Xerox DocuPrint 180 Laser Printing System System Generation Guide

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Related publications

The *Xerox DocuPrint 180 Laser Printing System – System Generation Guide* is part of the ten manual reference set for your laser printing system. The entire reference set is listed in the table below. Several other related documents are also listed for your convenience. For a complete list and description of available Xerox documentation, refer to the Xerox Documentation Catalog (Publication number 610P17417) or call the Xerox Documentation and Software Services (XDSS) at 1-800-327-9753.

Table 1. **Related Publications**

Publication	Number
Xerox DocuPrint 180 Laser Printing System Operator Guide	721P85490
Xerox DocuPrint 180 Laser Printing System Operations Reference	721P85500
Xerox DocuPrint 180 Laser Printing System Message Guide	721P85550
Xerox DocuPrint 180 Laser Printing System PDL Reference	721P85530
Xerox DocuPrint 180 Laser Printing System Forms Creation Guide	721P85520
Xerox DocuPrint 180 Laser Printing System System Generation Guide	721P85510
Xerox DocuPrint 180 Laser Printing System Installation Planning Guide	721P85480
Xerox DocuPrint 180 Laser Printing System Operator Command Summary Card	721P85560
Xerox DocuPrint 180 Laser Printing System PC UI Reference	721P85540
Xerox DocuPrint 180 Laser Printing System Product Reference	721P85570
Xerox Laser Printing Systems Tape Formats Manual	600P86175
X*erox Laser Printing Systems Standard Font Library Font User Guide*	600P86174
Helpful Facts About Paper	721P82492

Notice

This publication may contain descriptions of concepts and features not currently available for your Xerox Laser Printing System. Consult your Xerox sales representative or your operating system software program description for additional information.

Table of Contents

Introduction

The *Xerox DocuPrint 180 Laser Printing System—System Generation Guide* is one of ten documents that make up the DocuPrint 180 Reference Set. The guide is divided into four chapters and one appendix as listed.

Chapter	Content
1. Sysgen overview	Types of sysgen available and the resources required to perform a sysgen.
2. Sysgen commands	Sysgen commands and how to use them.
3. Sample system configurations	System configuration options and parameters.
4. Sysgen and sysgen-related procedures	Step-by-step installation and upgrade procedures for the DocuPrint 180 PC User Interface and upgrade procedures for full, update, and mini sysgens.
A. Sample JCL for transmission of system software tapes	Example of a typical host utility for sending concatenated files to the printing system.

About the reference set

This document is part of a reference set designed to help you receive maximum benefit from your DocuPrint 180 Laser Printing System (LPS).

To help you select the appropriate document for your needs, the following section identifies the documents in the set and describes the information contained in each.

Xerox DocuPrint 180 Laser Printing System Document Set

The Xerox DocuPrint 180 Laser Printing System document Set includes the following documents:

Xerox DocuPrint 180 LPS Operator Guide

This reference contains the following information:

- System Overview
- Keyboard display procedures
- Paper facts and procedures
- Operating procedures
- Maintenance
- Problem solving
- Supplies
- Meter reading and reporting

Xerox DocuPrint 180 LPS PDL Reference

This reference contains the following information:

- Print Description Language components and processes
- Input processing functions
- Output processing functions
- PDL command summary
- Page formatting guidelines
- Character code assignment tables
- PDL programming information with step-by-step instructions

Xerox DocuPrint 180 LPS System Generation Guide

This reference contains the following information:

- Configuration options
- Commands
- OSS software installation, upgrade, and modification procedures

Xerox DocuPrint 180 LPS Operations Reference

This reference contains the following information:

- Command syntax for operator and system administrator procedures
- LPS defaults
- LPS resources
- Command summaries
- Communication and graphics on the LPS
- Command files

Xerox DocuPrint 180 LPS Forms Creation Guide

This reference contains the following information:

- Basic concepts for creating forms
- Coding and compiling for LPS Forms Description Language
- Sample form setup command sets
- Tips for successful forms

Xerox DocuPrint 180 LPS Operator Command Summary Card

This reference provides a quick reference of commonly used operator commands.

Xerox DocuPrint 180 LPS Message Guide

This reference contains the following information:

- OSS and other messages
- Meaning and recovery procedures

Xerox DocuPrint 180 LPS Installation Planning Guide

This reference contains the following information:

- Pre-installation site preparation
- Supplies and font ordering
- Documentation and training
- Post-installation requirements

Xerox DocuPrint 180 LPS PC UI Reference

This reference contains the following information:

- PC UI procedures
- Hierarchy of PC UI windows

Xerox DocuPrint 180 LPS Product Reference

This reference contains the following information:

- Product overview
- Hardware and software
- LPS connections
- User considerations
- LPS comparisons

Xerox LPS Tape Formats Manual

This reference contains the following information:

- Characteristics of different formats
- File organization
- Data formats
- Carriage control conventions

Xerox DocuPrint 180 LPS Standard Font Library Font User Guide

This reference contains the following information:

- Font naming conventions
- Listing of standard fonts
- Data Sheets
- Glossary to typography terminology.

Helpful Facts About Paper

This reference contains the following information:

- Selection and guidelines
- Storage
- Specifications for different printers

Document conventions

This guide uses the following conventions:

< >	Angle brackets are used for keys on the PC User Interface keyboard.
{}	Curly brackets are used for required characters.
...	Ellipses indicate that you may repeat a parameter or list a series of parameters.
[]	Square brackets are used for optional command characters.
|	Vertical bars are used to separate parameters in a series. The vertical bar stands for “or.”
Bold	Bold is used for characters you enter at the command line.
Italics	Italics are used for variable information.
Monospace font	The monospace font is used to display system responses.
Underline	System default parameters are underlined.
UPPERCASE	Uppercase letters are used for command names. You may key in entire words for each command, or the first three characters of each word. In this manual the entire word of each command is spelled out.

Note: A note indicates an operation, practice or condition that should be taken into consideration to efficiently accomplish a task.

Caution: Cautions alert you to an action that could damage hardware or software.

Warning: Warnings alert you to conditions that may affect the safety of people.

1. Sysgen overview

This chapter provides information on different types of sysgens, operating system software (OSS), and the resource information needed when performing a system sysgen.

Sysgen definition

A system generation, or sysgen, is the process you use to install, upgrade, or modify the operating system software (OSS) on a Xerox Laser Printing System (LPS).

Types of sysgen

Table 1-1 lists the purpose of each sysgen type.

Table 1-1. **Types of sysgen**

Sysgen type	Purpose
Sysgen	Build a new operating system on new or existing system disks. Example: — Installing a brand new system — Replacing, formatting or erasing a system disk — When required for installing a new software release.
Auto	Add or update features or operating systems. • Add new features to an existing operating system • Replace the existing version of the operating system with a new version.
Mini	Change the configuration options of the current system without affecting user files. Example: • Changing online host address • Adding finishing equipment

OSS contents

New versions of the operating system software (OSS) are distributed by Xerox on quarter inch cartridge (QIC) tapes. These media contain the items listed in table 1-2.

Table 1-2. **OSS software**

OSS software item	Function
New system files	Enabling LPS features.
Sysgen processor program	Loading the new system files onto the LPS system disk and configuring them to a particular system.
Concatenated version of the system files and sysgen processor	Performing an online sysgen in which the files and processor are downloaded to the printing system from a host computer.
Patch files	Modifying the new system files for optimal performance.

Resource and information checklist

The following checklist will help you determine if you have all the resources and information necessary to begin a sysgen.

To perform a full sysgen, you need the following:

- Installed LPS
- OSS: on a QIC
- Font tapes:
  - Standard font tape
  - Special font tapes (including logo and signature)
- User file tapes
- Documentation
  - OSS Program Description (-11)
  - LPS Reference Set.

Refer to the “Related publications” section of the “Introduction” for a list of available documentation.

Information you need for full or update sysgen

Before you begin a full or update sysgen, gather the following information:

- Laser image alignment coordinates
- The number of forms, fonts, and (optionally) graphics settings per page in your installation
- A list of all the user files resident on the system disks
- A hardcopy of your current system configuration
- Print file size
- System disk IDs.

Questions to answer

Before you begin a sysgen, know the answers to the following questions:

- Is the account file to be saved or deleted during the sysgen?
- Are the Mergenthaler fonts used by your installation?
- Do you have any site-specific patches to be applied in the post-sysgen procedure?
- Are any of your .IPM files corrupt or missing?

2. Sysgen commands

This chapter explains the commands used for performing sysgens.

Sysgen Command menu

The Sysgen Command menu, illustrated in table 2-1, appears on the printing system display screen when you boot the sysgen processor. It also appears when COMMANDS is entered following the sysgen prompt character.

Note: The command HOSTCOPY option appears in your Sysgen Command menu.

The interactive dialogue for a particular procedure may vary slightly depending upon the release medium (tape or cartridge), input method (online or offline), and product configuration.

Table 2-1. **Sysgen Command menu**

```
**** SYSGEN PROCESSOR, VERSION M0.0 ****

COMMAND

       COMMANDS      Display commands

       BOOT          Boot the operating system

       SYSGEN        Build or update system files
                     on disk from tape or host

       FORMAT        Clear and format disk pack

       HOSTCOPY      Copy user files from host to
                     disk

       AUTO          Auto sysgen

       MINI          Configuration change only

       ERASE         Erase all files

Enter Cmd ('C' for Menu)>
```

Command functions

The commands in Table 2-2 may appear in the Sysgen Command menu, depending upon the hardware options present on your system. Command abbreviations are underlined.

Table 2-2. **Sysgen commands**

Command	Function
COMMANDS	Displays the Sysgen Command menu on the printing system display screen. (The menu does not have to display for you to enter a command.)
BOOT	Boots the operating system. If a sysgen has been performed, any sysgen patches are applied. This command must be the first entered after completing a SYSGEN command.
SYSGEN	Builds a new operating system on the system disks from a system software tape or from system software tape (SST) files downloaded from a host computer. All system files can be updated. This option requires more user interaction than AUTO, and you must use it if the SST is to be downloaded from a host computer. A BOOT command must follow successful completion of this command.
FORMAT	Formats any or all of the system disks and performs a sector check. All files on the system disks, except for the MBAIS file, are destroyed. This includes user files. This procedure is not normally needed unless specifically called for in your OSS program description or unless read errors or other disk problems occur. (Refer to ERASE.)
HOSTCOPY	Downloads font files, patch files, and user-generated EBCDIC data files from a host computer to the LPS system disks. This option allows an online printing system, with no magnetic tape drive, to retrieve tape files from the host.
AUTO	Builds a new operating system on the system disks from a SST and allows all System files to be updated. The AUTO Sysgen reverts to a full Sysgen if a FORMAT has just been performed. When you use AUTO for a recently formatted disk, configuration information is no longer available to the system from the disks and must be entered, as though the SYSGEN command had been used. The only truly automatic sysgen, using AUTO, can be an update sysgen. This option requires less user interaction than SYSGEN by automatically invoking a standard sequence of sysgen commands. It differs from SYSGEN in the following ways: • AUTO builds from tape input only. • AUTO does not ask for a configuration update. • AUTO automatically saves the accounting file.
MINI	Modifies the configuration file in response to selections made through the Configuration Options menu. (Refer to the “Sample system configuration options” chapter.) **CAUTION:** Do not execute the MINI command immediately following completion of a SYSGEN command. This prevents the application of patches. Note that the only changes to the system configuration that should be made using mini are to those features whose software has been incorporated in the operating system by a previous sysgen. For example, you may deactivate or reactivate a feature or change interface address parameters by using the mini sysgen procedure. (Generally, when you add features to the system, the system files must be changed or patched. This requires an update sysgen, invoked using the SYSGEN or AUTO commands to ensure system file integrity.)
ERASE	Clears any or all of the system disks. All files on the disks, except for the MBAIS and bad block files, are destroyed. This includes user files. Because the ERASE command does not perform a FORMAT or a sector check, it executes faster than the FORMAT command. (Refer to FORMAT.)

Entering and abbreviating commands

Refer to the following directions when entering commands.

Entering commands

Enter commands after the sysgen prompt character (>), then press <ENTER>.

After the command has completed processing, the prompt character displays again (except after the BOOT command). The menu need not display for you to issue a command.

Abbreviating commands

The command may be entered as shown in the menu or may be abbreviated to as few letters as necessary to differentiate it from any other command in the menu.

Example

To enter the command SYSGEN, you can enter any of the following abbreviations:

- S
- SY
- SYS
- SYSG
- SYSGE
- ...or by SYSGEN spelled out in full.

Command strings

You may enter several commands as a string, and the system executes them serially. For example, entering FORMAT, SYSGEN, and BOOT, then pressing <ENTER>, results in each procedure being invoked in turn unless fatal errors occur.

3. Sample system configurations

Use the information provided in this chapter to select your configuration specifications.

Stages of the sysgen process

An overview description of the sysgen process is shown in Table 3-1.

Table 3-1. **Sysgen process**

Stage	Description
1	You start the sysgen process.
2	The LPS displays system configuration information on the screen in a format similar to the illustration in Table 3-2. The items differ depending upon your system components and the version of software you are using.
3	The system asks you if you want to make changes to the configuration.
4	You answer “yes.”
5	The LPS displays the Configuration Options menu.
6	You enter the number of a listed option to select or deselect a feature. For some options, a further list of suboptions displays.
7	The system incorporates the software for each feature you select into the operating system, and creates a configuration file (DISPCF.SYS). **Note**: The printing system must have the appropriate hardware installed to support the features specified. Selecting uninstalled features may result in an unsuccessful sysgen, an unusable system, or both.
8	You can modify the configuration file by using the mini sysgen procedure to deactivate or reactivate a feature.
9	Once your system is configured successfully, you can get a copy of the configuration information by printing the customer billing report. Refer to the *DocuPrint 180 LPS Operations Reference* for further details. This configuration information assists you in recreating your basic system configuration during a full sysgen.

Table 3-2 shows a sample system configuration for the DocuPrint 180 LPS.

Table 3-2. **Sample Configuration**

```
                    **** SYSTEM CONFIGURATION ****

                         Machine Type - DP180 LPS

CPU MEMORY = 1024K                      SCSI Disk Units: 0,1,2,Floppy

AIS: Version 2                          Page Buffer Memory Size: 128 Banks

Bitmap Memory: 256 Megabits             Page Buffer A,B: 2 BUFFERS

Ink Memory: 2 Megabits                  Memory Test at Boot = no|yes

Text and Metrics Memory: 3 Megabytes    Auto Boot Enabled = no|yes

Online: Address 30                      Boot Message Display = no|yes
-Mode Burst, Device 3211                Printer Characteristics
Terminal Type: PC                           - Speed: 180 ppm
SCSI Tape Devices:                          - Resolution: 300 spi
- Reel to Reel: HP-SCSI A/Ch O/Tg 0         - Default Order: 1 to N|N to 1
- Streamer Tape: HP-SCSI A/Ch O/Tg 1        - Paper size: 8.50 x 11.00 Inches

                                        Language: U.S. English

                                        Graphics Type: AIS

                                        Shared Disk

                                        SCSI Tape Device Assignments:
                                        - TD0 = Reel to Reel Tape
                                        - TD1 = Streamer tape
```

Configuration menu

Table 3-3 illustrates a sample configuration options menu for the DocuPrint 180 LPS.

Table 3-3. **Sample configuration options menu**

```
Select which of the following options are to be added, deleted, or changed?
0)     None
1)     Full memory test at boot
2)     Auto Boot
3)     Message Display during boot
4)     Shared Disk
5)     MICR Mode Default
6)     On-line Interface
7)     Xerox Print service Manager
8)     Kanji
9)     Ethernet
10)    Language
11)    Paper size
12)    XPAF
13)    Raster Image Processor
14)    Terminal Type
15)    Tape Device Table
16)    Default Printing Order
(Enter numbers)
```

Note: The MICR, Ethernet, and Raster Image Processor option configurations are not supported on the Xerox DocuPrint 180 LPS. Options 5, 9, or 13 on the configuration options menu may still be selected. However, settings for these options have no effect on the actual configuration of the printer.

Caution: Do NOT change the setting for option 14.

Table 3-4. **Sample configurations**

Option	Description
0) None	Returns you to the base system configuration display screen.
1) Full memory test	Determines the amount of system memory test at power on.
2) Auto boot	Determines whether auto boot is enabled at power on.
3) Message display	Determines whether boot diagnostic messages display at power on.
4) Shared disk	Adds or removes the shared disk option.
5) MICR mode default	This option is not supported on the DocuPrint 180 LPS. Selection of option 5 has no effect on the LPS. Adds or removes the MICR mode default option.

6) On-line interface (if installed)	Displays the following question:
	`DOES THIS SYSTEM HAVE AN ONLINE INTERFACE?`
	`ENTER 'Y' OR 'N'.`
	If you enter **N**, the online feature is removed from the system being generated.
	If you enter **Y**, the configuration options are automatically selected by the system and the display returns to the base configuration.

7) Xerox DocuPrintServer (formerly XPSM)	Adds or removes the Xerox DocuPrintServer (formerly XPSM)).
8) Kanji	This option is not supported on the DocuPrint 180 LPS. Adds or removes Kanji.

9) Ethernet (if installed)	This option is not supported on the DocuPrint 180 LPS. Selection of option 9 has no effect on the LPS
	Displays the following question:
	`IS THIS SYSTEM CONNECTED TO A XEROX ETHERNET? ENTER 'Y' OR 'N'.`
	If you enter **N**, the Ethernet feature is removed from the system being generated.
	If you enter **Y**, the following suboptions display:
	`ETHERNET CHANGE LIST:`
	`1) NONE`
	`2) READ PRINTER'S ADDRESS`
	`3) ETHERNET NETWORK ADDRESS`
	Selecting NONE results in no Ethernet changes.
	Selecting `READ PRINTER'S ADDRESS` results in the printing system providing its internal address as a parameter to the sysgen processor. This address is shown in table 3-2, Base system configuration for DocuPrint 180 LPS, in both hexadecimal and decimal format. The decimal value is preceded by an asterisk (*). (The printing system internal address is set by Xerox at the time of manufacture.)
	Selecting `ETHERNET NETWORK ADDRESS` results in a prompt for the address of the Ethernet network. For a decimal value, enter six zeros. A value not preceded by an asterisk is assumed to be hexadecimal. (The network address is assigned by Xerox. Consult your network system administrator for the correct assignment.)

Table 3-4. **Sample configurations** (continued)

Option	Description

10) Language	Displays the following suboptions:
	`0) NONE`
	`1) U.S. ENGLISH`
	`2) U.K. ENGLISH`
	`3) GERMAN`
	`4) FRENCH`
	`5) DUTCH`
	`6) SWEDISH`
	`7) NORWEGIAN`
	`8) FINNISH`
	`9) DANISH`
	`10) SPANISH`
	`11) ITALIAN`
	`12) PORTUGUESE`
	Selecting `NONE` results in no change from the default language, which is U.S. English.
	The display dialogue of the newly generated system will be in the language that you select. (Languages other than those listed above are also available. The suboption list reflects what is on the system software tape or floppy disk.)
	The only difference between the U.K. English and U.S. English language options is that:
	• U.K. English displays paper sizes in millimeters.
	• U.S. English displays paper sizes in inches.
	Of the other language suboptions, only French, German, and Spanish are currently translated. U.S. English messages are displayed if a sysgen is performed in any of the other languages.
	The customer must insure that the proper language is installed on the ESS and IOT. The selection of the language icon on the PC UI does not switch the language on the ESS or on the IOT. The PC UI and IOT may have one or two languages installed. The ESS may be sysgened to one language although commands in English are always accepted.

Table 3-4. **Sample configurations** (continued)

Option	Description

11) Paper size	Displays the paper size menu.
	`Select paper size`
	`Size Inches Millimeters`
	`1) US Letter 8.5 x 11.0 216 x 279`
	`2) US Legal 8.5 x 14 216 x 356`
	`3) A3 16.54 x 11.69 420 x 297`
	`4) A4 8.27 x 11.69 210 x 297`
	`5) B4 10.12 x 14.33 257 x 364`
	`6) B5 7.17 x 10.12 182 x 257`
	`7) User Selectable Size`

12) XPAF (if installed)	Selecting this option adds XPAF; selecting it again removes it.

13) Raster image processor (if installed)	This option is not supported on the DocuPrint 180 LPS. Selection of option 13 has no effect on the LPS
	Displays the following question:
	`DOES THIS SYSTEM HAVE A RASTER IMAGE PROCESSOR? ENTER 'Y' OR 'N'`
	If you enter N, all raster image processor (RIP) devices are removed from the system.
	If you enter Y, the following message is displayed:
	`TYPE THE RIP UNIT NUMBERS (0-3)`
	`ENTER OPTIONS`
	Enter the appropriate numbers. If found, they are added to the system. If RIP is not found, the following message is displayed:
	`RIP x IS NOT IN THE SYSTEM (PLEASE CONFIRM)`
	`ENTER 'Y' OR 'N'`

14) Terminal type	Selecting this option changes the terminal to a PC type; selecting it again changes it to a character type. **Note:** The character type terminal is not supported.
15) Tape device table	Selecting this option allows you to alter the tape device assignment table.

16) Default printing order	Selecting this option displays the following suboptions:
	`1) 1 - N`
	`2) N - 1`
	Enter option 1 for first-to-last page (facedown) output; or option 2 for last-to-first page (faceup) output.
	You may select either 1TON or NTO1 as the system default.
	When the system default is 1TON, NTO1 is processed only if it is invoked in the JDE or JDL. The system ignores NTO1 in DJDE-selected job descriptor entries (JDEs) or job descriptor libraries (JDLs).
	When the system default is NTO1, the system assumes each report is NTO1 until the first data page, even if 1TON is specified in the JDE or JDL. This arrangement allows you to use DJDE-selected JDEs and JDLs that invoke NTO1 after a series of banner pages.

Additional sysgen parameters

In addition to the configuration options listed previously, you may also need to supply the following information during the system generation process.

Table 3-5. **Sysgen parameters**

Command	Description
Type of sysgen	Sysgen, auto sysgen, or mini sysgen can be performed by selecting appropriate commands from the Sysgen Command menu (Table 2-1)
System ID	Each system can be assigned a name of up to 30 alphanumeric characters, including spaces. The ID displays in the following situations: • Whenever the system is booted • When a rollover and recovery occurs • In a rollover dump • Whenever a sysgen is performed • On listings produced by the Editor • On listings produced by the REPORT command to report billing information.
Accounting file	You are asked if you want to save user accounting information. Remember that if a currently existing accounting file is not saved, you lose not only the accounting data but also the hierarchical data used to structure the file.
Report accounting	You are asked if you want report accounting. This results in run statistics being recorded for each report, as opposed to each job (which may contain several reports).
Setting default values	After the sysgen completes, you may want to adjust the following parameters to which the sysgen automatically assigns default values: • Maximum fonts per job (default 32) • Maximum forms per job (default 12) • Maximum graphics per job (default 32) • Print file size (default of 425 cylinders is not determined by a sysgen). Refer to the *Xerox DocuPrint 180 LPS Operations Reference* for information on modifying these values.

4. Sysgen and sysgen-related procedures

This chapter contains information to perform the system generation for the DocuPrint 180 LPS. It also explains how to install the PC UI system software.

Precautions

Before you begin a sysgen, make sure you comply with the following points:

- Do not overwrite the current version of the system files with system files from previous software versions.
- Do not copy the current version system file types to a system with an older version of software.

PC UI software loading procedure summary

These are the software components you need for the PC UI.

- System UI software
- UI dialog.

MS-DOS 6.2 and Windows 3.1 will be preloaded onto the PC UI. The sections that follow provide step-by-step instructions for loading each of the remaining software programs on your PC UI.

Installing and upgrading System UI software

Use the information given below when installing or upgrading System UI software.

Materials required System UI diskette.

Time required System UI software installation takes about 5 minutes to complete.

Procedure To install or upgrade System UI software, follow these steps:

Step 1. Select “Exit to DOS” from the System Control menu.

Step 2. Select “Yes” from the “Exit to DOS” window.

Step 3. Insert the System UI software diskette.

Step 4. Key in **A**: and press <ENTER>.

Step 5. Key in **INSTALL** and press <ENTER>.

Step 6. At the "Xerox DocuPrint 180 System UI Setup" window, select “CONTINUE”.

Step 7. At the “Xerox DocuPrint 180 System UI Setup” Message window, select “CONTINUE”.

Step 8. At the “Xerox DocuPrint 180 PC UI System Configuration” window, select “CONTINUE”.

Step 9. At the “Destination for Xerox DocuPrint 180 System UI” window, select “CONTINUE”

Step 10. Select “Exit Windows” in the “Xerox DocuPrint 180 System UI Setup Exit Message” window.

Step 11. Remove the diskette.

System UI software installation is now complete. If you are performing an upgrade, press the Reset button to finish the procedure. Proceed to the “Installing or upgrading System UI dialog” procedure.

Installing or upgrading System UI dialog

Use the information given below when installing or upgrading System UI dialog.

Time required System UI dialog installation takes about 5 minutes to complete.

Procedure To install System UI dialog, follow these steps:

Step 1. Insert the UI Dialog software diskette into the drive. If needed, perform steps a. and b which follow.

a. Select “Exit to DOS” from the System Control menu.

b. Select “Yes” from the “Exit to DOS” window.

Step 2. If A> does not display, key in **A**: and press <ENTER>.

Step 3. Key in **INSTALL** and press <ENTER>.

Step 4. At the “Xerox DocuPrint 180 UI Dialog Setup” window, select “Continue”.

Step 5. At the “Xerox DocuPrint 180 UI Dialog Message" window, select “Continue”.

Step 6. At the “Xerox DocuPrint 180 PC UI System Configuration” window, select “Continue”.

Step 7. At the “Destination for Xerox DocuPrint 180 UI Dialog” window, select “Continue”.

Step 8. At the “Xerox DocuPrint 180 UI Dialog Setup Exit Message” window, select “Exit Windows”.

Step 9. Remove the diskette from the drive. If you are performing an upgrade, press the Reset button to finish the procedure.

Performing a full sysgen

Use the information given below when performing a full sysgen.

When to use a full sysgen

In the full sysgen procedure, all system disks are formatted and the operating system software is installed on the system disks. A full sysgen is normally performed in the following situations:

- A new system is installed
- A system disk is replaced
- Read errors or other disk problems have occurred
- When required for a specific system or patch.

Note: When performing an offline (tape) sysgen, make sure the system is offline.

Backing up user files

It is important to back up all user files.

Caution: If the disk being formatted contains user files, be sure to back up those files before formatting because they will be deleted from the disk.

Sysgen media

A full sysgen can be performed from tape, cartridge, or host. The step-by-step procedures provided in the following section are for a full sysgen from any medium.

Choosing a format command

Table 4-1 lists the differences between the FORMAT and ERASE commands used for formatting the system disks prior to sysgen.

Table 4-1. **Differences between format and erase commands**

FORMAT command	ERASE command
• Deletes all files except the MBAIS file • Performs a sector check • Flags any new bad block areas.	• Saves both the MBAIS and bad block files. • Does not perform a new sector check.
You must use when: • Replacing a system disk • Installing an additional disk into the system	Use if you are confident of your system disk integrity.

Full sysgen procedure summary

Use the following procedure when performing a full sysgen.

Step 1. Back up any user files residing on the disks to be formatted

Step 2. Load the sysgen processor into the main memory.

Step 3. Use either the FORMAT or the ERASE command to format the system disks. Refer to the comparison Table 4-1 and the “Formatting a system disk” or “Erasing a system disk” procedure later in this chapter.

Step 4. Install the new operating system software (OSS) using the SYSGEN command.

a. Define the system configuration

b. Load the operating system software

c. Apply system patches (automatic)

Full sysgen procedure

The following table lists the steps used to perform a full sysgen.

Table 4-2. **Steps to perform a full sysgen**

Step	Action	System response
1.	Load the SST tape or cartridge tape on the selected peripheral device.	

2.	Press the Boot button.	**PC UI:**
		The Boot menu window displays:
		`Operating System`
		`System Disk`
		`Reel to Reel`
		`QIC`
		`18/36 Track Tape`

3.	**PC UI:**
	Select your choice of sysgen media with the mouse.
		The command menu displays:
		`COMMANDS  Display Commands`
		`BOOT  Boot the operating system`
		`SYSGEN  Build or update system files on disk from tape or host`
		`FORMAT  Format and initialize disk pack`
		`HOSTCOPY  Copy user files from host to disk`
		`AUTO  Auto Sysgen`
		`MINI  Configuration change only`
		`ERASE  Erase all files.`

Table 4-2. **Steps to perform a full sysgen** (continued)

Step	Action	System response

4.	Format the system disks by entering FORMAT or ERASE and pressing <ENTER>.
	
	NOTE: System responses reflect the format procedure. The Erase procedure mimics the format procedure with the exceptions of "erase" appearing in some places where format had been displayed.
		The following message displays:
		
		`Formatting/Erasing the disks will destroy the data.`
		`Do you still want to format/erase the disk(s)? (y or n)`

5.	Enter **Y** to continue with the format	`Are you sure? [y or n]`

6.	Enter Y to confirm that you want to continue the formatting of the disk(s).
	
	NOTE: DP3: will only be displayed if installed.
		For Y, the following is displayed:
		`**SCSI FORMAT/ERASE VERSION XX RUNNING**`
		`Program operating mode: FORMAT`
		`Located DP0: ...(manufacturer) (disk type)`
		`Located DP1: ...(manufacturer) (disk type)`
		`Located DP2: ...(manufacturer) (disk type)`
		`Located DP3: ...(manufacturer) (disk type)`
		
		`FORMAT OPTIONS:`
		`1. All disks`
		`2. Selected disk(s)`
		`>`

Table 4-2. **Steps to perform a full sysgen** (continued)

Step	Action	System response

7.	Enter the option number and press <ENTER>.
	Option **1** selects all disk drives installed on the controller.
	Option **2** allows individual drives to be selected.
	Enter the drive unit number to be formatted. If more than one drive unit is to be formatted, enter all selected drive unit numbers separated by commas.
	Such as: >0,1,3
	Then press <ENTER>.
	NOTE: Only one disk's information will be displayed at a time. Entering **Y** will display the next installed disk or cause sysgen to continue.
		`Enter the disk units to format`
		`DP0: CONFIRM (Y/N)`
		The following information is displayed for the disks selected to be formatted:
		`Disk characteristics (DPx:)`
		`Manufacturer & Type: (manufacturer) (disk type)`
		`Unit Serial Number: nnnnn`
		`Usable capacity: cccc MB`
		`Number of 512-byte sectors: ssssss`
		`Number of heads: h`
		`Number of tracks: ttttt`
		`Spare sectors per cylinder: s`
		`Spare tracks per device: tt`
		`>>>Enter "Y" to confirm that you want to continue`
		`>`

8.	Enter **Y** and press <ENTER>	`1. Format Selected Disk(s)`
		`2. Abort Format`
		`Enter selection:`
		`>`

Table 4-2. **Steps to perform a full sysgen** (continued)

Step	Action	System response
9.	Enter **1** and press <ENTER>.	Entering 1 causes the formatting of the selected disks to occur. The following is displayed for DP0: selected or it is the only drive in the controller:

```
*************************************************************************
* Disk unit     *  0         *  1            *  2             *  3           *
*************************************************************************
* Drive Type    *            *               *                *              *
*************************************************************************
* Disk Status   *  Selected  * Not  present  * Not Present    * Not present  *
*************************************************************************
*Format         *            *               *                *              *
*  Elapsed      *  mm:ss     *               *                *              *
*     Time      *            *               *                *              *
 *************************************************************************
* Total          *            *               *                *              *
*    Usable      *            *               *                *              *
*      Sectors   *            *               *                *              *
*************************************************************************
```

When formatting is completed the following is displayed:

```
Format/Erase program completed.
System does not have an ID record
   Enter system id of up to 30 characters
  ....*....*....*....*....*....*....*
>
```

10.	Enter the system ID record of up to 30 characters and press <ENTER>.	`System ID IS: xxxxx  (the ID record that you just entered.)` `Do you want to enter a new system id? 'y' or 'n'`

11.	Enter **N** and <ENTER>.	`Initializing disk drive 0`
		`Creating file  BITMAP  .$Y$ on drive 0`
		`Creating file  MSBLK  .$Y$ on drive 0`
		`Creating file  BADBLK  .$Y$ on drive 0`
		`Creating file  CDLYL  .$Y$ on drive 0`
		`ENTER CMD ('C' FOR MENU)>`

Table 4-2. **Steps to perform a full sysgen** (continued)

Step	Action	System response

12.	Key in **SYSGEN** and press <ENTER>.	`* Sysgen program running *`
		`System ID is: xxxxx`
		
		`Do you want to enter a new system id? 'y' or 'n'`

13.	Enter **N** and <ENTER> to allow the sysgen to continue. Go to step 15.	

14.	Enter **Y** and <ENTER> to allow the previously entered ID to be changed.
	
	Key in the new ID and press <ENTER>.
	
	NOTE: When you enter **N**, sysgen will continue. If you enter **Y**, you will be able to change the system ID again.
		`Enter system ID of up to 30 characters`
		`....*....*....*....*....*....*....*`
		`>`
		
		`* System ID IS: xxxxx`
		`Do you want to enter a new system id? 'y' or 'n'`

15.	If configured, enter the Ethernet address provided by Xerox and press <ENTER>.	This option is not supported on the DocuPrint 180 LPS. Selection of option 15 has no effect on the LPS Enter Ethernet Network Address `>`

16.	Enter **Y** or **N** and <ENTER>. A **Y** and <ENTER> response causes the change menu to display. Each time a change is made, the change question is asked until an **N** and <ENTER> is entered, and the sysgen program continues.	The base configuration and the system configuration options are displayed followed by:
		`Do you wish to make any changes? Enter 'y' or 'n'`
		`>`

17.	To discard the changes you just made and continue sysgen, enter **Y**. To save the changes you just made and continue sysgen, enter **N**.	`Do you want to discard the changes you just made? Enter 'y' or 'n'` `>`

Table 4-2. **Steps to perform a full sysgen** (continued)

Step	Action	System response

18.	Enter 'h' (for host/online sysgen) or 't' (for offline sysgen) and press <ENTER>.
	
	NOTE: The system response is for offline sysgen. For online sysgen refer to step 9 of the Online Update
		`Creating file DISPCF.SYS on drive 0.`
		`Should sysgen read from host or tape? 'h' or 't'`
		
		`Reading files from tape/host is displayed.`
		Each file is read from the online channel or tape and placed on the disk.
		`Creating file xxxxxx.yyy on drive n`
		xxxxxx is the system file name,
		yyy is the system file type, and
		n is the drive number that the file is stored onto.
		When sysgen completes, the following message displays:
		`* Tape rewinding * Sysgen process successful*`
		`* Sysgen program off *`
		`Enter Cmd ['C' for Menu]>`

19.	Key in **B** (boot) and press <ENTER>.	The OSS loads onto the system disk.
		
		PC UI:
		The messages window displays:
		
		`CPU Test Complete`
		`Imaging Devices Present`
		`Memory test in progress`
		`Memory test complete`
		`Loading Start-Up Task`
		`XEROX DocuPrint 180`
		`Laser Printing System`
		`Version Revision`
		`Disk ID = xxxx`
		
		The date window displays.

Table 4-2. **Steps to perform a full sysgen** (continued)

Step	Action	System response
20.	**PC UI**: Enter the month (MM), day (DD), and year (YY) in the appropriate boxes of the date window (use the <TAB> key to advance from box to box) and select the Apply/Close header button. Enter the hour (HH), minute (MM), and second (SS) in the appropriate boxes of the time window (use the <TAB> key to advance from box to box) and select the Apply/Close header button. **Terminal:** Enter the date and time. Entry of the seconds (ss) is optional. Enter **Y** or **N** to indicate whether time and date are correct.	The time window displays. mm/dd/yy hh:mm:ss ARE THE DATE AND TIME CORRECT AS DISPLAYED (Y/N)?
21.		The system displays: **Applying sysgen patches** The following patches may be selected by PATCH-ID: PATCH-ID INVOKES --- --- MER001 Patch to allow Mergenthaler fonts only. Enter patch ID's or press ENTER:
22.	Enter the patch ID's that are needed for the system and press <ENTER>, **OR** just press <ENTER>.	***RESUMING SYSGEN PATCHES*** ** Sysgen patches completed** ** Deleting sysgen patches** * ! Crash/Reboot will occur in 15 seconds ! * **PC UI:** The system reboots, the message window appears followed by the appearance of the OS2660 accounting reports message window. .
23.	Select **Yes** for 2000 reports or **No** for 100 reports.	Upon your selection of Yes or No, the system begins and completes the loading and testing process Class 1 selected OS1000 Ready For Commands hh:mm:ss

Table 4-2. **Steps to perform a full sysgen** (continued)

Step	Action	System response
24.	Apply any incremental patches. Refer to the “Steps for loading incremental patches” section at the end of this chapter. This completes a full sysgen.	

Performing an offline update sysgen

Use the information given below when performing a offline update sysgen.

When to use

An offline update sysgen is normally performed for the following purposes:

- To add major new features to the existing operating system
- To replace the existing version of the operating system with a new version.

Note: When performing an offline (tape) sysgen, make sure the system is offline.

No disk format required

System disks are not formatted prior to an update sysgen, so user files need not be backed up as long as there is sufficient room on the disks to generate the new system.

Choosing a sysgen command

There are two types of sysgen commands. The following informations describes each and when to use.

- The SYSGEN command updates system files from a system software tape (SST) or cartridge, and gives you the option of making configuration changes, deleting the accounting file, and recompiling the font files.
- The AUTO command updates system files from either a SST or a SSC. It enables you to recompile the font files. There is no configuration update, and the account file is saved automatically.

Note: If you invoke any one of these commands after a FORMAT command, a full sysgen is performed.

Offline update sysgen procedure summary

The following steps are used to perform an update sysgen.

Step 1. Load the sysgen processor into main memory. If you are installing a new version of the operating system, make sure to load the new sysgen processor.

Step 2. Install the new OSS using either the SYSGEN or AUTO command.

Step 3. Apply patches.

Note: An update sysgen resets the patch history file.

Steps to perform an offline update sysgen using the AUTO command

The following table lists the steps used to perform an offline update sysgen using the AUTO command.

Table 4-3. **Steps to perform an offline update sysgen using the AUTO command**

Step	Action	System response
1.	**Load** the SST tape or cartridge tape on the selected peripheral device. Verify the existence of sufficient disk space, using the FCHECK command. Each disk must have a minimum of 3000 contiguous sectors free. If the number of available sectors is below 3000: • Back up as many files as necessary to obtain the minimum number of free sectors. • Delete the saved files from disk. • Compress the disk.	

2.	**Press** the Boot button.	**PC UI:**
		The Boot menu window displays:
		
		`Operating System`
		
		`System Disk`
		
		`Reel to Reel`
		
		`QIC`
		
		`18/36 Track Tape`

3.	Select your choice of sysgen media with the mouse.	The command menu displays:
		
		`COMMANDS  Display Commands`
		`BOOT  Boot the operating system`
		`SYSGEN  Build or update system files on disk from tape or host`
		`FORMAT  Format and initialize disk pack`
		`HOSTCOPY  Copy user files from host to disk`
		`AUTO  Auto Sysgen`
		`MINI  Configuration change only`
		`ERASE  Erase all files.`

4.	Key in **AUTO** and press <ENTER>.	`* Sysgen program running *`
		
		`System ID is: xxxxx`
		
		`Do you wish to continue auto sysgen: 'y' or 'n'`

Table 4-3. **Steps to perform an offline update sysgen using the AUTO command** (continued)

Step	Action	System response

5.	Key in **Y** and press <ENTER>.	`This will be an auto sysgen`
		`Reading files from tape/host is displayed.`
		Each file is read from tape and placed on the disk.
		`Creating file xxxxxx.yyy on drive d`
		`xxxxxx is the system file name,`
		`yyy is the system file type, and`
		`d is the drive number that the file is stored onto.`
		When sysgen completes, the following message displays:
		`* Tape rewinding *Sysgen process successful*`
		`* Sysgen program off *`
		`Enter Cmd [’C’ for Menu]>`

6.	Key in **B** (boot) and press <ENTER>.	The OSS loads onto the system disk.
		The messages window displays:
		`CPU Test Complete`
		`Imaging Devices Present`
		`Memory test in progress`
		`Memory test complete`
		`Loading Start-Up Task`
		`XEROX DocuPrint 180`
		`Laser Printing System`
		`Version Revision`
		`Disk ID = xxxx`
		The date window displays.

7.	Enter the month (MM), day (DD), and year (YY) in the appropriate boxes of the date window (use the <TAB> key to advance from box to box) and select the Apply/Close header button. Enter the hour (HH), minute (MM), and second (SS) in the appropriate boxes of the time window (use the <TAB> key to advance from box to box) and select the Apply/Close header button.	The time window displays.

Table 4-3. **Steps to perform an offline update sysgen using the AUTO command** (continued)

Step	Action	System response

8.		The system displays:
		`**Applying sysgen patches**`
		`The following patches may be selected by PATCH-ID:`
		`PATCH-ID  INVOKES`
		`--------  -------`
		`MER001  Patch to allow Mergenthaler fonts only.`
		`Enter patch ID's or press ENTER:`

9.	Enter the patch ID's that are needed for the system and press <ENTER>, **OR** just press <ENTER>.	***RESUMING SYSGEN PATCHES***
		`** Sysgen patches completed**`
		`** Deleting sysgen patches**`
		`* ! Crash/Reboot will occur in 15 seconds ! *`
		The system reboots and displays:
		`; WOULD YOU LIKE TO COMPILE THE .IMP FILES AT THIS TIME? (Y/N)`

10.	Enter **Y** and press <ENTER>.
	NOTE: Do not do anything with the keyboard or mouse during this operation
		`IFU IPFNTS IPFNTS`
		Lists all font families as they are compiled in the following format.
		`IF1100 Font family "(specific font family)"`
		Upon completion of compilation, the system automatically goes to logon class 1 and displays:
		`Class 1 selected`
		`OS1000 Ready For Commands  hh:mm:ss`

11.	Apply any incremental patches. Refer to the "Steps for loading incremental patches" section at the end of this chapter. This completes the update sysgen using the auto command.	

Steps to perform an offline update sysgen using the SYSGEN command

The following table lists the steps used to perform an offline update sysgen using the SYSGEN command.

Table 4-4. **Steps to perform an offline update sysgen using the SYSGEN command**

Step	Action	System response
1.	Load the SST tape or cartridge tape on the selected peripheral device. **Verify** the existence of sufficient disk space, using the FCHECK command. Each disk must have a minimum of 3000 contiguous sectors free. If the number of available sectors is below 3000: • Back up as many files as necessary to obtain the minimum number of free sectors. • Delete the saved files from disk. • Compress the disk.	

2.	**Press** the Boot button.	The Boot menu window displays:
		`Operating System`
		`System Disk`
		`Reel to Reel`
		`QIC`
		`18/36 Track Tape`

3.	Select your choice of sysgen media with the mouse.	The command menu displays:
		`COMMANDS  Display Commands`
		`BOOT  Boot the operating system`
		`SYSGEN  Build or update system files on disk from tape or host`
		`FORMAT  Format and initialize disk pack`
		`HOSTCOPY  Copy user files from host to disk`
		`AUTO  Auto Sysgen`
		`MINI  Configuration change only`
		`ERASE  Erase all files.`

4.	Key in **SYSGEN** and press <ENTER>.	`* Sysgen program running *`
		`System ID is: xxxxx`
		`Do you want to enter a new system id? 'y' or 'n'`

5.	Enter **N** and <ENTER> to allow the sysgen to continue. Go to step 7.	

Table 4-4. **Steps to perform an offline update sysgen using the SYSGEN command** (continued)

Step	Action	System response

6.	Enter **Y** and <ENTER> to allow the previously entered ID to be changed. Key in the new ID and press <ENTER>.
	
	NOTE: When you enter no, sysgen will continue. If you enter yes, you will be able to change the system ID again.
		`Enter system ID of up to 30 characters`
		`....*....*....*....*....*....*....*`
		`System ID IS: xxxxx`
		`Do you want to enter a new system id? 'y' or 'n'`

7.	Enter **Y** or **N** and press <ENTER>.	`Do you want to save the accounting file? enter 'y' or 'n'`

8.	Enter Y or N and <ENTER>. A **Y** and <ENTER> response causes the change menu to display. Each time a change is made, the change question is asked until an **N** and <ENTER> is entered, and the sysgen program continues.	The base configuration and the system configuration options are displayed followed by:
		`Do you wish to make any changes? Enter 'y' or 'n'`
		`>`

9.	To discard the changes you just made and continue sysgen, enter **Y**.
	To save the changes you just made and continue sysgen, enter **N**.
	Enter **Y** and <ENTER>.
		`Do you want to discard the changes you just made? Enter 'y' or 'n'>`
		`Is continuation of sysgen required: (y or n)`
		`Should sysgen read from host or tape? 'h' or 't'`

10.	Enter **'t'** and press <ENTER>.	`Reading files from tape/host is displayed.`
		Each file is read from the online channel or tape and placed on the disk.
		`Creating file xxxxxx.yyy on drive n`
		`xxxxxx is the system file name,`
		`yyy is the system file type, and`
		`n is the drive ID number that the file is stored onto.`
		When sysgen completes, the following message displays:
		`* Tape rewinding *Sysgen process successful*`
		`* Sysgen program off *`
		`Enter Cmd ['C' for Menu]>`

Table 4-4. **Steps to perform an offline update sysgen using the SYSGEN command** (continued)

Step	Action	System response

11.	Key in **B** (boot) and press <ENTER>.	The OSS loads onto the system disk.
		
		The messages window displays:
		
		`CPU Test Complete`
		`Imaging Devices Present`
		`Memory test in progress`
		`Memory test complete`
		`Loading Start-Up Task`
		`XEROX DocuPrint 180`
		`Laser Printing System`
		`Version Revision`
		`Disk ID = xxxx`
		
		The date window displays.

12.	Enter the month (MM), day (DD), and year (YY) in the appropriate boxes of the date window (use the <TAB> key to advance from box to box) and select the Apply/Close header button. Enter the hour (HH), minute (MM), and second (SS) in the appropriate boxes of the time window (use the <TAB> key to advance from box to box) and select the Apply/Close header button.	The time window displays.

13.		The system displays:
		`**Applying sysgen patches**`
		`The following patches may be selected by PATCH-ID:`
		`PATCH-ID  INVOKES`
		`--------  -------`
		`MER001 Patch to allow Mergenthaler fonts only.`
		`Enter patch ID’s or press ENTER:`

Table 4-4. **Steps to perform an offline update sysgen using the SYSGEN command** (continued)

Step	Action	System response

14.	Enter the patch ID's that are needed for the system and press <ENTER>, **OR** just press <ENTER>.	***RESUMING SYSGEN PATCHES****
		
		`** Sysgen patches completed**`
		`** Deleting sysgen patches**`
		`* ! Crash/Reboot will occur in 15 seconds ! *`
		The system reboots and displays:
		`; WOULD YOU LIKE TO COMPILE THE .IMP FILES AT THIS TIME? (Y/N)`

15.	Enter **Y** and press <ENTER>.	`IFU IPFNTS IPFNTS`
		Lists all font families as they are compiled, in the following format.
		`IF1100 Font family "(specific font family)"`
		Upon completion of compilation, the system automatically goes to logon class 1 and displays:
		`Class 1 selected`
		`OS1000 Ready For Commands  hh:mm:ss`

16.	Apply any incremental patches. Refer to the "Steps for loading incremental patches" section at the end of this chapter. This completes update sysgen using the sysgen command.	

Performing an online update sysgen

Use the following procedure when performing an online update sysgen.

When to use

You can use the SYSGEN command to download SST files from a host computer to an online-only or an online/offline switchable printing system to generate a new system. This type of sysgen is normally performed for the following purposes:

- To add major new features to the existing operating system
- To replace the existing version of the operating system with a new version.

No disk format required

System disks are not formatted prior to an update sysgen. You do not need to back up your files as long as there is sufficient room on the disks to generate the new system.

Online update sysgen procedure summary

Use the following procedure when performing a online update sysgen.

Step 1. Load the current sysgen processor into main memory.

Step 2. Use a SYSGEN command to download the new sysgen processor into the main memory.

Step 3. Use another SYSGEN command to download system files that are then used by the processor to build the new operating system.

Step 4. Apply patches.

Note: An update sysgen resets the patch history file.

Steps to perform an online update sysgen

The following table lists the steps used to perform online update sysgen.

Table 4-5. **Steps to perform an online update sysgen**

Step	Action	System Response
1.	Load the SST tape or cartridge tape on the selected peripheral device. **Verify** the existence of sufficient disk space, using the FCHECK command. Each disk must have a minimum of 3000 contiguous sectors free. If the number of available sectors is below 3000: • Compress the disk. • Back up as many files as necessary to obtain the minimum number of free sectors. • Delete the saved files from disk. Refer to the *DocuPrint 180 LPS Operations Reference* for additional information.	

2.	**Press** the Boot button.	The Boot menu window displays:
		
		`Operating System`
		
		`System Disk`
		
		`Reel to Reel`
		
		`QIC`
		
		`18/36 Track Tape`

3.	**PC UI:**
	Select **System Disk** from the Boot menu.
		The command menu displays:
		
		`COMMANDS  Display commands`
		`BOOT  Boot the operating system`
		`SYSGEN  Build or update system files on disk from tape or host`
		`FORMAT  Format and initialize disk pack`
		`HOSTCOPY  Copy user files from host to disk`
		`AUTO  Auto Sysgen`
		`MINI  Configuration change only`
		`ERASE  Erase all files`

4.	Enter **SYSGEN** and press <ENTER>.	This starts the current processor sysgen procedure and the following message displays:
		
		`* Sysgen program running *`
		`System ID is: xxxxx`
		
		`Do you want to enter a new system id? 'y' or 'n'`

Table 4-5. **Steps to perform an online update sysgen**

Step	Action	System Response
5.	Enter **N** to retain the existing ID or Y to enter a new system ID and press <ENTER>.	`Do you want to save the accounting file? enter 'y' or ’n'`

6.	Enter **Y** or **N** and press <ENTER>.	The base configuration and the system configuration options are displayed followed by:
		`Do you wish to make any changes? Enter 'y' or 'n'`
		`>`

7.	Enter **Y** or **N** and <ENTER>. A **Y** and <ENTER> response causes the change menu to display. Each time a change is made, the change question is asked until an **N** and <ENTER> is entered, and the sysgen program continues.’
	
	To discard the changes you just made and continue sysgen, enter **Y**.
	
	To save the changes you just made and continue sysgen, enter **N**.
		`Do you want to discard the changes you just made? Enter 'y' or 'n' >`
		
		`Is continuation of sysgen required? (y or n)`

8.	Enter **Y** and <ENTER>.	`Should sysgen read from host or tape? 'h' or 't'`

Table 4-5. **Steps to perform an online update sysgen**

Step	Action	System Response
9.	For an online sysgen, Enter **H** (host) and press <ENTER>.	`Waiting to read files from host.`
	Request the host operator to vary the printing system online.	You can then submit a job from the host to transmit the next-to-last SST file to the printing system. This file contains the new sysgen processor, which you must use to build the new operating system
	Notes: You must use a host utility program to advance the SST to the next-to-last file. This file, which consists of 128-byte and 8192-byte fixed-format blocks, must be deblocked to 128-block records (without adding page numbering or reformatting the data) before transmission to the LPS. Refer to the appendix for an example of a typical host utility program for file transmission. If you have a user-created SST for an online system, you do not need to advance the tape to transfer the first file (which contains the new sysgen processor). Simply mount the tape and initiate the file transfer process at the host.	
		System files are listed as they are read in from the host onto the system disks.
	Enter **N** and <ENTER>.	`End of tape found. Is another tape to be sent? 'y' or 'n'` `Vary offline at host. Then enter 'C'`

10.	Request the host operator to vary the printing system offline, then enter **C**. (You need not press <ENTER>.)	When the sysgen completes processing, the following is displayed
		`* Sysgen process successful *`
		`* Sysgen program off *`
		`Enter Cmd ['C' for Menu]>`

Table 4-5. **Steps to perform an online update sysgen**

Step	Action	System Response

11.	Key in **B** (boot) and press <ENTER>.	The OSS loads onto the system disk.
		
		The messages window displays:
		
		`CPU Test Complete`
		`Imaging Devices Present`
		`Memory test in progress`
		`Memory test complete`
		`Loading Start-Up Task`
		`XEROX DocuPrint 180`
		`Laser Printing System`
		`Version Revision`
		`Disk ID = xxxx`
		
		The date window displays.

12.	**PC UI**: Enter the month (MM), day (DD), and year (YY) in the appropriate boxes of the date window (use the <TAB> key to advance from box to box) and select the Apply/Close header button. Enter the hour (HH), minute (MM), and second (SS) in the appropriate boxes of the time window (use the <TAB> key to advance from box to box) and select the Apply/Close header button. **Terminal:** Enter the date and time. Entry of the seconds (ss) is optional. Enter **Y** or **N** to indicate whether time and date are correct.	The time window displays. mm/dd/yy hh:mm:ss `ARE THE DATE AND TIME CORRECT AS DISPLAYED (Y/N)?`

13.		The system displays:
		`**Applying sysgen patches**`
		`The following patches may be selected by PATCH-ID:`
		`PATCH-ID INVOKES`
		`-------- -------`
		`MER001 Patch to allow Mergenthaler fonts only.`
		
		`Enter patch ID’s or press ENTER:`

Table 4-5. **Steps to perform an online update sysgen**

Step	Action	System Response

14.	Enter the patch ID's that are needed for the system and press <ENTER>, **OR** just press <ENTER>.	***RESUMING SYSGEN PATCHES***
		
		`** Sysgen patches completed**`
		`** Deleting sysgen patches**`
		`* ! Crash/Reboot will occur in 15 seconds ! *`
		The system reboots and displays:
		;
		`Class 1 selected`
		`OS1000 Ready For Commands  hh:mm:ss`

15.	Apply any incremental patches. Refer to the "Steps for loading incremental patches" section at the end of this chapter. This completes online sysgen.	

Performing a mini sysgen

Use the following procedure when performing a mini sysgen.

When to use You can use the MINI command to make changes to the logical configuration of the system, such as:

- change the configuration options of the current system
- deactivate or reactivate features and configuration options that were installed as part of a previous full or update sysgen.

Note: Make sure the logical configuration (the features specified in the configuration options) and the physical configuration (the hardware that supports those features) are the same before performing a sysgen.

If you perform a sysgen and some device in the physical configuration is missing from the logical configuration, that device may be unusable after the sysgen is performed.

Mini sysgen procedure summary

Table 4-6 lists the steps used to perform a mini sysgen.

Step 1. Review the configuration options provided in the “Configuration menu” section of the “Sysgen configuration options” chapter.

Step 2. Use the MINI command to display the Configuration Options menu.

Step 3. Select or specify your desired options.

Table 4-6. **Steps to perform a mini sysgen**

Step	Action	System response

1.	**Press** the Boot button.	**:**The Boot menu window displays:
		`Operating System`
		`System Disk`
		`Reel to Reel`
		`QIC`
		`18/36 Track Tape`

2.	Select your choice of sysgen media with the mouse.	The command menu displays:
		`COMMANDS Display Commands`
		`BOOT Boot the operating system`
		`SYSGEN Build or update system files on disk from tape or host`
		`FORMAT Format and initialize disk pack`
		`HOSTCOPY Copy user files from host to disk`
		`AUTO Auto Sysgen`
		`MINI Configuration change only`
		`ERASE Erase all files.`

3.	Key in **MINI** and press <ENTER>.	The base configuration and the system configuration options are displayed followed by: `Do you wish to make any changes? Enter 'y' or 'n' >`
4.	Enter **Y** or **N** and <ENTER>. A **Y** and <ENTER> response causes the change menu to display. Each time a change is made, the change question is asked until an **N** and <ENTER> is entered, and the sysgen program continues. To discard the changes you just made and continue sysgen, enter **Y**. To save the changes you just made and continue sysgen, enter **N**. Enter **N** and <ENTER>.	`Do you want to discard the changes you just made? Enter 'y' or 'n'`

5.		Creating file DISPCF.SYS on drive 0.
		`* Sysgen program off *`
		`Enter Cmd ('C' for Menu)>`

Table 4-6. **Steps to perform a mini sysgen** (continued)

Step	Action	System response
6.	Key in **B** (boot) and press <ENTER>.	The OSS loads onto the system disk. The system begins and completes the loading and testing process. When complete the following displays: `OS1000 Ready For Commands  hh:mm:ss`
8.	This completes a mini sysgen.	

Formatting a system disk

Formatting a system disk is used whenever the following system changes occur:

When to use

You can use the FORMAT command to format one or more of the LPS system disks and to flag any new bad block areas. Disks are formatted when:

- A new system is generated from a SST.
- An additional disk is factored into the system.
- A system disk is replaced.
- Read errors or other disk problems have occurred.
- A new version of software is installed that has a new format program.
- A patch is installed which explicitly requires that the disk be formatted.

Note: The FORMAT command deletes all files except the MBAIS file, performs a sector check, and flags any new bad block areas. The ERASE command saves the existing MBAIS and bad block files; no new sector check is performed.

Caution: Contact your site representative before formatting system disks

Caution: When you are installing a new system or a new version of software, do not boot from disk. You must boot the sysgen processor from the system software tape, so that you use the format program contained in the new version of software.

Disk formatting summary

The following steps are used to format a disk:

Step 1. Back up any user files residing on the disk to be formatted.

Step 2. Load the sysgen processor into main memory.

Step 3. Invoke the FORMAT command.

Step 4. Select the disks to be formatted.

Step 5. When the format procedure is complete, continue the full sysgen process.

Steps to format a system disk

Refer to steps 1 through 11 of the full sysgen procedures for the format procedures.

Erasing a system disk

You can use the ERASE command to remove all files from the LPS system disks. Disks may be erased when:

- A new system is generated from a SST.
- A new version of software must be installed on a disk which has first been formatted or erased.

Note: The ERASE command saves the existing MBAIS and bad block files; sector check is not performed. To erase all four disks takes less than 1 minute. The FORMAT command deletes all files except the MBAIS file, formats the disk, performs a sector check, and flags any bad blocks.

Disk erasing summary

Use the following steps to erase a disk:

Step 1. Back up any user files residing on the disk to be erased

Step 2. Load the sysgen processor into main memory.

Step 3. Invoke the ERASE command.

Step 4. Select the disks to be erased.

Step 5. When the erase procedure is complete, continue the full sysgen process.

Steps to erase a disk

Refer to steps 1 through 11 of the full sysgen procedures for the format procedures. Instead of entering FORMAT in step 4, enter ERASE. The Erase procedure mimics the format procedure with the exceptions of “erase” appearing in some places where format had been displayed.

Steps for loading incremental patches

Table 4-7 lists the steps used for loading incremental patches.

Table 4-7. **Steps for loading incremental patches**

Step	Action	System response
1.	Load the incremental tape on the selected peripheral device. The system should be at logon level 3 or higher.	`OS1000 Ready for Commands  hh:mm:ss`

2.	Enter **COP TAP ALL** and press <ENTER>	Creating or replacing of files takes place followed by:
		`**_end of tape read`
		`OS1000 Ready for Commands  hh:mm:ss`

3.	Enter **@xxxx** and press <ENTER>	The patches are applied, and the system displays:
		`PCH (patch name)`
		`** Processing the file . . .**`
		`*** START of (version) SST Incremental Patches ****`
		`**** END of (version) SST Incremental Patches********`
		`DID THE PATCHES APPLY WITHOUT ANY ERRORS? (Y/N)`

4.	Enter **Y** or **N**. Answering **Y** indicates that the patches were loaded successfully.
	If you answer **N**, you may need to complete the procedure again.
		The system deletes the files applied by the incremental tape and displays:
		`SYSTEM WILL ROLLOVER IN 1 SEC`
		The system initializes and displays:
		`OS1000 - Ready for Commands hh:mm:ss`

A. Sample JCL for transmission of system software tapes

You must use a host utility program to advance the system software tape (SST) to the beginning of the next-to-last and last files. These files, which consist of 128-byte and 8192-byte blocks, must be deblocked to 128 byte records before transmission to the Xerox printing system.

The following is a sample JCL using the IEBGENER host utility to send the concatenated files to a Xerox laser printing system. In the example, 01E is the device address of the printer. For illustration purposes, the tape to be transmitted contains 421 individual system files. Appended to these 421 files is a dummy ENDFIL file, a file containing the sysgen processor program, and a concatenated file containing the preceding 423 files. The first parameter after LABEL= is the file number of the file to be transmitted (in this case, file number 424).

Table A-1. **Sample JCL using the IEBGENER**

//LOADXERX	EXEC	PGM=IEBGENER,REGION=80K
//SYSPRINT	DD	SYSOUT=A
SYSIN	DD	DUMMY
SYSUT2	DD	UNIT=O1E,DCB=(RECFM=FB,LRECL=128.BLKSIZE=128)
SYSUT1	DD	UNIT=TAPE,DCB=(RECFM=FB,LRECL=128,BLKSIZE=8192), DSN=XEROX,
		DISP=OLD,LABEL=(424,NL,EXPDT=98000),VOL=SER=XEROXO

Note: Some host operating systems may require that an FCB and UCSB be transmitted with the job. These are accepted but ignored.

The program (for example, IEBGENER) that transmits files to the Xerox printer does not add page numbers or reformat the data. No additional records may be added between the files.

Glossary

A3 Paper size measuring 297 by 420 mm.

A4 Paper size measuring 210 by 297 mm.

abort To terminate the printing of a job or execution of a program before it completes.

algorithm Computational procedure that can be repeated any number of times.

alignment Positioning of an image on a page for printing.

alphanumeric Set of characters including the letters A through Z, numerals 0 through 9, and all printable special symbols.

AIM Ancillary IOT message processor. System task that initializes the client layer between the printer and the system controller. It also displays the Fault, Hint, and information messages.

ASCII American Standard Code for Information Interchange. Standard 7-bit code that represents alphanumeric information. Each alphanumeric character and several nonprinting characters are assigned a binary number, covering 128 possible characters. It is used for information interchange among data processing systems, data communication systems, and associated equipment.

application Use to which a computer program or system is put, for example, sorting employee records.

applications software Host- or LPS-resident software that directs the computer to perform specific tasks or functions as opposed to the software used to operate the computer. Common business applications include payroll, accounting, and inventory.

ascender Portion of alphabetic character that rises above the body of the character (its x-height portion). See also descender; x height.

asynchronous Transmission in data communications controlled by start and stop elements at the beginning and end of each character. Thus, time intervals between transmitted characters may be unequal in length.

audit log Captures the sheet delivery information for every page in an audited report, certain details about each sheet, the planned and actual report control totals, and waste management.

auxiliary menu Menu that contains options not displayed in a window. The symbol for an auxiliary menu is a box containing three horizontal lines.

B4 Paper size measuring 250 by 353 mm.

background job Low-priority job, usually batched, that is executed automatically as system resources become available.

backup file File copied to a storage medium for safekeeping in case the original is damaged or lost.

band Rectangular area in printer memory into which an image sent to the printer from a computer is divided.

batch processing Allows for repetitive operations to be performed sequentially on batched data without much involvement of the computer operator.

baud Measurement of data rate in bits per second. This term is used to describe information flow between two devices. Unit of data transmitting and receiving speed is roughly equal to a single bit per second. Common baud rates are 110, 300, 1200, 2400, 4800, and 9600.

binary Numbering system based on 2 that uses only the symbols 0 and 1. Binary is used in computers and related devices since information can be represented with electric pulses (0=off, 1=on). Most computer calculations are binary.

binary digit (bit) In the binary numbering system, either of the characters 0 or 1. The "bit" is the base unit of information used by computers. It can take the form of a magnetized spot, an electric pulse, or a positive or negative charge. A sequentially stored set of bits represents a character on a computer.

Multipliers are:

1 or 0 byte = 8,192 bits

kilobyte (KB) or 1,024 bytes = 8,388,608 bits.

Computer space equivalents are:

1.5 KB = about 1 single-spaced typed page

30 KB = about 20 typed pages

150 KB = about 100 typed pages

binary synchronous transmission Data transmission in which synchronization of characters is controlled by timing signals generated at the sending and receiving stations.

bit Abbreviation for binary digit, the smallest unit of information recognized by a computer. See also binary digit.

bit map Visual representation of graphic images in which a bit defines a picture element (pixel); for example, if a bit is 1, the corresponding pixel is printed.

bit mapped Display image generated bit by bit for each point or dot. A software-driven scanner is used to create characters or graphics.

blocking Process of combining two or more records into a single block of data which can then be moved, operated upon, or stored, as a single unit by the computer.

block length Number of characters or bytes contained in a block of data (the block is treated as a unit within the computer). Block length is usually invariable within a system and may be specified in units such as records, words, computer words, or characters.

boot To load the initial instructions of a program into computer memory; these instructions then direct the loading of the rest of the program. Booting may require entry of a few commands at the keyboard or the flip of a switch to begin the process.

bps bits per second. In serial communication, the instantaneous bit speed with which a device or channel transmits a character.

BSC binary synchronous communication. 1. Communication using binary synchronous line discipline. 2. Uniform procedure using a standardized set of control characters and control character sequences for synchronous transmission of binary-coded data between stations.

buffer Compartment of memory in which this data is stored during transfer from one device to another. This is useful for accumulating data into blocks before storage or processing and for adjusting differences of speed between devices, or between a device and a communicating facility.

Bypass Transport Optional module that moves paper from the last stacker bin to a finishing device.

byte Fixed number of bits (in data processing, usually 8) operated upon as a unit. A byte may represent a character, a machine instruction, or some other logical unit of information.

carriage return Control character that causes the printing system to start printing at the left margin of the current line unless set to be interpreted as a line end.

channel 1. In data communications, a path or line that enables two or more devices to communicate (sometimes called a circuit, facility, or link). 2. In computers, a path for communication between the central processing unit (CPU) and input/output units, or between the CPU and peripheral devices.

character Single printable letter (A-Z), numeral (0-9), symbol (& % #), or punctuation mark (, . ! ?) used to represent data. Characters can also be nonprinting, such as space, tab, or carriage return.

character cell Digitized space containing a single character within a font set.

character code Code representing alphanumeric information, for example, ASCII.

character code identifier Code associated with the universal identifier “Xerox” to indicate the version of the Xerox character code standard used to code Interpress strings.

character set Number of different characters used by a particular device, including alphabetic, numeric, and special characters such as symbols.

client layer The software interface used by the AIM task and the Output task to communicate with the printer, allowing printing commands and fault and status information to be exchanged.

clocking A method of synchronizing the sending and receiving of data communications devices. Clocking allows synchronous transmission at high speeds.

cluster Group of paper feeder trays, usually containing the same size and type of paper (stock). Each cluster has a name, consisting of one to six alphanumeric characters. See also stock; stockset.

CME copy modification entry. Entry modifying the output printing characteristics of a report on a copy-to-copy basis.

code 1. Set of symbols representing data or instructions to a computer. 2. To write a list of instructions (software) to cause the product/system to perform specified operations.

code conversion Translation of one type of character or symbol code to another.

collate To arrange or assemble into ordered sets.

column Vertical arrangement of characters.

command User instruction to a computer, using the system controller keyboard or the PC UI. Commands are words, mnemonics, or characters that cause a computer to perform predefined operations. Coded instruction to a computer or computer-based system.

command language Set of commands that can be used for a system, such as how the system can be instructed to perform a task.

comment Explanations written with program instructions. They are ignored by the computer.

communication line Telecommunication line connecting devices at one location with devices at other locations in order to transmit and receive information.

communication link Physical means, such as data link, connecting one location to another to transmit and receive information.

communications Ability of two devices to transmit information to each other.

compatibility Characteristic of computer equipment permitting one device to use the same information or programs as another device without conversion or code modification.

compiler Software that translates instructions written in high-level language into machine language for execution by a system.

computer Functional unit capable of performing substantial computations, including numerous arithmetic or logic operations without human intervention during a run.

computer language Computer-oriented language consisting solely of computer instructions. See also machine language.

computer system Central processing unit (CPU) with main storage, input/output channels and devices, control units, and external storage devices connected to it.

concatenate To connect or link in a series, as when files are grouped together for faster processing. See also job concatenation mode.

console Functional unit containing devices used by an operator to communicate with an operating system. It may consist of a display, keyboard, and certain switches or other controls.

consumable supplies Supplies such as paper and dry ink that are depleted (used up) during the course of normal printer operation.

continuous printing Refers to Interpress job integrity under any of the following conditions: excessive graphics, forms, or font use problems.

control program Program that supports the operating system by monitoring the flow of jobs, tasks, processing, and so on, within the system; for example, a data communication program.

coordinate Point on the x and y axis that determines a grid position.

copy To duplicate data in a new location or on an additional storage medium, for example, to copy files from disk to tape.

copy-sensitive Term used to indicate jobs in which multiple copies of a report will contain different data, as with paychecks and banking statements.

cpi characters per inch. Designates the number of characters per inch for a particular typeface. See also pitch.

CPU central processing unit. Interprets and executes instructions, performs all operations and calculations, and controls input and output units and auxiliary attachments.

data 1. In general, facts, numbers, letters, symbols, and so on, which can be processed or produced by a computer. 2. In data processing, the source data or raw data entered for processing, as opposed to the results obtained by processing.

database Information to meet specific processing and retrieval needs. Generally applies to integrated file of data, arranged for access by many subsystems.

data communications Transmission and reception of encoded information over telecommunication lines.

data file Collection of related data records organized in a specific manner so that each record is similarly structured, for example, a payroll file set up with one record for each employee, last name first, indicating the rate of pay and all deductions.

data processing Operations carried out on data by means of algorithms and programs to produce information or a specific result. The rearrangement of data into a suitable form for further use.

data rate In data communications, the rate at which a channel carries data, measured in bits per second (bps).

data storage Preservation of data on various media, for example, tape, disks, magnetic bubble memory, and so on.

data transmission Transmission of coded data over telephone or other telecommunication lines.

debug To detect and correct errors in a program.

decompose To break down into component parts, such as when Interpress breaks down a Font Interchange Standard (FIS) master to compile font information.

default Value assigned to a field by the system. Default fields may be used for such items as document formats, menu selections, input fields, font selection, and paper or image size. The default value of a field may be changed.

descender Portion of alphabetic character that extends below the baseline. See also ascender, x height.

desktop Basic display screen of the PC UI.

device Any piece of hardware other than the central processing unit (CPU).

digitize To express or represent data in digital (binary) form so that it can be processed electronically.

disk drive Device that can read or write magnetic media.

display Viewing device (monitor) that visually communicates system warnings, status, and error messages and reflects operator interaction with the system on a display.

DJDE Dynamic Job Descriptor Entry. Command within an input data stream used to modify the printing environment dynamically.

document 1. Data medium and the data recorded on it, usually permanent, which can be read by you or a computer. 2. Collection of information pertaining to a specific subject or related subjects.

dot Unit of measurement representing a fraction of an inch, for example, 300 dots per inch (dpi). It may also be referred to as a picture element (pixel) or spot.

download To copy files using communication lines from the host onto LPS system disks.

dry ink Minute dry particles of resin and carbon black used to create images. Dry ink can accept an electrical charge.

duplex printing Printing on both sides (front and back) of a page. See also simplex printing.

EBCDIC Extended Binary Coded Decimal Interchange Code. Coded character set consisting of 8-bit coded characters. It can accommodate 256 characters.

edgemarking Use of graphic objects, usually lines or boxes, that bleed off the edge of the physical page. See also physical page.

electronic publishing Integrated production of documents on demand, using digitally stored documents, computerized composition, and electronic printing systems.

elite Smallest size standard typewriter type: 12 characters per horizontal inch. See also pica.

embedded blanks Blank spaces within a command line.

extended metrics Measurements used in Interpress to alter the size of fonts, allowing more precision with character escapement. Used for rendered characters.

FCB forms control buffer. Buffer for controlling the vertical format of printed output.

FDL forms description language. LPS-resident source language used for designing electronic forms. See also FSL; form.

field 1. Part of a record that serves a similar function in all records of that group, such as name and address field. 2. Area or setting of practical activity or application.

file Set of records or text that can be stored and retrieved. An organized, named collection of records treated as a unit. For offline, it is the data between the two tape marks. For online, it is the data between banner pages.

file protection To prevent the contents on a disk or tape from being erased or written over by disabling the write head of a unit.

firmware Permanent programs stored in read-only memory (ROM).

FIS Font Interchange Standard. Standard that defines the digital representation of fonts and character metrics for the generation of an entire series of Interpress fonts.

fixed font Font containing characters with fixed spacing. See also proportional font.

fixed pitch Font set in which every character cell has the same width. In reference to character sets, this term describes typefaces in which all character cells are of equal width. Monospaced as opposed to proportional spaced.

fixed spacing Arrangement of characters on a line so that all characters occupy the same amount of horizontal space.

floating accent Nonspacing accent characters that can be combined with characters and printed as a composite.

font Set of images, usually characters and symbols, having common characteristics such as style, width, height, and weight.

form 1. Compiled forms source library (.FSL) file. 2. Printed or typed document with blank spaces for inserting information. Specific arrangement of lines, text, and graphics stored in a computer under an identifying name. Page of data that, when preceded by proper

commands, is stored on the system disk as a permanent file. It may be merged with variable data by a form start command. See also FDL; FSL.

format 1. Layout of a document, including margins, page length, line spacing, typeface, and so on. 2. In data storage, the way the surface of a disk is organized to store data. 3. To prepare the surface of a disk for acceptance of data.

form feed Keyboard or printer control character that causes the printer to skip the top of the next page.

FSL forms source library. Uncompiled collection of user-created files containing FDL commands. Refer to FDL; form.

function keys Keyboard keys that produce no character but initiate a particular machine function, such as delete.

fuse To affix dry ink to paper by heat or pressure or a combination of both.

GCR group code recording mode. Refers to the specific density of data (such as 6250 bpi) as it is recorded on tape, which is measured in bits per inch (bpi).

graphics Use of lines and figures to display data, as opposed to using text.

grid Imaginary pattern of evenly spaced horizontal and vertical lines on a page.

grid unit Smallest rectangle enclosed by horizontal and vertical lines on a grid. The size of a grid unit is expressed as the length of one side of a rectangle.

halftone screen A tool used in offset printing, typesetting, and laser printing to convert a continuous tone (such as photographic) image to dots, which allows the image to be rendered accurately in these printing processes.

hardcopy Machine output in permanent form, such as printed reports, listings, and so on. Output in a permanent form (usually on paper or paper tape) rather than in temporary form, as on a display. Contains readable printed copy of machine (for example, computer) output.

hard values Nonoptimal adjustment of particular FIS fonts in terms of point size and orientation.

hardware Physical components, such as mechanical, magnetic, and electronic elements of a system, as opposed to programs, procedures, rules, and associated documentation. Hardware is operated by software and firmware.

HCF high-capacity feeder. Feeder tray capable of holding 2500 sheets of 20 pound/75 gsm paper. The high-capacity feeder trays are the primary paper supply for the DP180 LPS. They are located in the bottom half of the feeder/stacker modules.

HCS high-capacity stacker. Stacker bin capable of holding 2500 sheets of 20 pound/75 gsm paper. In the LPS, the high-capacity stacker bins are located in the top half of the feeder/stacker modules.

hexadecimal Numbering system with a base of 16. In this system, 10 through 15 are represented by A through F, respectively.

hierarchy Relative priority assigned to arithmetic or logical operations that must be performed.

high-level language Language consisting of words and symbols that are close to normal English and, therefore, readily understandable by the user. High-level languages are oriented to problems or commercial procedures and are the source languages for most programs.

host Computer accessed by users which serves as a source of high-speed data processing for workstations with less computer power. See also mainframe.

host interface Connection between network and host computer.

icon Symbol appearing on the PC UI or printer control console that can be opened to display a window or screen options.

id identifier. Character used to identify or name data and possibly to indicate certain properties of that data.

image area Area on a physical page that may contain text or graphics.

information processing Generic term encompassing both word and data processing, used to describe the entire scope of operations performed by a computer.

initialize 1. To prepare the magnetic surface of a blank diskette so that it can accept data. 2. To set all information in a computer system to its starting values (usually the first step is accomplished when a program is booted).

input Data or text introduced into a computer-based system.

input/output General term encompassing the flow of data into and out of a system.

input processing Formatting control for the pages of a report.

insert To add text or graphics to a document.

interface Device by which two systems connect and communicate with each other.

interpolation Series of logical rules implemented in the printer to convert a 300 spi input video stream to a 600 spi output video stream. Interpolation is functionally analogous to bit doubling (2x scaling), except the logical rules result in superior output.

IPL initial program load. For the optional open-reel tape drive, the internal initialization sequence whereby certain functions are loaded into random access memory (RAM).

JDE job descriptor entry. Collection of job descriptions. See also job; JSL.

JDL job descriptor library. Collection of compiled job descriptions. See also JSL.

job 1. Set of instructions (JDEs) defining a unit of work for the system. 2. In setting a separation boundary through the Bin Full Criteria task, job refers to everything printed as the result of a single start command. See also JDE.

job concatenation mode In HIP, a mode in which multiple print jobs are processed as reports in one print job. See also concatenate.

job control Program called into storage to prepare each job or job step to be run.

job management Collective functions of job scheduling and command processing.

JSL job source library. Collection of uncompiled job descriptions. See also job; JDE; and JDL.

keyboard Group of alphabetic, numeric, and/or function keys used to enter information into a system.

keyword Required part of a command. See also operator command.

label 1. In data storage, a reference to a file saved on tape or disk, a record indicating the file name or date created, or other control information. 2. In programming, a name assigned to a particular instruction or portion of a program as a locational reference (the computer translates the label into an address).

landscape page orientation Orientation of print lines or top of an illustration parallel to the long edge of the paper if the sheet is within the standard size range. (Sheets larger than standard have the reverse print orientation.)

language Defined set of characters and symbols combined together by specific rules. See also high-level language; low-level language.

laser printing Technology that uses a laser to transfer character forms to a page by direct or indirect means.

latent image Static charge present on the photoconductor before contact with dry ink particles.

leading 1. Vertical distance between lines (also called line space), measured from a baseline of one line to the baseline of the next. 2. Extra spacing between lines of type. 3. In typography, spacing between lines and paragraphs.

LED light emitting diode. Solid substance that glows when a current is passed through it. Often used for indicator lights on disk drives or modems, as well as for displays on other electronic equipment.

LEF long-edge feed. The movement of paper through the printer in the direction of the paper length (the longer side of a sheet of paper).

legal size Sheet the standard size of legal briefs, 8.5 by 14 inches.

letter size Paper sized 8.5 by 11 inches/216 by 279 mm.

library In data storage, a collection of related files or programs.

line One horizontal flow of characters.

line feed Control character that, unless set to be interpreted as a line end, causes the printing system to begin printing in the current character position of the next line.

line tables Internal data structures providing a record in memory of lines to be drawn on a page.

listing Printout or display of the statements in a program, usually used as a convenience in examining or editing programs.

literal Alphanumeric beginning with a letter, optionally including an asterisk, period, colon, or slash, and not enclosed in single quotes.

load To enter data into storage or working registers.

location Place in which data can be stored.

log Collection of messages or message segments placed on an auxiliary storage device for accounting or data collection purposes.

logical page In the Xerox printing systems environment, a formatted page that is smaller than the physical page. A logical page is defined by an origin,

thus allowing more than one logical page to be placed on a physical page.

logo Small illustration or design, usually simple, typically used to identify a company.

log off Procedure by which a user ends a session.

log on Procedure by which a user begins a session between an application program and a logical unit.

magnetic media Term for all storage devices, such as disks, diskettes, and tape, on which data is stored in the form of magnetized spots on surface of the media.

magnetic storage Use of magnetic media to store data, programs, and so on.

magnetic tape Flexible plastic tape, with one side offering a magnetic surface suitable for storing computer data in the form of magnetized spots. Magnetic tape is often used for long-term storage since it can accommodate large volumes of information.

mainframe Central processing unit (CPU) and memory of a large computer. More often used to denote any large computer of the type that might be used to control a group of smaller computers, terminals, or other devices. See also host.

margins White space on each side of printed text.

mask 1. Selection of bits from a storage unit by using an instruction that eliminates the other bits in the unit. 2. In accessing files, a file name mask is used to reference one or more files with similar file-id (identifier) syntax. 3. In Interpress, a mask serves as a template, indicating the shape and position of an object on a page.

MB megabyte. Unit of one million bytes.

media Vehicles or devices by which information is stored or transmitted. Classifications include source, input, and output.

medium Object or material on which data is stored, for example, magnetic tape or floppy disk.

memory Space in a device where information is kept, or the ability of a device to keep information until needed.

menu List of available functions, commands, and options.

message Unit of information transmitted by one facility to another in a form that the receiving facility can understand and act upon. The standard

message format consists of a header (containing identifying and control information), followed by the actual message content, followed by a trailer (indicating that the message is completed).

metacode Same as “native mode.” The method of speaking to and controlling the image generator. These controls are used by the character dispatcher to generate scan line information. This information is sent in the form of character specifications to the image generator, which uses it to compose the bit stream that modulates the laser.

MHz megahertz. 1. Unit of cycling speed (one million cycles per second) for an electromagnetic wave (in particular, a radio wave). 2. Sending and receiving stations of a radio wave transmission must be tuned in to the same unit of megahertz.

mode Manner in which an activity or process is carried out.

modem Device that converts digital information into an analog signal suitable for sending over analog telecommunication lines. Also converts an analog signal from telecommunication lines into digital information.

module Cohesive unit within a program. It is consistent in its level and identifiable in terms of loading or with other units.

mouse Electronic device used with the PC UI to select options and enter data.

mouse pad Base that provides friction and direction information to the electronic mouse.

mouse tray Optional extension module attached to the system controller to accommodate the mouse pad and provide ample working space.

network 1. System of geographically separate computers, linked to one another over transmission lines. 2. Communication lines connecting a computer to its remote terminals.

nonimpact printer Printer that forms characters without any strikes of a key or element against the paper.

object file Source file converted into machine language (binary code).

offline Devices not under the active control of a central processing unit. For example, a computer makes output to a magnetic tape. The tape is then used by an offline printing system to produce printed data. Offline operations are much slower than online operations. See also online.

offset To place pages currently being printed in slightly different positions from previous pages.

offset printing Widely-used method of commercial and corporate printing, where ink is picked up by a metal or paper plate, passed to an offset drum, and then passed to the paper.

online Devices under the direct control of a central processing unit, for example a printing system in interactive communication with a mainframe. See also offline.

operating system Basic host- or LPS-resident controlling program that governs the operations of a computer, such as job entry, input/output, and data management. The operating system is always running when the computer is active. Unlike other types of programs, it does not run to an end point and stop. The operating system of a Xerox LPS is referred to as the operating system software (OSS).

operation Well-defined action that, when applied to any permissible combination of known entities, produces a new entity.

operator area The 24-inch exclusive clearance that must be available directly in front of each component of an LPS for operator activities.

operator command Statement to control a program, issued through a console device, PC UI, or terminal, causing a control program to provide requested information, alter normal operations, initiate new operations, or terminate existing operations.

orientation 1. In reference to image area, orientation describes whether the printed lines are parallel to the long edge of the paper or the short edge of the paper. 2. Choice of printing portrait (vertically) or landscape (horizontally).

origin In reference to image area, this is the upper left corner of a sheet.

output 1. Material produced by a peripheral device of a computer, such as a printout or a magnetic tape. 2. Result of completed operations.

overprinting Printing more than one character at the same position.

overprint lines Print lines whose carriage control specifies printing with no line spacing after the last printed line.

overprint ratio Maximum number of variable data and form characters that may be intersected by a single scan line.

override To take precedence or priority over, to overrule.

overstrike To print characters over each other.

page 1. In computer programming, a block of instruction, data, or both that can be located in main or auxiliary storage. 2. In word processing, a defined section of a document.

page orientation Direction in which data is printed on a report. See also landscape page orientation; portrait page orientation.

parameter Part of a command, other than the keyword. See also keyword; operator command.

pass-through job On systems with XPAF, a job that is sent directly from a host to a Xerox printer using XPAF, without undergoing XPAF processing.

password Unique word or set of characters that an operator or user must supply to log on to a system.

patch In programming, to modify a portion of the program at the machine language level, as opposed to modifying at the source program level.

PC UI PC user interface. The PC hardware and Xerox-supplied software which allows the operator to control the LPS by means of a mouse, windows, and icons. See also object mode; TEM.

PDL print description language. Language used to describe printing jobs to an LPS. PDL describes the input (type, format, characteristics), performs the processing functions (logical processing), and describes the output (type, format, font selection, accounting options).

physical page Sheet of paper on which printing is done. See also edgemarking.

pitch 1. Horizontal character spacing; 10-pitch (10 characters per inch) spacing is called pica, and 12-pitch (12 characters per inch) spacing is called elite. 2. The number of page images placed on the xerographic belt during one revolution. The DocuPrint 180 LPS supports two pitch modes: 7 pitch when paper 9 inches/229 mm long or less is used to print a job, and 3 pitch when paper 9 to 17 inches/ 229 to 432 mm long is used to print a job.

pixel Acronym for picture element. Smallest addressable point of a bit-mapped screen that can be independently assigned color and intensity. Pixels are definable locations on a display used to form images. For graphic displays, more pixels generally provide higher resolution. Spots, dots, and pixels are used interchangeably.

point Unit of measurement equal to 0.0139 inch. Points are always used to express type size and leading. There are 12 points to a pica and about 72 points to every inch. See also pica.

point size Height of character set from the top of its ascenders to the bottom of its descenders in units (points). Point size does not always include leading.

portrait page orientation Orientation of print lines or the top of an illustration parallel to the short edge of the paper if the sheet is within the standard size range. Sheets larger than standard have the reverse print orientation.

printer Output device that produces hardcopy printouts. Also referred to as the IOT.

print file Position of the system disk memory (up to 4 MB) received for temporary storage of formatted pages for printing. Pages are retained until they are delivered to the output tray.

printout Informal expression referring to almost anything printed by a computer peripheral device.

process 1. To perform a systematic sequence of operations, such as add, edit, delete. 2. To produce a specific result by manipulating data.

program Complete set of instructions in language compatible with the device to be used. A program directs a system to perform each operation at the right time in the proper sequence.

programmer Person involved in designing, writing, and testing computer programs.

prompt Message or symbol displayed on a system console requiring the operator to take action.

proportional font Font containing characters that vary in width. See also fixed font.

proportional spacing Text in which each alphanumeric character is given a weighted amount of space. Such output has print-like appearance. Proportional spacing allows more space for wide characters and less space for narrow characters

proportional type Characters that vary in width.

protocol Formal set of conventions governing the format of data and the control of information exchange between two communication devices.

purge To delete data from a system.

queue List of documents waiting to be processed.

RAM random access memory. Storage that allows data, such as documents, to be stored and retrieved directly by address location without reading through any other data.

raster data Binary data, usually consisting of dots arranged in scan lines, according to the print order.

rasterization Creation of a page's bit map image for printing.

read/write head Input/output device that reads and writes data in the form of magnetic dots on the surface of an external storage medium, such as a magnetic disk.

record Collection of data or words treated as a unit.

recovery Act of overcoming a problem or error during processing. Typically, a specialized software recovery routine gains control and attempts to resolve the error without crashing the system.

remote access Access to a central computer by terminals or devices geographically separated from that computer.

replace Process of exchanging one portion of text for another. This process encompasses two functions: deleting old text and inserting new.

report In setting a separation boundary through the Bin Full Criteria task, report refers to a subset of a job (a job may consist of one or more reports).

resolution Number of dots per unit. The LPS imaging system converts a character from digitized data into a printed image composed of these tiny dots. The greater the number of dots per inch, that is, the resolution, the clearer the image that is produced.

ROM read-only memory. Solid-state memory for programs. It cannot be rewritten.

save To store programs, data, or text for retrieval at a later time.

scale To adjust font or image size according to given proportions.

scroll Manipulation of a display to bring upper or lower portions of a document page into view when no space is available for the entire document at once.

scroll bar Part of a window that allows you to view information extending beyond the window display.

SCSI small computer system interface. Accepted standard for connecting peripheral devices to computers.

secondary storage Form of storage external to a system, such as magnetic tapes or floppy disks.

security 1. Procedure for limiting access to the system resources, programs, or files, to authorized personnel. 2. Protecting programs and files from unintentional or undesired modification.

SEF short-edge feed. The movement of paper through the printer in the direction of the paper width (the shorter side of a sheet of paper). For the DocuPrint 180 LPS, short-edge feed allows larger sizes of paper (up to 11 by 17 inches/279 by 432 mm) to be printed.

sequential In numeric sequence, usually in ascending order. As applied to a file organization, describes files in which records are written one after another and cannot be randomly accessed. For example, the first 99 records in a sequential file-access file have to be read before the 100th record is accessible.

set In setting a separation boundary through the Bin Full Criteria task, set refers to multiple copies of the same report.

simplex printing Printing on one side of the page. See also duplex printing.

software Programs, including operating systems, procedures, utilities, and applications programs, written for a system. Software can be supplied by the hardware manufacturer or other firms but does not include programs written by the user.

sort To rearrange data records according to a particular item (field) which they all contain, using a predetermined ordering scheme.

source Terminal node at which data enters a network. For example, a computer transmitting data through telecommunication lines to several other computers or receiving terminals.

source file File containing source language statements or commands.

source language Language, high-level or low-level, used by a programmer. A source language must be converted by a compiler to machine language for the instructions to be executed.

source program Program written in source language

space Blank area between words, recognized as a character by word and data processing systems.

special processing Commands allowing the user to process special reports, such as printing certain records, or printing on special paper.

spooling Process of releasing data from main memory and storing it temporarily until a peripheral device is ready to accept it, for example storing text before sending it to a printer.

spot Unit of measurement representing a fraction of an inch, for example, 300 spots per inch (spi). May also be referred to as a picture element (pixel) or dot.

statement Detailed written instructions in a program step. A statement is written according to specific rules called syntax.

static data Information usually found on preprinted forms or overlays.

stock User-defined name in the JSL that specifies a certain type of paper for printing a job. See also cluster.

stockset Collection of stocks to be used on a print job. See also stock; cluster.

storage Retention of information. Primary storage refers to internal storage where data and program instructions pertinent to current operations/ jobs are held. Auxiliary storage refers to external media, such as disks or tapes, for use at a later time.

string Connected sequence of alphanumeric characters treated as one unit of data by a program.

symbol Character used in a computer language to specify a particular function.

synchronous Efficient encoding of data suitable for high-speed, block-oriented data transmission by using equal time elements.

syntax Rules governing the structure of expressions in a programming language.

syntax error System response to a mistake in a command entry.

system 1. In data processing, a collection of parts and procedures organized to accomplish a set of specific functions. 2. Assembly of components united by some form of regulated interaction to form an organized whole. 3. Operations or procedures through which a business activity is accomplished.

system controller Part of the LPS that provides interfacing capability, data handling, formatting, buffering, and operator control for the system. Also referred to as the “ESS”.

system disk Magnetic disk storage medium, usually of large capacity, that is not removable as opposed to floppy disk or disk packs.

system file Master software program that keeps all components working together.

system generation Process whereby the system is made ready to operate. Typically involves selecting the operative parameters and activating the relevant software.

system page Maximum area in which text and graphics can be imaged on a printing system.

system software Software programs that support and/or control system functions by governing hardware operation and input/output processes, interpreting source programs and breaking them down into machine language, distributing tasks among various processors, and so on.

tab To move the cursor on a display or printer to a prespecified column on the display or paper, most often by using the <TAB> key on a keyboard.

tape Recording media for data or computer programs. Tape can be in permanent form, such as perforated paper tape. Generally, tape is used as a mass storage medium in magnetic form and has a far higher storage capacity than disk storage, but it takes longer to write or recover data from tape than from disk.

tape density The number of characters that can be stored on magnetic media, such as how close together data can be recorded. The Xerox LPS may use either 1600 bpi or 6250 bpi density magnetic media.

tape drive Input/output device that controls the movement of magnetic storage tape past the read/write head while data is accessed or stored.

task 1. Any major job performed by a computer. 2. One of several programs being executed by a system.

telecommunications Voice or data communications transmitted and received through telephone lines.

teleprocessing Sending and receiving data through telecommunication lines for processing among various remote terminals and the central processing unit (CPU).

TEM terminal emulation mode. The processing method of the PC UI which features a character display and the operator's use of the keyboard. The mouse, windows, and icons are inactive in this mode. The PC UI operates in either the TEM mode or in the object mode. See also object mode.

terminal Device equipped with a keyboard and connected to a computer or a network

testing 1. Process of running a program for the express purpose of discovering any errors it may contain. 2. For computer-oriented systems, the process of verifying a system's ability to meet performance objectives in a simulated environment or validating its actual performance in a live environment.

text In communications, the content portion of a transmitted message.

text string Consecutive series of characters to be printed exactly as specified in a command.

throughput In data processing systems, the amount of data that can be processed, transmitted, printed, and so on, per a specified unit of time.

toggle To switch (alternate) from one tray to another. The system switches from an active feeder or stacker tray to an inactive one to allow continuous printing when the proper commands are invoked.

trailer In data communications, the last portion of a message that signals the end.

transaction processing Method of data processing in which files are updated and results are generated immediately after data entry.

translation 1. In data communications, the conversion of one code to another on a character-by-character basis. 2. In programming, the function of a language processor which converts a source program from one programming language to another.

transmission speed In data communications, the rate at which data is passed through communication lines, usually measured in bits per inch (bpi).

transmit To send data from one place to another.

truncated Cut off before completion, as when data transfer from a host to a printer is cut off before all data has been transmitted.

two-up Application that prints two logical pages on one side of a physical page.

typeface 1. All type of a single design. 2. Set of characters with design features that make them similar to one another.

type size Height of a typeface, measured from the bottom of its descenders to the top of its ascenders, expressed in points.

type style Italic, condensed, bold, and other variations of typeface that form a type family.

UCS Universal Character Set. Printer feature that permits the use of a variety of character

upload To copy files from a remote peripheral device to a host. LPS files are not copied to the host because one of the LPS functions is to store files for the host.

utility program General-purpose program that performs activities, such as initializing a disk or sorting, which are not specific to any application.

validation Process of testing a system's ability to meet performance objectives by measuring and monitoring its performance in a live environment.

variable Information of a changeable nature which is merged with a standard or a repetitive document to create specialized or personalized versions of that document.

variable data Variable data is not a part of a form design. It varies from page to page.

variable text Text of changing nature, such as various names and addresses combined with a form letter to make a complete document.

virtual page Page area selected by a forms designer for printing.

warning message System-issued message indicating that an error has been encountered even though the program has not failed.

weight Characteristic of type determined by how light or dark it appears.

wildcard Part of a command (* symbol, / symbol, ? symbol) that represents a category for which the possible options are requested.

wildcarding In a command, calling out a general category rather than a specific item within that category. The purpose of wildcarding is to generate the options within the given category.

window In the PC UI, the graphic display object that allows you to select options and enter information.

write To record data in memory or an external storage medium.

write protection Data protection feature implemented on magnetic media (for example floppy disk, 9-track tape) to prevent stored data from being modified, written over, or erased.

x axis Horizontal axis on a forms grid.

xdot Unit of measurement representing a fraction of an inch. It may also be referred to as a picture element (pixel) or spot, for example, 1/600 spots per inch (spi).

xerographic engine Component of a printer that develops an image, transfers it to paper, and fuses it for output as hardcopy.

x height Height of lowercase letters without their ascenders or descenders (height of letter “x”). See also ascender; descender.

y axis Vertical axis on a forms grid

ACT Advanced Customer Training

AFP Advanced Function Printing

ANSI American National Standards Institute

ASCII American Standard Code for Information Interchange

BCD binary coded decimal

BOF bottom of form

BOT beginning of tape

bpi bits per inch

bps bits per second

BSC binary synchronous communications

CD character dispatcher

CDC control data communications

CD/IG character dispatcher/image generator

CM control module

CME copy modification entry

cpi characters per inch

CPU central processing unit

CR carriage return

DCE data communications equipment

DDCMP Digital Data Communication Message Protocol

DEC Digital Equipment Corporation

DFA Document Feeding and Finishing Architecture

DJDE dynamic job descriptor entry

DOS disk operating system

dpi dots per inch

DSDD double sided double density

DSU digital signal unit

DSR disk save and restore

DSSD double sided single density

DTE data terminal equipment

EBCDIC Extended Binary Coded Decimal Interchange Code

EOT end of tape

EP electronic publishing

ESS electronic subsystem, also referred to as the system controller

FCB forms control buffer

FCG finishing configuration utility

FCP file control parameter

FDL forms description language

FDR file directory

FFM font file management

FIS Font Interchange Standard

FMS file management subsystem

FPS formatting print service

FSL forms source library

FST font specification table

GCR group code recording

gsm grams per square meter

HCF high-capacity feeder

HCS high-capacity stacker

HFDL host forms description language

HIP Host Interface Processor

hpos horizontal positioning

IBM International Business Machines Corporation

IG image generator

IGM image generator module

I/O input/output

IOM image output module

IOT input output terminal, also referred to as “printer”

IPD Interpress decomposer

IPL initial program load

IPM Interpress mapping

ips inches per second

JCB job control block

JCL job control language

JDE job descriptor entry

JDL job descriptor library

JID	job identifier
JSL	job source library
LAN	local area network
laser	light amplification by stimulated emission of radiation
LED	light-emitting diode
LEF	long-edge feed
LF	long-edge feed
lpi	lines per inch
LPS	Laser Printing System
MTU	magnetic tape unit (refers to the 9-track magnetic tape drive; also referred to as “magnetic tape drive”)
OCR	optical character recognition
OCS	operator communications subsystem
OLI	online interface
OS	operating system
OSDS	operating system diagnostic software
OSEXEC	operating system executive
OSS	operating system software
PC	personal computer
PCC	printer carriage control
PC UI	personal computer user interface
PDL	print description language
PE	phase encoded

ppm	pages per minute
PQA	print quality adjustment
PROM	programmable read-only memory
PSC	printer subsystem controller
pt	point
PWBA	printed wiring board assembly
QIC	1/4 inch cartridge
RAM	random access memory
ROS	raster output scanner
SAFES	stand-alone field engineering software
SAN	software analysis number
sci	START command index
SCSI	small computer system interface
SDLC	synchronous data link control
SEF	short-edge feed
SFS	status file services
SIF	sequence insert file
SNA	system network architecture
spi	spots per inch
SST	system software tape
sysgen	system generation
TL/DL	text line/display list
TOF	top of form

tpi	tracks per inch
TPJ	test pattern job
TXC	total xerographic convergence
UCS	Universal Character Set
UCSB	Universal Character Set Buffer
UI	user interface
VM	virtual memory
vpos	vertical positioning
VS	virtual storage
WAN	wide area network
XCSC	Xerox Customer Support Center
XDGI	Xerox DCF and GDDM Interface
XDSS	Xerox Documentation and Software Services
XICS	Xerox Integrated Composition System
XJCF	Xerox Job Control Facility
XMP	xerographic mode persistence
XMS	xerographic mode switching
XPAF, XPF	Xerox Printer Access Facility
XPMF-VMS	Xerox Print Management Facility - VMS Version
XPPI	Xerox Pen Plotter Interface
XPS	Xerox Publishing System

Index

O

P

R

S

T

U

X