character set 10B
XCP16	A03 character set 14
XCP17	A03 character set 15
XCP18	A03 extension 1
XCP19	A03 extension 2

NOTE: XPAF provides a set of code page tables (RXCP07 through RXCP34) in TABLELIB for the R03 family of fonts. These tables also can be used for printing DCF documents. The source for these tables is distributed with XPAF in XPFSAMP.

Centralized-to-decentralized font conversion character mapping tables

XPAF supplies two character mapping tables in TABLELIB which are used when XPAF converts centralized fonts to decentralized fonts:

- CCMV01 for the centralized character mapping of the font
- DCMV01 (planes 01 and 02) for the decentralized character mapping of the font

XPAF also supplies the decentralized character mapping table, DCMV02 (planes 01 and 02), in TABLELIB. This table can be used for mapping fonts that exceed the 64K storage memory limit during centralized-to-decentralized font conversion. Refer to chapter 24, "Managing custom fonts" for more information about the function of this table.

The contents of CCMV01, DCMV01, and DCMV02 are shown in tables 28-2 through 28-11. These tables provide the following information:

- The ASCII hexadecimal mapping value for each character in the font
- The actual character that resides in each ASCII location
- The standard font character identifier that uniquely identifies the character

The shaded areas in tables 28-2 through 28-11 identify ASCII code points to which characters cannot be mapped. Refer to chapter 23, "Managing XPAF tables" for information about the restrictions for character mapping.

NOTE: The source for CCMV01, DCMV01, and DCMV02 is distributed with XPAF in XPFSAMP.

Table 28-2. CCMV01 character mapping table (x0 to x9)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
0*x*										
1*x*	SA520000	SA530000	SM490000	CEPHEX13	CEPHEX14	CEPHEX15	SS680000	SF040000	CEPHEX18	CEPHEX19
2*x*	SP010000	! SP020000	“ SP040000	# SM010000	$ SC030000	% SM020000	& SM030000	‘ SP050000	(SP060000	) SP070000
3*x*	0 ND100000	1 ND010000	2 ND020000	3 ND030000	4 ND040000	5 ND050000	6 ND060000	7 ND070000	8 ND080000	9 ND090000
4*x*	@ SM050000	A LA020000	B LB020000	C LC020000	D LD020000	E LE020000	F LF020000	G LG020000	H LH020000	I LI020000
5*x*	P LP020000	Q LQ020000	R LR020000	S LS020000	T LT020000	U LU020000	V LV020000	W LW020000	X LX020000	Y LY020000
6*x*	¢ SC040000	a LA010000	b LB010000	c LC010000	d LD010000	e LE010000	f LF010000	g LG010000	h LH010000	i LI010000
7*x*	p LP010000	q LQ010000	r LR010000	s LS010000	t LT010000	u LU010000	v LV010000	w LW010000	x LX010000	y LY010000
8*x*	ND101000	1 ND011000	2 ND021000	3 ND031000	ND041000	ND051000	ND061000	ND071000	ND081000	ND091000
9*x*	SM340000	SM350000	SM570000	SM470000	SF050000	SA540000	¡ SP030000	¿ SP160000	CEPHEX98	CEPHEX99
A*x*	Á LA120000	Ã LA200000	À LA140000	Â LA160000	Ä LA180000	Å LA280000	Æ LA520000	Ç LC420000	É LE120000	È LE140000
B*x*	IJ LI520000	Ñ LN200000	CEPHEXB2	Ó LO120000	Õ LO020000	Ò LO140000	Ô LO160000	Ö LO180000	Ø LO620000	Œ LO520000

Table 28-2. CCMV01 character mapping table (x0 to x9) (Continued)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
C *x*	á LA110000	ã LA190000	à LA130000	â LA150000	ä LA170000	å LA270000	æ LA510000	ç LC410000	é LE110000	è LE130000
D *x*	ij LI510000	ñ LN190000	CEPHEXD2	ó LO110000	õ LO190000	ò LO130000	ô LO150000	ö LO170000	ø LO610000	œ LO510000
E *x*	´ SD120000	˜ SD200000	` SD140000	ˆ SD160000	¨ SD180000	° SD280000	f GF010000	¸ SD410000	y GP610000	w GO310000
F *x*	´ SD110000	˜ SD190000	` SD130000	ˆ SD150000	¨ SD170000	° SD290000	ª SM210000	º SM200000	I LI610000	÷ SA060000

Table 28-3. CCMV01 character mapping table (xA to xF)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
0*x*						
1*x*	{ SM110000	| SM130000	} SM140000	¬ SM660000	¼ NF040000	½ NF010000
2*x*	* SM040000	+ SA010000	, SP080000	- SP100000	. SP110000	/ SP120000
3*x*	: SP130000	; SP140000	< SA030000	= SA040000	> SA050000	? SP150000
4*x*	J LJ020000	K LK020000	L LL020000	M LM020000	N LN020000	O LO020000
5*x*	Z LZ020000	[SM060000	\ SM070000	] SM080000	^ SS390000	_ SP090000
6*x*	j LJ010000	k LK010000	l LL010000	m LM010000	n LN010000	o LO010000
7*x*	z LZ010000	° SM190000	SA020000	SF020000	SF010000	SF030000
8*x*	SP061000	SA011000	SA001000	SP071000	SM250000	§ SM240000
9*x*	£ SC020000	Fr XC357243	CEPHEX9C	*f* SC070000	$^{1}/_{3}$ XC357375	$^{2}/_{3}$ XC357376
A*x*	Ê LE160000	Ë LE180000	Í LI120000	Ì LI140000	Î LI160000	Ï LI180000

Table 28-3. CCMV01 character mapping table (xA to xF) (Continued)

B *x*	CEPHE XBA	Ú LU120000	Ù LU140000	Û LU160000	Ü LU180000	CEPHE XBF
C *x*	ê LE150000	ë LE170000	í LI110000	ì LI130000	î LI150000	ï LI170000
D *x*	ß LS610000	ú LU110000	ù LU130000	û LU150000	ü LU170000	CEPHE XDF
E *x*	CEPHE XEA	CEPHE XEB	CEPHE XEC	CEPHE XED	CEPHE XEE	CEPHE XEF
F *x*	© SM520000	F GF020000	• SD270000	¾ NF050000	µ SM170000	a LA011000

Table 28-4. DCMV01 (plane 01) character mapping table (x0 to x9)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
0*x*										
1*x*										
2*x*	SP010000	! SP020000	“ SP040000	# SM010000	$ SC030000	% SM020000	& SM030000	‘ SP050000	(SP060000	) SP070000
3*x*	0 ND100000	1 ND010000	2 ND020000	3 ND030000	4 ND040000	5 ND050000	6 ND060000	7 ND070000	8 ND080000	9 ND090000
4*x*	@ SM050000	A LA020000	B LB020000	C LC020000	D LD020000	E LE020000	F LF020000	G LG020000	H LH020000	I LI020000
5*x*	P LP020000	Q LQ020000	R LR020000	S LS020000	T LT020000	U LU020000	V LV020000	W LW020000	X LX020000	Y LY020000
6*x*	¢ SC040000	a LA010000	b LB010000	c LC010000	d LD010000	e LE010000	f LF010000	g LG010000	h LH010000	i LI010000
7*x*	p LP010000	q LQ010000	r LR010000	s LS010000	t LT010000	u LU010000	v LV010000	w LW010000	x LX010000	y LY010000
8*x*										
9*x*									¼ NF040000	½ NF010000
A*x*	Á LA120000	Ã LA200000	À LA140000	Â LA160000	Ä LA180000	Å LA280000	Æ LA520000	Ç LC420000	É LE120000	È LE140000
B*x*	IJ LI520000	Ñ LN200000	² ND021000	Ó LO120000	Õ LO020000	Ò LO140000	Ô LO160000	Ö LO180000	Ø LO620000	Œ LO520000

Table 28-4. DCMV01 (plane 01) character mapping table (x0 to x9)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
C*x*	á LA110000	ã LA190000	à LA130000	â LA150000	ä LA170000	å LA270000	æ LA510000	ç LC410000	é LE110000	è LE130000
D*x*	ij LI510000	ñ LN190000	¡ SP030000	ó LO110000	õ LO190000	ò LO130000				
E*x*	´ SD120000	˜ SD200000	` SD140000	ˆ SD160000	¨ SD180000		f GF010000	¸ SD410000	y GP610000	w GO310000
F*x*	´ SD110000	˜ SD190000	` SD130000	ˆ SD150000	¨ SD170000	° SD290000	ª SM210000	º SM200000	I LI610000	÷ SA060000

Table 28-5. DCMV01 (plane 01) character mapping table (xA to xF)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
0*x*						
1*x*						
2*x*	* SM040000	+ SA010000	, SP080000	- SP100000	. SP110000	/ SP120000
3*x*	: SP130000	; SP140000	< SA030000	= SA040000	> SA050000	? SP150000
4*x*	J LJ020000	K LK020000	L LL020000	M LM020000	N LN020000	O LO020000
5*x*	Z LZ020000	[SM060000	\ SM070000	] SM080000	^ SS390000	_ SP090000
6*x*	j LJ010000	k LK010000	l LL010000	m LM010000	n LN010000	o LO010000
7*x*	z LZ010000	° SM190000	{ SM110000	| SM130000	} SM140000	¬ SM660000
8*x*						
9*x*	£ SC020000	Fr XC357243	¹ ND011000	*f* SC070000	$^1/_3$ XC357375	$^2/_3$ XC357376
A*x*	Ê LE160000	Ë LE180000	Í LI120000	Ì LI140000	Î LI160000	Ï LI180000
B*x*	³ ND031000	Ú LU120000	Ù LU140000	Û LU160000	Ü LU180000	§ SM240000

Table 28-5. DCMV01 (plane 01) character mapping table (xA to xF) (Continued)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
C*x*	ê LE150000	ë LE170000	í LI110000	ì LI130000	î LI150000	ï LI170000
D*x*			ù LU130000	û LU150000	ü LU170000	¿ SP160000
E*x*	ô LO150000	ö LO170000	ø LO610000	œ LO510000	ß LS610000	ú LU110000
F*x*	© SM520000	F GF020000	• SD270000	¾ NF050000	µ SM170000	a LA011000

Table 28-6. DCMV01 (plane 02) character mapping table (x0 to x9)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
0*x*										
1*x*										
2*x*	SP010000	° SD280000	SA520000	SA530000	SM490000	CEPHEX13	CEPHEX14	CEPHEX15	SS680000	SF040000
3*x*	ND101000	ND041000	ND051000	ND061000	ND071000	ND081000	ND091000	SP061000	SA011000	SA001000
4*x*	SF050000	SA540000	CEPHEX98	CEPHEX99	CEPHEX9C	CEPHEXB2	CEPHEXBA	CEPHEXBF	CEPHEXD2	CEPHEXDF
5*x*										
6*x*										
7*x*										
8*x*										
9*x*										
A*x*										
B*x*										
C*x*										
D*x*										

Table 28-6. DCMV01 (plane 02) character mapping table (x0 to x9)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
E*x*										
F*x*										

Table 28-7. DCMV01 (plane 02) character mapping table (xA to xF)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
0*x*						
1*x*						
2*x*	CEPHE X18	CEPHE X19	SA0200 00	SF0200 00	SF0100 00	SF0300 00
3*x*	SP0710 00	SM2500 00	SM3400 00	SM3500 00	SM5700 00	SM4700 00
4*x*	CEPHE XEA	CEPHE XEB	CEPHE XEC	CEPHE XED	CEPHE XEE	CEPHE XEF
5*x*						
6*x*						
7*x*						
8*x*						
9*x*						
A*x*						
B*x*						
C*x*						
D*x*						

Table 28-7. DCMV01 (plane 02) character mapping table (xA to xF)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
E*x*						
F*x*						

Table 28-8. DCMV02 (plane 01) character mapping table (x0 to x9)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
0*x*										
1*x*										
2*x*	SP010000	! SP020000	“ SP040000	# SM010000	$ SC030000	% SM020000	& SM030000	‘ SP050000	(SP060000	) SP070000
3*x*	0 ND100000	1 ND010000	2 ND020000	3 ND030000	4 ND040000	5 ND050000	6 ND060000	7 ND070000	8 ND080000	9 ND090000
4*x*	@ SM050000	A LA020000	B LB020000	C LC020000	D LD020000	E LE020000	F LF020000	G LG020000	H LH020000	I LI020000
5*x*	P LP020000	Q LQ020000	R LR020000	S LS020000	T LT020000	U LU020000	V LV020000	W LW020000	X LX020000	Y LY020000
6*x*	¢ SC040000	a LA010000	b LB010000	c LC010000	d LD010000	e LE010000	f LF010000	g LG010000	h LH010000	i LI010000
7*x*	p LP010000	q LQ010000	r LR010000	s LS010000	t LT010000	u LU010000	v LV010000	w LW010000	x LX010000	y LY010000
8*x*										
9*x*										
A*x*										
B*x*										
C*x*										

Table 28-8. DCMV02 (plane 01) character mapping table (x0 to x9) (Continued)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
D*x*										
E*x*										
F*x*										

Table 28-9. DCMV02 (plane 01) character mapping table (xA to xF)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
0*x*						
1*x*						
2*x*	* SM040000	+ SA010000	, SP080000	- SP100000	. SP110000	/ SP120000
3*x*	: SP130000	; SP140000	< SA030000	= SA040000	> SA050000	? SP150000
4*x*	J LJ020000	K LK020000	L LL020000	M LM020000	N LN020000	O LO020000
5*x*	Z LZ020000	[SM060000	\ SM070000	] SM080000	^ SS390000	_ SP090000
6*x*	j LJ010000	k LK010000	l LL010000	m LM010000	n LN010000	o LO010000
7*x*	z LZ010000	° SM190000	{ SM110000	| SM130000	} SM140000	¬ SM660000
8*x*						
9*x*						
A*x*						
B*x*						
C*x*						

Table 28-9. DCMV02 (plane 01) character mapping table (xA to xF) (Continued)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
D*x*						
E*x*						
F*x*						

Table 28-10. DCMV02 (plane 02) character mapping table (x0 to x9)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
0*x*										
1*x*										
2*x*	SP010000	SA520000	SA530000	SM490000	CEPHEX13	CEPHEX14	CEPHEX15	SS680000	SF040000	CEPHEX18
3*x*	SF030000	ND101000	[1] ND011000	[2] ND021000	[3] ND031000	ND041000	ND051000	ND061000	ND071000	ND081000
4*x*	§ SM240000	SM340000	SM350000	SM570000	SM470000	SF050000	SA540000	¡ SP030000	¿ SP160000	CEPHEX98
5*x*	$^{2}/_{3}$ XC357376	Á LA120000	Ã LA200000	À LA140000	Â LA160000	Ä LA180000	Å LA280000	Æ LA520000	Ç LC420000	É LE120000
6*x*	Ï LI180000	IJ LI520000	Ñ LN200000	CEPHEXB2	Ó LO120000	Õ LO020000	Ò LO140000	Ô LO160000	Ö LO180000	Ø LO620000
7*x*	CEPHEXBF	á LA110000	ã LA190000	à LA130000	â LA150000	ä LA170000	å LA270000	æ LA510000	ç LC410000	é LE110000
8*x*										
9*x*									ï LI170000	ij LI510000
A*x*	ö LO170000	ø LO610000	œ LO510000	ß LS610000	ú LU110000	ù LU130000	û LU150000	ü LU170000	CEPHEXDF	´ SD120000
B*x*	¸ SD410000	y GP610000	w GO310000	CEPHEXEA	CEPHEXEB	CPEHEXEC	CEPHEXED	CEPHEXEE	CEPHEXEF	´ SD110000

Table 28-10. DCMV02 (plane 02) character mapping table (x0 to x9) (Continued)

	*x*0	*x*1	*x*2	*x*3	*x*4	*x*5	*x*6	*x*7	*x*8	*x*9
C*x*	º SM200000	I LI610000	÷ SA060000	© SM520000	F GF020000	• SD270000	¾ NF050000	µ SM170000	a LA011000	
D*x*										
E*x*										
F*x*										

Table 28-11. DCMV02 (plane 02) character mapping table (xA to xF)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
0*x*						
1*x*						
2*x*	CEPHEX19	¼ NF040000	½ NF010000	SA020000	SF020000	SF010000
3*x*	ND091000	SP061000	SA011000	SA001000	SP071000	SM250000
4*x*	CEPHEX99	£ SC020000	Fr XC357243	CEPHEX9C	*ƒ* SC070000	$^{1}/_{3}$ XC357375
5*x*	È LE140000	Ê LE160000	Ë LE180000	Í LI120000	Ì LI140000	Î LI160000
6*x*	Œ LO520000	CEPHEXBA	Ú LU120000	Ù LU140000	Û LU160000	Ü LU180000
7*x*	è LE130000	ê LE150000	ë LE170000	í LI110000	ì LI130000	î LI150000
8*x*						
9*x*	ñ LN190000	CEPHEXD2	ó LO110000	õ LO190000	ò LO130000	ô LO150000
A*x*	˜ SD200000	` SD140000	ˆ SD160000	¨ SD180000	° SD280000	f GF010000
B*x*	˜ SD190000	` SD130000	ˆ SD150000	¨ SD170000	° SD290000	ª SM210000

Table 28-11. DCMV02 (plane 02) character mapping table (xA to xF) (Continued)

	*x*A	*x*B	*x*C	*x*D	*x*E	*x*F
C*x*						
D*x*						
E*x*						
F*x*						

29. XRFBATCH utility

This chapter describes the utility, XRFBATCH, that can be used to convert all AFP page segments in a PDS to .IMG and/or RES .IMG format and load the resulting images to a native library. XRFBATCH, which is distributed in XPFSAMP, performs the same function as the Convert IBM AFP Page Segments to Xerox .IMG and/or RES Format option on the Convert Resources menu. Refer to chapter 21, "Converting resources" for more information about this option.

XRFBATCH converts only standard page segment libraries. It does not convert overlays or composed text. Also, XRFBATCH does not convert page segments that have names starting with the letter O.

There is no revision support in XOAF. After you convert a page segment using this utility, it cannot be reconverted if you change it.

To use a revised version of a page segment following the batch job specify REPLACE=Y then specify AUTOREV=X in the printer profile to send the new image to the printer.

XRFBATCH does not convert page segments to native decentralized images when IMGNUM=IMG. To accomplish this you must first convert them as centralized images to the Centralized Native XPAF Image Library. In the printer profile of the decentralized printer specify SIMAGELIB= the centralized library and specify AUTOREV=X. XPAFwill perform the conversion dynamically at print time.

Setting up XRFBATCH

You can specify the following parameters in the JCL.

NOTE: You cannot specify all of the parameters at one time because the IBM JCL PARM= statement limits the number of characters within the parentheses to no more than 100 characters. Therefore, you should specify a parameter only if you require a value other than the default value.

CAUTION: If you use XRFBATCH to preconvert page segment resources that are images common to AFP and DJDE print jobs, use of IMAGENUM=IMG may cause unexpected results.

Parameter	Action
COMPMODE	Specify the image compression mode used for converting the image file. Use this parameter only if COMPTYPE=TIME. Valid values: ENC Run-length encoded compression mode. LIN Line-predicted compression mode. Default: LIN
COMPTYPE	Specify the image optimization compression type when converting raster data. Valid values: SIZE Compresses images to the smallest possible size, regardless of the length of processing time involved. TIME Compresses images in the quickest way, as specified in the COMPMODE parameter. Default: SIZE
CONVTONE	Specify whether the image resolution conversion algorithm will use dark or light dots at certain decision points. This will cause images that are very dark or very light to be printed slightly darker or lighter and may be required if an image has characteristics which do not convert satisfactorily using the default. This parameter takes effect only if you specify 1 or 3 for the CONVTYPE parameter. Valid values: 1 (darkest) through 240 (lightest). Default: 120
CONVTYPE	Specify the image resolution conversion type. Valid values: 0 Does not scale the image dimension but does scale the position of the image. Image position scaling allows the image to print in the correct relative location on the page when printed on a Xerox printer as opposed to printing on an IBM printer. Image position scaling is increased by a factor of 25%. 1 Scales the image dimension and image position of an AFP image to 300 dpi before sending it to the printer. IOCA-encoded images are scaled from any resolution to 300 dpi. All other AFP images are scaled from 240-to-300 dpi, an increase of 25%. 3 Scales the image dimension and image position of an AFP image to 300 dpi based on the current L-units value specified in the IDD or IID structured field of the image. IOCA-encoded images are scaled from any resolution to 300 dpi. For IM-type images, any L-units value that does not specify 300 dpi is assumed to be 240 dpi. Default: 1 ***NOTE:*** If you specify 0, the size of the converted image will print smaller in XPAF (by a factor of 20%) than the original 240 dpi image printed in AFP.

Parameter	Action
DESTPRTR **or** **DEST**	Specify whether the page segments should be converted to images in centralized or decentralized format. Valid values: C Specifies that your destination printer is a centralized printer. D Specifies that your destination printer is a decentralized printer. Default: C
IMAGEDDN **or** **ODDN**	Specify the native library where the converted page segments will be stored. This name must match the name in the IMAGELIB DD statement in the JCL. Default: IMAGELIB
IMGNM	Specify the image output name to use. Valid values: AFP Generates full 20-character names and is required for resources used in AFP print jobs. IMG Uses the pseg member name without the *s1* prefix if one exists. This allows the image name to be used directly in a DJDE IMAGE= statement. (This is not supported on decentralized images.) ***NOTE:*** XRFBATCH does not convert page segments to native decentralized images when IMGNUM=IMG. To accomplish this you must first convert them as centralized images to the Centralized Native XPAF Image Library. In the printer profile of the decentralized printer specify SIMAGELIB= the centralized library and specify AUTOREV=X. XPAFwill perform the conversion dynamically at print time. Default: AFP
INPUTDDN **or** **IDDN**	Specify the IBM resource library containing the page segments to be converted. This name must match the name in the INFILE DD statement in the JCL. Default: INFILE ***NOTE:*** XRFBATCH does not convert page segments that have names that begin with the letter O.

Parameter	Action
LOGDSN	Specify the dataset to be used for logging messages. This sequential dataset must have the same specifications as your XLOG dataset, but the XLOG dataset itself should not be used with this parameter. ***NOTE:*** If you do not specify the LOGDSN parameter, the dataset specified in the XPAFXLOG DD statement is used. If neither of these is specified, messages are displayed on the system console. If you do not want to use logging, change the JCL to specify DD DUMMY in the XPAFXLOG DD statement. Valid values: A 1- to 44-character dataset name. Default: None
MAXIMGPS **or** **MIPS**	Specify the maximum number of images within a single page segment in the library that will be converted. Valid values: 1 through 999. Default: 16
PAPERSIZ **or** **PSIZ**	Specify the paper size to be used by the printed image. Valid values: LETTER LEGAL LONG A3 A4 Default: LETTER
PRINTENV **or** **PENV**	Identify the type of centralized printers you use to print AFP data streams through XPAF. This parameter is used to determine how XPAF converts images colorized via the IID structured field for printing on a centralized printer. This parameter only applies to AFP data streams containing images colorized via the IID structured field that will be sent to centralized printers. Valid values: MONO Specifies that XPAF jobs are printed only on monochrome printers. XPAF converts any colorized images to monochrome black .IMG files. COLR Specifies that XPAF jobs are printed only on highlight color printers. XPAF converts any colorized images to color RES .IMG files. BOTH Specifies that XPAF jobs are printed on both monochrome and highlight color printers. XPAF converts any colorized images to both monochrome black .IMG and color RES .IMG files. Default: MONO

Parameter	Action
REPLACE **or** **REPL**	Specify if existing images will be overwritten with the new image. Valid values: Y Specifies that existing members are to be replaced. N Specifies that existing members will not be replaced. Default: N
REVVIDEO **or** **RVID**	Specify whether to translate the image into reverse video on output. This translation consists of reversing the printing of all pixels in the image. For black images, all white pixels are printed as black, and all black pixels are printed as white. This parameter is not supported for color images. Valid values: Y Reverses all pixels. N Does not reverse pixels. Default: N
ROTATION **or** **ROT**	Specify the orientation for the image. Valid values: P Portrait L Landscape I Inverse portrait J Inverse landscape Default: P ***NOTE:*** AFP images that were generated for IBM printers are rotated 0 degrees. For these images, regardless of document orientation, be sure to specify a rotation of P.

Executing XRFBATCH

After entering the necessary parameter values, submit the job. If you enter an incorrect value for any parameter, XRFBATCH uses the default.

Sample JCL

Sample JCL for XRFBATCH is shown below. Sample JCL also is provided for XRFBATCH in XPFSAMP.

```
//job-name JOB job-information
//*
//*
//*          ************************************************************
//*          *   THIS SAMPLE JCL IS PROVIDED TO EXECUTE THE BATCH       *
//*          *   UTILITY FOR PRE-CONVERTING IBM AFP PAGE SEGMENTS       *
//*          *   BEFORE PRINTING.  CHANGE THIS JOB AS NECESSARY TO      *
//*          *   NAME THE LIBRARIES AND PARAMETERS OF YOUR CHOICE.      *
//*          ************************************************************
//*
//*
//XRFBATCH EXEC PGM=XRFBATCH,COND=(0,NE),          <---  PSEG CONVERT PGM
//       PARM=('COMPTYPE=SIZE',     SIZE OR TIME   <---  COMPRESSION TYPE
//             'CONVTYPE=1',        0 OR 1 OR 3    <---  CONVERSION TYPE
//             'DESTPRTR=C',        C OR D         <---  DESTINATION PRTR
//             'IMAGEDDN=IMAGELIB', IMAGELIB       <---  IMAGE LIB DDNAME
//             'INPUTDD=INFILE',    INFILE         <---  PSEG PDS DDNAME
//             'MAXIMGPS=16',       1-999          <---  MAX # PSEG IMGS
//             'PAPERSIZ=LETTER',   A3/4,LEGAL,LONG<---  PAPER SIZE NAME
//             'PRINTENV=MONO',     MONO,COLR,BOTH <---  PRTR ENVIRONMENT
//             'ROTATION=P')        P, L, I, OR J  <---  IMG ORIENTATION
//STEPLIB    DD DSN=prefix.XPFLOAD,DISP=SHR        <---  XPAF LOAD LIB
//INFILE     DD DSN=prefix.PSEGLIB,DISP=SHR        <---  INPUT PSEG PDS
//IMAGELIB   DD DSN=prefix.CIMGLIB,DISP=SHR        <---  OUTPUT IMAGE LIB
//XPAFXLOG   DD DSN=prefix.XPAFXLOG,DISP=OLD       <---  XPAF MESSAGE LOG
//
```