Xerox 4235 Laser Printing System
Installation Planning Guide

This document was created using Word for Windows. The typeface is Optima. The document was printed on a Xerox LPS.

Safety precautions

Radio frequency emissions

WARNING: This equipment generates, uses and can radiate radio frequency energy. It may cause radio interference to radio communications if not installed according to the installation instructions.

USA The 4235 LPS complies with the limits for a Class A computing device as documented in Subpart J, Part 15 of the FCC rules which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference. In such cases, the user is responsible for the expense of correcting the interference.

Canada The 4235 LPS does not exceed the class A limits for radio noise emissions from a digital apparatus as documented in the radio interference regulations of the Canadian Department of Communications.

Les present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils de classe A prescitees dans le reglement sur le brouillage radioelectrique edicte par les ministre des communications du Canada.

Europe **50HZ, 220V–240V equipment**
The 4235 LPS was tested and is certified in conformance with the European commission directive 82/499/ECC and VDE 0871/0875, class A, which relates to radio frequency interference.

Laser safety

WARNING: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous light exposure.

The 4235 Laser Printing System (LPS) complies with appropriate safety standards.

With specific regard to lasers, the equipment complies with laser product performance standards set by governmental, national, and international agencies as a Class 1 laser product. It does not emit hazardous light as the beam is totally enclosed during all phases of customer operation and maintenance.

When you perform various operator functions, laser danger labels may be visible. These labels are for Xerox service representatives and are placed on or near panels or shields which require a tool for removal. **THESE PANELS ARE NOT TO**

BE REMOVED. THERE ARE NO OPERATOR SERVICEABLE
AREAS INSIDE THESE COVERS.

Operational safety

Your Xerox equipment and supplies were designed and tested
to meet strict safety requirements. These include safety agency
examination, approval, and compliance with established
environmental standards.

Attention to the following notes ensures the continued safe
operation of your equipment.

Always connect equipment to a properly grounded power
source receptacle. If in doubt, have the receptacle checked by
a qualified electrician.

WARNING: Improper connection of the equipment grounding
conductor can result in electrical shock.

Always locate equipment on a solid support surface (not plush
carpet) with adequate strength for the weight of the machine.

Always exercise care in moving or relocating the equipment.

Always use materials and supplies specifically designed for
your Xerox equipment. Use of unsuitable materials may result
in poor performance and possibly a hazardous situation.

Never use a ground adaptor plug to connect equipment to a
power source receptacle that lacks a ground connection
terminal.

Never attempt any maintenance function that is not specifically
described in this 4235 LPS documentation.

Never remove any covers or guards that are fastened with
screws. There are no operator serviceable areas within these
covers.

Never override or "cheat" electrical or mechanical interlock
devices.

Never operate the equipment if you notice unusual noises or
odors. Disconnect the power cord from the power source
receptacle and call your Xerox service representative to correct
the problem.

If you need any additional safety information concerning the
equipment or Xerox supplied materials, call the following toll–
free number (in the USA only): **1-800-828-6571**. For additional
safety information in other countries, contact your local Xerox
representative.

Approvals and certification

The 4235 LPS is manufactured under a BS5750 quality system accepted by the British Standards Institution.

60HZ, 115V   The 4235 LPS is listed by Underwriters Laboratories, UL478–fifth edition [UL]. Certified by CSA, CSA22.2 NO 220 **[CSA].**

50HZ, 220V–240V   The 4235 LPS is certified by the British Standards Institution, IEC950 **[BSI].**

Notice

Specifications described in this publication are subject to change without notice. Use of some features may be limited by your hardware or software configuration. Consult your Xerox sales representative for details.

Related publications

Publication	Number
Xerox 4235 Laser Printing System HP LaserJet IID Emulation Quick Start Guide	720P11530
Xerox 4235 Laser Printing System HP LaserJet IID Emulation Reference	720P88130
Xerox 4235 Laser Printing System Loading and Unloading Paper and Special Stock Quick Reference	720P11540
Xerox 4235 Laser Printing System Operator Guide	720P88370
Xerox 4235 Laser Printing System Problem Solving Guide	720P88380
Xerox 4235 Laser Printing System System Administrator Guide	720P11490
Xerox 4235 Laser Printing System Xerox Distributed Print Mode XES Commands Quick Reference	720P88410
Xerox 4235 Laser Printing System Xerox Distributed Print Mode XES Quick Start Guide	720P11500
Xerox 4235 Laser Printing System Xerox Distributed Print Mode XES Reference	720P88390
Xerox 4235 Laser Printing System Xerox Production Print Mode PDL/DJDE Commands Quick Reference	720P88420
Xerox 4235 Laser Printing System Xerox Production Print Mode PDL/DJDE Quick Start Guide	720P11510
Xerox 4235 Laser Printing System Xerox Production Print Mode PDL/DJDE Reference	720P88400
Xerox 4235 Laser Printing System XScript Quick Start Guide	720P11520
Xerox 4235 Laser Printing System XScript Reference	720P86760
Helpful Facts About Paper	610P50497

Table of contents

Introduction

About this guide

The *Xerox 4235 Laser Printing System Installation Planning Guide* contains information on how to prepare for the installation of your 4235 LPS. It lists the laser printing system requirements, outlines tasks and completion times, and details decisions that you need to make before installation.

Your new 4235 Laser Printing System (LPS) will be delivered soon. What needs to be done and when? Who is responsible for doing what?

This guide is designed to answer these questions and more. It helps you accomplish the preinstallation tasks, as well as the ongoing activities after your laser printing system is installed. Before using this guide, become familiar with its contents and conventions.

Where to get help

For help at any time during the installation planning process, contact your Xerox sales representative.

Contents

This guide contains the following chapters:

Chapter 1 "Overview" provides a general overview of the 4235 LPS, including software, hardware, and fonts.

Chapter 2 "Installation planning tasks" discusses tasks that must be assigned during and after the installation process. Also includes an installation countdown log.

Chapter 3 "Site planning" discusses how to prepare the site prior to installation. Also includes Checklist 1: Site preparation.

Chapter 4 "Printer setup" discusses the different settings required for setting up the 4235 LPS in both XDPM (Xerox Distributed Print Mode) and XPPM (Xerox Production Print Mode). Also includes:

- Checklist 2: Printer setup options–XDPM

- Checklist 3: Printer setup options–XPPM

- Checklist 4: Printer setup options–XScript

- Checklist 5: Printer setup options–HP Laserjet IID.

Chapter 5 "Document formatting" discusses the different settings required for document formatting in both XDPM and XPPM. Also includes:

- Checklist 6: Document formatting options–XDPM

- Checklist 7: Document formatting options–XPPM

- Checklist 8: Document formatting options–XScript

- Checklist 9: Document formatting options–HP Laserjet II.

Chapter 6 "System configuration" discusses the different settings required for system configuration in both XDPM and XPPM. Also includes:

- Checklist 10: Parallel system configuration

- Checklist 11: Serial system configurati on–SNA/SDLC

- Checklist 12: Serial system configuration–asynchronous

- Checklist 13: Serial system configuration–bisynchronous.

- Checklist 14: Supplies and accessories

Chapter 7 "Host computer system generation" provides guidelines for the integration and operation of the 4235 LPS in a remote job entry (RJE) network. Sample system generation parameters are also provided.

Chapter 8 "Fonts, supplies, and accessories" discusses how to order fonts, supplies, and accessories. Also included is Checklist 14: Supplies and accessories.

Also included are a Glossary, an Index, and a Reader Comment Form provided at the end of this reference. Please fill out the comment form to provide us with any comments and/or suggestions you may have to help us improve this guide.

Conventions

This guide uses the following conventions:

1. Up arrow key

2. Down arrow key

3. Left arrow key

4. Right arrow key

5. Back return key (returns to previous screen)

L   Return key (finalizes data input and selections)

Bold   Within procedures, text and numbers that you enter, or selections that you make, (for example, "select HP IID"). Also, system defaults are shown in bold.

italics   Document and library names (for example, the Xerox 4235 Laser Printing System Operator Guide). References to options settings are italicized in tables.

Initial capitals   Names of screens and menus are shown in initial capitals (for example, Main Menu).

Specify or Select   Within procedures, the two–step process of highlighting a choice and pressing L.

Steps   Step–by–step procedures are designated with numeric callouts.

Note: Notes are hints that help you perform a task or understand the text.

CAUTION: Cautions alert you to conditions that may affect equipment safety.

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

Interchangeable terms:

- Rigid disk and hard disk

- Floppy diskette, floppy disk, and micro diskette

Additional symbols may be used in this reference:

- The names of keys to be pressed on the keyboard are shown in uppercase and enclosed in <>, or by the applicable symbol (Example: <PAUSE>, 5, L, E).

- The þ symbol designates nonnumbered actions and options available within user interface screens.

- H represents hexadecimal code. For example: 69H or 1Ch.

- MB represents megabyte.

- KB represents kilobyte.

1. Overview

This chapter provides an overview of the following:

- 4235 Laser Printing System (LPS) software and hardware features
- Components of the 4235 LPS
- Fonts.

4235 LPS features

The 4235 Laser Printing System (LPS) offers simplex and duplex printing capabilities for computer–generated jobs up to a rate of 35 pages per minute.

The 4235 LPS serves as a local laser printing system through a parallel or serial interface, or as a remote printing system through a communication line. It prints jobs that are created in the standard Xerox Distributed Print Mode (XDPM) environment with Xerox Escape Sequence (XES) commands and the following optional environments:

- Xerox Production Print Mode (XPPM) environment with PDL/DJDE commands
- HP Laserjet IID with PCL commands
- XScript with PostScript commands.

Software

The 4235 LPS software allows you to do the following:

- Sort specified files (wildcard feature).
- Display the available disk space and percent of disk space used.
- Monitor and change the status of a job in the print queue.
- Receive messages sent from a host computer system.
- Store files, fonts, and forms on the hard disk.
- Display or print a directory of all files resident on the hard disk drive (except system files).
- Back up all user resourses and system default values (backup system generation).

- Print job status, font names, and other pertinent data on the job summary sheet.
- Print samples of the font, form, and image files that reside on the hard disk.
- Control margins, line spacing, and vertical and horizontal tab settings.
- Delete font, form, and image files remotely from a host computer system.
- Merge forms.
- Print 99 fonts per page, ranging from 4–point to 24–point (XDPM only).
- Print up to 10 forms on a given page in XDPM or a single form in XPPM.
- Print multiple copies of the same print job.
- Print XPPM–formatted print jobs from a variety of host computer systems.
- Hold jobs of different priorities in the print queue.
- Prevent unauthorized menu display access by selecting one of three different access levels.
- Customized file storage allocations
- 4235/XPPM font and form load via MS-DOS formatted diskettes

Hardware

The 4235 LPS hardware features allow you to do the following:

- Print up to 35 pages per minute.
- Print on transparencies, labels, preprinted forms, and predrilled paper.
- Use a wide range of paper sizes from 5.83 by 8.27 inches up to 11.69 by 16.54 inches. (Refer to the "Fonts, supplies, and accessories" section in this guide for more information.)
- Load paper less frequently. The combined four input paper trays hold a maximum of 3,350 sheets of 20–pound (80–gsm) paper.
- Use a range of paper weights from 16–pound (60–gsm) to 32–pound (120–gsm).

- Unload paper less frequently. The high capacity stacker holds up to 2,000 sheets of 20–pound (80–gsm) paper. The top output tray holds up to 250 sheets of 20–pound (80–gsm) paper.

- Offset multiple print jobs so that each job stacks to the right or left of the previous job.

- Know when the 4235 LPS requires operator attention. The alarm indicator lights up on the user interface screen and the audible tone sounds (if enabled).

- Load paper into an empty tray while paper feeds from another tray (automatic tray switching).

- Maintain proper print density without making manual adjustments (automatic print quality control).

- Print to a resolution of 300 by 300 spots per inch (spi).

- Reduce electricity consumption with the energy saver feature.

- Back up hard disk files onto 3.5 inch double–sided, high–density micro diskettes.

- Use Centronics or DataProducts parallel interfaces

- Use RS232C serial interfaces.

- Components

Figure 1-1 shows the major components of the 4235 LPS.

Figure 1-1. **Major components**

1. Alarm indicator light
   (for operator attention)
2. User interface (UI) screen
3. User interface screen brightness
   adjusting wheel
4. Keyboard
5. Printer control panel
6. Micro diskette drive
7. Boot switch
8. Reset switch
9. Print cartridge/dry in k cartridge
10. System power switch
11. Print cartridge release lever
12. Raster Output Scanner (ROS)
    cleaning tool
13. System controller

14. Front door
15. Paper module handle A
16. Paper tray 4
17. Paper tray 3
18. Paper tray 2
19. Paper tray 1
20. Paper module handle B
21. High–capacity stacker
22. Label guide (optional)
23. Top output tray
24. Serial number (on frame
    behind fuser agent bottle)
25. Fuser agent bottle
26. Ground fault interrupt switch (for
    equipment manufactured after January
    1993) (on back of LPS by power cord)

Interfaces

The 4235 LPS supports the following communication protocols, but not by all emulation modes:

- Parallel communication (Centronics or DataProducts)
- Serial asynchronous communication (XDPM, HP IID, and XScript only)
- Serial synchronous communication (SNA/SDLC or bisynchronous) (XDPM and XPPM only).

The 4235 LPS has two communication ports. Only one parallel interface and one serial interface can run concurrently. For example, you cannot successfully connect two bisynchronous interfaces and SNA/SDLC interfaces or two parallel interfaces at the same time.

Minimum and maximum 4235 LPS configurations

The following are the minimum and maximum 4235 LPS configurations:

Minimum configuration

- 365 MB addressable hard disk
- 1.44 MB micro diskette drive
- 4 MB system memory
- 5 MB image generator board
- 2 MB bit mapped memory board
- 115 volt, 60 Hz or 220/240 volt, 50 Hz.

Maximum configuration

- 365 MB addressable hard disk
- 1.44 MB micro diskette drive
- 4 MB system memory
- 10 MB (two 5MB image generator boards)
- 8 MB bit mapped memory board
- Math coprocessor
- 115 volt, 60 Hz or 220/240 volt, 50 Hz.

Options

The following is a list of 4235 LPS options:

Hard disk capacity   Standard: 365 MB addressable

System memory   Standard: 4 MB

Image generator boards   Minimum: 5 MB

Optional: 5 MB (up to 10MB maximum)

Bit mapped memory boards   Minimum: 2 MB

Optional: 4 MB, 8 MB (8 MB required for XScript only).

Math coprocessor   The XScript printing mode requires the math coprocessor.

SNA/SDLC   The optional SNA/SDLC software supports the use of Systems Network Architecture (SNA) and Synchronous Data Link Control (SDLC) data communication protocols.

Xerox Production Print Mode (XPPM)   The optional XPPM software supports the use of PDL and DJDE commands. The following Xerox laser printing systems accept these commands:

- 4050
- 4090
- 4135
- 8700
- 8790
- 9700
- 9790.

XScript   The optional XScript software supports the PostScript page description language.

HP LaserJet IID emulation   The optional HP LaserJet IID emulation software recognizes the HP LaserJet Printer Commands Language (PCL4) and prints with the same results as the HP LaserJet IID printer.

Standard and optional fonts

The 4235 LPS is delivered with a number of system fonts permanently stored on the hard disk. Font loading utilities permit the addition of other fonts in two ways:

- Fonts downloaded from your host computer system
- Fonts loaded from a font disk inserted in the micro diskette drive.

Note: Only 3.5 inch double–sided, high–density micro diskettes can be used, even though the 4235 LPS can read double–sided, double–density micro diskettes.

For information on how to order fonts, refer to the "Fonts, supplies, and accessories" chapter in this guide.

XDPM fonts

Table 1-1 lists the three landscape and two portrait system fonts available for printing jobs formatted using XES in Xerox Distributed Print Mode (XDPM).

Note: The character "–P" at the end of the font name indicates portrait orientation, and "–L" indicates landscape orientation.

Table 1-1. **XDPM fonts**

60 Hz laser printing systems	50 Hz laser printing systems
XCP14iso–L	XCP12.5iso–L (default)
Titan10iso–P	Titan12.5iso–P
XCP14–L (default)	XCP14–L
XCP12.5iso–L	Titan10iso–P
Titan12iso–P	XCP14iso–L

XDPM default fonts

The system default font prints all XDPM jobs unless you select another font to replace it. The 4235 LPS uses the following default fonts:

- XCP14–L for 60 Hz laser printing systems
- XCP12.5iso–L for 50 Hz laser printing systems.

The default font orientation is landscape. If you choose to print in the portrait font orientation and do not select an alternate portrait font, the 4235 LPS prints in the following font:

- Titan10iso–P for 60 Hz laser printing systems
- Titan12.5iso–P for 50 Hz laser printing systems.

You select the default font on the 4235 LPS menu screens at the time of installation. You can choose one of the resident system fonts or an alternate font you have loaded onto the hard disk.

Note: Do not select an inverse portrait font as the default font.

XPPM fonts

If you purchased XPPM as an option, refer to table 1-2 for the system fonts available for printing jobs formatted for use in that environment.

Table 1-2.   **XPPM fonts**

XPPM fonts	
LO112B	R112BL
LO212A	R212BL
LO312A	R312BL
LO412A	R412BL
LO512A	R512BL
LO912A	R912BL
PO612A	R612BP
PO812A	R812BP
P1012A	RA12BP
P1112A	RB12BP
PO7TYA	R7TIBP
FORMS$	

XScript fonts

If you purchased the XScript printing mode option, refer to table 1-3 for the system fonts available for printing jobs formatted for that environment.

Table 1-3.　　**XScript fonts**

Font family	Font name
Courier	Courier–Bold Courier–Oblique Courier–BoldOblique
Times–Roman	Times–Bold Times–Italic Times Bold–Italic
Helvetica	Helvetica–Bold Helvetica–Oblique Helvetica–BoldOblique
Symbol	Symbol
AvanteGarde–Book	AvanteGarde–Book Oblique AvanteGarde–Demi AvanteGarde–DemiOblique
Bookman–Demi	Bookman–DemiItalic Bookman–Light Bookman–LightItalic
Helvetica–Narrow	Helvetica–Narrow–Bold Helvetica–Narrow–Bold–Oblique Helvetica–Narrow–Oblique
NewCenturySchbk–Roman	NewCenturySchbk–Bold NewCenturySchbk–Italic NewCenturySchbk–BoldItalic
Palatino–Roman	Palatino–Bold Palatino–Italic Palatino–BoldItalic
ZapfChancery–Medium Italic	ZapfDingbats

HP LaserJet IID emulation fonts

If you purchased HP LaserJet IID emulation as an option, refer to table 1-4 for the system fonts available for printing jobs formatted for use in that environment.

Table 1-4.   **HP LaserJet IID emulation fonts**

Typeface	Pitch	Point	Symbol set
Courier (default)	10 12	12 10	Roman–8 (default) ECMA–94 PC–8 PC–8 D/N PC–850 Legal
Courier Bold	10 12	12 10	Roman–8 ECMA–94 PC–8 PC–8 D/N PC–850 Legal
Courier Italic	10 12	12 10	Roman–8 ECMA–94 PC–8 PC–8 D/N PC–850 Legal
LinePrinter	16.67	8.5	Roman–8 ECMA–94 PC–8 Legal PC–8 D/N PC–850

File space allocation

The 4235 LPS stores files on the hard disk drive. The number of files you can store on the hard disk depends upon the storage capacity of the disk. Refer to table 1-5 for the maximum number of each file type that you can load onto the different capacity disks.

Table 1-5. **Maximum number of files**

File type	25 MB	365 MB
FNT	1,088	15,296*
FRM	256	3,400
IMG	417	3,400
JDL	50	2,048
CME	50	512
PDE	50	2,048
TST	50	512
STK	64	512
LIB	64	384
Font packs (Cartridges)	64	256

*   Each font is stored in two orientations : one to print long–edge feed paper and the other for short–edge feed paper. Since each font is stored as two files, the number of maximum fonts displayed is half the number listed in table 1-5.

2. Installation planning tasks

Responsibilities

A successful installation depends upon Xerox and you. This chapter outlines who is responsible for the various installation tasks. To successfully install the 4235 LPS, make sure these tasks are accomplished.

Xerox responsibilities

Xerox is responsible for the following tasks before, during, and after installation of your 4235 LPS:

Xerox sales representative

- Assists in site selection.

- Orders the proper 4235 LPS configuration based on your requirements.

- Assists you in determining the proper communication interface for your host computer system.

- Assists you in completing the default selection checklists contained in this guide.

- Monitors the progress of your installation tasks to make sure you have a successful installation.

- Arranges with Xerox administration to schedule a delivery date for your 4235 LPS.

- Assists you in placing your initial order of supplies and accessories.

Xerox service representative

- Installs the 4235 LPS and loads the system files onto the hard disk.

- Conducts operator training when the 4235 LPS installation is complete.

- Performs ongoing non–user maintenance on the 4235 LPS.

Customer responsibilities

You are responsible for the following tasks before, during, and after installation of your 4235 LPS are the following:

- Work with your Xerox sales representative to plan and schedule installation activities.

- Establish a compatible operating environment between your host computer system and the 4235 LPS.

- Complete the default selection checklists and give them to the Xerox service representative.

- Designate one or more persons in your organization to be responsible for the care and maintenance of your 4235 LPS.

- Order a telephone and modem (where applicable).

- Ensure that all electrical and space requirements are met.

- Identify the 4235 LPS to your host computer system.

- Order paper, supplies, and accessories .

- Select, order, and load any optional fonts.

- Maintain your stock of supplies.

- Report your meter readings.

- Update the 4235 LPS software using micro diskettes supplied by Xerox.

- Order the appropriate data cables (serial and/or parallel).

- Ensure that a VCR unit is available for operator training at the time of installation.

- Ensure that the correct interface cable is available.

Preinstallation tasks

Complete the option checklists, located at the back of each chapter, and perform the required tasks before your 4235 LPS is installed. The Xerox service representative uses these checklists to configure the 4235 LPS to your operating environment. You must perform the following tasks:

Task 1   Complete Checklist 1 and give it to the Xerox service representative on installation day.

Task 2   Complete Checklist 2 or Checklist 3 and give it to the Xerox service representative on installation day.

Task 3   Complete Checklist 4 or Checklist 5 and give it to the Xerox service representative on installation day.

Task 4   Complete Checklist 6 and either 7, 8, or 9 and give them to the Xerox service representative on installation day.

Task 5   Identify appropriate system generation parameters.

Task 6   Complete Checklist 10 and give it to the Xerox service representative on installation day.

Task 7   Order optional fonts.

Task 8   For XPPM emulation only. Determine the requirements and appropriate method for loading 9700 resource files onto the 4235 LPS. Refer to the *Xerox 4235 Laser Printing Systems XPPM PDL/DJDE Reference* for more information on 9700 file transfer method.

Installation countdown log

Use the installation countdown log in table 2–1 to help plan your 4235 LPS installation. The table summarizes the tasks you must perform and when each task should occur.

Use the log as a guide to make sure you have a successful installation of your 4235 LPS. If you have any questions, contact your Xerox sales representative.

- The Week before installation column shows the approximate time an activity should occur in relation to the installation date. For example, "–4" is four weeks before installation.

- The Responsibility column identifies who is to complete the task.

- Date completed is the date the task is completed.

The time frames shown in the installation countdown log are guidelines only. Consult your suppliers to determine the lead times required for your installation.

Table 2–1.   Installation countdown log

Week before install	Tasks	Responsibility	Date completed
–7	Request 4235 LPS font samples	Customer	
	Schedule the 4235 LPS delivery date	Xerox	
–6	Order custom fonts and any modifications to existing fonts	Customer	
–4	Select the site	Customer/Xerox	
	Prepare the site: • Space requirements • Electrical requirements • Telephone/telephone jack • Environment requirements	Customer	
	Order interface accessories and cables (if applicable): • Modem/modem eliminator • Data Products Interface kit • Parallel interface cable • Serial interface cable • Gender changer	Customer/Xerox	
–3	Order the Xerox Customer Documentation Catalog	Customer	
	Order licensed fonts	Customer	
–2	Order consumable supplies: • Paper • Dry ink cartridges • 3.5–inch double–sided, high–density micro diskettes • Fuser agent	Customer/Xerox	
	Select operator	Customer	
	Order paper cassettes, if other than A4 or A3 for 50Hz laser printing systems or 8.5" x 11", 8.5" x 14", or 11" x 17" paper sizes for 60Hz laser printing systems are needed.	Customer/Xerox	

Table 2–1. **Installation countdown log (continued)**

Week before install	Tasks	Responsibility	Date completed
–1	Complete applicable checklists:	Customer/Xerox	
	• Checklist 1: Site preparation		_____
	• Checklist 2: Printer setup options–XDPM		_____
	• Checklist 3: Printer setup options–XPPM		_____
	• Checklist 4: Printer setup options–XScript		_____
	• Checklist 5: Printer setup options–HP LaserJet IID emulation		_____
	• Checklist 6: Document formatting options–XDPM		
	• Checklist 7: Document formatting options–XPPM		_____
	• Checklist 8: Document formatting options–XScript		
	• Checklist 9: Document formatting options–HP LaserJet IID emulation		_____
	• Checklist 10: Parallel system configuration		_____
	• Checklist 11: Serial system configuration– SNA/SDLC		_____
	• Checklist 12: Serial system configuration– asynchronous		_____
	• Checklist 13: Serial system configuration– bisynchronous		_____
	• Checklist 14: Supplies and accessories		_____
	Order logos, signatures, and licensed standard fonts		_____ _____ _____
Install	Install the 4235 LPS:		
	• Provide a VCR unit for operator training	Customer	_____
	• Train operator	Xerox	_____
	• Review preventive maintenance schedules and service call procedures	Xerox	_____

Assignment of tasks during and after installation

You must select one or more operators and assign tasks to be performed during and after your 4235 LPS installation. Tasks include transmitting test jobs from the host computer system, loading optional fonts, and identifying the 4235 LPS to your host computer system.

Select an operator

You may want to designate an individual as the person responsible for the care of your 4235 LPS, or you may want to select a number of people so you have enough operators to cover absences, such as vacations and illness.

Operators receive maintenance training on installation day in order to perform the following tasks:

- Power on the 4235 LPS.

- Update the operating system files when required.

- Add paper.

- Change the dry ink cartridge.

- Change the print cartridge.

- Clear paper misfeeds and jams.

- Use the Xerox 4235 Laser Printing System Problem Solving Guide to correct faults.

- Perform logon procedures when necessary.

- Report non–correctable fault conditions to the Xerox service representative.

Tasks

Once the 4235 LPS is installed, you should test it to ensure that it is working properly. The following three tasks should be performed:

- Transmitting a test job

- Loading fonts

- Identifying the 4235 LPS to the host computer system.

Transmitting a test job

Make sure to have a test print job ready to be transmitted from your host computer system.

Loading fonts

You can purchase additional fonts on micro diskettes or magnetic tape for storage on the 4235 LPS hard disk.

- You can load fonts on micro diskettes from the 4235 LPS micro diskette drive onto the hard disk drive using the screen menus.

- You can download fonts on magnetic tape from the host computer system onto the 4235 LPS hard disk using printer commands.

Identifying the 4235 LPS to the host computer system

Host computer systems normally require parameters to identify system components. These parameters define and name the devices that are part of the host computer system, such as printers, terminals, and so forth.

The first step in integrating the 4235 LPS is to identify it to the host computer system. Refer to the "Host computer system generation" chapter, which outlines parameters designed to integrate the 4235 LPS into a number of different host computer systems. These descriptions outline the most important considerations for typical installations.

If the 4235 LPS is replacing an existing printer, you may want to wait until the 4235 LPS is installed before identifying it to your host computer system.

If you are adding the 4235 LPS as a new laser printing system, it should be identified to the host computer system before installation.

3. Site planning

This chapter helps you to prepare for the installation of your 4235 LPS. Keep in mind that preparing for installation is a responsibility that you share with Xerox. Your Xerox representatives are available to discuss installation issues and to assist you in the completion of the site installation responsibilities.

Located at the back of this chapter is Checklist 1: Site preparation. Use it as a guide to make sure the proposed site for the 4235 LPS meets all applicable space, environmental, electrical, and other requirements before the day of installation.

You must complete the following items before your 4235 LPS can be installed:

• The site is prepared to meet correct electrical and space requirements.

• Telephone line and jack, and data set and modem are available (if applicable) .

• Additional outlets for accessories (if applicable) are installed.

• The 4235 LPS is identified to your host computer system (if applicable).

• Checklist 1: Site preparation is complete.

• The following supplies and accessories are available:

    – 3.5 inch high–density , double –sided micro diskettes
    – Paper (of all appropriate sizes)
    – Default font micro diskette (if applicable)*
    – Interface cables (if applicable)
    – Gender changer (if applicable)
    – Dry ink cartridges
    – Fuser agent.

    * If a font, other than one of the system fonts, is selected as your default font, you must have the micro diskette for that font available at the time of installation.

Environmental requirements

Make sure the following environmental conditions are met:

Temperature range 50 ° F to 90° F (10° C to 32° C).

Humidity range 15% to 85% relative humidity. Operating the 4235 LPS above or below this range may cause paper jams and poor print quality.

Altitude range Sea level to 6,561.6 feet (2,000 meters).*

* If you operate equipment at an altitude up to 10,000 feet (3000 m), the temperature must not exceed 80° F (27° C).

Space and access Find a location that meets the requirements of the stationary or mobile floor plans (figures 3–1 and 3–2). Be sure to place the 4235 LPS in a location that allows you to open paper trays and doors fully and provides adequate space for service.

You may find the following information useful in finding a suitable location within your office.

- Noise level

    – Continuous printing: 55 decibels

    – Impulse printing: 60 decibels

    – Standby: 46 decibels

- Airflow–No airflow restriction s apply when installed according to the floor plans provided in this guide.

- Heat output–Less than 6000 BTUs/hour (1750 watts) of heat output.

Space requirements

The space requirements for your 4235 LPS are detailed in the following sections.

Dimensions and weight

The following information details the dimensions and weight of your 4235 LPS:

Width 61.2 inches (1553.5 mm). This includes the high–capacity stacker.

Depth 24.6 inches (626 mm).

Height Total height = 52.1 inches (1323 mm)

- Printer = 39.6 inches (1006 mm)

- User interface screen = 12.5 inches (318 mm).

Make sure clearance above the top of the printer is at least 26 inches.

Weight The unpackaged total weight is approximately 638 pounds (298.48 kg). This weight does not include paper, dry ink cartridge, print cartridge, or fuser agent.

Floor plan arrangements

You may want to consider a stationary or mobile floor plan when selecting a location for your 4235 LPS. It is important that the floor surface is level regardless of the floor plan you use. The stationary floor plan, shown in figure 3–1, depicts the space requirements for a permanent location. The mobile floor plan, shown in figure 3–2, depicts space requirements where the 4235 LPS can be moved away from walls.
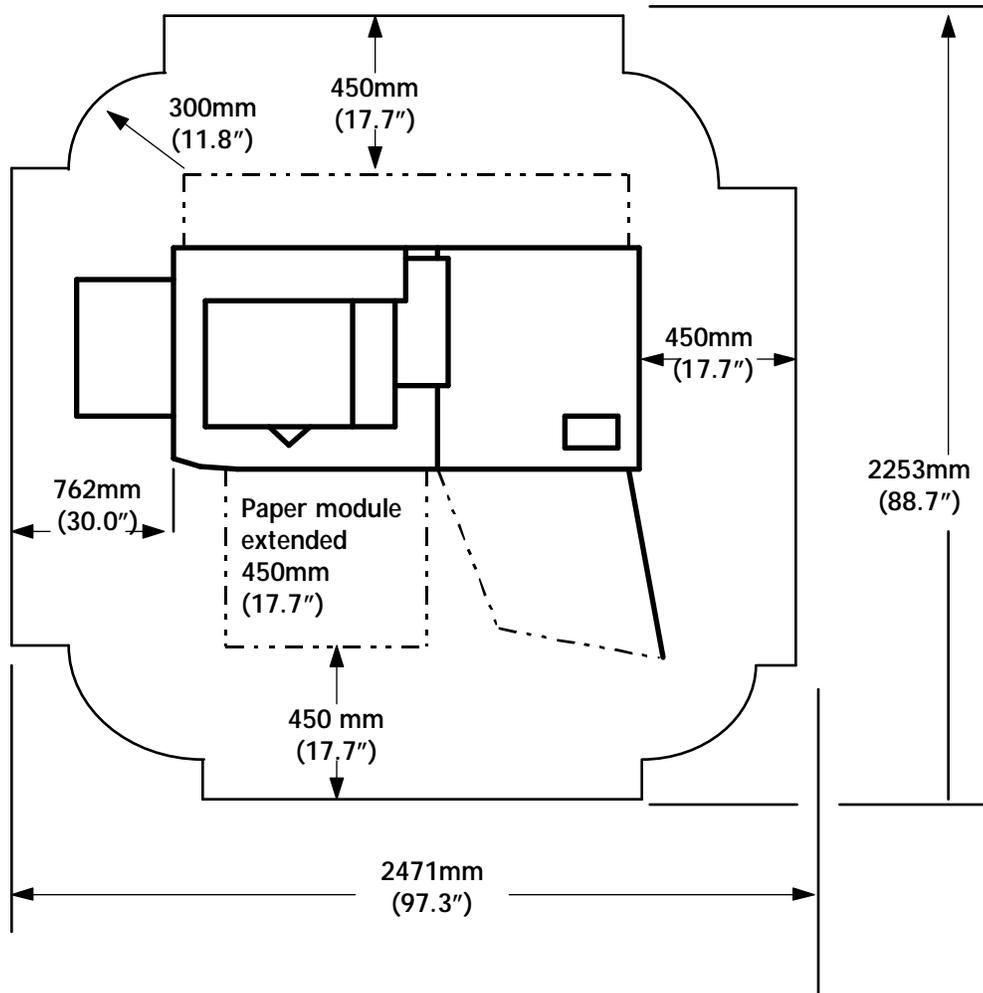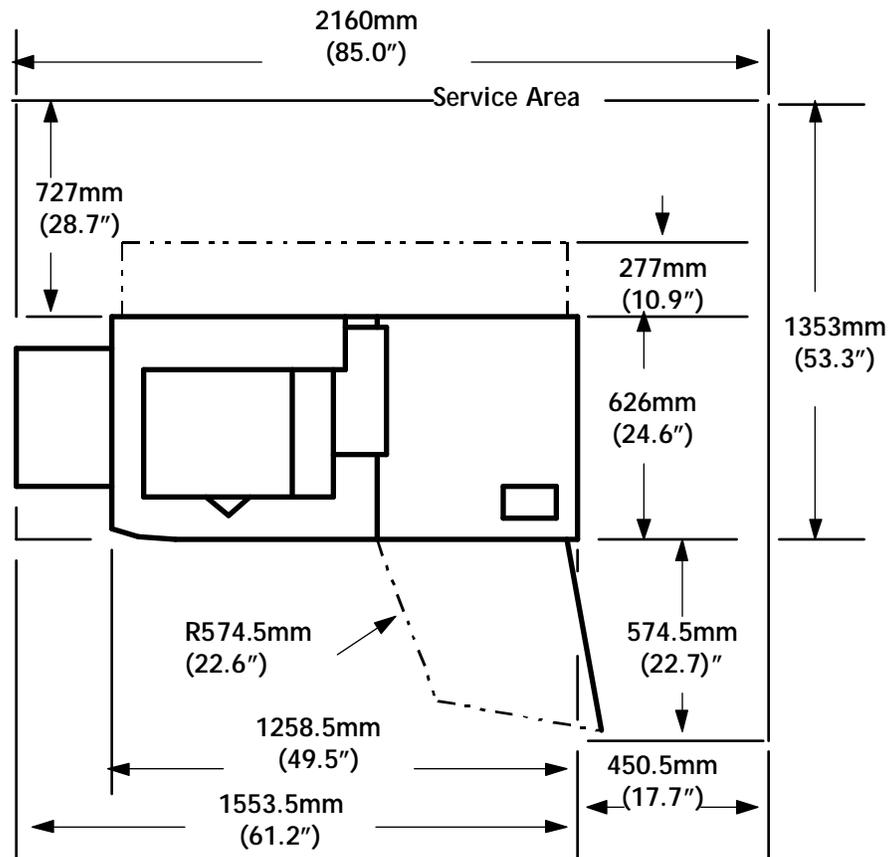
Figure 3-1.   **Stationary floor plan**

Figure 3-2. **Mobile floor plan**

Electrical requirements

Ensure that electrical outlets are available for modems, communication modules, or other equipment. You may need to order a telephone line and jack for communication equipment.

Provide electrical outlets for equipment, such as a modem or communication module. You may need to order a telephone line and jack for communication equipment.

Note: The 60 Hz laser printing system requires a dedicated circuit (a circuit to which no other equipment or appliance is connected).

Table 3-1 lists the electrical requirements for a 60 Hz 4235 LPS.

Table 3-1. Requirements for 60 Hz laser printing system

Nominal voltage:	**115 volts ac single phase**
Voltage range:	**104 to 127 volts ac**
Nominal frequency:	**60 Hz**
Frequency range:	**59.7 to 60.3 Hz, single phase**
Ampere circuit:	**15 amp dedicated (branch impedance should be less than .75 ohms)**
Power consumption:	**1.3 KVA**
Power cord:	**8 feet (3 meters)**

Table 3-2 lists the electrical requirements for a 50 Hz 4235 LPS.

Table 3-2. **Requirements for 50 Hz laser printing system**

Nominal voltage:	220 volts VAC, single phase
Voltage range	220 VAC: 198 to 242 volts ac (an external step-up transformer is required below 198 volts)
	240 VAC: 216 to 264 volts ac
Nominal frequency	50 Hz
Frequency range	49.5 to 50.5 Hz, single phase
Circuit	2.2 KVA
Power consumption	1.5 KVA
Power cord	8 feet (3 meters)

Communication requirements

The 4235 LPS may require additional communications equipment to successfully communicate with your host

computer system. This communications equipment may consist of devices such as modems.

Modem or modem eliminator

In general, your 4235 LPS needs a modem if it is more than 60 feet from your host computer system. For short distance connections, your 4235 LPS requires a modem eliminator or null modem. Use a null modem for asynchronous serial communications. Use a modem eliminator for synchronous serial communications.

If you have any questions about ordering a modem or modem eliminator, contact your Xerox sales representative.

Telephone line and jack   If your 4235 LPS requires a modem, you need to place an order with your telephone company for a telephone line to be installed at the chosen site. Your telephone company representative can give you the lead time required so the telephone line and telephone are available when your 4235 LPS is installed.

Gender changer   Verify if your interface cable requires a gender changer for proper connection to your 4235 LPS.

Interface controller

If you use an interface controller, do not place this equipment in or on the 4235 LPS. You must provide adequate space and meet all electrical and environmental conditions for this device by following the requirements of the manufacturer.

Figure 3-3.   **Checklist 1: Site preparation**

Checklist 1: Site preparation			
Site requirements:			
Environmental:	❏ Temperature (50° -90° F) 10° -32° C)	❏ Humidity (15-85%)	❏ Altitude (Sea level to 6,561 feet) (Sea level to 2,000 meters)
Space and access:	❏ Meets requirements for stationary floor plan ❏ Meets requirements for movable floor plan		
Electrical:	❏ Voltage (115 volt ac or 220 volt ac) ❏ Ampere circuit (15 amp or 2.2KVA dedicated) ❏ Frequency range (60 Hz or 50 Hz) ❏ Distance from power outlet (not more than 8 feet or 3 meters)		
Communications requirements:			
Interface device:	❏ Space ❏ Modem ❏ Telephone jack	❏ Electrical ❏ Modem eliminator ❏ Gender changer	❏ Environmental ❏ Telephone line

4.   Printer setup

This chapter explains how to set up your 4235 LPS to print jobs in XDPM, XPPM, XScript, or HP LaserJet IID emulation modes.

Printer setup options–XDPM

Table 4-1 lists the printer setup options for Xerox Distributed Print Mode (XDPM). Based on your choices, complete Checklist 2: Printer setup options–XDPM (figure 4-1). Your Xerox service representative uses the checklist during installation.

Table 4-1.   **XDPM printer setup options**

Settings	Options (defaults appear bold)	Description
Printer setup	XDPM	Selects XDPM for 2700/3700/4045 print jobs.
Error sheet destination	**Within job** To other tray	*Within job*–Error sheet and print job arrive at the same output tray. *To other tray*–Error sheet arrives at another output tray.
Status sheet printing	On request or error On request On error **Disable**	*On request or error*–Status sheets print automatically if errors occur during a job run and/or if a status sheet request was made by the user. *On request*–Status sheets print only when requested within a print job. *On error*–Prints a status sheet only when errors occur*. *Disable*–No status sheets print.
Multiple copies	**Enable** Disable	Recognizes or ignores the Print Multiple Copies commands sent from the host computer system. When this feature is *disabled*, the 4235 LPS prints only one set of the job.
Operator text messages	**Enable** Disable	Allows you to send messages from the host that appear on the 4235 screen to notify the operator when a job requires special attention. When the Operator Text Message is *enabled*, the 4235 LPS pauses until the operator presses the <CONTINUE> key.
Offset on job boundary	**Enable** Disable	Defines when and if print jobs are offset in the high capacity stacker and top output tray. When *enabled*, print jobs are offset in the output trays at the beginning of each job.
Offset on error condition	**Enable** Disable	Allows pages with errors to offset in the output trays. When *enabled*, pages with errors are offset in the output tray.

Table 4-1.   **XDPM printer setup options (continued)**

Settings	Options (defaults appear bold)	Description
Translation table	**Modify** Restore **ASCII** EBCDIC	*Modify* allows you to change the character code, translation table, and composite character selection. *Restore* resets the translation table settings to their default values. Character code encoding choice.
General features		
Auto Tray Switching	**Enable** Disable	*Enable* allows the 4235 LPS to feed paper from paper tray 4 when paper tray 1 is empty, and then feed from paper tray 1 when paper tray 4 is empty.
Special feed stock in paper tray 1	Enable **Disable**	*Enable* specifies that label stock or other special paper is currently loaded into paper tray 1.*
Special feed stock in paper tray 2	Enable **Disable**	*Enable* specifies that label stock or other special paper is currently loaded into paper tray 2.*
Special feed stock in paper tray 3	Enable **Disable**	*Enable* specifies that label stock or other special paper is currently loaded into paper tray 3.*
Special feed stock in paper tray 4	Enable **Disable**	*Enable* specifies that label stock or other special paper is currently loaded into paper tray 4.*
Audible alarm	Enable **Disable**	*Enable* specifies that the audible alarm is activated.
Predrilled paper	Enable **Disable**	*Enable* specifies whether predrilled paper stock is currently loaded. When enabled, the printer assumes that all paper trays contain predrilled paper.

*   Before you enable these features, have a Xerox service representative define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings. (Refer to the "Loading label stock" section in the *Xerox 4235 Laser Printing System Problem Solving Guide for* more information.)

Figure 4-1.   **Checklist 2: Printer setup options–XDPM**

Checklist 2: Printer setup options–XDPM

Error sheet destination:		**Within job**	❏	Other tray		
Status sheet printing:	❏	On request or error	❏	On request	❏	On error
	❏	**Disable**				
Multiple copies:	❏	**Enable**	❏	Disable		
Operator text messages:	❏	**Enable**	❏	Disable		
Offset on job boundary:	❏	**Enable**	❏	Disable		
Offset on error condition:	❏	**Enable**	❏	Disable		
General features						
Auto tray switching (1 & 4):	❏	**Enable**	❏	Disable		
Special feed stock in paper tray 1:*	❏	Enable	❏	**Disable**		
Special feed stock in paper tray 2:*	❏	Enable	❏	**Disable**		
Special feed stock in paper tray 3:*	❏	Enable	❏	**Disable**		
Special feed stock in paper tray 4:*	❏	Enable	❏	**Disable**		
Audible alarm:	❏	Enable	❏	**Disable**		
Predrilled paper:	❏	Enable	❏	**Disable**		

*   Before you enable these features, have a Xerox service representative define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings.

Printer setup options–XPPM

Table 4-2 lists the printer setup options for Xerox Production Print Mode (XPPM). Based on your choices, complete *Checklist 3: Printer setup options–XPPM* (figure 4-2). Your Xerox service representative uses the checklist during installation.

Table 4-2. **XPPM printer setup options**

Settings	Options (defaults appear bold)	Description
Default paper size	**US letter** A4 US legal US letter special	This feature allows you to specify the default paper size when the JDL output paper size is not specified. *US letter*: 8.5" by 11". *A4 paper*: 8.27" by 11.69". *US legal*: 8.5" by 14". *US letter special* prints from paper tray 2.
Status sheet printing	Enable Disable **On job error only**	*Enable* allows status sheet printing when any error occurs. *On job error only* allows status sheet printing only when job errors occur.
Multiple copies	**Enable** Disable	*Enable* allows multiple copies to print as specified within your print jobs. *Disable* allows one copy only.
Operator information page printing	On request only **On request and error**	*On request only* assumes the OPRINFO=YES command is coded within the IDEN statement. *On request and error* allows operator information page printing when errors occur and when the OPRINFO=YES command is coded within the IDEN statement.
Operator information messages	**Enable** Disable	Displays ITEXT and OTEXT messages on the 4235 LPS screen to notify the operator when a job requires special attention.
Default form paper size	**U.S. letter (8.5x11)** U.S. legal (8.5x14) A4 paper	Allows you to select the paper size used to print your forms. The FDL paper value overrides this setting.
U.S. letter/A4 Main paper tray	**Tray 1** Tray 2 Tray 3 Tray 4	Allows you to select the paper tray to use when the main paper tray is specified within your print jobs.
U.S. letter/A4 AUX paper tray	Tray 1 Tray 2 Tray 3 **Tray 4**	Allows you to select the paper tray to use when the AUX paper tray is specified within your print jobs.
U.S. letter/A4 OPR paper tray	**Tray 1** Tray 2 Tray 3 Tray 4	Allows you to select the paper tray to use when the OPR paper tray is specified within your print jobs.
U.S. letter special form	Enable **Disable**	*Enable* allows you to store 8.5–inch forms for printing on an 8.5– by 14–inch page.

Table 4-2. **XPPM printer setup options (continued)**

Settings	Options (defaults appear bold)	Description
Cluster paper management processing	Enable **Disable**	*Enable* allows you to invoke cluster paper processing, You must have a version 3, 3.5, or 3.6 JDL in order for cluster processing to be used. *Disable* does not allow you to invoke cluster paper processing. System reverts back to auto tray switching.
Translation tables	**Modify** Restore	*Modify* allows you to change the character code translations. *Restore* resets the translation table settings to default values.
General features		
Auto Tray Switching	**Enable** Disable	*Enable* allows the 4235 LPS to feed paper from paper tray 4 when paper tray 1 is empty, and then feed from paper tray 1 when paper tray 4 is empty.
Special feed stock in paper tray 1	Enable **Disable**	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 1.*
Special feed stock in paper tray 2	Enable **Disable**	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 2.*
Special feed stock in paper tray 3	Enable **Disable**	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 3.*
Special feed stock in paper tray 4	Enable **Disable**	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 4.*
Predrilled paper	Enable **Disable**	*Enable* specifies whether predrilled paper stock is currently loaded. When enabled, the 4235 LPS assumes that all paper trays contain predrilled paper.

*   Before you enable these features, have a Xerox service representative define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings. (Refer to the Xerox 4235 Laser Printing System Problem Solving Guide for more information.)

Figure 4-2.   **Checklist 3: Printer setup options–XPPM**

Default paper size:	❏ U.S. letter		❏ A4		❏ U.S. legal	
	❏ U.S. letter special					
Status sheet printing:	❏ Enable		❏ Disable		❏ **On job error only**	
Multiple copies:	❏ **Enable**		❏ Disable			
Operator information page printing:	❏ On request only	❏ **On request and error**				
Operator information messages:	❏ **Enable**		❏ Disable			
Default form paper size:	❏ **U.S. letter**		❏ U.S. legal		❏ A4	
U.S. letter/A4 main paper tray:	❏ **Tray 1**	❏ Tray 2	❏ Tray 3		❏ Tray 4	
U.S. letter/A4 Aux paper tray:	❏ Tray 1	❏ Tray 2	❏ Tray 3		❏ **Tray 4**	
U.S. letter/A4 Opr paper tray:	❏ **Tray 1**	❏ Tray 2	❏ Tray 3		❏ Tray 4	
U.S. letter special form:	❏ Enable		❏ Disable			
Cluster Management processing:	❏ Enable		❏ Disable			
Translation table:	❏ Modify		❏ Restore			
## General features						
Auto tray switching (1 & 4):	❏ **Enable**		❏ Disable			
Special feed stock in paper tray 1:*	❏ Enable		❏ **Disable**			
Special feed stock in paper tray 2:*	❏ Enable		❏ **Disable**			
Special feed stock in paper tray 3:*	❏ Enable		❏ **Disable**			
Special feed stock in paper tray 4:*	❏ Enable		❏ **Disable**			
Predrilled paper:	❏ Enable		❏ **Disable**			

*   Before you enable these features, have a Xerox service representative define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings. (Refer to the Xerox 4235 Laser Printing System Problem Solving Guide for more information.)

Printer setup options–XScript

Table 4-3 lists the printer setup options for XScript. Based on your choices, complete *Checklist 4: Printer setup options–XScript* (figure 4-3). Your Xerox service representative uses the checklist during installation.

Table 4-3. **XScript printer setup options**

Settings	Options (defaults appear bold)	Description
Document Error Handling	Print Status Sheet **Do Not Print Status Sheet**	*Print Status Sheet*–Status sheets print automatically if errors occur during a job run and/or if a status sheet request was made by the user. *Do Not Print Status Sheet*–No status sheets print.
Offset on job boundary	**Enable** Disable	Defines when and if print jobs are offset in the high capacity stacker and top output tray. When *enabled*, print jobs are offset in the output trays at the beginning of each job.
Reset Formatter	Reset Formatter **Do not Reset Formatter**	Enabling this feature causes the printer to reset the XScript formatter to avoid an excess accumulation of virtual memory.
Restore factory defaults	Restore defaults **Do Not Restore Defaults**	*Restore defaults* resets the option settings within the XScript printing mode to the factory defaults. *Do not restore defaults* does not reset any of the XScript printing mode option settings.
General features		
Auto Tray Switching	**Enable** Disable	*Enable* allows the 4235 LPS to feed paper from paper tray 4 when paper tray 1 is empty, and then feed from paper tray 1 when paper tray 4 is empty.
Special feed stock in paper tray 1	**Enable** Disable	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 1.*
Special feed stock in paper tray 2	**Enable** Disable	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 2.*
Special feed stock in paper tray 3	**Enable** Disable	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 3.*
Special feed stock in paper tray 4	**Enable** Disable	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 4.*
Predrilled paper	Enable **Disable**	*Enable* specifies whether predrilled paper stock is currently loaded. When enabled, the 4235 LPS assumes that all paper trays contain predrilled paper.

* Before you enable these features, have a Xerox service representative define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings. (Refer to the *Xerox 4235 Laser Printing System Problem Solving Guide* for more information.)

Figure 4-3. **Checklist 4: Printer setup options–XScript**

Checklist 4: Printer setup options–XScript

Document error handling:	❏	Print Status Sheet	❏	Do not print Status Sheet
Offset on Job boundaries:	❏	Enable	❏	Disable
Reset formatter:	❏	Reset formatter	❏	Do not reset formatter
Restore factory defaults:	❏	Restore factory defaults		
	❏	Do not restore factory defaults		
General features				
Auto tray switching (1 & 4):	❏	Enable	❏	Disable
Special feed stock in paper tray 1:*	❏	Enable	❏	Disable
Special feed stock in paper tray 2:*	❏	Enable	❏	Disable
Special feed stock in paper tray 3:*	❏	Enable	❏	Disable
Special feed stock in paper tray 4:*	❏	Enable	❏	Disable
Predrilled paper:	❏	Enable	❏	Disable

*   Before you enable these features, you must have a Xerox customer service engineer define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings. (Refer to the *Xerox 4235 Laser Printing System Problem Solving Guide* for more information.)

Printer setup options–HP LaserJet IID emulation

Table 4-4 lists the printer setup options for the HP LaserJet IID emulation mode. Based on your choices, complete Checklist 5: Printer setup options–HP LaserJet IID emulation (figure 4-4). Your Xerox service representative uses the checklist during installation.

Table 4-4. **HP LaserJet IID emulation printer setup options**

Settings	Options (defaults appear bold)	Description
Status sheet printing	Enable Disable **Enable on error only**	*Enable* allows the 4235 LPS to print status sheets. *Disable* does not allow the 4235 LPS to print status sheets. *Enable on error only* allows the 4235 LPS to print status sheets as errors are encountered.
Predrilled/ preprinted paper	**Invert simplex pages** Print simplex pages as duplex Disable	*Invert simplex pages* is used when printing simplex jobs on predrilled/preprinted paper. *Print simplex pages as duplex* is used when both simplex and duplex jobs print on predrilled/preprinted paper. *Disable* is used when you are not using predrilled/preprinted paper or when printing duplex jobs on predrilled/preprinted paper.
Font print quality adjustment	Lighter appearance **Darker appearance**	Prints font characters lighter. Prints font characters darker.
Graphics print quality adjustment	Lighter appearance **Darker appearance**	Prints font characters lighter. Prints font characters darker.
Restore factory defaults	Restore defaults Do not restore defaults	*Restore defaults* resets the option settings within the HP LaserJet IID emulation mode to the factory defaults. *Do not restore defaults* does not reset any of the HP LaserJet IID emulation mode option settings.
General features		
Auto Tray Switching	Enable **Disable**	*Enable* allows the 4235 LPS to feed paper from paper tray 4 when paper tray 1 is empty, and then feed from paper tray 1 when paper tray 4 is empty.
Special feed stock in paper tray 1	Enable **Disable**	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 1.*
Special feed stock in paper tray 2	Enable **Disable**	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 2.*
Special feed stock in paper tray 3	Enable **Disable**	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 3.*

Table 4-4. **HP LaserJet IID emulation printer setup options** (continued)

Settings	Options (defaults appear bold)	Description
Special feed stock in paper tray 4	Enable Disable	*Enable* specifies whether label stock or other special paper is currently loaded into paper tray 4.*
Predrilled paper	Enable Disable	*Enable* specifies whether predrilled paper stock is currently loaded. When enabled, the 4235 LPS assumes that all paper trays contain predrilled paper.**

*   Before you enable these features, you must have a Xerox customer service engineer define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings. (Refer to the *Xerox 4235 Laser Printing System Problem Solving Guide* for more information.)

**   The HP LaserJet IID emulation does not recognize the Predrilled paper option in General Features. Instead, use the Predrilled/preprinted paper option.

Figure 4-4. **Checklist 5: Printer setup options–HP LaserJet IID emulation**

Checklist 5: Printer setup options–HP LaserJet IID emulation				
Status sheet printing:	❏	Enable	❏	Disable
	❏	Enable on error only		
Predrilled/preprinted paper:	❏	Invert simplex pages		
	❏	Print simplex pages as duplex	❏	Disable
Font print quality adjustment:	❏	Lighter appearance	❏	Darker appearance
Graphics print quality adjustment:	❏	Lighter appearance		
	❏	Darker appearance		
Restore factory defaults:	❏	Restore defaults	❏	Do not restore defaults
General features				
Auto tray switching (1 & 4):	❏	Enable	❏	Disable
Special feed stock in paper tray 1:*	❏	Enable	❏	Disable
Special feed stock in paper tray 2:*	❏	Enable	❏	Disable
Special feed stock in paper tray 3:*	❏	Enable	❏	Disable
Special feed stock in paper tray 4:*	❏	Enable	❏	Disable
Predrilled paper:**	❏	Enable	❏	Disable

* Before you enable these features, have a Xerox service representative define special feed parameters. Most feed stocks perform satisfactorily without the enhancement of these settings. Refer to the *Xerox 4235 Laser Printing System Problem Solving Guide* for more information.

** The HP LaserJet IID emulation does not recognize the Predrilled paper option in General Features. Instead, use the Predrilled/preprinted paper option.

5.   Document formatting

This chapter provides tables and checklists to help you determine the document formatting options you need to print jobs in the XDPM, XPPM, XScript, or HP LaserJet IID emulation environments.

Document formatting options–XDPM

Table 5–1 lists the document formatting options for Xerox Distributed Print Mode (XDPM). Based on your choices, complete *Checklist 6: Document formatting options–XDPM (figure 5–1).* Your Xerox service representative uses the checklist during printer installation.

Table 5–1.   **XDPM document formatting options**

Settings	Options (defaults appear bold)	Description
Document formatting	XDPM	• *XDPM* is for 2700/3700/4045 print jobs. • *XPPM* is for 4050/4090/4135/or 8700/9700 print jobs.
Print format 1 through Print format 9	Change specifications Change format name Select default format	Each format file contains specifications for document formatting. (Format specifications placed within your job overwrite these specifications.) You have the option of changing the specification, format name, and/or default format.
Paper trays and sizes	Tray 1 Tray 2 Tray 3 Tray 4	**Paper tray 1** (maximum capacity 2000*) 8.5" x 11"/216 by 279 mm 8.27" x 11.69"/210 x 297 mm (A4) **Paper tray 2** (maximum capacity 550*) 8.5" x 13"/216 x 330 mm 8.27" x 11.69"/210 x 297 mm (A4) 215 mm x 315 mm 8.5" x 11"/216 x 279 mm 8.5" x 14"/216 x 356 mm **Paper tray 3** (maximum capacity 250*) 8.5" x 5.5"/216 x 140 mm 8" x 13"/214 x 330 mm) 8.5" x 11"/216 x 279 mm 9.84" x 13.9"/250 x 353 mm (B4) 11" x 17"/279 x 432 mm 11.69" x 16.54"/297x 420 mm (A3) 8.27" x 11.69"/210 x 297 mm (A4) 5.83" x 8.27"/148 x 210 mm (A5) **Paper tray 4** (maximum capacity 550*) 8.5" x 11" (216 x 279 mm) 8.27" x 11.69"/210 x 297 mm (A4) * Based on equivalent stack height and weight of A4, 80 gsm paper

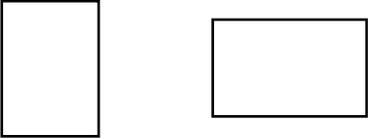Table 5–1. **XDPM document formatting options (continued)**

Settings	Options (defaults appear bold)	Description
Output destination	**High capacity stacker** Top output tray	Select the default that determines the destination of your print job.
Page orientation	Portrait **Landscape** Mixed	Select the default page layout. **Portrait** **Landscape**
	Regular Two–up	Select the page format: *Regular*–places a single page image on a single piece of paper. *Two–up*–places two page images side–by–side on one sheet of paper.
Font	Default font file name # 1 font file name # 2 font file name # 3 font file name # 4 font file name # 5 font file name # 6 font file name # 7 font file name # 8 font file name # 9 font file name	You can assign numbers to 10 fonts. Use these font numbers to specify specific fonts within your print jobs. The XDPM default font is XCP14–L for 60 Hz printers and XCP12.5iso–L for 50 Hz printers.
Margin unit value	Inches Millimeters **Pixels** Lines/spaces	
Margin values	Top Bottom Left Right	Default top margin: 120 pixels Default bottom margin: 120 pixels Default left margin: 198 pixels Default right margin: 3102 pixels
Horizontal tabs (fixed)	Inches Millimeters **Pixels** Spaces	Select fixed or variable for your horizontal tab setting. If you select *variable*, enter the desired tab values. The default interval is 132 pixels per tab. The 4235 LPS has one set of default tab stops for each page size and font orientation. There are 32 tab stops.
Horizontal tabs (variable)	**Enter tab values** Delete tab(s)	

Table 5–1.   **XDPM document formatting options (continued)**

Settings	Options (defaults appear bold)	Description
Vertical tabs (fixed)	Inches Millimeters **Pixels** Lines	Select fixed or variable vertical tab settings. If you select *variable*, enter the desired tab values. If *fixed tab stops* is selected as the default tab stop option, you may accept the default spacing of 150 pixels apart, or you can change the fixed distance from 150 pixels to the distance you require.
Vertical tabs (variable)	**Enter tab values** Delete tab(s)	If *variable tab stops* is selected as the default tab stop option, the tab distances may vary; that is, you can assign each column or character position an individual tab stop location.
Line spacing	1/2 spacing **Single spacing** One and one–half spacing Double spacing Triple spacing Other line spacing	Line spacing defines the vertical space between lines of text on the printed page. *Other line spacing* allows you to enter line spacing in inch, millimeter, or pixel units.
Justification	Enable **Disable**	*Enable* allows each line of text to line up between the left and right margins. *Disable* allows text to align on the left margin, but not the right margin.
Simplex–duplex printing	**Simplex** Duplex	*Simplex*–one–sided printing on the front side of the page. *Duplex*–two–sided printing on the front and back of the page.
Duplex printing	**Regular** Head–to–toe 2nd side shift Inches Millimeters **Pixels** **No shift**	*Regular* is defined as a page with printing on the same edge of the front and back and head–to–head page formatting. *Head–to–toe* is defined as a page with printing upside down relative to the orientation of the front side. *2nd side shift*–the text on the second side is shifted a user–defined number of units up or down; used primarily for book binding purposes. Selects the units and amount of the 2nd side shift for duplex pages.
Form merge/form	**Disable** Enable	*Enable* allows the selected form file to merge with your print job. Up to 10 forms can be assigned numbers reflecting specific forms within your print jobs.
User defined key character	**Disable** Enable	*Enable* allows you to define a substitute escape character.

Figure 5–1.   **Checklist 6: Document formatting options–XDPM**

Checklist 6: Document formatting options–XDPM

Output destination:	❏	**High capacity stacker**	❏	Top output tray		
Page orientation:	❏	Portrait	❏	**Landscape**	❏	Mixed
	❏	**Regular**	❏	Two–up		
Default font:	❏	**XCP14–L** for 60 Hz	❏	**XCP12.5iso–L** for 50 Hz		
		Other: _____				
Margin units:	❏	Inches	❏	Millimeters	❏	**Pixels**
	❏	Lines/spaces				
		Top margin value:	**120**		Other:_____	
		Bottom margin value:	**120**		Other:_____	
		Left margin value:	**198**		Other:_____	
		Right margin value:	**3102**		Other:_____	
Horizontal tabs:	❏	Fixed	❏	Variable		
	❏	Inches	❏	Millimeters	❏	Pixels
	❏	Spaces		Enter new tab values:_____		
Vertical tabs:	❏	Fixed	❏	Variable		
	❏	Inches	❏	Millimeters	❏	Pixels
	❏	Spaces		Enter new tab values: _____		
Line spacing:	❏	One–half	❏	**Single**	❏	One and one–half
	❏	Double	❏	Triple	❏	Other
If other, enter desired line spacing in inches, millimeters, or pixels: _____						
Justification:	❏	Enable	❏	Disable		
Simplex–duplex printing:	❏	**Simplex**	❏	Duplex		
If duplex, select:	❏	**Regular**	❏	Head–to–toe		
If duplex, select:	❏	2nd side shift	❏	**No shift**		
2nd side shift value:	❏	Inches	❏	Millimeters	❏	**Pixels**
Form merge/form:	❏	Enable	❏	**Disable**		
User–defined key character:	❏	Enable	❏	**Disable**		

Document formatting options–XPPM

Table 5–2 lists the document formatting options for Xerox Production Print Mode (XPPM). Based on your choices, complete Checklist 7: Document formatting options–XPPM (figure 5–2). Your Xerox service representative uses the checklist during installation. The options listed below determine the default printing environment of each XPPM job and are equivalent to the 9700 LPS OSS START command.

Table 5–2.   **XPPM document formatting options**

Settings	Options (defaults appear bold)	Description
1st interface port		
Job Descriptor Library (JDL)	9ASC	Specifies the JDL file name.
Job Descriptor Entry (JDE)	LAND	Specifies the JDE within the selected JDL file.
Form merge/form	Enable **Disable**	*Enable* allows the selected form file to merge with your print job.
2nd interface port		
Job Descriptor Library (JDL)	9ASC	Specifies the JDL file name.
Job Descriptor Entry (JDE)	LAND	Specifies the JDE within the selected JDL file.
Form merge/form	Enable **Disable**	*Enable* allows the selected form file to merge with your print job.

Figure 5–2.   **Checklist 7: Document formatting options–XPPM**

Checklist 7: Document formatting options– XPPM		
1st Interface		
Job Descriptor Library (JDL):	**9ASC**	other:_____
Job Descriptor Entry (JDE):	**LAND**	other:_____
Form merge/form:	❏ Enable	❏ **Disable**
	Form name	_____
2nd Interface		
Job Descriptor library (JDL):	**9ASC**	other: _____
Job Descriptor entry (JDE):	**LAND**	other: _____
Form merge/form:	❏ Enable	❏ **Disable**
	Form name	_____

Document formatting options–XScript

Table 5–3 lists the document formatting options for XScript. Based on your choices, complete *Checklist 8: Document formatting options–XScript* (figure 5–3). Your Xerox service representative uses the checklist during installation.

Table 5–3. **XScript document formatting options**

Settings	Options (defaults appear bold)	Description
Document formatting	**XScript**	XScript is an emulation of PostScript.
Input tray(s)	**Tray 1** Tray 2 Tray 3 Tray 4	Tray 1: 8.5" x 11" (216 x 297 mm) or A4 (8.27" x 11.69", 210 x 297 mm) Tray 2: Paper cassette currently loaded Tray 3: Paper cassette currently loaded Tray 4: 8.5" x 11" (216 x 297 mm) or A4 (8.27" x 11.69", 210 x 297 mm)
Output destination	**High capacity stacker** Top output tray	Select the default that determines the destination of your print job.
Simplex–duplex printing	**Simplex** Duplex – Regular Duplex – Tumbled	*Simplex*–one–sided printing on the front side of the page. *Duplex – Regular*–two–sided printing on the front and back of the page. *Duplex – Tumbled*–two–sided printing on the front and back of the page in which the second side of a duplex page is printed upside down compared to the first side.

Figure 5–3. **Checklist 8: Document formatting options–XScript**

Checklist 8: Document formatting options–XScript

Input tray(s):	❏	**Tray 1**	8.5" x 11"/216 x 279 mm or A4 (8.27" x 11.69"/210 x 297 mm)
		Tray 2	Paper cassette currently loaded
		Tray 3	Paper cassette currently loaded)
		Tray 4	8.5" x 11"/216 x 279 mm or A4 (8.27" x 11.69"/210 x 297 mm)
Output destination:	❏	**High capacity stacker**	❏ Top output tray
Simplex–duplex printing:	❏	**Simplex**	❏ Duplex – Regular
	❏	Duplex – Tumbled	

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Document formatting options–HP LaserJet IID emulation

Table 5–4 lists the document formatting options for HP LaserJet IID emulation. Based on your choices, complete Checklist 9: Document formatting options–HP LaserJet IID emulation (figure 5–4). Your Xerox service representative uses the checklist during installation.

Table 5–4. **HP LaserJet IID emulation document formatting options**

Settings	Options (defaults appear bold)	Description
Number of copies	**1 copy**	This settings defines the number of prints of your job that are delivered to the output tray. You can specify up to 99 copies.
Left font pack		This settings defines which font pack is the left font pack. No default.
Right font pack		This settings defines which font pack is the right font pack. No default.
Font	**ROMAN–8; F;10.0;12.0;Upright; Medium;Courier;Port**	This setting defines the default font used by your jobs. The default font has the following characteristics: Symbol set: ROMAN–8 Character spacing: Fixed Pitch: 10 characters per inch Point size: 12 Style: Upright Stroke weight: Medium Typeface: Courier Default orientation: Portrait.
Symbol set	**Roman–8**	This setting defines the symbol set to use. You can select one of the following symbol sets: Roman–8 JIS ASCII ECMA–94 ISO Italian PC–8 ISO Portuguese Danish/Norwegian ISO Spanish PC–850 ISO German Legal ISO French Math–8 ISO Chinese Technical–7 ISO Norwegian v1 OEM–1 ISO Norwegian v2 ISO IRV ISO French ISO United Kingdom ISO Portuguese ASCII ISO Spanish ISO Swedish/Finnish HP German ISO Swedish Names HP Spanish.

Table 5–4. **HP LaserJet IID emulation document formatting options (continued)**

Settings	Options	Description
	(defaults appear bold)	
Duplex/Binding	Enable **Disable**	Enabling this setting allows duplex printing on both sides of a physical page. Disabling this setting ensures that only single sided printing occurs.
Duplex/**Binding**	**Long edge binding** Short edge binding	This setting ensures that duplex pages print in the correct orientation for long edge binding or for short edge binding.
Input tray	**Tray 1** Tray 2 Tray 3 Tray 4	This setting defines the default input paper tray. You may select any of the four paper trays.
Paper size	**Letter** Legal Ledger A4 A3	This setting defines the default paper size. The following paper sizes are available: *Letter* 8.5" x 11", 216 x 279 mm *Legal* 8.5" x 14", 216 x 356 mm *A4* 8.27" x 11.69", 210 x 279 mm *A3* 11.69" x 16.54", 297 x 420 mm.
Orientation	**Portrait** Landscape	This setting defines the default page orientation as portrait or landscape.
Form Length	**60 lines**	This setting defines the default form length. You may specify from 5 up to 128 lines. The default form length is 60 lines.

Figure 5–4.   **Checklist 9: Document formatting options–HP LaserJet IID emulation**

Checklist 9: Document formatting options–HP LaserJet IID emulation									
Number of copies:	1 copy				Other:(1–99) _____				
Left font pack:					Other: _____				
Right font pack:					Other: _____				
Font:	**ROMAN–8;F;10.0;12.0;Upright;Medium;Courier;Port**								
	Other:								
Symbol set	**ROMAN–8**				Other: _____				
Duplex/Binding:	❏	Enable		❏		Disable			
Duplex/**Binding**:	❏	**Long edge binding**		❏		Short edge binding			
Input tray:	❏	**Tray 1**	❏	Tray 2	❏	Tray 3	❏	Tray 4	
Paper size:	❏	**Letter**	❏	Legal	❏	Ledger	❏	A4	❏ A3
Orientation:	❏	Portrait	❏	Landscape					
Form Length:	❏	**60 lines**	Other: _____ (5–128 lines)						

6. System configuration

This chapter contains information to help you determine the proper system configuration for your 4235 Laser Printing System (LPS). The following checklists are provided:

- *Checklist 10: Parallel system configuration*
- *Checklist 11: Serial system configuration–SNA/SDLC*
- *Checklist 12: Serial system configuration–asynchronous*
- *Checklist 13: Serial system configuration–bisynchronous.*

You must complete checklist 10 and either checklist 11, 12, or 13, depending on your choice of serial interface.

Selecting the interface

The 4235 LPS receives data from a host computer system through a parallel and serial interface. Only one parallel and one serial interface can run concurrently. For example, you cannot successfully connect the bisynchronous and SNA/SDLC or two parallel interfaces at the same time. Figure 6–1 shows the various 4235 LPS interface option choices.

Figure 6–1. **4235 LPS interface options**
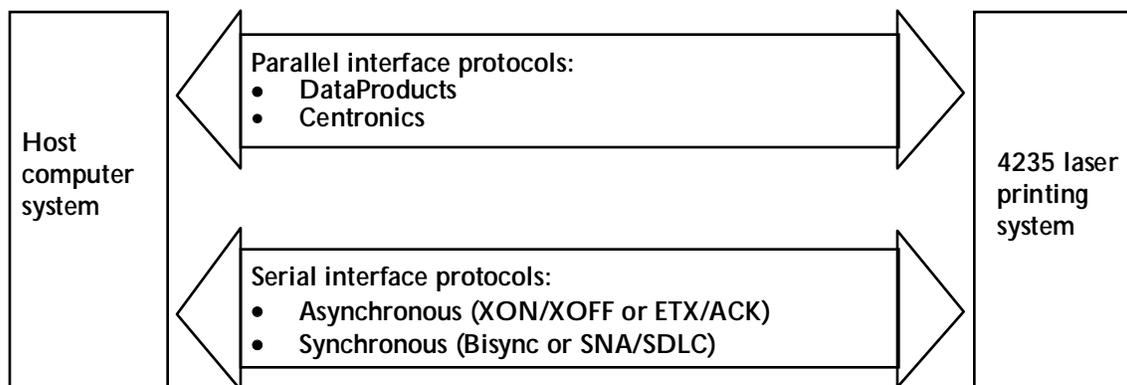
Port configuration

Select the interface for each of the two ports. You select the actual interface setup using the 4235 LPS menu dialog at the time of installation. Only one parallel and one serial interface can run concurrently. You can select one of the following interfaces:

- Parallel: Data Products or Centronics

- Serial: SNA / SDLC, asynchronous, or bisynchronous.

You must fill out Checklist 10 for your parallel interface selections, and Checklist 11, 12, or 13 for your serial interface selections, before your Xerox service representative can successfully install your 4235 LPS.

Parallel interface information

Parallel communication allows the transmission of data over a group of wires simultaneously.

Two emulation modes are available with the parallel interface: one is compatible with Centronics 100 (or equivalent) interface, and the other is compatible with a DataProducts standard 2260 (or equivalent) interface.

The parallel interface accepts 7–bit or 8–bit ASCII encoded data at rates up to 200 KBytes per second. EBCDIC and ISO 6937 character encoding schemes assume 8–bit encoding. When you use XPPM, ISO 6937 selection defaults to 8–bit ASCII.

Centronics 100 interface

The Centronics interface uses a 36–pin Amphenol 57–40360 connector. This connector mates with an Amphenol 57–30360 connector.

Note: The connector part numbers for countries other than the United States may differ from those numbers listed later in this chapter.

Parallel cable   You need to order a Centronics or DataProducts parallel cable to connect your host computer system to the 4235 LPS. If you do not have one, contact your Xerox sales representative to order one. To make sure the cable is available on the day of installation, place the order approximately four weeks prior to the installation date.

Make sure the parallel interface cable is in compliance with U.S. Federal Communications Commission (FCC) regulations regarding electromagnetic emissions or any similar regulations applicable within the country in which you operate your 4235 LPS. The parallel interface cable must also meet the following specifications:

Type:	Twisted pairs, overall foil or braid shield
Number of conductors:	15 pairs
Wire size:	22 AWG stranded
Cable length:	Length should not exceed 10 feet (3.1 m)
Shield connection:	To the connector conductive case at the 4235 printer; to the frame ground at the data source
Cable connector:	Male

Table 6–1 lists the pin assignments and signals for the Centronics interface.

The main control signals are BUSY, SELECT, and FAULT. At power–up, BUSY is at logic one, and SELECT and FAULT are at logic zero. BUSY indicates that the 4235 LPS cannot receive data (normally, BUSY cycles from logic zero to one and back to zero again once for every byte received). SELECT and FAULT change to logic one after warm–up and remain at logic one as long as the 4235 LPS is powered up.

The Centronics interface does not support the following codes:

• The programmable paper feed code (1CH, octal 034)

• The elongated character code (0EH, octal 016)

• The character density code (12H, octal 022)

• The delete code (7FH, octal 177), which is used to print either an error character or an assigned character.

Table 6–1. **Centronics pin assignments and signals**

Signal name	Pin* #	Source	Description
DATA STROBE	1, 19	Host computer system	A 1.0 microsecond pulse (minimum) used to clock data from the processor to the 4235 LPS.
DATA 1	2, 20	Host computer system	Data 1 through data 8 are input signals. A high represents one; a low represents zero.
DATA 2	3, 21	Host computer system	
DATA 3	4, 22	Host computer system	
DATA 4	5, 23		
DATA 5	6, 24	Host computer system	
DATA 6	7, 25	Host computer system	
DATA 7	8, 26	Host computer system	
DATA 8	9, 27	Host computer system	
ACKNLG	10, 28	4235 LPS	The acknowledge pulse indicates the input of a character into memory or at the end of a functional operation.
BUSY	11, 29	4235 LPS	BUSY indicates that the 4235 LPS cannot receive data.
PE	12	4235 LPS	This signal is always zero.
SELECT	13	4235 LPS	This signal remains at one after warm–up and indicates there are no fault conditions.
Chassis Ground	17	4235 LPS	This name indicates the frame ground.
FAULT	32	4235 LPS	This is the 4235 LPS indicator for a laser printing system fault (for example: paper jam, dry ink out, and so forth).

The following pins are not used: 15, 33, 34, 35, 36.

* The second pin of the pair is the twisted signal return (+0V).

Figure 6–2 shows a timing diagram.

Figure 6–2.   **Centronics signal timing**
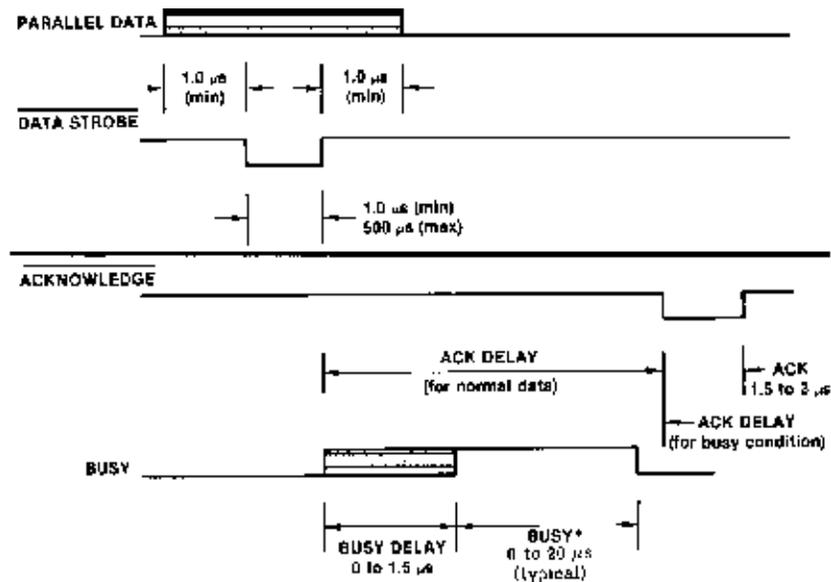
*Busy may stay high longer than 20 µs if a fault occurs or the printer buffer is full.

Voltage levels	0 (zero) and +5 VDC (nominal), TTL (SN 74LS00 series).
Logic levels	A high signal has a voltage in the range of +2.4 V to +5 V. It should not exceed a peak of +5.5 V.
	A low signal has a voltage in the range of 0.0 V to 0.4 V. It should not exceed a peak negative voltage of –0.5 V. However, received signals should be recognized as low signals if the voltage is +0.8 V or less.
Current requirements	The 4235 LPS interface requires up to –2.6 ma at +2.4 V for a high output signal and requires up to 14 ma for a low output signal.
Data rates	The 4235 LPS supports bursts of data that are at least 512 bytes long at a rate of up to 100 KB per second through the Centronics interface. The average data transfer rate is 15 KB per second.

DataProducts 2260 interface

The DataProducts interface connector is equivalent to a 50–pin Winchester connector. The Winchester MRA 50S D5J connector mates with a Winchester MRAC 50P JTCH connector using 50 1020P pins.

The main control signals are DEMAND, READY, and ONLINE. At power–up, the DEMAND, READY, and ONLINE signals are at logic zero. The DEMAND signal cycles from logic one to zero for every byte received when the 4235 LPS is receiving data. When the DEMAND signal is at logic zero, it indicates that the 4235 cannot receive data. The READY and ONLINE

signals change to logic one after warm–up and remain at logic one as long as the 4235 LPS is powered on.

The following are fault conditions:

- Front door open
- Paper misfeed or jam
- Output tray full
- Input paper source empty
- Paper tray handle unlatched
- Missing print cartridge
- Any other printer fault code
- 4235 LPS powered off
- 4235 LPS taken offline from system controller.

When any of these conditions occur, the 4235 LPS continues to spool the data to the print file. If you do not correct the fault condition and the print file becomes full, DEMAND changes to logic zero and data receipt is suspended until you clear the fault.

The DataProducts 2260 interface does not support symmetric logic signals intended for a long–line interface.

DataProducts–specific options Selection of the DataProducts interface enables the selection of one further function. You can enable or disable the Vertical Format Unit (VFU) emulation; however, when you enable VFU, the XPPM formatter does not support it.

You may assign Data Bit 8 to appear on pin pair d–f or p–s. If you use VFU, the Xerox service representative must define the pin pair p–s by setting a dip switch on the SPC board.

Table 6–2 lists the pin assignments and signals.

Table 6–2. **DataProducts pin assignments and signals**

| Signal name	Pin*	Source #	Description
DATA 1	B, D	Host computer system	Data 1 through Data 8: Input data levels. A high represents ONE; a low represents ZERO.
DATA 2	F, J	Host computer system	
DATA 3	L, N	Host computer system	
DATA 4	R, T	Host computer system	
DATA 5	V, X	Host computer system	
DATA 6	Z, b	Host computer system	
DATA 7	n, k	Host computer system	
DATA 8**	d, f or p, s	Host computer system	
DATA	j, m	Host computer system	
STROBE			A 0.5 microsecond pulse (minimum) used to clock data from the processor to the 4235 LPS logic.
DEMAND	E, C	4235 LPS	Indicates that the system controller is capable of receiving a character.
READY	CC, EE	4235 LPS	Indicates that the system controller has powered up successfully.
ONLINE	y, AA	4235 LPS	After warm–up, this signal is ONE, unless the print file is full.
Interface Connect	x	4235 LPS	Pins X and V provide electrical continuity only.
Verify	v		
Spare	U	4235 LPS	

The following pins are not used: A, H, K, M, P, S, U, W, Y, BB, DD, FF, HH, a, c, e, h, r, t, u, w, z.

* The second pin of the pair is the twisted signal return (+0V).

** Either d, f or p, s can be used for the eighth bit.

A timing diagram is provided in figure 6–3.

Figure 6–3.   **DataProducts signal timing**
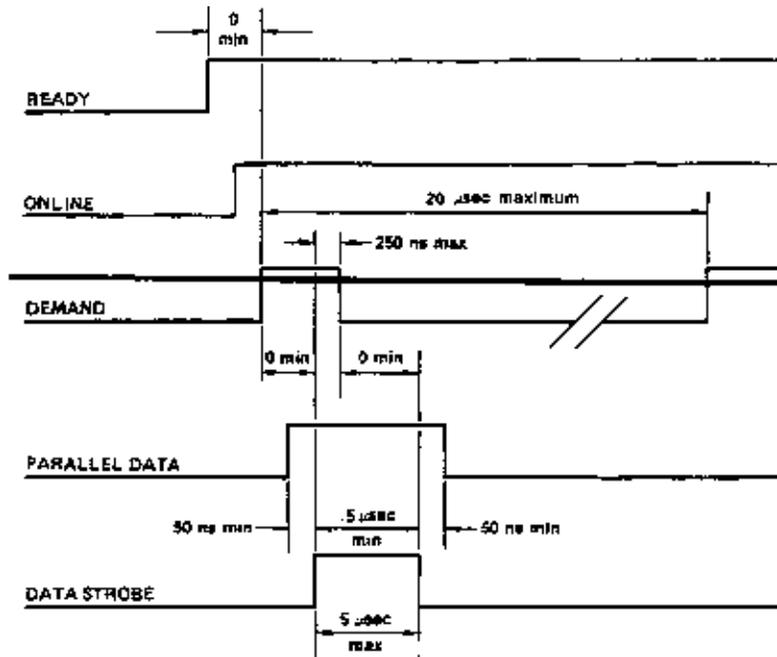
*   The data transfer rate is contingent upon the DATA STROBE being raised within 1 microsecond after DEMAND and dropped within 5 microsecond s. DEMAND may stay low longer than 20 microsecond s if a fault occurs or the 4235 LPS buffer (512 bytes) is full.

Voltage levels   0 (zero) and +5VDC (nominal), TTL (SN 74LS00 series)

Logic levels   A high signal is defined as a voltage in the range of +2.4V to +5V, not to exceed a peak of +5.5V.

A low signal is defined as a voltage in the range of 0.0V to 0.4V, not to exceed a peak negative voltage of –0.5V. However, for received signals, a voltage of up to +0.8V should be recognized as a low signal.

Current requirements   The 4235 LPS interface sources up to –2.6 milliampere (mA) at +2.4V for a high output signal and sync up to 14 mA for a low output.

The 7414 ICs are used for data receivers with 220/330 ohm terminating resistors, and 74LS244 or 74LS240 ICs are used as drivers for positive or negative interfaces respectively, and for READY, ONLINE, and DEMAND.

Data rates   The 4235 LPS supports burst data rates of up to 200 Kbytes per second for at least 512 bytes through the DataProducts interface. The sustained data transfer rate is 15Kbytes per second.

Parallel system configuration options

Table 6–3 lists the different parallel system configuration options. Based on your choices, complete *Checklist 10: Parallel system configuration* (figure 6–4). Your Xerox service representative uses the checklist during installation.

Table 6–3.   Parallel system configuration options

Settings	Options (defaults appear bold)	Description
Port configuration	**1st interface** 2nd interface	A three–stop process is used to configure the first port for parallel: 1. Select the communication protocol. 2. Select the current emulation. 3. Enable or disable the Line Printer Mode. Note: At least one port must be configured for parallel.
Communication protocol	**Parallel** SNA/SDLC Asynchronous Bisynchronous	This option allows you to select the communication protocol used on the selected interface. In parallel communications, data is transmitted and received in parallel bytes rather than serial bits. It is used for local printing over short distances (10 feet or 3 meters).
Current emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Current Emulation mode used on the selected interface. You can select the XDPM, XPPM, XScript, or HP LaserJet IID emulation modes. Jobs are processed using the current emulation. With Mode Switching enabled, an MCK command can dynamically change the current emulation setting.
Line printer mode	**Enable** Disable	This option allows you to enable or disable the Line Printer Mode option on the selected interface.
Mode switching/ default mode	Enable **Disable**	This option allows you to select the Default Emulation mode used on the selected interface. If enabled, a prompt allows you to select the Default Emulation mode.
Default emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Default Emulation mode in which jobs should print when you encounter an MCK reset command.
Character code set	7–bit ASCII EBCDIC **ISO 6937** 8–bit ASCII	This option allows you to select the code set and number of bits per character. EBCDIC and ISO encoding assume eight bits. XPPM assumes 8–bit encoding. In XPPM, ISO 6937 defaults to 8–bit ASCII. In HP IID mode, EBCDIC, and 7–bit ASCII are not supported.

Table 6–3. **Parallel system configurations options (continued)**

Settings	Options (defaults appear bold)	Description
Language	**U.S. English** UK English French Dutch Spanish Italian Danish Norwegian Finnish German Swedish Belgian Canadian French Special Table	Select the appropriate language table for your print job. XPPM does not support the Language Table Selection option. When you use ISO 6937 emulation in XDPM, the Language Table does not appear.
Line ending character	**Carriage Return and Line Feed** Carriage Return Line Feed	Combination of carriage return (0DH) and line feed (0AH in ASCII, 25H in EBCDIC) constitutes a line end and a command terminator. Carriage return alone constitutes line end and command terminator. Line feed alone constitutes a line end and command terminator.
Data monitor	Enable **Disable**	Select *enable* or *disable*. When the data monitor is enabled, the hexadecimal value of all character codes and functions are printed in the order received. This is not supported in XPPM; however, a data monitor of XPPM jobs is possible if you send an XPPM job to a port configured for XDPM with the data monitor *enabled*.
Job timeout period	**10 seconds**	Enter the job timeout period. This is the number of seconds after which, if your data is transmitted, the print job is terminated. Any data received after the job timeout period is assumed to be the start of a new job.
Vertical format control	Enable **Disable**	Enable this option to accept vertical format unit commands. This function is similar to the Vertical Format Units option on DataProducts printers. This is not supported in XPPM.
Automatic printing	**Enable** Disable	Automatic printing enables the 4235 LPS to process documents without operator intervention. If automatic printing is *disabled*, the operator must release each job in the queue before it prints.

Table 6–3. **Parallel system configurations options (continued)**

Settings	Options (defaults appear bold)	Description
Line Monitor Trace window	Enable **Disable** First and last Numbered **Continuous**	The line monitor trace window is a diagnostic tool used in resolving serial communication problems. If *enabled*, you have three choices: 1. *First and last*, which stores the first and last communication window. 2. *Numbered*, which allows you to specify the starting window. 3. *Continuous*, which traps the last 50K of transmitted or received data.
User access	Level 1 Level 2 **Level 3**	The 4235 LPS can be accessible to you on three levels: *Level 1* permits access only to the Print Mode screen. *Level 2* permits access to Print Mode, Queue Management, Printer Setup, Document Formatting, and the Utilities screens. *Level 3* permits access to all options in level 2 with the addition of System Configuration and User Services screens.
Date and time	MM/DD/YY HH:MM:SS	Enter the date as month, day, and year. Enter the time in hours, minutes, and seconds.
Time zone	Hawaii **Pacific** Mountain Central Eastern Atlantic GMT European	Select the appropriate time zone for your location.
Daylight savings	**Yes** No	Enable this option if daylight savings is in effect.

Figure 6–4.   **Checklist 10: Parallel system configuration**

Checklist 10: Parallel system

Port configuration

1st interface

Communication protocol:	❏	**Parallel**	❏	SNA/SDLC	❏	Async	❏ Bisync
Current emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID
Line Printer mode:	❏	**Enable**	❏	Disable			
Mode switching/default mode:	❏	Enable	❏	**Disable**			
Default emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID

2nd interface

Communication protocol:	❏	**Parallel**	❏	SNA/SDLC	❏	Async	❏ Bisync
Current emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID
Line printer mode:	❏	**Enable**	❏	Disable			
Mode Switching/Default mode:	❏	Enable	❏	**Disable**			
Default emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID

Parallel settings

Line printer mode:	❏	**Enable**	❏	Disable	
Character code:	❏	7–bit ASCII	❏	EBCDIC	❏ **ISO 6937**
	❏	8–BIT ASCII			
Line ending character:	❏	**Carriage return & line feed**		❏ Carriage return	
	❏	Line feed			
Data monitor:	❏	Enable	❏	**Disable**	
Job timeout period:	**10**	**seconds**	Other: _____(0–999 seconds)		
Vertical format control:	❏	Enable	❏	**Disable**	

Other features

Automatic printing:	❏	**Enable**	❏	Disable			
Line Monitor Trace window:	❏	**Disable**	❏	1st and last	❏	Numbered	
	❏	**Continuous**					
User access:	❏	Level 1	❏	Level 2	❏	Level 3	
Date and time:	MM/DD/YY		_____	HH:MM:SS	_____		
Time zone:	❏	Hawaii	❏	**Pacific**	❏ Mountain	❏ Central	
	❏	Eastern	❏	Atlantic	❏ GMT	❏ European	
Daylight savings:	❏	**Yes**	❏	No			

Note: To support VFU through the DataProducts interface, the Xerox service representative must set the appropriate dip switch on the SPC board so that data bit 8 appears on pin pair p–s.

Data bit 8 on pin pair p–s:	❏	**Yes**	❏ No	

Serial interface information

Serial data communications allows data to transmit sequentially, one bit at a time, over a single wire.

The 4235 LPS supports asynchronous, SNA/SDLC, and bisynchronous serial communications. The interface connections conform to the RS232–C standard of EIA and CCITT regulations V24/V28. Point–to–point operation is supported and may occur over switched or leased lines in half or full duplex mode. The connector used on the 4235 LPS is a 25–pin female "D" type.

You must configure the 4235 LPS for EBCDIC character encoding when it is used with a host computer system that uses EBCDIC. When the text is EBCDIC encoded, you must use transparent transmission to download ASCII encoded fonts.

SNA/SDLC

In XDPM, the internal SNA/SDLC interface allows the 4235 LPS to function in either of two modes: as a simulation of an IBM 3777 (IBM mode) or in Xerox Pass Through mode. Data is accepted in either the 4235 LPS or punch ports. IBM mode and Pass Through mode selections have no effect in XPPM.

Asynchronous

The asynchronous interface uses two 2,000–byte input buffers and supports ETX/ACK and XON/XOFF protocols at data rates between 300 and 19,200 bits/second. Asynchronous communication is not supported in XPPM.

Bisynchronous

The bisynchronous communication interface allows the 4235 LPS to respond to IBM 2770, 2780, or 3780 protocols. Data is accepted in either the 4235 LPS or punch ports.

Note: PCL4 and XScript are not supported in bisynchronous.

Figure 6–5 shows the SNA/SDLC terminal ID.

Figure 6–5.   **SNA/SDLC terminal ID**

Byte	1	2	3	4	5	6
Value	02	00	01	30	0X	SS

Fixed   User definable   SDLC address

Serial cable

You must order a serial cable for the asynchronous or bisynchronous serial interface. Contact your Xerox sales representative for information.

You must complete the appropriate serial communications system configuration checklist. Only one serial environment is supported at a time.

- *Checklist 11: Serial system configuration–SNA/SDLC*

- *Checklist 12: Serial system configuration–asynchronous*

- *Checklist 13: Serial system configuration–bisynchronous.*

Unsupported SNA/SDLC and bisynchronous protocols

The following SNA/SDLC and bisynchronous protocols are not supported:

- Direct host communication system–to–micro–diskette communication

- Card or ID reader

- Device–to–de vice data transfer (such as 4235 LPS to 4235 LPS)

- 4235 LPS–to–host computer system polling.

Table 6–4 lists the serial interface pin assignments.

Table 6–4. **Serial interface pin assignments**

Signal Name	Pin number	Telephone	CCITT	Source	Description
Protective ground	1	AA	101		
Transmitted data	2	BA	103	4235 LPS	Data transmitted to host computer system.
Received data	3	BB	104	Modem	Data received from host computer system.
Request to send	4	CA	105	4235 LPS	Asserted to allow the 4235 LPS to send.
Clear to send	5	CB	106	Modem	Must be asserted to allow the 4235 LPS to transmit.
Data set ready	6	CC	107	Modem	Must be asserted to allow the 4235 LPS to receive.
Signal ground (common return)	7	AB	102		
Carrier detect	8	CF	109	Modem	Must be asserted to allow the 4235 LPS to receive.
Printer ready	11			4235 LPS	Same as Data Terminal Ready, using TTL levels.
Transmit signal element timing	15		114	Modem	The DCE (modem) provides the DTE (4235 LPS) with transmit clocking information.
Receive signal element timing	17		115	Modem	The DCE (modem) provides the DTE (4235 LPS) with transmit clocking information.
Data Terminal Ready	20	CD	108	4235 LPS	Asserted by the 4235 LPS when ready to receive data.
Ring indicator	22	CE	125		

The following pins are not used: 9, 10, 12–14, 16, 18–19, 21, and 23–25.

Serial system configuration options–SNA/SDLC

Table 6–5   Lists the serial system configuration SNA/SDLC options. If you choose to use SNA/SDLC as the serial interface, complete Checklist 11: *Serial system configuration–SNA/SDLC* (figure 6–6). Your Xerox service representative uses the checklist during installation.

Table 6–5.   **Serial system configuration options–SNA/SDLC**

SNA/SDLC settings	Options (defaults appear bold)	Description
Port configuration	**1st interface** 2nd interface	Select the *2nd interface*. A three–stop process is used to configure the port: 1. Select the communication protocol. 2. Select the default emulation. 3. Enable or disable the Line Printer Mode. **Note**: One port must be configured for parallel.
Communication protocol	**Parallel** SNA/SDLC Asynchronous Bisynchronous	Select *SNA/SDLC* to configure the communication protocol.
Current emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Current Emulation mode used on the selected interface. You can select the XDPM, XPPM, XScript, or HP LaserJet IID emulation modes. Jobs are processed using the current emulation. With Mode Switching enabled, an MCK command can dynamically change the current emulation setting.
Line printer mode	**Enable** Disable	This option allows you to *enable* or *disable* the Line Printer Mode option on the selected interface.
Mode switching/ default mode	Enable **Disable**	This option allows you to select the Default Emulation mode used on the selected interface. If enabled, a prompt allows you to select the Default Emulation mode.
Default emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Default Emulation mode in which jobs should print when you encounter an MCK reset command.
Data encoding mode	**NRZ** NRZI	The selections are *NRZ* (non–return to zero) and *NRZI* (non–return to zero inverted). The selection must correspond to the method of code transmission from the host computer system.
XID code	SDLC Address: **C1** Three digit Terminal ID: 013000	This dialog allows you to enter an SDLC address and a 3–digit Terminal IDBLK followed by a three–digit terminal ID. The SDLC address is two digits. The 4235 LPS uses a three digit Terminal ID for 3777 mode. The 013=IDBLK and 000=terminal ID.
Window size	**7**	This dialog selects the number (from 1 to 7) of SDLC frames that you can send to the 4235 LPS before acknowledgment and line turnaround are necessary.

Table 6–5   **Serial system configuration options–SNA/SDLC (continued)**

SNA/SDLC settings	Options (defaults appear bold)	Description
Character code set	7–bit ASCII **EBCDIC** ISO 6937 8–bit ASCII	Only use EBCDIC in a normal SNA environment.
Language	**U.S. English** UK English French Dutch Spanish Italian Danish Norwegian Finnish German Swedish Belgian Canadian French Special Table	Select the appropriate language table for your print jobs. Language Table Selection is not available in XPPM operation.
Application ID	**RJEWC03**	You can enter an 8–character–maximum application ID (APPLID) field used in logon statements. The 4235 LPS uses this field to construct a formatted logon statement when you select auto logon.
Log mode name	**BUF512**	You can enter an 8–character–maximum LOGMODE field used in logon statements. The 4235 LPS uses this field to construct a formatted logon statement when you select auto logon and formatted logon from Print mode.
Data field	**RMT999** _____ _____ _____	This dialog allows you to enter an 80–character–maximum DATA field used in logon statements. The 4235 LPS uses this field to construct a formatted logon statement when you select auto logon and formatted logon from Print mode.
Auto logon	Enable **Disable**	Enabling auto logon allows a formatted logon to be sent immediately after booting or after leaving the System Configuration menu.
Line monitor format	**SDLC/SNA headers and data** SDLC headers SNA headers and data SNA headers	Select the line monitor format applicable to your communication needs.
Line/modem settings	Switched **Leased** Full duplex Half duplex	Typically, leased lines are full duplex, while switched lines are half duplex. Note: The DTR option is not recommended for leased line operation because the modem on the sending end does not relay the drop of DTR to the receiving end. Dropping DTR causes a dial up modem to disconnect.
Disconnect timer interval	**60**	You can set the disconnect timer for dial up lines for any interval from 1 to 99 seconds. An interval of at least 20 seconds is recommended.

Table 6–5. **Serial system configuration options–SNA/SDLC** (continued)

SNA/SDLC settings	Options (defaults appear bold)	Description
Data monitor	Enable **Disable**	When you *enable* data monitor, the hexadecimal value of all received character codes and functions print in the order received. Not supported in XPPM; however, a data monitor of XPPM jobs is possible if you send an XPPM job to a port configured for XDPM with the data monitor *enabled*.
Pass through mode	IBM **Xerox**	When you select IBM, it remains active as long as the 4235 LPS does not receive the Xerox FCB Mode. In order to return to IBM mode, the host computer must send the IBM mode (3777 emulation) FCB. Neither mode applies in XPPM.
Automatic printing	**Enable** Disable	Automatic printing enables the 4235 LPS to process documents without operator intervention. If automatic printing is disabled, the operator must release each job in the queue before it prints.
Line monitor trace window	Disable **First and last** numbered Continuous	The line monitor trace window is a software diagnostic tool used to resolve serial communications problems. If *enabled*, you have three choices: 1. *First and last* stores the first and last communication window. 2. *Numbered* allows you to specify the starting window. 3. *Continuous* traps the last 50K of transmitted or received data.
User access	Level 1 Level 2 **Level 3**	You can assign access to 4235 LPS to users on three levels: *Level 1* allows users to access only the Print Mode screen. *Level 2* allows users to access Print Mode, Queue Management, Printer Setup, Document Formatting, and the Utilities screens. *Level 3* allows users to access all options in level 2 with the addition of System Configuration and User Services screens.
Date & time	MM/DD/YY HH:MM:SS	Enter the date as month, day, and year. Enter the time in hours, minutes, and seconds.
Time zone	Hawaii **Pacific** Mountain Central Eastern Atlantic GMT European	Select the appropriate time zone for your location.
Daylight savings	**Yes** No	Enable this option if daylight savings is in effect.

Figure 6–6.   **Checklist 11: Serial system configuration–SNA/SDLC**

Checklist 11: Serial system configuration–SNA/SDLC

Port configuration

1st Interface

Communication protocol:	❏	Parallel	❏	**SNA/SDLC**	❏	Async	❏ Bisync
Current emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID
Line printer mode:	❏	**Enable**	❏	Disable			
Mode switching/default mode:	❏	Enable	❏	**Disable**			
Default emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID

2nd Interface

Communication protocol:	❏	Parallel	❏	**SNA/SDLC**	❏	Async	❏ Bisync
Current emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID
Line printer mode:	❏	**Enable**	❏	Disable			
Mode switching/default mode:	❏	Enable	❏	**Disable**			
Default emulation:	❏	**XDPM**	❏	XPPM	❏	XScript	❏ HP LaserJet IID

SDLC

Data encoding mode:	❏ **NRZ**	❏ NRZI			
XID code:	SDLC Address:	C1	Other:_____		
	3–digit terminal IDBLK:	010	Other: _____		
	+3–digit terminal ID:	000	Other: _____(Default = 010000)		
Window size:	**7 SDLC frames**	Other: _____	(1–7 frames)		

SNA

Character code:	❏	7–bit ASCII	❏ EBCDIC	❏	ISO 6937
	❏	8–bit ASCII			
Application Identification:	**RJEWC03**		Other:		
Log mode name:	**BUF512**		Other:		
Data field:	_____				
Auto Logon:	❏	Enable	❏ **Disable**		

Line monitor format:	❏	**SDLC/SNA headers & data**	❏	SDLC headers
	❏	SNA headers & data	❏	SNA headers
Line/modem settings:	❏	Switched	❏ **Leased**	
Disconnect timer:		**60 seconds**	Other: _____(0–99 seconds)	
Data monitor:	❏	Enable	❏ **Disable**	
Pass through mode:	❏	IBM mode	❏ **Xerox mode**	

Other features

Automatic printing:	❏	**Enable**	❏	Disable		
Line monitor trace window:	❏	**1st and last**	❏	Numbered	❏	Continuous
User access:	❏	Level 1	❏	Level 2	❏	**Level 3**
Date and time:	MM/DD/YY_____		HH:MM:SS_____			
Time zone:	❏	Hawaii	❏ Pacific	❏ Mountain	❏	Central
	❏	Eastern	❏ Atlantic	❏ GMT	❏	European
Daylight savings:	❏	**Yes**	❏	No		

Serial system configuration options–asynchronous

Table 6–6 lists the serial system configuration asynchronous options. If you choose to use an asynchronous serial interface, complete *Checklist 12: Serial system configuration–asynchronous* (figure 6–7). Your Xerox service representative uses the checklist during installation.

Note: The asynchronous interface is not supported for XPPM.

Table 6–6.   **Serial system configuration options–asynchronous**

Settings	Options (defaults appear bold)	Description
Port configuration	**1st interface** 2nd interface	Select the *2nd interface*. A three–stop process is used to configure the port: 1. Select the communication protocol. 2. Select the default emulation. 3. Enable or disable the Line Printer Mode. Note: One port must be configured for parallel.
Communication protocol	**Parallel** SNA/SDLC Asynchronous Bisynchronous	Select *Asynchronous* configure the communication protocol.
Current emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Current Emulation mode used on the selected interface. You can select the XDPM, XPPM, XScript, or HP LaserJet IID emulation modes. Jobs are processed using the current emulation. With Mode Switching enabled, an MCK command can dynamically change the current emulation setting.
Line printer mode	**Enable** Disable	This option allows you to *enable* or *disable* the Line Printer Mode option on the selected interface.
Mode switching/ default mode	Enable **Disable**	This option allows you to select the Default Emulation mode used on the selected interface. If enabled, a prompt allows you to select the Default Emulation mode.
Default emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Default Emulation mode in which jobs should print when you encounter an MCK reset command.
Character code set	**7–bit ASCII** EBCDIC ISO 6937 8–bit ASCII	This option selects the code set and number of bits per character. EBCDIC and ISO 6397 encoding assume eight bits.

Table 6–6. **Serial system configuration options–asynchronous (continued)**

Settings	Options (defaults appear bold)	Description
Language	**U.S. English** UK English French Dutch Spanish Italian Danish Norwegian Finnish German Swedish Belgian Canadian French Special Table	Select the appropriate language table for your print job.
Line ending character	**CR & LF** CR LF	Combining a carriage return (0DH) and a line feed (0AH in ASCII, 25H in EBCDIC) constitutes a line end and command terminator. A carriage return alone or a line feed alone are alternatives that may be defined as a line end.
Single shift out	**Enable** Disable	*Enabled* allows code mapping to be shifted to the secondary table for the next received code only.
Baud rate	300 600 1200 2400 4800 **9600** 19,200	This rate signifies the data transfer speed, which is equal to the number of signal events per second. Use ETX/ACK or XON/XOFF communication protocol to ensure the integrity of the transmitted data when baud rates above 4800 are used.
Protocols	ETX/ACK	When this protocol is in effect, the 4235 LPS sends an ACK (06H in ASCII, 2EH in EBCDIC) to the host computer system whenever an ETX (03H) is received to acknowledge the successful receipt of the preceding block of text. The ACK is not sent until the 4235 LPS is ready to receive more data. If errors are detected in the block, the 4235 LPS responds to the ETX with a NAK (15H in ASCII, 3DH in EBCDIC).
	XON/XOFF (DC1/DC3)	This protocol allows the 4235 LPS to inform the host computer system of its readiness to receive data. The 4235 LPS sends a DC3 code (13H) to the host computer system under the following conditions: • The space in the input buffer is equivalent to less than that of 64 characters • The 4235 LPS is unable to accept further data. Such a condition usually exists for only a brief period. When the 4235 LPS is again ready to receive data, it sends a DC1 code (11H) to the host. This protocol may not be used with a half duplex line. When both protocols are selected, ETX/ACK and XON/XOFF may be in effect at the same time.
	Both	Both protocols may be inactive.
	None	

Table 6–6. **Serial system configuration options–asynchronous (continued)**

Settings	Options (defaults appear bold)	Description
Interface signals	DTR	The DTR (Data Terminal Ready) option causes the DTR line to go low (negative, false) when the space in the input buffer is less than that of 64 characters. The line goes high (positive, true) when the 4235 LPS is ready to receive data. If this option is not in effect, the Data Terminal Ready line remains high at all times. **Note:** This option is designed to be used with direct connect interfaces from a host computer system or PC.
	DSR	When the DSR (Data Set Ready) option is enabled, the 4235 LPS polls the Data Set Ready signal from the host every .5 seconds. If DSR is low two times in a row, the link is broken, DTR is dropped for five seconds and then raised again. **Note:** This option is designed to accommodate European switched line configurations.
	DTR & DSR	When this is selected, both options are active, and DSR is polled every .5 seconds. If DSR is low two times in a row, DTR is dropped and held low for five seconds, then raised again. DTR is also dropped when the 4235 LPS is not ready to receive data, and it is raised when the 4235 LPS is ready.
	None	When this is selected, both options are inactive.
Line/modem settings	**Full duplex** Half duplex	Typically, leased lines are full duplex, while switched lines are half duplex. The DTR option is not recommended for half duplex operation, since dropping DTR causes a dialup modem to disconnect.
Parity	**Odd** Even None	Odd, even, or no parity may be chosen. If no parity is chosen, the 4235 LPS does not expect a parity bit.
Stop bits	**One** One and one half Two	This is the number of stop bits that the 4235 LPS expects after each character.
Auto disconnect	Enable **Disable**	When *enabled*, the 4235 LPS disconnects the communication line by dropping DTR if it receives no data for 30 seconds. If the DSR option has been enabled, DTR remains low until DSR is also dropped; DTR is then raised again. **Note:** The Auto Disconnect option is designed to accommodate European switched line configurations.
Hold line period	**60**	The hold line period defines the length of inactivity allowed during communications before the 4235 LPS disconnects. You can specify a hold line period of up to 999 seconds.
Data monitor	Enable **Disable**	When data monitor is *enabled*, the hexadecimal value of all received character codes and functions are printed in the order received. Data monitor is not supported in XPPM; however, a data monitor of XPPM jobs is possible if you send an XPPM job to a port configured for XDPM with the data monitor *enabled*.

Table 6–6. **Serial system configuration options–asynchronous (continued)**

Settings	Options (defaults appear bold)	Description
Job timeout period	**10**	The number of seconds after which no data is transmitted by the host computer system, the job is considered terminated.
Automatic printing	**Enable** Disable	Automatic printing enables the 4235 LPS to process jobs without operator intervention. If automatic printing is *disabled*, the operator must release each job in the queue before it prints.
Line monitor trace window	Disable **First and last** Numbered Continuous	The line monitor trace window is a software diagnostic tool used to resolve serial communications problems. If *enabled*, you have three choices: 1. *First and last*, which stores the first and last communication window. 2. *Numbered*, which allows you to specify the starting window. 3. *Continuous*, which traps the last 50K of transmitted or received data.
User access	Level 1 Level 2 **Level 3**	You can assign access to the 4235 LPS users on three levels: *Level 1* allows access only to the Print Mode screen. *Level 2* allows access to Print Mode, Queue Management, Printer Setup, Document Formatting, and the Utilities screens. *Level 3* allows access to all options in level 2 with the addition of System Configuration and User Services screens.
Date & time	MM/DD/YY HH:MM:SS	Enter the date as month, day, and year. Enter the time in hours, minutes, and seconds.
Time zone	Hawaii **Pacific** Mountain Central Eastern Atlantic GMT European	Select the appropriate time zone for your location.
Daylight savings	**Yes** No	Enable this option if daylight savings is in effect.

Figure 6–7.   **Checklist 12: Serial system configuration–asynchronous**

Checklist 12: Serial system configuration–asynchronous

Port configuration

1st Interface

Communication protocol:	❏ Parallel	❏ SNA/SDLC	❏ Async	❏ Bisync
Current emulation:	❏ XDPM	❏ XScript	❏ HP LaserJet IID	
Line printer mode:	❏ Enable	❏ Disable		
Mode switching/default mode:	❏ Enable	❏ Disable		
Default emulation:	❏ XDPM	❏ XScript	❏ HP LaserJet IID	

2nd Interface

Communication protocol:	❏ Parallel	❏ SNA/SDLC	❏ Async	❏ Bisync
Current emulation:	❏ XDPM	❏ XScript	❏ HP LaserJet IID	
Line printer mode:	❏ Enable	❏ Disable		
Mode switching/default mode:	❏ Enable	❏ Disable		
Default emulation:	❏ XDPM	❏ XScript	❏ HP LaserJet IID	

Asynchronous settings

Character code:	❏ 7–bit ASCII	❏ EBCDIC	❏ ISO 6937	❏ 8–bit ASCII
Line ending character:	❏ Carriage return & line feed ❏ Line feed		❏ Carriage return	
Single shift out:	❏ Enable	❏ Disable		
Baud rate:	❏ 300 ❏ 4800	❏ 600 ❏ 9600	❏ 1200 ❏ 19200	❏ 2400
Protocols:	❏ ETX/ACK	❏ XON/XOFF	❏ Both	❏ None
Interface signals:	❏ DTR	❏ DSR	❏ DTR & DSR	❏ None
Line/modem settings:	❏ Full duplex	❏ Half duplex		
Parity:	❏ Odd	❏ Even	❏ None	
Stop bits:	❏ One	❏ 1 and 1/2	❏ Two	
Auto disconnect:	❏ Enable	❏ Disable		
Hold line period:	60 seconds	Other: _____(0–999 seconds)		
Data monitor:	❏ Enable	❏ Disable		
Job Timeout period:	10 seconds	Other: _____(0–99 seconds)		

Other features

Automatic printing:	❏ Enable	❏ Disable		
Line monitor trace window:	❏ 1st and last	❏ Numbered	❏ Continuous	
User access:	❏ Level 1	❏ Level 2	❏ Level 3	
Date and time:	MM/DD/YY	_____	HH:MM:SS	_____
Time zone:	❏ Hawaii ❏ Eastern	❏ Pacific ❏ Atlantic	❏ Mountain ❏ GMT	❏ Central ❏ European
Daylight savings:	❏ Yes	❏ No		

Serial system configuration options–bisynchronous

Table 6–7 lists the serial system configuration bisynchronous options. If you choose to use a bisynchronous serial interface, complete Checklist 13: Serial system configuration–bisynchronous (figure 6–8). Your Xerox service representative uses the checklist during installation.

Table 6–7. **Serial system configuration options–bisynchronous**

Settings	Options (defaults appear bold)	Description
Port configuration	**1st interface** 2nd interface	Select the *2nd interface*. A three–stop process is used to configure the port: 1. Select the communication protocol. 2. Select the default emulation. 3. Enable or disable the Line Printer Mode. Note: One port must be configured for parallel.
Communication protocol	**Parallel** SNA/SDLC Asynchronous Bisynchronous	Select *Bisynchronous* configure the communication protocol.
Current emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Current Emulation mode used on the selected interface. You can select the XDPM, XPPM, XScript, or HP LaserJet IID emulation modes. Jobs are processed using the current emulation. With Mode Switching enabled, an MCK command can dynamically change the current emulation setting.
Line printer mode	**Enable** Disable	This option allows you to *enable* or *disable* the Line Printer Mode option on the selected interface.
Mode switching/ default mode	Enable **Disable**	This option allows you to select the Default Emulation mode used on the selected interface. If enabled, a prompt allows you to select the Default Emulation mode.
Default emulation	**XDPM** XPPM XScript HP LaserJet IID	This option allows you to select the Default Emulation mode in which jobs should print when you encounter an MCK reset command.
Character code	7–bit ASCII **EBCDIC** ISO 6937 8–bit ASCII	This option selects the code set and number of bits per character. EBCDIC and ISO 6397 encoding assume eight bits.

Table 6–7.   **Serial system configuration options–bisynchronous (continued)**

Settings	Options (defaults appear bold)	Description
Language	**U.S. English** UK English French Dutch Spanish Italian Danish Norwegian Finnish German Swedish Belgian Canadian French Special Table	Select the appropriate language table for your job. Language Table Selection is not supported in XPPM operation.
Parity	Odd Even **None**	Odd or even parity must be chosen for 7–bit ASCII. Selecting no parity for 7–bit ASCII is invalid.
Emulation	**2770** 2780 2780 MR 3780	These modes allow the 4235 LPS to react to commands and data streams as if it were one of these IBM RJE devices. 2780 MR represents a 2780 with the multiple record feature. These modes differ significantly in their interpretation of record delimiters and line endings.
Line/modem	Switched **Leased**	This option specifies whether a leased or switched line is used.
ENQ/WACK LOOP EXIT	Enable **Disable**	This menu enables and disables automatic exit from an ENQ/WACK loop when communications or 4235 LPS malfunctions occur. When *enabled*, the 4235 LPS sends a DLE EOT automatically to the host computer system after 32 WACKs. This option should be used only for switched lines.
Hold line period	**60**	The hold line period defines the length of inactivity allowed during communications before the 4235 LPS disconnects. A hold line period of up to 999 seconds can be specified.
Data monitor	Enable **Disable**	When data monitor is *enabled*, the hexadecimal values of all received character codes and functions are printed in the order received. Data monitor is not supported in XPPM operation; however, a data monitor of XPPM jobs is possible if you send an XPPM job to a port configured for XDPM with the data monitor *enabled*.
Automatic printing	**Enable** Disable	Automatic printing enables the 4235 LPS to process jobs without operator intervention. If automatic printing is *disabled*, the operator must release each job in the queue before it prints.

Table 6–7.   **Serial system configuration options–bisynchronous (continued)**

Settings	Options (defaults appear bold)	Description
Line monitor trace window	**Disable** First and last Numbered **Continuous**	The line monitor trace window is a software diagnostic tool used to resolve serial communications problems. If *enabled*, you have three choices: 1. *First and last*, which stores the first and last communication window 2. *Numbered*, which allows you to specify the starting window 3. *Continuous*, which traps the last 50K of transmitted or received data.
User access	Level 1 Level 2 **Level 3**	You can assign access to the 4235 LPS users on three levels: *Level 1* allows access only to the Print Mode screen. *Level 2* allows access to Print Mode, Queue Management, Printer Setup, Document formatting, and the Utilities screens. *Level 3* allows access to all level 2 options with the addition of System Configuration and User Services screens.
Date & time	MM/DD/YY HH:MM:SS	Enter the date as month, day, and year. Enter the time in hours, minutes, and seconds.
Time zone	Hawaii **Pacific** Mountain Central Eastern Atlantic GMT European	Select the appropriate time zone for your location.
Daylight savings	**Yes** No	Enable this option if daylight savings is in effect.

Figure 6–8. **Checklist 13: Serial system configuration–bisynchronous**

Checklist 13: Serial system configuration–bisynchronous

Port configuration

1st Interface

Communication protocol:	❏ Parallel	❏ SNA/SDLC	❏ Async	❏ **Bisync**
Current emulation:	❏ XDPM	❏ XPPM		
Line printer mode:	❏ Enable	❏ Disable		
Mode switching/default mode:	❏ Enable	❏ Disable		
Default emulation:	❏ XDPM	❏ XPPM		

2nd Interface

Communication protocol:	❏ Parallel	❏ SNA/SDLC	❏ **Async**	❏ Bisync
Current emulation:	❏ XDPM	❏ XPPM		
Line printer mode:	❏ Enable	❏ Disable		
Mode switching/default mode:	❏ Enable	❏ Disable		
Default emulation:	❏ XDPM	❏ XPPM		

Bisynchronous settings

Character code:	❏ 7–bit ASCII	❏ EBCDIC	❏ ISO 6937	❏ 8–bit ASCII
Parity:	❏ Odd	❏ Even	❏ **None**	
Emulation:	❏ **2770**	❏ 2780	❏ 2780MR	❏ 3780
Line/modem settings:	❏ Switched	❏ Leased		
ENQ/WACK loop exit:	❏ Enable	❏ Disable		
Hold line period:	**60 seconds**	Other: _____(0–999–seconds)		
Data monitor:	❏ Enable	❏ Disable		

Other features

Automatic printing:	❏ **Enable**	❏ Disable		
Line monitor trace window:	❏ **Disable**	❏ 1st and last	❏ Numbered	❏ Continuous
User access:	❏ Level 1	❏ Level 2	❏ **Level 3**	
Date and time:	MM/DD/YY	HH:MM:SS		
Time zone:	❏ Hawaii	❏ Pacific	❏ Mountain	❏ Central
	❏ Eastern	❏ Atlantic	❏ GMT	❏ European
Daylight savings:	❏ **Yes**	❏ No		

7. Host computer system generation

This chapter provides guidelines for integrating and operating the 4235 LPS as a remote printer in a distributed remote job entry (RJE) network. This chapter also provides sample system generation parameters for five different environments, as well as operational hints.

The 4235 LPS simulates the actions of an RJE terminal for output printing only. You cannot use it for the submission of jobs to the host computer system. To integrate the 4235 LPS into an RJE network, you must specify the appropriate parameters within the host initialization procedures and you must generate the host.

System generation parameters for the following host computer systems are available:

- An OS/MVS host computer system with JES2

- An OS/MVS host computer system with JES3

- A VM/RSCS host configuration

- A VSE/POWER host computer system

- An OS/VS1 host computer system

- An NCP SNA host computer system; VTAM switched network majornode; JES2 sample host computer system PARMLIB parameters.

This chapter provides the following information for each host computer system environment:

- Environment descriptions

- Initialization process review

- System generation procedures

- Sample parameters

- Sign–on procedures.

This chapter also provides the following information:

- Sample SNA parameters

- Xerox host software options.

OS/MVS JES2

Environment description

In an SNA environment, the 4235 LPS emulates a 3777 Model 3 communications terminal. The 4235 LPS may be defined in a BSC environment as a Remote Job Entry (RJE) terminal operating in any of the three modes available: 2770, 2780, or 3780. As a remote terminal, OS/MVS and JES2 facilities support the 4235 LPS.

Initialization process review

The 4235 LPS is defined to a JES2 system using standard JES2 system generation statements and procedures. The five–step process requires only the addition of several generation statements to the JES2 initialization deck.

1. Review the host computer system global parameters and specify the appropriate values.

2. Specify the remote terminal parameters (RMTnn).

3. Specify the remote printer parameters (Rnn.PR1).

4. Specify the remote punch parameters (Rnn.PU1).

5. Specify the communication line parameters (LINEnn).

System generation procedures

Step 1. Specify the appropriate values for the following JES2 parameters:

Values	Description
&NUMLNES	The largest line identification number (the number of teleprocessing lines).
&NUMRJE	The number of remote terminals.
&TPBFSIZ	Teleprocessing buffer size (520 to allow operation in 512–byte mode).
&NUMTPBF	The number of teleprocessing buffers.
&NUMBUF	The number of I/O buffers is increased by five for each active remote terminal.
&PRTRANS	Print line translation should be set to NO to allow printing of lowercase letters.
&LINECT	The maximum number of lines per page. A value of 0 suppresses automatic page overflow. You can override his value by a JOB card parameter or a JOBPARM control card.
&TPIDCT	Specifies the number of print lines on each separator page.

Step 2. Describe the 4235 LPS as a remote terminal with the RMTnn parameter. You must specify various parameters depending on the device.

Mode	Device	Parameters
2770	**RMTnn**	2770,COMP,NOMRF,BUFEX,ABUFEX, (LINE=xx,)TRANSP
2780	**RMTnn**	2780,NOCOMP,MRF,(LINE=xx,)TRANSP
3780	**RMTnn**	3780,COMP,NOMRF,(LINE=xx,)TRANSP

where:

nn Is the remote number assigned to the 4235 LPS.

COMP/NOCOMP Specifies whether space (blank) compression is used.

MRF/NOMRF Specifies whether the multiple record feature is used.

BUFEX,ABUFEX (2770 only). Specifies that both buffer expansion and additional buffer expansion is used.

LINE=xx Specifies the line number for a leased line, as defined by a LINEnn parameter.

TRANSP Indicates the terminal has the text transparency feature.

Remaining subparameters default to the appropriate values and do not need to be specified.

Step 3. Describe the 4235 LPS as a remote printer with the Rnn.PRn parameter. The minimum specification is:

Rnn.PR1 START,OPERATOR,CLASS=A,PRWIDTH=185

where:

nn Is the remote number, as defined in the RMTnn parameter.

START Specifies the device is to be automatically activated.

OPERATOR Specifies operator control of forms.

CLASS A= Specifies the print output class.

PRWIDTH=185 The maximum number of printed characters per line.

Additional parameters to be considered include NOSEP, DRAIN, and FORMS=.

where:

NOSEP Specifies that the separator pages are not provided between data set groups. The operator command $T Rn.PR1,S=Y can override this parameter. Also suppresses printing of operator messages.

DRAIN Specifies that print output must be started by the operator command ($S Rn.PR1).

FORMS=	Specifies the forms identifier to be loaded initially in the 4235 LPS.
Step 4.	Describe the 4235 LPS as a remote punch device with the Rnn.PUn parameter. The minimum specification is:

Rnn.PU1 START,OPERATOR,CLASS=A

where:

nn	Is the remote number, as defined in the RMTnn parameter.
START	Specifies the device is to be activated automatically.
OPERATOR	Specifies operator control of forms.
CLASS A=	Specifies the print output class.
Step 5.	Specify the communication line to which the 4235 LPS is attached with the LINEnn parameter. The minimum specification is:

LINEnn UNIT=cau,TRANSP

where:

nn	Is the line number assigned to the 4235 LPS.
cau	Is the UCB address to be used for this line.
TRANSP	Indicates the terminal has the text transparency feature.
	Additionally, you must specify the characteristics of the line; HDUPLEX indicates a two–wire, half duplex facility, while FDUPLEX indicates a four–wire, full duplex facility. No further modifications are necessary to initialize a JES2 system.

Sample parameters

Leased line environment

```
&NUMLNES=1
&NUMRJE=1
&TPBFSIZ=520
&PRTRANS=NO
&LINECT=0
LINE9 UNIT=041,FDUPLEX,TRANSP
RMT29 2770,COMP,NOMRF,LINE=9,BUFEX,ABUFEX,TRANSP
R29.PR1 START,OPERATOR,CLASS=A,PRWIDTH=255
R29.PU1 START,OPERATOR,CLASS=B
```

Switched line environment

```
&NUMLNES=1
&NUMRJE=1
&TPBFSIZ=520
&PRTRANS=NO
&LINECT=0
LINE9 UNIT=041,TRANSP
RMT29 3780,COMP,NOMRF,TRANSP
R29.PR1 START,OPERATOR,CLASS=A,PRWIDTH=255
R29.PU1 START,OPERATOR,CLASS=B
```

Sign–on procedures

The format of the sign–on command is:

/*SIGNON RMTnn

where:

/   Is in column 1.

RMTnn   Identifies the 4235 and starts printing in column 16.

OS/MVS JES3

Environment description

In an SNA environment, the 4235 LPS emulates a 3777 Model 3 communication terminal. The 4235 LPS may be defined in a BSC environment as a Remote Job Processing (RJP) terminal operating in the 2770 emulation mode only. As a remote terminal, OS/MVS and JES3 facilities support the 4235 LPS.

Initialization process review

The 4235 LPS is defined to a JES3 system using standard JES3 system generation statements and procedures. The four–step process requires only the addition of several generation statements to the JES3 initialization deck.

1. Specify the remote terminal parameters (RJPTERM).

2. Specify the communication line parameters (RJPLINE).

3. Specify the remote printer parameters (DEVICE).

4. Specify the remote punch parameters (DEVICE).

System generation procedures

Step 1.   Describe the 4235 LPS as a remote terminal with the RJPTERM statement. The minimum specification is:

RJPTERM N=remoteid,T=2770,PR=1(,RD=1), PRW = 255

*where***:**

remoteid	Specifies the logical name for the 4235 LPS.
T=2770	Specifies a 2770–type printer.
PR=1	Specifies a single printer.
RD=	Specifies the optional keyboard/display.
PRW = 255	Specifies a line width of 255 characters for the 4235 LPS.

You may also specify the following parameters for the RJPTERM statement:

F=XBUF	Indicates the 4235 LPS has an expanded buffer.
B=512	Both parameters must be specified.
G=group	May be used to add an additional logical name for output routing.
F=PRES	Indicates that space (blank) compression/ expansion will be performed.
Step 2.	Define the 4235 LPS as a remote printer with the DEVICE statement. The minimum specification is:

DEVICE DTYPE=RMT1403,JNAME=remoteidPR1,XLATE=NO

where:

DTYPE=RMT1403	Specifies a remote printer.
JNAME=remoteidPR1	Defines the 4235 LPS as terminal output; "remoteid" is the remote id specified in the RJPTERM statement.
XLATE=NO	Suppresses translation of nonstandard characters.

You may also specify the following parameters:

CKPNT, FORMS, HEADER, LINELIM.

Step 3.	Define the 4235 LPS as a remote punch device with the DEVICE statement. The minimum specification is:

DEVICE DTYPE=RMT2540,JNAME=remoteidPU1,XLATE=NO

*where***:**

DTYPE=RMT2540	Specifies a remote punch.
JNAME=remoteidPU1	Defines the 4235 LPS as terminal output; "remoteid" is the remote id specified in the RJPTERM statement.
XLATE=NO	Suppresses translation of nonstandard characters.

Step 4. Define the line characteristics with the RJPLINE statement; minimum specification is:

RJPLINE N=linename,A=adapter

where:

linename Is the name assigned to this line.

adapter Is the hardware channel address of the interface for this line.

You may specify the following parameters as needed:

F=DIAL Specifies a switched line (sign–on card must be transmitted from the controller).

O=AUTO Specifies that the line start automatically at initialization (recommended).

T=remoteid Specifies that the remote id, as defined in the RJPTE RM statement, is on a leased line.

S speed = Specifies the line speed (default is 2400 bps).

No further modifications are necessary to initialize a JES3 system.

Sample parameters

Leased line environment

RJPLINE N=LINE7,A=030,T=RMT13
RJPTERM N=RMT13,T=2770,PR=1,F=FXBUF,B=512,
PRW= 255 DEVICE
DTYPE=RMT1403,JNAME=RMT13PR1,XLATE=
  NO,HEADER=NO
DEVICE DTYPE=RMT2540,JNAME=RMT13PU1,XLATE=NO

Switched line environment

RJPLINE N=LINE7,A=030,F=DIAL
RJPTERM N=RMT13,T=2770,PR=1,RD=1,
  F=XBUF,B=512,
PRW=255 DEVICE
DTYPE=RMT1403,JNAME=RMT13PR1,
  XLATE=NO,HEADER=NO
DEVICE DTYPE=RMT2540, JNAME=RMT13PU1,
  XLATE=NO

Sign–on procedures

Sign–on is performed only from a 4235 LPS on a switched line.

The format is:

/*SIGNON RJPTERM name

where:

/	Is in column 1 and RJPTERM starts in column 16.
name	Is the logical name of the 4235 LPS as specified in the RJPTERM statement.

VM/RSCS

Environment description

The 4235 LPS may be defined in a BSC environment as a remote job entry (RJE) terminal operating in any of the three modes available: 2770, 2780, or 3780. As a remote terminal the 4235 LPS may be supported by VM and RSCS facilities.

Initialization process review

The 4235 LPS is defined to RSCS in the RSCS CONFIG file.

1. Specify parameters describing the links to the 4235 LPS using the LINK statement.

2. Add the virtual and real UCB address for the 4235 LPS to the VM directory for RSCS.

   Refer to the IBM manual, RSCSNET Version 2 Planning and Installation.

System generation procedures

Step 1. You must define each 4235 LPS with a GENLINK macro statement in the file AXSLINKS COPY. This statement defines the name of the 4235 LPS (the "linkid") and the line address (for leased lines; switched lines are defined separately in step 2). The statement is:

GENLINK ID=linkid,TYPE=DMTNPT(,LINE=addr)

where:

ID=linkid	Specifies the name identifying the 4235 LPS.
TYPE=DMTNPT	Specifies the hardware terminal line manager.
LINE=addr	Defines the virtual address of a leased line.
Step 2.	Switched lines are defined in a GENLINE macro statement in the file LAXLINES COPY.

GENLINE LINE=addr

where:

LINE=addr	Defines the virtual address of the switched line to be used.
Step 3.	Add the virtual and real UCB addresses for the installed 4235 LPS to the VM directory for RSCS by using the DEDICATE statement.

Note: If other devices share the addresses, they may be already in the directory. The form of the DEDICATE statement is:

DEDICATE vaddr raddr

where:

vaddr	Is the virtual line address.
raddr	Is the real line address.

No further modifications are necessary to update a VM/RSCS system.

Sample parameters

Leased and switched line environment–VM/RSCS V2.1

LINK VANNUYS RJE 041 8 B 3 FIFO***

Leased and switched line environment–VM/RSCS V1.3

LINK VANNUYS DMTNPT 041 NPTT B 3

Sign–on procedures

The format of the sign–on command is:

SIGNON linkid mode–identifier CMPR Pnn TRSY

where:

linkid	Is the location identifier of the remote terminal.
	Mode–identifier may be "2770 B512" for 2770 mode, "2780 B400" for 2780 mode, or "3780 B512" for 3780 mode.
CMPR	Specifies that the blank compression feature is present.
Pnn	Specifies print width (number of characters per line).
TRSY	Specifies that the transparency feature is present.
PCHY	Specifies that remote punch output is available.

VSE/POWER

Environment description

In an SNA environment, the 4235 LPS emulates a 3777 Model 3 communication terminal. The 4235 LPS may be defined in a BSC environment as a Remote Job Entry (RJE) terminal operating in any of the three modes available: 2770, 2780, or 3780. As a remote terminal, the 4235 LPS may be supported by standard VSE/POWER RJE facilities.

Initialization process review

The 4235 LPS is defined to VSE/POWER using standard VSE/POWER system generation statements. The four–step process requires only the addition of several statements to the standard generation procedure.

1. Review global parameters and specify values.

2. Specify remote terminal parameters (PRMT).

3. Specify line parameters (PLINE).

4. Perform a standard VSE/POWER generation.

System generation procedures

Step 1. The following parameters in the POWER RTAM macro are affected by the 4235 LPS.

RJEBSC=YES   Includes RJE code in storage.

TRACESZ=12K   Defines space for RJE trace records.

Step 2. Each 4235 LPS is described by a PRMT macro, specified according to device type.

2770: PRMT REMOTE=nn,TYPE=2770,CS= YES, CSAPUN=2,ABE=YES,HFC=NO, LIST=144, TRANSP=YES

2780: PRMT REMOTE=nn,TYPE=2780,HFC= NO, LIST=144,MRF=YES,TRANSP= YES

3780: PRMT REMOTE=nn,TYPE=3780,CS =YES, CSAPUN=2,LIST=144,TRANSP =YES

where:

REMOTE=nn   Defines the remote number.

CS=YES   Specifies the component selection feature for punch output.

CSAPUN=2   Specifies the component selection character for punch output.

TYPE=nnnn   Defines the device type.

LIST=144   Specifies printer line width.

ABE=YES   Specifies a 512–byte buffer.

TRANSP=YES   Specifies the transparency feature necessary for font downloading.

HFC=NO   No horizontal format control.

MRF=YES   Indicates multiple record feature.

Step 3.   Specify the line connecting each 4235 LPS to the host computer system with the LINE macro, as follows:

PLINE ADDR=cnn(,SWITCH=xx),TIMEOUT=##

where:

ADDR=cnn   Specifies the address of the line.

SWITCH=xx   Defines leased or switched line (xx=YES for switched and NO for leased).

TIMEOUT=##   Specifies the number of minutes the line can remain idle before sign–off is occurs.

No further modifications are necessary to initialize a VSE/POWER system.

Sample parameters

Leased line environment

PLINE ADDR=030H,SWITCH=NO,TIMEOUT=90
PRMT
REMOTE=004,TYPE=2770,
   CS=YES,CSAPUN=2,LIST=144,
TRANSP=YES

Sign–on procedures

The format of the sign–on command is:

 *.. **SIGNON remoteid**

OS/VS1

Environment description

In an SNA environment, the 4235 LPS emulates a 3777 Model 3 communication terminal. The 4235 LPS may be defined as a remote job entry (RJE) terminal operating in any of the three modes available: 2770, 2780, or 3780. As a remote terminal, OS/VS1 and JES/RES facilities support the 4235 LPS.

Initialization process review

The 4235 LPS is defined to RES using standard RES system generation statements. The five–step process requires only the addition of several statements to the standard generation procedure.

1. Review global parameters and specify values.

2. Specify remote terminal parameters (TERMINAL).

3. Specify line parameters (LINE).

4. Perform RES and RTAM generation defining the RES data sets, SYS1.UADS, and SYS1.BROADCAST, and add logon procedures to PROCLIB.

5. Add user IDs for 4235 LPS users.

System generation procedures

Step 1. The following parameters in the RTAM macro are affected by the 4235 LPS.

TPBUF The number of teleprocessing buffers should be at least as large as the number of teleprocessing lines.

TPBFSIZ The recommended buffer size is 512; this value is used only when operating in 2770 mode and can be larger if required for other devices in the network.

NPR=YES Specifying YES allows interruption of printed output by the central operator.

Step 2. Each 4235 LPS is described by a TERMINAL macro, specified according to device type.

TERMINAL TDESCR=(5,n,3,n),PCHS=1,

(COMPRES=YES,BUFXSIZ=512,)PLGN=n,(LNUM=n)

where:

TDESCR=(5,n,3,n)	Specifies various characteristics depending on terminal type, as follows:
2770 mode	TDESCR=(5,0,3,2).
5	Indicates 150–character print width.
0	Indicates 2770 terminal type.
3	Indicates that blocked variable–length records are used.
2	Indicates the following: buffer expansion, no horizontal format control, no transparency.
2780 mode	TDESCR=(5,1,3,2).
5	Indicates 150–character print width.
1	Indicates 2780 terminal type.
3	Indicates that blocked variable–length records are used.
2	Indicates the following: no horizontal format control, multiple record, no transparency.
3780 mode	TDESCR=(5,7,3,0).
5	Indicates 150–character print width.
7	Indicates 3780 terminal type.
3	Indicates that blocked variable–length records are used.
0	Indicates the following: no component selection, no horizontal format control, no transparency.
PCHS=1	Indicates punch capability necessary for downloading font s.
COMPRES=YES	2770 only: space compression is used.
BUFXSIZ=512	2770 only: buffer size is 512 bytes.
PLGN=n	n=0 indicates that terminal is not permanently logged–on; 1 indicates it is.
LNUM=n	n = the number of the dedicated line for this terminal, if auto logon is used.
Step 3.	Specify the line connecting each 4235 LPS to the host computer system with the LINE macro, as follows:

LINE LINEID=nn,LDESCR=(t,c)

where:

nn	Is the line number.
t	Is the line type: 0 for half duplex (switched line), 1 for full duplex.
c	Code and transparency (1 = EBCDIC and transparency).
	Note: Include a DD card in the RTAM procedure for each 4235 line.

Step 4. Perform a standard RES and RTAM generation. Include the definitions of the RES data sets, SYS1.UADS, and SYS1. BROADCAST, and add logon procedures to PROCLIB.

Step 5. Use the account facility to add user IDs for 4235 LPS users.

Sample parameters

Leased line environment

```
LINE            LINEID=1, . . .
LINE            LINEID=2,LDESCR=(1,1)
TERMINAL        TERMID=1, . . .
TERMINAL        TERMID=2, . . .
TERMINAL        TERMID=3,TDESCR=(5,7,3,0), PCHS=1,
                LNUM=2
RTAM            TPBFSIZ=512,INTPR=YES,TPPUNCH=3
END
```

Switched line environment

```
LINE            LINEID=1, . . .
LINE            LINEID=2,LDESCR=(0,1)
TERMINAL        TERMID=1, . . .
TERMINAL        TERMID=2, . . .
TERMINAL        TERMID=3,TDESCR=(5,7,3,0),PCHS=1
RTAM            TPBFSIZ=512,INTPR=YES,TPPUNCH=3
END
```

Sign–on procedures

Perform sign–on only if auto logon is not used.

The format is:

LOGON userid TERM (tid) PROC (proc)

where:

userid Is the 4235 user ID.

tid Is the 4235 terminal ID.

proc Is the procedure required for the installation.

Sample SNA parameters

The definitions and parameters in the following section help the user install the 4235 LPS to emulate a 3777 in an SNA network. Most entries vary from one host computer system to another. Consult the network coordinator for this installation.

512 bytes is the maximum allowable RU size. The NCP, VTAM, and JES parameter settings for an RU size of 512 bytes are marked with an asterisk (*). Although the 4235 LPS accepts an RU size of 256 bytes, a size of 512 bytes is recommended for optimum performance.

NCP generation SNA sample definition

Group definition for a leased line		Group definition for a switched line	
SNAGP1 GROUP LNCTL=SDLC,	X	DIALGPOI GROUP LNCTL=SDLC,	X
PAUSE=.2,	X	DIAL=YES,	X
DIAL=NO,	X	NEWSYNC=NO,	X
DUPLEX=FULL,	X	NRZI=NO,	X
ISTATUS=ACTIVE,	X	PAUSE=.5,	X
TYPE=NCP,	X	RETRIES=(8,5,7)	
CLOCKNG=EXT,	X		
RETRIES=(7,1.3),	X		
NRZI=NO			

Line definition for a leased line		Line definition for a switched line	
N01LN038 LINE ADDRESS=(038),	X	N01LN006 LINE ADDRESS=(006),	X
SPEED=9600		CLOCKNG=EXT,	X
		DUPLEX=HALF,	X
		SPEED=4800,	X
		ANSWER=ON,	X
		CALL=IN,	X
		ISTATUS=ACTIVE	

PU definition for a leased line		PU definition for a switched line	
N01038 PU ADDR=C1,	X	N01006P0 PU PUTYPE=2,	X
IRETRY=YES,	X	MAXLU=8	
MAXDATA=521,*	X		
MAXOUT=7,	X		
PACING=2,	X		
PASSLIM=7,**	X		
PUTYPE=2,	X		
ISTATUS=ACTIVE,	X		
VPACING=(4,1),	X		
MODETAB=MODE3770,	X		
USSTAB–ISTINCDT,	X		
SSCPFM=USSSCS,	X		

LU definition for a leased line		LU definition for a switched line
PSD38P00 LU LOCADDR=1,	X	
DLOGMOD=BUF512,		
ISTATUS=ACTIVE		
PSD38P01 LU LOCADDR=2,	X	
DLOGMOD=BUF512, X		
ISTATUS=ACTIVE		
PSD38P02 LU LOCADDR=3,	X	
DLOGMOD=BUF512, X		
ISTATUS=ACTIVE		

> **Note**: These are examples only. Make adjustments depending on your host and communication network.

* NCP, VTAM, and JES parameter settings for an RU size of 512 bytes.

** If running a multiple drop circuit, PASSLIM=1. For all non=multidrop leased lines, PASSLIM cannot be higher than 7 or data loss will occur.

VTAM switched network majornode definition

DIAL4235	VBUILD	TYPE=SWNET	X
N01DIAL2	PU	ADDR=C1,	X
		IDBLK=013,	X
		IDNUM=008C1,	X
		IRETRY=YES,	X
		MAXDATA=521,*	X
		MAXOUT=7,	X
		MAXPATH=0,	X
		PACING=1,	X
		PASSLIM=7,	X
		PUTYPE=2,	X
		I STATUS=ACTIVE,	X
		VPACING=(4, 1),	X
		MODETAB=MODE3770,	X
		USSTAB=ISTINCDT,	
		SSCPFM=USSSCS	X
DL370P00	LU	LOCADDR=1,	X
		DLOGMOD=BUF512,	
		ISTATUS=ACTIVE	X
DL370P01	LU	LOCADDR=2,	X
		DLOGMOD=BUF512,	
		ISTATUS=ACTIVE	X
DL370P02	LU	LOCADDR=3,	X
		DLOGMOD–BUF512,	
		ISTATUS=ACTIVE	

*NCP, VTAM, and JES parameter settings for an RU size of 512 bytes.

Note: These are examples only. Make adjustments depending on your host and communications network.

Sample ACF/VTAM definitions

VTAM to JES (application identification)

NJEAPPL3	VBUILD	TYPE=APPL	
NJEWCO3	APPL	AUTH=(ACQ,PASS),	x
		ACBNAME=NJEWC03,	x
		*MODETAB=MODENJE,	x
		* DLOGMOD=NJEMODE,	x
		VPACING=4**	
MODENJE	MODETAB		
	MODEEFT	LOGMODE=NHEMODE	x
		FMPROF=X'03',	x
		TSPROF=X'03',	x
		PRIPROT=X'B1',	x
		SECPROT=X'A0',	x
		COMPROT=X'3040',	x
		SSNDPAC=X'04',	x

```
  MODEEND
  END
```

*   You do not need to specify he APPL MODETAB and DLOGMOD parameters if you use the JES default tables.

**   Data following VPACING is the log mode definition used by JES.

VTAM to the 4235 LPS

MODE3770	MODETAB	LOGMODE=BUF512,	x
BUF512	MODEENT,	FMPROF='03'	x
	TSPROF='03' X		
	PRIPROT=X'A3'		X
	SECPROT=X'A3'		X
	COMPROT=7080',		X
	RUSIZES=X'8686,*		X
	PSERVIC=X'01104000F100C80		
	00010040'		

*   NCP, VTAM, and JES parameter settings for an RU size of 512 bytes.

IBM JES2 sample PARMLIB parameters

Remote 3770 definition

No compression:	Compression:

RMT36
    LUTYPE 1, BUFSIZE=512*, CONSOLE,
LINE=36, NUMPR=1, NUMPU=1 NOCOMP,
NOCMPCT
R36.PR1
    START, PRWIDTH=255, CLASS=AYZG,
CKPTPAGE=10, FCBLOAD
    (FCBLOAD is optional.)**
R36.RD1
    CLASS=A, START, NOHOLD, MSGCLASS=A,
PRIOINC=0, PRIOLIM=13
R36.PU1
    CLASS=BK,COMPACT=0,NOSEP,
NOSUSPND, LRECL=255
LOGON1
    APPLID=NJEWCO3
LINE36
    UNIT=SNA,NOCOMP
APPL
APPLID=NJEWCO3
	RMT36
	    LUTYPE1, BUFSIZE=512*,
	CONSOLE,LINE=36, COMP, NUMPR=1,
	NUMPU=1, NOCMPCT
	R36.PR1
	    START,PRWIDTH=255,CLASS=AYZG,
	CKPTPAGE=10, FCBLOAD
	    (FCBLOAD is optional.)**
	R36.RD1
	    CLASS=A,START,NOHOLD,MSGCLASS=A,
	PRIOINC=0,PRIOLIM=13
	R36.PU1
	    CLASS=BK,COMPACT=0,NOSEP,NOSUSPN
	D, LRECL=255
	LOGON1
	    APPLID=NJEWCO3
	LINE36
	    UNIT=SNA
	APPL
	APPLID=NJEWCO3

    *   NCP, VTAM, and JES parameter settings for an RU size of 512 bytes.

  **   For XPPM emulation, specify FCBLOAD only if you currently send FCBs to your channel–attached 9700 LPS.

       Note: Perform one of the following for proper carriage control:

1. Set global JES2 parameter LINECT=0.

2. All output to the 4235 LPS must contain JCL card/*JOBPARM LINECT=0 following the JOB card.

IBM JES3 sample PARMLIB parameters

Remote 3770 definition

RJPWS,N=RMY24,RD=1,PR=1,PU=1,C=R, PRW=255
CONSOLE,JNAME=RMY36, TYPE=RJP,DEST=D3,
   DEPTH=50,LEVEL=10
DEVICE, DTYPE=RMTPUNCH, JNAME=RMY36PU1,
   HEADER=NO,BURST=NO,XLATE=NO
DEVICE,DTYPE=RMTPRINT, JNAME=RMY36PR1,
   XLATE=NO,CHNSIZE=DS,
CARRIAGE=(YES,STANDARD), TRAIN=(NO,PN),
   FORMS=(NO,STANDARD),
LINELIM=50000,HEADER=YES

4235 LPS user interface settings

SDLC settings

SDLC DATA ENCODING MODE=NRZ	**Corresponds to NRZI=NO under "NCP Group Definition and Switched Line Definition"**

SDLC XID CODE=
 	
   Two–digit SDLC ADDRESS=C1
 	
   Six–digit Terminal ID
	For a leased line–SDLC address corresponds to address under "NCP PU Definition," Terminal ID ignored
	
	For a switched line–SDLC address and Terminal ID correspond to the IDNUM in the "VTAM Switched Network Majornode Definition"

SDLC WINDOW LIMIT=7	**Corresponds to MAXOUT=7 under "PU Definition" and "VTAM Switched Network Majornode Definition"**

SNA settings for Auto Log–on and Formatted Log–on only–ACF/VTAM parameters

Application Identification=NJEWCO3	Corresponds to the ACBNAME parameter within the VTAM to JES APPLID
Mode Entry Table Name=BUF512	Corresponds to VTAM to 4235 LPS LOGMODE=BUF512
Data Field=RMT36	Corresponds to IBM JES2 parmlib parameters for RMT
Auto Logon=ENABLE	

Note: The sample 4235 LPS SDLC and SNA settings match the 3777 mode sample system generation parameters listed in the SNA sample definitions for a JES2 environment.

Xerox host software options

Xerox Printer Access Facility (XPAF)

XPAF enables the 4235 LPS to support IBM data streams in the XPPM and XDPM environments. XPAF converts the data stream and resources from IBM Advanced Function Printing (AFP), to PDL/DJDE and XES jobs supported by 4235 LPS data stream. XPAF allows you to perform the following tasks:

- Send AFP jobs and resources to the 4235 LPS

- Send line mode, XES (XDPM environment), and PDL/DJDE (XPPM environment) jobs and resources to the 4235 LPS.

Note: For XPPM, enable Special Printer option – MP.

Remote Print Management Facility (RPMF)

RPMF enables compatibility between the 9700 LPS Host Forms Description Language (HFDL) and the 4235 LPS in the XDPM environment. RPMF allows you to perform the following tasks:

- Create electronic forms

- Manage a database of electronic forms

- Manage storage and font downloads. RPMF includes 90 fonts that are compatible with the 4235 LPS

- Integrate electronic forms and variable data.

Host Forms Description Language (HFDL)

HFDL is a forms design software package (residing in an IBM MVS environment) that allows you to create, store, and revise electronic forms in 9700 format for use with the 4235 XPPM emulation.

Note: 4850 V3.7 forms are not supported on the 4235 LPS.

Xerox Pen Plotter Interface (XPPI)

XPPI is a software package that provides a transparent interface for graphics applications using CALCOMP pen plotter calls. XPPI is supported in the XDPM and XPPM environments.

Note: For XPPM, enable Special Printer option – MP.

Xerox Document Graphic Interface (XDGI)

XDGI provides access to the 4235 LPS from IBM Graphical Data Display Manager (GDDM) applications. XDGI allows you

to merge images into the data stream and print composed Document Composition Facility (DCF) documents. When used with XDGI, DCF accepts standard SCRIPT/VS formatting control standard General Markup Language (GML) tags as input.

DCF and GDDM interfaces are consistent with the existing user interface. You can easily access the features of the 4235 LPS without making significant changes to the existing jobs and applications.

Note: For XPPM, enable Special Printer option – MP.

Xerox Job Description Compiler (XJDC)

XJDC is a PC software package that compiles 9700 Job Source Library (JSL) files and creates the following types of files: .JDL, .CME, .TST, .PDE, etc. You can write the files to 3.5–inch double–sided, high density micro diskettes and load them directly onto the 4235 LPS for use in the XPPM environment.

Note: The 4850 V3.7 colorized files are not supported on the 4235 LPS.

8. Fonts, supplies, and accessories

Supplies and accessories

The amount of supplies you need depends on the number of pages you print. The 4235 LPS requires paper, dry ink cartridges, print cartridges, fuser agent, and diskettes. It is important that these items are available when your 4235 LPS is installed.

Plan on approximately five working days for delivery of your Xerox supplies. Your Xerox sales representative can help you with your initial order. Use Checklist 14: Supplies and Accessories later in this chapter to track your supplies and accessories orders.

Paper

If you do not use the proper paper, paper jams, misfeeds, and poor print quality may result.

The 4235 LPS can accommodate standard white paper, colored paper, predrilled paper, preprinted paper (such as letterhead), labels, and transparencies.

Note: Paper–backed transparencies are not supported.

Weight and type Use a good quality, xerographic grade paper. For best results, use 20–pound (75 gsm) bond xerographic paper or Xerox 4024 Dual Purpose Paper in the following weights:

- Lightest: 16–pound (60 gsm)
- Heaviest: 32 pound (120 gsm).

Sizes Table 8–1 lists the cut sheet paper sizes that the 4235 LPS accepts:

Inches	Millimeters
(A4) 8.27 x 11.69	210 x 297
8.5 x 11	216 x 279
8.5 x 13	216 x 330
8.5 x 14	216 x 356
(A3) 11.69 x 16.54	297 x 420
11 x 17	279 x 432
(A5) 5.83 x 8.27	148 x 210
(B4) 10.12 x 14.33	257 x 364
8.47 x 12.41	215 x 315
8 x 13	214 x 330
8.5 x 5.5	216 x 140

Moisture content Paper has a tendency to curl when exposed to the heat inside xerographic equipment. Paper with a low moisture content tends to curl less. Paper with an excessive moisture content tends to cause paper jams. The maximum recommended moisture content is 5.7 percent.

Grain Purchase long–grain paper to ensure trouble–free printing. Also, ensure that the grain of the paper is parallel with the long edge so that the paper stacks properly.

Paper storage Following are some suggestions for storing paper:

- Store paper in its own wrapper. Do not leave it unwrapped or in a place where it can be damaged by dampness or heat.

- Store paper on a flat surface, not on its side or edge.

- Store paper in a closed cabinet.

- Always store paper in a cool, dry area.

- Store paper on pallets or shelves, not on the floor.

You may want to provide one or more storage cabinets for your supplies. This not only protects the supplies, but also keeps them in a central location so you can monitor the quantities.

Dry ink, print cartridges, and fuser agent

Dry ink cartridge Replace the dry ink cartridge when the 4235 LPS displays a message to do so.

Print cartridge Replace the print cartridge when the 4235 LPS displays a message to do so or when there is a printing defect.

Fuser agent Have the Xerox service representative add fuser agent as required.

Accessories

Paper cassettes With the exception of paper tray 1 (the bottom paper tray), each paper tray contains a removable paper cassette which holds a specific size of paper. Various paper cassettes are available for the paper trays. You can order paper cassettes may be ordered in the sizes listed in table 8–2.

Table 8–2.   Paper cassette sizes

Tray 2 paper cassette sizes	Part number
8.5" x 11", 216 x 279 mm	9R92172
A4 (8.27" x 11.69", 210 x 297 mm)	9R92171
8.5" x 13", 216 x 330 mm	9R00373
8.5" x 14", 216 x 356 mm	9R00374
Tray 3 paper cassette sizes	
8.5" x 5.5", 216 x 140 mm	98K13370
A5 (5.83" x 8.27", 148 x 210 mm)	98K13360
A4 (8.27" x 11.69", 210 x 297 mm)	9R01078
8.5" x 11", 216 x 279 mm	9R01079
8" x 13", 214 x 330 mm	9R00376
B4 (9.84" x 13.9", 250 x 353 mm)	9R00375
11" x 17", 279 x 432 mm	9R00368
A3 (11.69" x 16.54", 297 x 420 mm)	9R01012
Tray 4 paper cassette sizes	
8.5" x 11", 216 x 279 mm	9R092172
A4 (8.27" x 11.69", 210 x 297 mm)	9R092171

Micro diskettes   The 4235 LPS uses 3.5–inch double–sided, high–density micro diskettes. Each micro diskette is capable of storing approximately 1.44 MB of data.

On installation day, you must provide the Xerox service representative with at least three 3.5–inch double–sided, high–density micro diskettes. These diskettes are required to back up the operating system and default settings. You may need additional blank micro diskettes so you can back up your own files such as fonts, forms, etc.

Supplies and accessories list

Use the following tables to order supplies and accessories.

Table 8–3.   **United States supplies list**

Item	Description	Part number
Paper		
Xerox paper qualities are 10 reams (5,000 sheets) per carton unless otherwise noted below. Unless noted otherwise, these papers are 20 lbs. in weight.		
8.5'' x 11''	Dual Purpose Colors–Pink, 3–hole	3R3074
8.5'' x 11''	Dual Purpose Colors–Buff, 3–hole	3R3076
8.5'' x 11''	Dual Purpose Colors–Goldenrod, 3–hole	3R3078
8.5'' x 11''	Dual Purpose Colors–Ivory, 3–hole	3R3080
8.5'' x 14''	Dual Purpose Colors–Blue	3R3084
8.5'' x 14''	Dual Purpose Colors–Yellow	3R3086
8.5'' x 14''	Dual Purpose Colors–Green	3R3088
8.5'' x 14''	Dual Purpose Colors–Pink	3R3090
8.5'' x 14''	Dual Purpose Colors–Buff	3R3092
8.5'' x 14''	Dual Purpose Colors–Goldenrod	3R3094
8.5'' x 14''	Dual Purpose Colors–Ivory	3R3096
8.5'' x 14''	Dual Purpose Colors–Gray	3R3098
8.5'' x 11''	Dual Purpose Colors–Rainbow Pack * (3,500 sheets per carton)	3R3107
8.5'' x 11''	Dual Purpose Colors–Gray, 3–hole	3R3802
8.5'' x 11''	10 Series Smooth Paper	3R54
8.5'' x 11''	4024 Dual Purpose Paper	3R721
8.5'' x 11''	4024 Dual Purpose Paper–3–hole	3R723
8.5'' x 13''	4024 Dual Purpose Paper	3R725
8.5'' x 14''	4024 Dual Purpose Paper	3R727
11'' x 17''	4024 Dual Purpose Paper (2,500 sheets per carton)	3R729
8.5'' x 11''	Antique Parchment Paper–gold (4000 sheets per carton)	3R790
8.5'' x 14''	10 Series Smooth Paper	3R83

* Rainbow Pack contains 750 sheets each of blue and yellow, 500 sheets each of green and pink, and 250 sheets each of buff, goldenrod, gray, and ivory 8.5 by 11 inch paper.

Table 8–3.   **United States supplies list** (continued)

Item	Description	Part number
Transparencies	Clear stripeless	3R3117
Labels– **Standard (Self–adhesive)**	All labels are on 8.5– x 11–inch sheets, 100 sheets per box	3R2365
8.5" x 11"	33 labels per sheet	3R2362
8.5" x 11"	24 labels per sheet	3R2363
8.5" x 11"	8 labels per sheet	3R2364
Dry ink cartridge	Packaged 2 per carton	6R135
Diskettes	3.5–inch, double–sided, high–density 1.44 MB diskette packaged 10 diskettes per box	8R3705
Fuser agent	1 liter bottle	8R2955

Note: Xerox transparencies are packaged 100 per box. All transparencies are 8.5 by 11 inches. Paper–backed transparencies are not supported.

Table 8–4 lists some of the supplies available from Rank Xerox. For a complete list, contact your Xerox sales representative.

Table 8–4. **Rank Xerox supplies list**

Item	Description	Part number
Paper		
RX paper quantities are 10 reams (5,000) sheets per carton unless otherwise noted below. RX papers are 80 gsm weight unless otherwise notes.		
(A4)	RX Nymolla–Black	3R90008
(A4)	RX Nymolla DIN–4–hole punch, Black	3R90190
(A4)	RX Neusiedler–Burgundy, 90 gsm	3R90600
(A4)	RX Neusiedler–Black, 60 gsm	3R90510
(A4)	RX Neusiedler–Burgundy	3R90335
(A4)	Laser Print, Swedish–4–hole punch	3R90593
(A4)	RX Husem, Modo–Black, 70 gsm	3R90540
(A4)	RX Taite–Mauve	3R90649
8.5'' x 13''	RX Kangas–Black	3R90012
8.5'' x 12.4''	RX Celupal–Black	7R90011
(A3)	RX Nymolla–Black	3R90120
(A5)	RX Neusiedler–Black	3R90000
(A4)	RX Samaceta–Black	3R90293
(A4)	RX Neusiedler–Silver, 120 gsm	3R90700
(A4)	RX Perfoklas–Black	3R90291
(A4)	RX Environmental–Green	3R90652
(A3)	RX Neusiedler–Burgundy, 90 gsm	3R90618
8'' x 13''	RX Kangas–Black	3R90007
(B4)	RX Kangas–Black	3R90061
(A4)	Laser Print, Swedish–Blue	3R90594
(A4)	RX Iridium, Marreschel Blue–Black	3R94050
(A4)	RX Iridium, Marreschel Green–Black	3R94060
(A4)	RX Iridium, Marreschel Yellow–Black	3R94071
(A4)	RX Iridium, Marreschel Red–Black	3R94081

Table 8–4. **Rank Xerox supplies list (continued)**

Item	Description	Part number
Transparencies	New all clear laser	3R91030
Laserprint Labels	500 sheets per box	
A4	8 to a view UQP (Universal Quality Permanent – label cannot be peeled off)	3R96283
A4	16 to a view UQP	3R96281
A4	24 to a view UQP	3R96282
A4	1 to a view EQP (Extra Quality Permanent)	3R96169
A4	16 to a view EQP	3R96165
A4	24 to a view EQP	3R96166
A4	10 to a view UQP	3R96284
Special Order	500 sheets per box	
A4	16 to a view EQR (Extra Quality Removable– label can be peeled off)	3R96177
A4	24 to a view EQR	3R96178
Desktop laser labels	100 sheets per box	
A4	6 to a view	3R96288
A4	14 to a view	3R96289
A4	16 to a view	3R96296
A4	18 to a view	3R96297
A4	21 to a view	3R96298
Copier Labels	100 sheets per box	
A4	1 to a view	3R97400
A4	2 to a view	3R97401
A4	4 to a view	3R97402
A4	8 to a view	3R97404
A4	12 to a view	3R97405
A4	14 to a view	3R97406
A4	16 to a view	3R97407
A4	24 to a view	3R97408
A4	30 to a view	3R97409
A4	33 to a view	3R97410
Dry ink cartridge	Packaged 1 per carton	6R90098
Print cartridge	Packaged 1 cartridge per carton	13R36
Diskettes	3.5", double–sided, high–density 1.44 MB diskettes packaged 10 diskettes per box	8R3705

How to order supplies

To order Xerox supplies and accessories within the United States, call the following toll–free number during business hours–8:00 a.m. to 6:00 p.m. (Pacific Standard Time): 1–800–822–2200.

Contact your local Xerox sales representative for locations outside the United States.

Order procedure
The Xerox supply order representative will ask you to supply the following information:

• The 4235 LPS serial number. (Your Xerox sales representative can provide you with this number.)

4235 LPS serial number: _____

• Your customer order number (located in the upper right corner of your Xerox invoice or your Xerox sales representative can provide you with this number).

Customer order number: _____

• Your purchase order number, if that is the method of payment.

Purchase order number:_____

• Your supply order, which should include the following:

Part number: _____

Item name: _____

Quantity required: _____

Figure 8–1.   **Checklist 14: Supplies and accessories**

Checklist 14: Supplies and accessories				
Use this checklist to help record the supplies and accessories you require, the date you plan to place the order, and the actual date of the order.				
Item	Description	Quantity	Date to order	Date ordered
Paper				
Labels				
Transparencies				
Paper cassettes				
3.5–inch, high– double–sided, density micro diskettes				
Dry ink cartridge				
Print cartridge				
Fuser agent				

Font ordering information

You can order licensed fonts from Xerox. If you plan to use a font that is not a 4235 LPS system font, place your order so that the font diskettes arrive before installation. You can order fonts on magnetic tape or diskette for downloading from your host computer system to the 4235 LPS hard disk.

Order fonts in the same character encoding method used by your host computer system, either ASCII or EBCDIC. If you plan to use a communication module, you must order EBCDIC–encoded fonts.

Fonts on magnetic tape   The host computer system can transmit font data or digitized graphic images to the 4235 LPS. This data is stored in font data memory and invoked by job control commands inserted in the data stream.

Fonts that are provided by the Xerox Font Center for downloading from your host computer system are contained on a standard 9–track, 1600 bits–per–inch magnetic tape. One tape may contain several fonts. Individual font files are separated by tape marks. The last file on a tape is followed by a double tape mark.

Each tape package is accompanied by:

- Data sheets that list font names, record length, and actual byte count of each file

- Character code assignment sheets

- Character width specifications.

Fonts on micro diskettes   Fonts are stored on 3.5–inch micro diskettes, which are inserted in the micro diskette drive and loaded onto the hard disk. A font disk may contain more than one font.

Custom fonts   The Xerox Font Center can create custom typefaces, special characters for existing fonts, and digitized artwork such as signatures and company logos.

These custom graphic images are available on magnetic tape or diskettes.

How to order fonts in the United States

You can call the Xerox Font Center to place an order. The Xerox Font Center representative will assist you in completing the necessary forms. The representative will also answer your questions regarding literature, order status, or custom font specifications.

Use the appropriate toll–free number in the following table and provide your 4235 LPS serial number:

4235 Laser Printing System serial # _____

Area	Phone	Business hours
Nationwide	1-800-445-FONT	6:00 a.m. to 5 p.m. (PST)
Font Center	Fax (310) 333-6560	6:00 a.m. to 5 p.m. (PST)

You can write to the following address to order fonts or request information:

Xerox Corporation
Font Center ESM1-052
701 South Aviation Boulevard
El Segundo, California 90245

The following list shows the approximate time it takes to receive your order. Call the Xerox Font Center for a more precise delivery schedule.

Make sure you place your order in sufficient time to receive it before your scheduled installation.

- If you order custom fonts or alterations of existing fonts (thinning, scaling, etc.), allow about six weeks to receive your order.

- If you order logos or signatures, allow about five business days to receive your order.

- If you order licensed standard fonts, allow about three business days to receive your order.

The Xerox Font Center can provide more specific information about your order.

Xerox Font Technical Support

In the United States, call the Xerox Font Technical Support Hotline at 1-800-445-FONT, option #1,to inquire about any technical font difficulties you may be experiencing. Business hours are 5:00 a.m. to 5:00 p.m. (Pacific Standard Time).

How to order fonts in other countries

Your local Xerox representative will assist you in placing an order and completing the necessary forms. The representative will also answer your questions regarding literature, order status, or custom font specifications.

Glossary

2770 emulation	Software on the 4235 LPS that emulates an IBM 2770 Data Communication System. In BSC, the 4235 LPS can be defined as a RJE terminal operating in this mode.
2780 emulation	Software on the 4235 LPS that emulates an IBM 2780 Data Transmission Terminal. In BSC, the 4235 LPS can be defined as a RJE terminal operating in this mode.
2780 MR emulation	Software on the 4235 LPS that emulates an IBM 2780 Multiple Records Data Transmission Terminal. In BSC, the 4235 LPS can be defined as a RJE terminal operating in this mode.
3770 emulation	Software on the 4235 LPS that emulates an IBM 3770 Data Communication System. In SNA, the 4235 LPS can be defined as a RJE terminal operating in this mode.
3777 mode (IBM mode)	Software on the 4235 LPS that emulates an IBM 3777 Model 3 Communication Terminal.
3780 emulation	Software on the 4235 LPS that emulates an IBM 3780 Data Transmission Terminal. In BSC, the 4235 LPS can be defined as a RJE terminal operating in this mode.
ACK	affirmative acknowledgment. Data–link character. In bisynchronous communication, this character is a transmission code that indicates the previous transmission was accepted by the receiver, and the receiver is ready to accept the next block of the transmission.
application software	Software programs that direct the computer to perform specific, user–related tasks or functions.
ASCII	American Standard Code for Information Interchange
asynchronous	Transmission of data in which time intervals between transmissions can be unequal. Transmission is character–by–character and is controlled by start and stop elements at the beginning and end of each character.
auto logon	Occurs when the 4235 LPS sends an INIT SELF request to the host to bind the LUs.

backup Procedure by which copy of important information is saved in case of later loss or damage to the original.

batched data Information that has been grouped with other information to increase the efficiency of transmission or processing.

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

baud rate Data transfer rate between the computer and the printer. The computer and the printer must be configured at the same baud rate, which can be set from between 300 and 19,200 baud depending on the type of computer used. The baud rate is set only if the serial interface is used.

bind In SNA, a request to activate a session between two logical units and to complete the logon process.

boot To start or restart the printer.

bps bits per second

BSC binary synchronous communication. Character–oriented communication protocol that uses a set of special characters to define the structure of the data transmission frame.

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

channel Sometimes called a circuit, facility, or link. 1. In data communications, a path or line that enables two or more devices to communicate. 2. Path for communication between the CPU and input/output units or between the CPU and peripheral devices.

character code Code (such as ASCII or EBCDIC) that assigns numerical values to characters.

character–coded logon In SNA, a logon statement that is encoded and transmitted as a character string. It is also known as an unformatted logon.

character or symbol set Particular way in which alphabetic and numeric characters and symbols of a font are grouped. Each character set has been designed for a special purpose. Some sets include all printable characters found on most standard computer keyboards. Others are intended for such applications as math, foreign language typesetting, and law.

CME copy modification entry

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

collate To arrange or assemble into ordered sets.

communication card files Files that contain operator commands, logon statements, and other messages and are used to initiate, maintain, or terminate a communication session between the 4235 LPS and your host computer system.

communication port Physical outlet used for asynchronous, synchronous, or parallel sending and receiving of information from a remote location.

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

composite character code Hexadecimal code that consists of the incoming character code and the font code.

configuration One or a group of computers and related devices (such as terminals and printers) interconnected and programmed to operate as a system (sharing resources, communicating data, accepting input, and so on).

copy–sensitive Jobs in which multiple copies of a report contain different data, as with paychecks and banking statements.

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

CR carriage return

CRT cathode ray tube

CRU customer replaceable unit. In the 4235 printer, the dry ink cartridge and the print cartridge are CRUs.

data monitor Feature of the 4235 LPS that prints the hexadecimal values of incoming codes and characters. The data monitor is used for troubleshooting.

default Printer setting used in place of a software application selection.

diagnostics Software tests used to test correct operation of various elements of a system.

DJDE dynamic job descriptor entry. A record of information that is processed from the input data stream and modifies current job characteristics.

DLE data link escape

DLE EOT data–link escape and end of transmission. Data–link characters. When combined, these two characters are a disconnect sequence for a switched line in bisynchronous communications. The host or the printer can send this sequence.

download 1. To transfer information from a host computer system to the printer. 2. To load information from a host into memory or disk storage.

downloaded font Fonts loaded from the host computer system into the dynamic memory of the printer. Such a font must be reloaded each time the system is powered up.

dpi   dots per inch

dry ink   Fine–powdered substance of resin and black carbon used to create images in the printing process. The dry ink supply for the system is contained inside the disposable dry ink cartridge. Dry ink can accept an electrical charge.

EBCDIC   extended binary coded decimal interchange code

emulation   Product that imitates another product so that it can accept the same data and programs as the original.

enabler   Hardware devices or software packages that allow the printer to perform as specified or better.

ENQ   enquiry. Data–link character. In bisynchronous communication, this is a transmission code that queries a device as to whether it has received a block of data.

error conditions   Hardware– or software–related conditions that cause your job to stop printing.

ESC   escape character. Control code or character represented by ASCII 27 (1BH), which must be placed in front of a printer command. The escape character (represented by the icon E) tells the printer to execute the following character string rather than print it.

ESS   electronic subsystem. See system controller.

ETX   end–of–text. Data–link character. In bisynchronous communication, this is a transmission code that indicates the end of a message.

FF   form feed. 1. Control character (ASCII 12 or 0CH) that causes the printer to print and eject the current page. 2. Keyboard or printer control character that causes the printer to skip to the top of the next page.

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

font code   Code in EBCDIC or ASCII that specifies font data.

form   1. Compiled .FSL file.

2. Document with a fixed format that contains blank spaces. It is merged with a file containing variable data.

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 the acceptance of data.

formatted logon   In SNA, a logon that is encoded into fields using the INIT SELF command, each logon having a specified format.

.FSL   form source library

HCF   high–capacity feeder

HCSS   high–capacity stitcher or stacker (also referred to as simply "stitcher" or "stacker")

head–to–head   Method of duplex printing in which the top of the back page is printed in the same place as the top of the front page.

head–to–toe   Method of duplex printing in which the bottom of the back page is printed in the same place as the top of the front page.

high–capacity stacker   Output tray on the 4235 LPS that is designed to hold and offset up to 2,000 sheets of 20 pound (80 gsm) paper.

hold line period   Length of inactivity allowed during communications before the 4235 LPS disconnects from the host computer system. It is available only during switched line communications. The default hold line period is 60 seconds.

IOT   image output terminal

ISO   International Standards Organization

JDE   job descriptor entry. Xerox Print Description Language command that is coded within a job descriptor library. This command indicates the start of a set of PDL commands that defines how a specific application is to be processed by the 4235 LPS.

JDL   job descriptor library. Object file that resides on the Xerox LPS hard disk containing Xerox Print Description Language commands that define how different applications are to be processed.

job   Sequence of operations performed to result in a desired product or service.

job boundary   Electronic printing command that marks the beginning or end of a job and invokes certain printing functions, such as page offsetting, printing of a status sheet, or resetting of document formatting parameters.

job management   Collective functions of job scheduling and command processing.

JSL   job source library. Xerox Print Description Language term. Collection of uncompiled job descriptions.

LE   line end. Control code sequence denoting the end of a print line or of a command. Line endings may vary from system to system according to the interface and protocol used. A line ending can consist of a carriage return, line feed, or both. Represented by the icon L.

LF   line feed. Control character (ASCII 10, 0AH) that causes the printer to begin printing in the current character position of the next line.

line monitor trace   Diagnostic tool that monitors communication protocols transmitted through a serial interface.

Line Printer Mode   Mode in which the 4235 LPS accepts all data as printable characters.

log To record sequence and status of copy.

logical jobs Series of separate jobs that the printer treats as one job. Logical jobs are separated by an end of job command or control character. For example, in PostScript, jobs can be separated by a Control–D sequence.

LPS laser printing system

LU logical unit. In SNA, software through which a user accesses the SNA network to communicate with another user or to access the functions provided by the systems services control point (SSCP). An LU can support at least two sessions (such as LU and LU or LU and SSCP) and may be capable of supporting many sessions with other logical units.

LU active State of a device that indicates it is connected to or available for connection to another device.

menu 1. Menus list items presented for selection from the control panel of the printer and used to present options or choices for users. 2. List of available functions, commands, and options.

merge Operation combining two or more files into one predetermined order. For example, to merge two separate, alphabetically ordered files of names would result in one large, alphabetically ordered file.

mode Method of operations or set of conditions under which operations are performed. Designed sequence of equipment operation from main initiating condition to terminal observable condition.

nontextual data Data in which binary codes are not intended to invoke printing of font characters.

offline State of a printer that is not under the active control of a CPU and therefore not able to accept data from a computer.

offset Setting one printing job apart from another.

online State of a printer that is able to accept data from the computer because the printer is under the direct control of a CPU (for example, a printing system in interactive communication with a mainframe).

operator text message Message that you send from the host computer system to the 4235 LPS. The message may involve printer settings, special paper loading procedures, and other tasks.

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

output tray The place where printed material is delivered facedown. Located on the top cover of the printer.

override To disregard a current selection in favor of another (usually used in paper tray and cassette selection).

page end	Instruction (for example, form feed) to terminate the current page.
paper jam	When paper gets stuck somewhere along the paper path.
paper source	One of four paper input trays.
parallel and serial ports	Two interface connectors located on the lower part of the back panel of the 4235 LPS to which the computer cable attaches.
parallel interface	Type of interface between a printer and its host in which data is transmitted and received in bytes rather than bits. Used for local printing over short distances (25 feet, 7.63 meters, or less).
parity bit	Extra bit used to make sure that data has been transmitted accurately by providing a receiving device with means of checking odd or even parity.
parity checking	Automatic error detection process that the printer and the host computer system use to check parity bits along with the numerical bits.
Pass Through mode	Used in XDPM. Allows the data to be printed by the 4235 LPS without interference from the 3777 emulation software.
password	Unique word or set of characters that an operator or user must supply to log on to a system.
PDL	print description language. Keyword language that defines the commands required to process an application on a Xerox LPS.
photoreceptor	Photoreceptor or print drum found in the replaceable print cartridge and used to form letter or line images on documents.
physical jobs	Print job that occupies a single file on the printer. A physical job can contain one or more logical jobs.
ppm	pages per minute
print cartridge	Print (photoreceptor) cartridge contains a photosensitive "print drum" used in the printing process. The cartridge is disposable.
printer driver	Program resident in the host computer system that enables the host computer system to communicate formatting and job control information to the printer.
PU	physical unit. In SNA, software that provides services to manage and monitor the resources of a device.
purge	To delete data from a system.
query	Request for data or other information, entered by an operator while the system is processing.
queue	Sequence of documents waiting to be processed.
remote access	Access to a central computer by terminals or devices geographically separated from that computer.
reset	Restore the printer to its default configurations. This may be performed at the printer control panel or remotely by command.

resident font   Font built into the printer at the time of manufacture, permanently available in memory. Resident fonts are also called internal fonts.

response time   Time a system requires to respond to a command for transferring stored data or completing the processing cycle.

restart   To resume a data processing job run from a point where it was aborted.

restore   To bring backup copy of a program or data into service to recover from loss or damage to the original copy.

RJE   remote job entry. In SNA, the data management section of an operating system. RJE allows users to submit jobs to be processed by a remotely located device.

sample tray   Output tray to which sample copies, sample files, and test patterns are delivered. This is called the top output tray on the 4235 LPS.

scan direction   For a page, this is the y–direction which is perpendicular to the paper path. For a graphic window, the scan direction is always horizontal, regardless of page orientation, and is considered to be the x–direction of the window.

scan line   Line of video data printed in one pass of the laser beam across the length of the xerographic drum.

SDLC   synchronous data link control. An IBM bit–oriented communication protocol that uses a variety of bit patterns to mark the beginning and end of a frame.

serial interface   Type or method of sending codes from computer to printer or other device, one bit of information at a time, over a communication line. These interfaces can function over great distances.

sixel encoding   Technique of coding raster data so that it is not mistaken for control codes.

SNA   systems network architecture. Total description of logical structure, formats, and protocols of operation sequences for transmitting an information unit through the communication system.

software exerciser   Software program that causes a system or component to artificially emulate the user.

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).

status sheet   One–page printout generated by a Xerox LPS containing information about the current interface used between the LPS and the host computer system, the encoding it uses, fonts in use, and errors within the current job that are detected by the system software.

substitute escape character   See user–defined key.

sysgen systems generation. Process that modifies the operating system to meet the specific needs of a network, user, and so on.

system controller Part of the LPS that acts as an interface between the printer and the host computer system. It formats and temporarily stores data from the host and contains the operating system software for the printer, utility programs, emulations, and system default files. Also called the ESS.

system exerciser Program within the 4235 LPS that tests the current printing capability of the printer by printing a sample customer letter.

system files Files that are loaded during a sysgen.

system utilities Set of routines for organizing and maintaining files on rigid disk or any diskette.

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 far higher storage capacity than disk storage, but it takes longer to write or recover data from tape than from disk.

temporary storage Main memory locations reserved for intermediate results of processing, control values, or other information which needs to be kept on hand as a program proceeds.

Terminal mode Series of menus within Print mode that allows you to communicate with your host computer system. They allow you to log on, log off, and use the communication options and troubleshooting tools only if the 4235 LPS uses the SNA or BSC interfaces.

test data Signal measurement procedures containing specification, tolerances, amplitude, duration, operational mode, or conditions under which a signal is available and test equipment is required.

test pattern Page of lines or characters used to check print quality.

throughput In data processing systems, the amount of data that can be processed, transmitted, and printed in a specified period of time.

trace Routine record providing a list of chronological events (execution) of a program.

translation table Feature on the 4235 LPS that maps one set of character codes to another.

UDK user–defined key.   Substitute escape character defined by a user for specific print jobs.

UI user interface

utilities Programs that provide commonly used services such as file transfer, file maintenance, information recovery from damaged disks, disk initializing, and disk copying.

VFU vertical format unit

WACK wait before transmit positive acknowledgment character. In bisynchronous communication, a transmission code sent by a receiving device to a transmitting device to indicate that it is temporarily not ready to receive more data.

XDPM Xerox Distributed Print Mode. 4235 LPS implementation of XES.

XES Xerox Escape Sequences.   Xerox printer command language.

XON/XOFF Asynchronous communication protocol for regulating data flow.

XPPM Xerox Production Print Mode. 4235 LPS implementation of the Xerox Print Description Language.

XScript 4235 LPS implementation of Adobe PostScript.

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