

**Xerox 4890 HighLight Color  
Laser Printing System  
Installation Planning Reference**

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Changes are periodically made to this document. Changes, technical inaccuracies, and typographic errors will be corrected in subsequent editions.

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The *Xerox 4890 HighLight Color LPS Installation Planning Reference (IPR)* helps you prepare for delivery and installation of your new Xerox Laser Printing System.

This reference is intended for the person responsible for coordinating the installation of the printer at your site. It lists the tasks you need to complete before installation begins.

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## About this reference

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This reference is one of many manuals available with your new LPS. You received this reference manual first to help you plan for installation. When the LPS is delivered, you will receive the complete *Xerox 4890 HighLight Color LPS Reference Set*.

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## Contents

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This reference is divided into three chapters as follows:

- Chapter 1** Preinstallation. This chapter provides information on configuration requirements, environmental and electrical requirements, cabling, supplies, and access requirements.
- Chapter 2** Installation. This chapter describes the activities that occur during installation.
- Chapter 3** Postinstallation. This chapter describes Xerox support services, routine maintenance, meter reading and reporting activities, and supply requirements. It also includes a consumable supplies table and checklist for ordering supplies.

A glossary and index are provided at the back of this reference.



This chapter assists you in preparing for the installation of your Xerox 4890 HighLight Color Laser Printing System (LPS). Consult your site representative for the requirements of any related equipment or communications devices you ordered.

Preparing for your LPS installation is a responsibility shared by both you and Xerox or Rank Xerox. Your representatives are available to discuss installation issues and to assist you in completing the site installation.

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## Responsibilities

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The following tasks need to be performed prior to installation. The tasks and responsibilities are broken down between you and Xerox or Rank Xerox.

### Xerox or Rank Xerox responsibilities

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Xerox or Rank Xerox responsibilities are as follows:

- |                       |  |
|-----------------------|--|
| <b>Site selection</b> | <ul style="list-style-type: none"><li>• Inspect and approve the site.</li></ul>  |
| <b>Installation</b>   | <ul style="list-style-type: none"><li>• Schedule the delivery of your laser printing system</li><li>• Monitor installation activities</li><li>• Help you order supplies and fonts</li><li>• Install the LPS.</li></ul>                                 |
| <b>Training</b>       | <ul style="list-style-type: none"><li>• Provide initial operator training</li><li>• Provide information and assistance for training classes.</li></ul>   |
| <b>Service</b>        | <ul style="list-style-type: none"><li>• Review preventative maintenance schedules and service procedures</li><li>• Provide ongoing 4890 LPS controller and printer maintenance</li><li>• Assist in resolving hardware and software problems.</li></ul> |

## Customer responsibilities

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- Your responsibilities prior to, during, and after installation of the 4890 HighLight Color LPS are to schedule and monitor the installation activities.
- Site personnel**
    - Identify the primary person at your site to interface with Xerox or Rank Xerox.
  - Site preparation**
    - Select and prepare the site for the printer installation (including proper electrical power, air conditioning, and work space).
  - Training**
    - Select personnel to train
    - Set up a training schedule.
  - Network installation**
    - Install the necessary network connections, including phone lines, transceivers, and other communication interfaces.
  - Applications**
    - Work with your systems analyst to determine requirements for initial applications.

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## Installation planning checklist

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To aid you in installation planning, table 1-1 provides a checklist of tasks you and your Xerox or Rank Xerox representative need to complete in the weeks before installation. Should you have questions about any of these activities, contact your sales or service representative.

Use the timeframes in this checklist as guidelines. It is best to consult your suppliers to determine the exact lead times they require.

Table 1-1. Installation planning checklist

Week	Activity	Reference	Responsibility	Date completed
-5	Sign up for Xerox documentation and Software Service (XDSS)		Customer	_____
-4	Order additional manuals, if needed		Customer	_____
	Schedule LPS delivery		Xerox	_____
	Identify system specialists and schedule training	Introduction	Customer/Xerox	_____
	Select site	Chapter 1	Customer/Xerox	_____
	Prepare site	Chapter 1	Customer	_____
	— Space requirements			_____
	— Electrical requirements and outlets			_____
	— Cabling			_____
	— Floor level			_____
	— Environment requirements (temperature, humidity, heat dissipation)			_____
-3	Request LPS font samples	Chapter 1	Customer	_____
	Order custom fonts, logos, and signatures		Customer	_____
	Order customer changeable unit (CCU) for each color desired and changeout carts as needed		Customer/Xerox	_____
-2	Train user systems specialists	Chapter 1	Xerox	_____
	Schedule operator training	Chapter 1	Customer/Xerox	_____
	Order licensed fonts	Chapter 1	Customer	_____
	Order consumable supplies	Chapter 1	Customer/Xerox	_____
	Minimum requirements needed for installation:			
	— Paper (2 cartons)			
	— Fuser lubricant (2 cartons)			
	— Dry ink (1 carton of each desired color and 1 carton black)			

Table 1-1. Installation planning checklist (continued)

Week	Activity	Reference	Responsibility	Date completed
-1	Inspect and approve site, and inspect floor level	Chapter 1	Xerox	_____
Installation	Make sure needed supplies are available		Customer	_____
	Install LPS	Chapter 2	Xerox	_____
	Have system specialist on hand		Customer	_____
	Install primary application		Customer/Xerox	_____
	Have test jobs available, if desired		Customer	_____
	Have operators available for training		Customer	_____
	Train operators		Xerox	_____
	Check documentation kit		Customer	_____
	Review preventative maintenance schedules and service call procedures		Xerox	_____
Postinstallation	Provide ongoing system maintenance	Chapter 3	Customer/Xerox	_____
	Establish supplies maintenance procedures		Customer	_____
	Identify additional applications	Chapter 3	Customer/Xerox	_____

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## LPS space requirements

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Dimensions and weights of the 4890 HighLight Color LPS controller, components, and the printer, are listed in this section, along with diagrams to help you visualize the sizes and total space requirements. Diagrams depicting examples of allowable shared space arrangements for multiple printer installations are also provided.

There must be a 78 inch/1981 mm vertical clearance (from the floor to the lowest part of the ceiling or to any obstruction that hangs below the ceiling) throughout the entire area. In addition, your LPS must be installed in a fixed location with a minimum clearance space of 36 inches/914 mm around all sides of each piece of equipment for access by service personnel.

Components may share the 36 inch/914 mm general service clearance areas, but they may not share the 24 inch/610 mm operator area in front of each component.

Space planning templates and a grid are provided at the end of this chapter to assist you in planning the placement of your LPS.

The following diagrams represent top views of the components, surrounded by the required 36 inch/914 mm clearance on all sides.

## 4890 system controller

### System controller

The following describes the 4890 system controller.

The dimensions of the system controller are as follows:

- Width: 24 inches/610 mm
- Depth: 28 inches/711 mm
- Height: 40.5 inches/1028 mm
- Weight: 300 pounds/136 kg

Total space required: 96 inches/2438 mm by  
100 inches/2540 mm

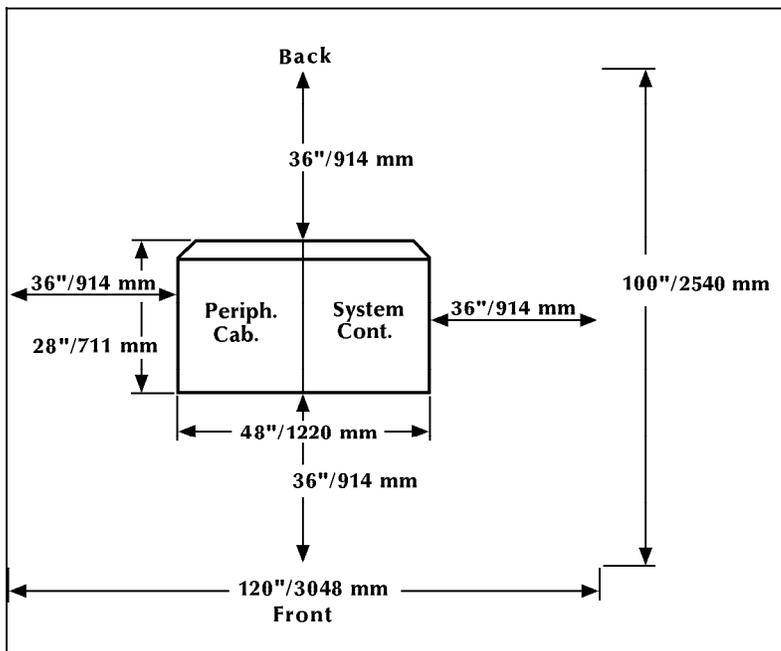
The 4890 system controller may be accompanied with the peripheral cabinet housing the open reel and 1/2 inch cartridge tape drives.

### Optional peripheral cabinet

The dimensions of the peripheral cabinet are the same as the controller, except for the weight, which is 316 pounds/144 kg.

A top view diagram in figure 1-1 is the controller with the peripheral cabinet sitting beside it.

Figure 1-1. 4890 system controller and optional peripheral cabinet (top view)



**Note:** The peripheral cabinet and system controller may be placed side-by-side, as shown in figure 1-1.

## Printer configurations

The following configurations are available for your printer:

- Base printer with dual stacker
- Base printer with high-capacity stitcher/stacker
- High-capacity feeder with dual stacker
- High-capacity feeder with high-capacity stitcher/stacker.

### Printer with dual feeder and dual stacker

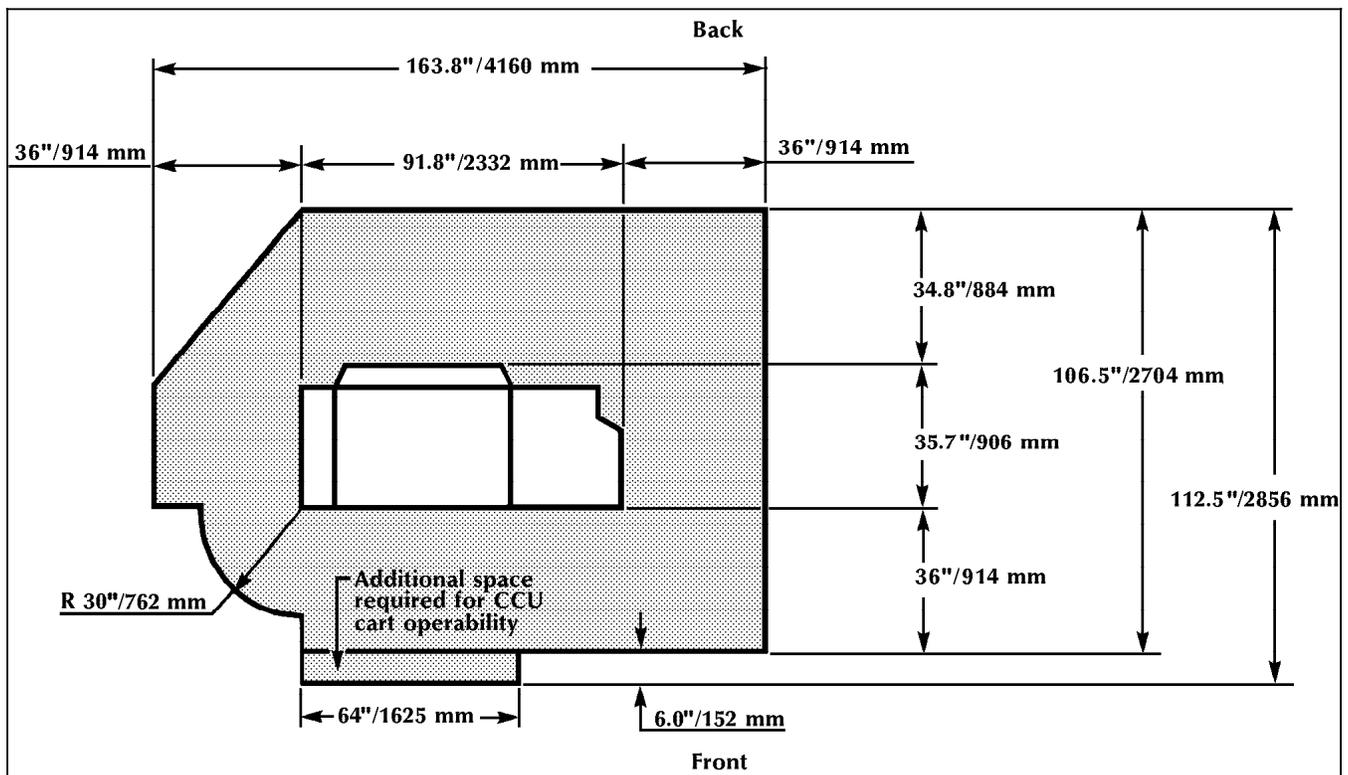
The dimensions of the base printer and the dual stacker are as follows:

- Width: 91.8 inches/2332 mm
- Depth: 35.7 inches/906 mm
- Height: 40.8 inches/1037 mm
- Weight: 1,454 pounds/661 kg
  - Printer: 1,220 pounds/555 kg
  - Dual stacker: 234 pounds/106 kg

Total space required: 163.8 inches/4160 mm by 112.5 inches/2856 mm

Figure 1-2 illustrates the top view of the space requirements for the base printer and dual stacker configuration.

Figure 1-2. Base printer and dual stacker



**Printer with dual feeder and high-capacity stitcher/stacker**

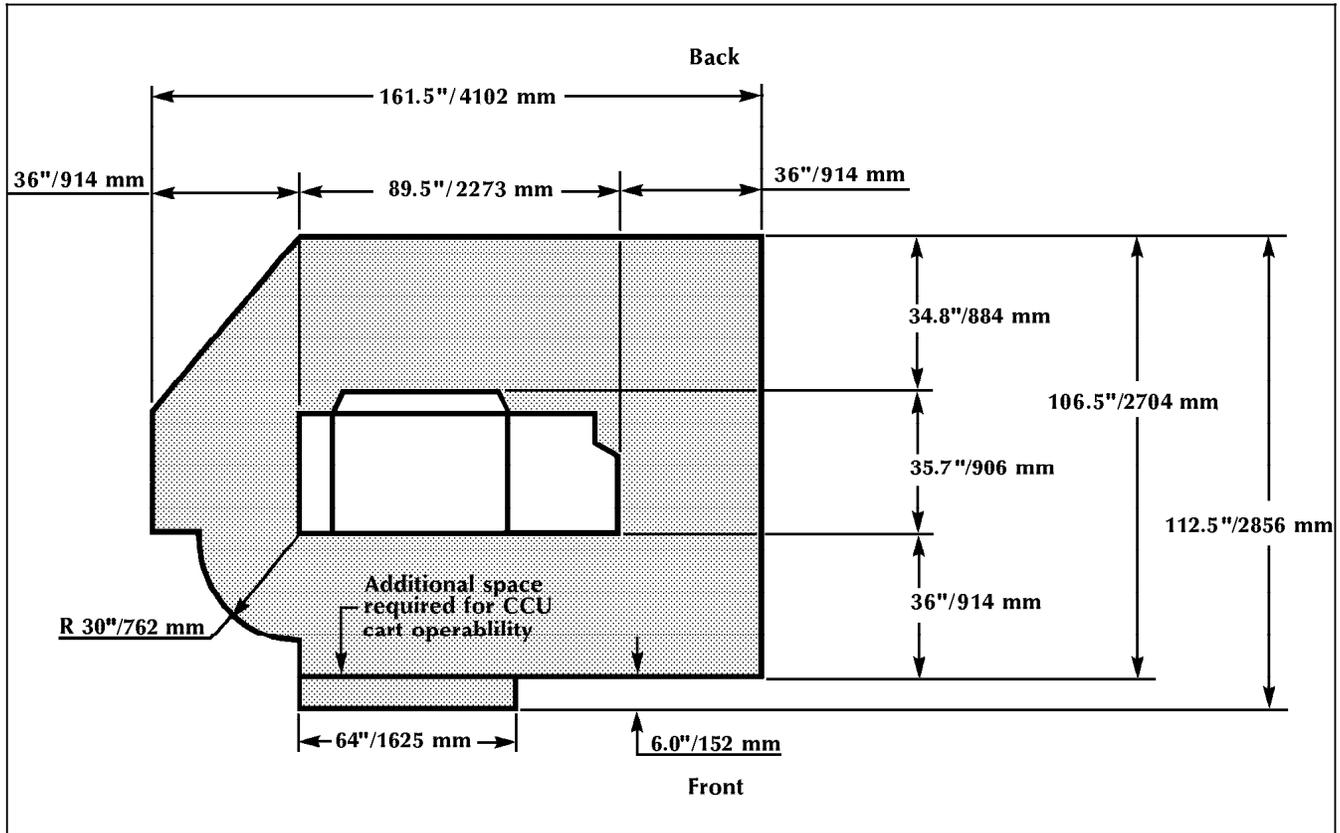
The dimensions of the base printer and the high-capacity stitcher/stacker are as follows:

- Width: 89.5 inches/2273 mm
  - Depth: 35.7 inches/906 mm
  - Height: 40.8 inches/1037 mm
  - Weight: 1,473 pounds/670 kg
- Printer 1,220 pounds/555 kg
  - Stitcher/stacker: 253 pounds/115 kg

Total space required: 161.5 inches/4102 mm by 112.5 inches/2856 mm

Figure 1-3 illustrates the top view of the space requirements for the base printer and high-capacity stitcher/stacker configuration.

Figure 1-3. **Base printer and high-capacity stitcher/stacker**



### Printer with High-capacity feeder and dual stacker

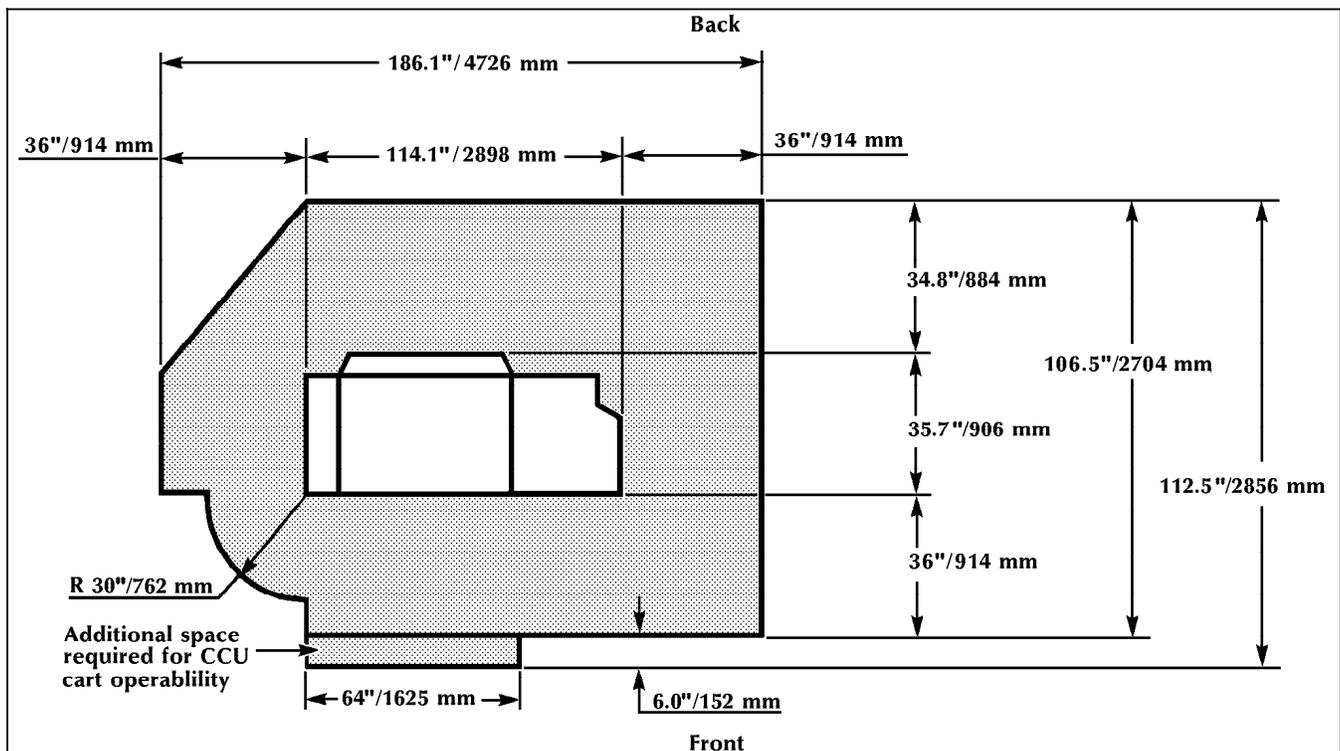
The dimensions of the printer with the high-capacity feeder and the dual stacker are as follows:

- Width: 114.1 inches/2898 mm
  - Depth: 35.7 inches/906 mm
  - Height: 40.8 inches/1037 mm
  - Weight: 1,742 pounds/792 kg
- Printer: 1,220 pounds/555 kg
  - Dual stacker: 234 pounds/106 kg
  - High-capacity feeder: 288 pounds/131 kg

Total space required: 186.1 inches/4726 mm by  
112.5 inches/2856 mm

Figure 1-4 illustrates the top view of the space requirements for the printer with high-capacity feeder and the dual stacker configuration.

Figure 1-4. **Printer with high-capacity feeder and dual stacker**



**Printer with High-capacity feeder and high-capacity stitcher/stacker**

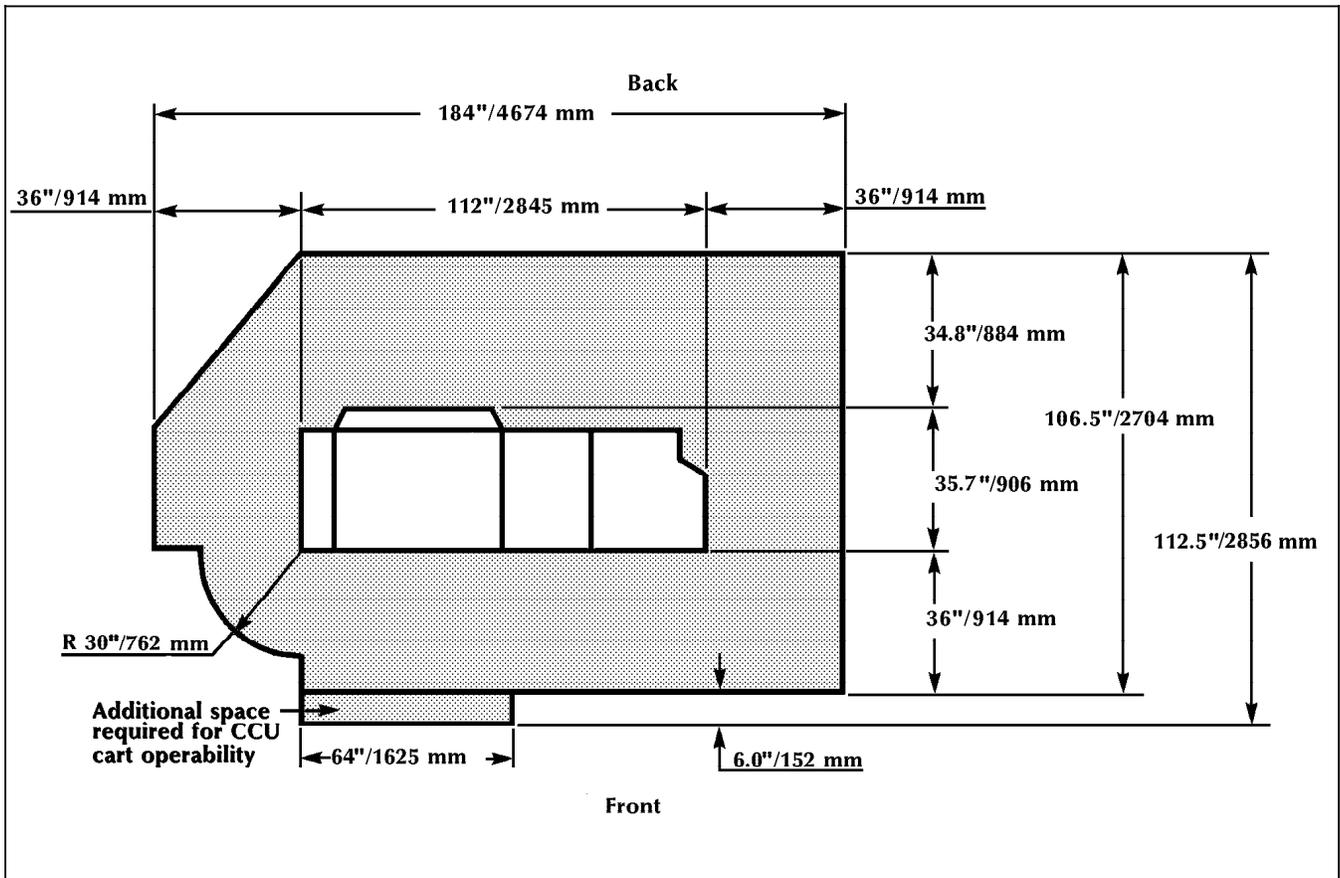
The dimensions of the printer with the high-capacity feeder and the high-capacity stitcher/stacker are as follows:

- Width: 112 inches/2845 mm
- Depth: 35.7 inches/906 mm
- Height: 40.8 inches/1037 mm
- Weight: 1,761 pounds/801 kg
- Printer: 1,220 pounds/555 kg
- High-capacity stitcher stacker: 253 pounds/115 kg
- High-capacity feeder: 288 pounds/131 kg

Total space required: 184 inches/4674 mm by 112.5 inches/2856 mm

Figure 1-5 shows the top view of the space requirements for the printer with high-capacity feeder and high-capacity stitcher/stacker configuration.

Figure 1-5. **Printer with high-capacity feeder and high-capacity stitcher/stacker**



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## Changeout cart

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The changeout cart is required for installing and removing the customer changeable unit (CCU) containing the color dry ink. A cart must also be used to store any CCUs not currently installed in the printer. If you intend to print using more than one color dry ink, you need to have one cart for each CCU.

Empty carts may be stored anywhere in your site that is convenient and accessible. Carts should be stored in a controlled environment, preferably in the same controlled environment as the printer. This reduces the amount of time required for the printer to set up the color developer housing (inside the CCU) once it is installed, and reduces the amount of time required for a change of dry ink color.

The dimensions of the cart are as follows:

- Width: 16.1 inches/409 mm
- Depth: 29.1 inches/739 mm
- Height: 36.9 inches/937 mm
- Weight: 130 pounds/59 kg (with CCU loaded).

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## Space planning guidelines

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Placement of the LPS depends on the type and amount of equipment used and the size and shape of the room used to house the equipment. Some possible configurations for LPS components include:

- Side-by-side
- L-shaped
- Face-to-face.

Equipment placement should optimize operator movements as much as possible. Here are a few suggestions that may be helpful:

- Place the system controller as close to the output end of the printer as possible. This allows operators to simply reach over to collect printed materials and check output.
- Consider the location of supplies in relation to the placement of the equipment. For example, having paper as close to the printer as possible will save time.
- Having the system controller as close to any offline interface devices as possible will save time when monitoring tapes, jobs, or other activities requiring operator intervention.

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## Clearance space requirements

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Your LPS must be installed in a fixed location and have the following space requirements available:

- 36 inches/914 mm of clearance on all sides of each component
- 78 inches/1981 mm of vertical clearance (measured from the floor to the lowest part of the ceiling or to the lowest

obstruction that hangs below the ceiling) throughout the entire area

- 24 inches/610 mm of exclusive operator area in front of each component.

## Shared space

It is best to provide the full amount of clearance space around your LPS. It is sometimes necessary to have shared space between components, such as between the printer and the system controller, or between another printing system.

Figures 1-6 and 1-7 illustrate two possible configurations of shared space. In the first illustration, two printers are back-to-back. Because there is no operator area to be concerned with, the entire 36 inches of general service space may be shared.

Figure 1-6. **Back to back shared service area space**

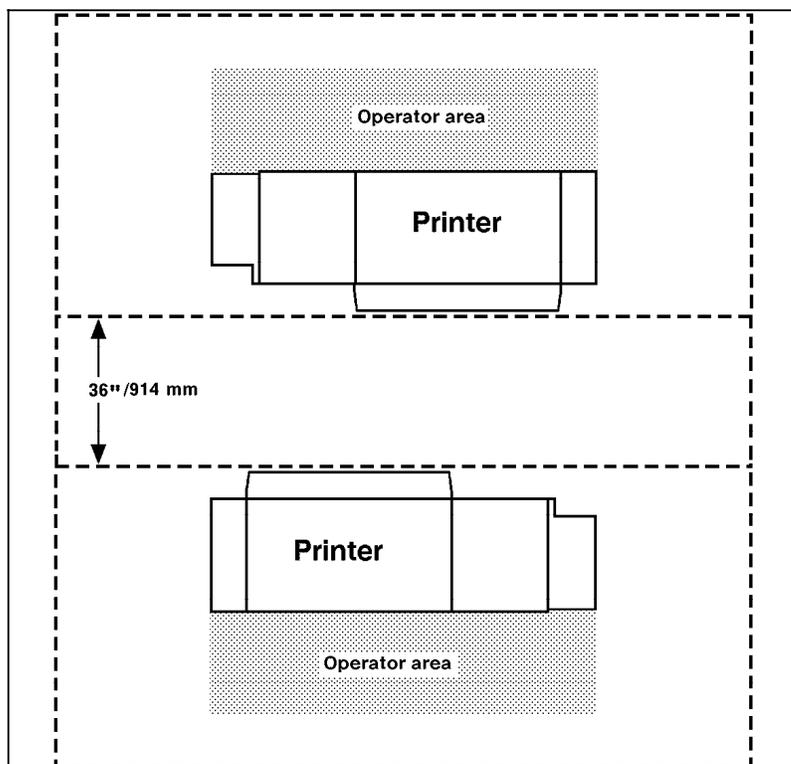
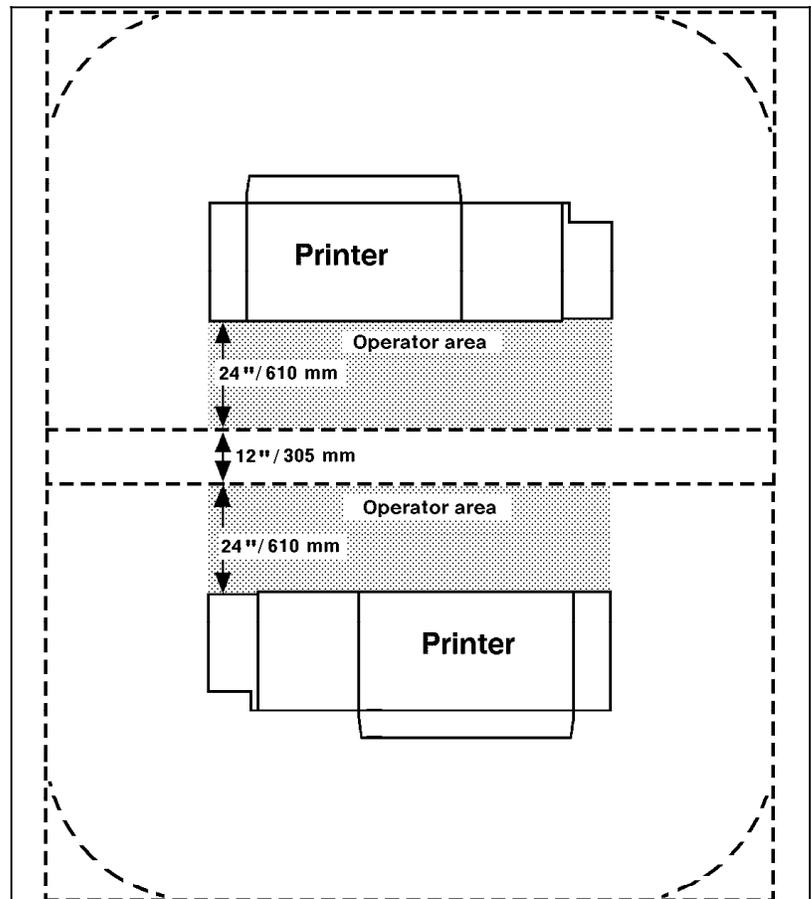


Figure 1-7 shows the two printers facing each other. The printers share 12 inches/305 mm of the general service space but not the exclusive operator area in front of each printer. Therefore, the printers must be 24 inches/610 mm + 24 inches/610 mm + 12 inches/305 mm apart: the entire operator space for each printer plus the shared general service area of 12 inches/305 mm.

Figure 1-7. Face-to-face shared service area space



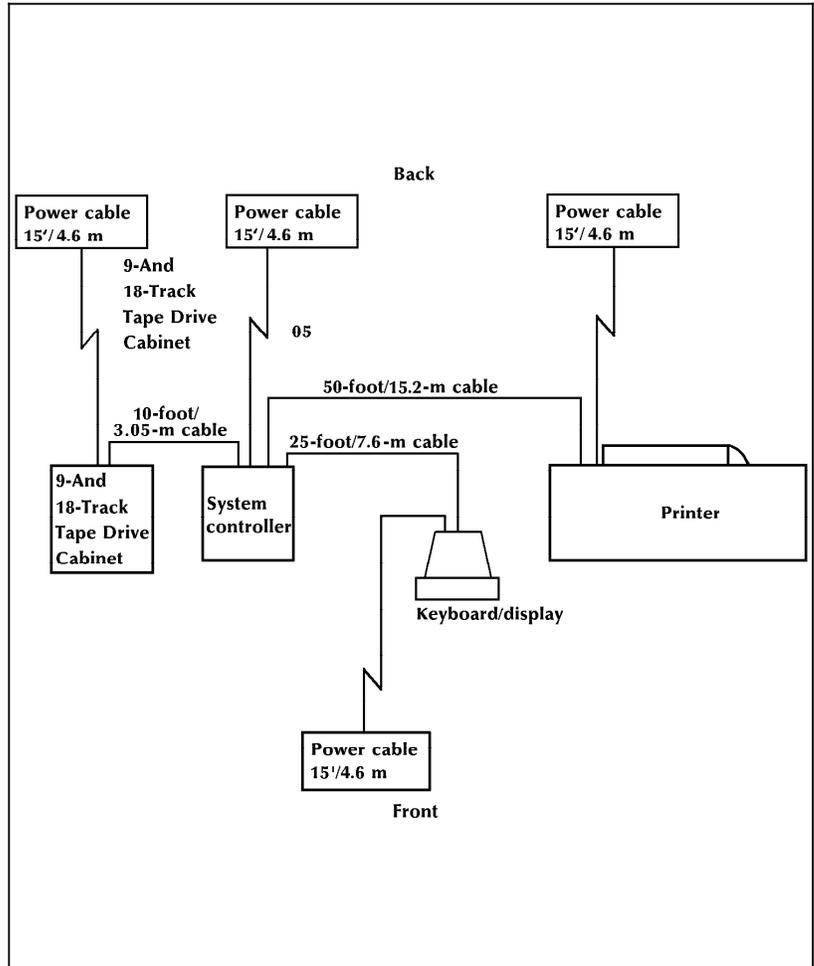
## Cable lengths

Cable lengths are important considerations in planning your LPS layout, as components cannot be separated by more than the recommended cable distance. Figures for cable length are given in total and usable lengths wherever it applies. The usable length should be used to determine component placement.

There are also distance requirements for some LPS options. Consult your Xerox or Rank Xerox sales or service representative for these requirements.

Figure 1-8 shows the lengths of each of the data and power cables for the 4890 components and options.

Figure 1-8. Power and data cable lengths



**Data cables**

The 4890 components can be separated up to the length of the data interface cables that connect them:

- The printer and the system controller are connected by a 50 foot/15.2 m cable, with a usable length of 47 feet/14.3m.
- The 4890 system controller and optional peripheral tape drive cabinet are connected by a 10 foot/3.05 m cable with a usable length of approximately 7 feet/2.13 m.
- The keyboard and display are connected to the system controller by a 25 foot/7.6 m cable (in most sites, the keyboard and display sit on the system controller).

**Power cables**

Outlets that meet the electrical requirements as outlined in the "Environmental and electrical requirements" section in this chapter must be within reach of the power cables, as listed below. If equipment is installed in a raised-floor environment, consider reducing the useable length of cable. The following list indicates the cable limitations.

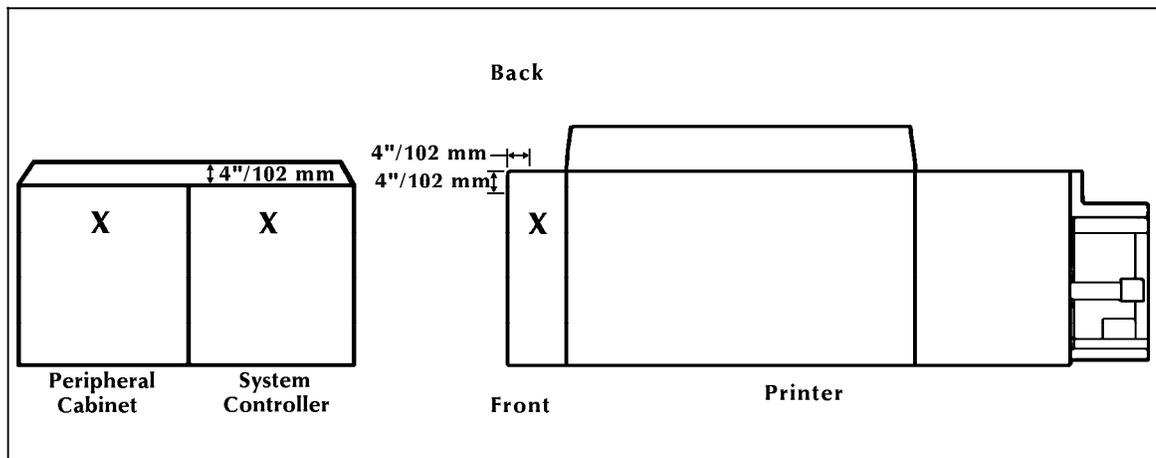
- System controller: 15 feet/4.6 m
- Printer: 15 feet/4.6 m
- Dual tape drive option: 15 feet/4.6 m
- Keyboard/display: 15 feet/4.6 m

The system controller provides an outlet for the keyboard and display power cord.

**Cable locations**

To run the cables beneath the flooring effectively, it is necessary to know where the cables enter and exit the printer, the system controller, and the peripheral cabinet. Figure 1-9 shows those locations (marked with an X).

Figure 1-9. **Top view of power and data cable lengths**



On the optional peripheral cabinet and the controller, the power cords enter from the bottom rear of the frames. The opening is in the middle.

## Safety considerations

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To ensure the safety of system operators and of Xerox or Rank Xerox service personnel, the keyboard and display must be placed in the same room as the printer, and within easy reach.

## Floor level

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For proper operation, the printer must be level within one degree left to right and front to back. The LPS is not installable on floors more than two degrees out of level. On floors less than two degrees out of level, Xerox or Rank Xerox personnel use a leveling kit to level the printer.

If the floor is more than two degrees out of level, another suitable location must be found for the printer to be properly installed. Your service representative should perform a pre-installation analysis to determine if the floor level meets the requirements.

If you move the printer unit after its initial installation, it is your responsibility to ensure that the printer can be properly leveled.

## Delivery access requirements

It is easy to overlook how the equipment is going to get from the truck to the operation site. Important concerns are:

- Are there stairs leading to the installation site?
- Do you have an elevator if the installation site is above the first floor?
- Is the elevator large enough?
- How wide are the hallways?
- How wide are the doorways?
- Do you have a loading dock or a specific door where the equipment should be delivered?

You should review all delivery access requirements before or at the time of the site inspection that is done by your service representative.

Measure all doorways and hallways the components must pass through to reach the installation site.

### Turning radius

Consider the width of the passageway the equipment must negotiate, whether a corner, past into a room, an elevator, or another passageway.

Turns are L-shaped and T-shaped. The following diagrams and table shows the minimum space needed to maneuver the printer through the turns.

To use the table, measure the passage or doorway you need to use. This is Passage A. Find that number (or the next higher number) in table 1-2 and read across to the corresponding minimum value for Passage B, depending on the type of turn the equipment must negotiate. Figure 1-10 shows the two types of turns.

Figure 1-10. L-shaped and T-shaped turns

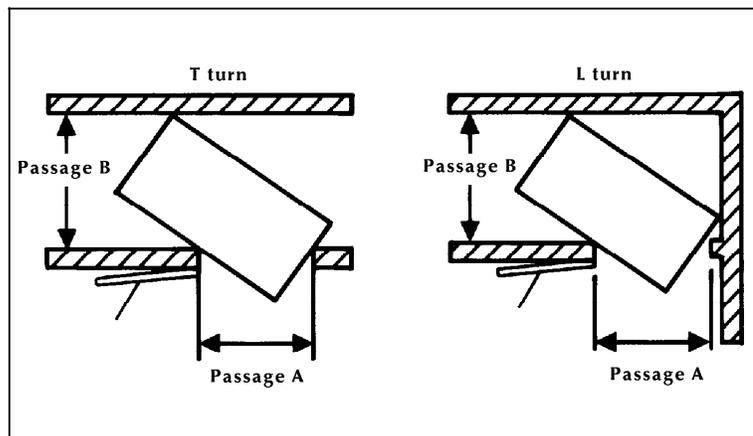


Table 1-2. Turning radius for the printer

If passage or doorway A is:	Passage B must be (either turn):	Passage B for a T-turn must be:
29 inches/73.7 cm	68.6 inches/174.3cm	67.6 inches/171.7 cm
30 inches/76.2cm	66.2 inches/168.2 cm	65.7 inches/166.9 cm
31 inches/78.7 cm	64.2 inches/163.1 cm	63.9 inches/162.3 cm
32 inches/81.3 cm	62.3 inches/158.3 cm	62.2 inches/158 cm
33 inches/83.4 cm	60.7 inches/154.2 cm	60.6 inches/154 cm
34 inches/86.4 cm	59.1 inches/150.1 cm	59.1 inches/150 cm
35 inches/89 cm	57.7 inches/146.6 cm	57.7 inches/146.6 cm
36 inches/91.4 cm	56.3 inches/143 cm	56.3 inches/143 cm
37 inches/94 cm	55.2 inches/140.2 cm	55.2 inches/140.2 cm
38 inches/96.5 cm	54.0 inches/137.2 cm	54.0 inches/137.2 cm
39 inches/99.1 cm	52.9 inches/134.4 cm	52.9 inches/134.4 cm
40 inches/101.6 cm	51.8 inches/131.6 cm	51.8 inches/131.6 cm
41 inches/104.1 cm	50.5 inches/128.3 cm	50.5 inches/128.3 cm
42 inches/106.7 cm	49.8 inches/126.5 cm	49.8 inches/126.5 cm

## Environmental and electrical requirements

Your LPS has important environmental and electrical requirements that must be accommodated. Table 1-3 defines the environment requirements.

Table 1-3. **LPS environmental requirements**

Environmental condition	Requirement
Operating Temperature	Recommended: 72°F ± 4°F (22° C ±2° C) Minimum: 60°F/15.5°C Maximum: 80°F/26.7°C
Humidity	Recommended: 45 ± 10% Minimum: 30% Maximum: 65%
Heat dissipation, printer	Operating: 14,980 Btu per hour Standby: 7,370 Btu per hour
system controller	Operating: 4,450 Btu per hour Standby: 4,450 Btu per hour
peripheral cabinet	Operating: 3,195 Btu per hour Standby: 3,195 Btu per hour

The system requires dedicated power outlets for the printer, system controller, and the optional peripheral cabinet. Table 1-4 defines the electrical requirements for these devices.

Table 1-4. **LPS electrical requirements**

Device	requirements
System controller	U.S. and Canada, 60Hz: 186/240 VAC (1 phase) or 186/220 V AC (Line 1 to Line 2); 15 amp service; NEMA 6-15R or ANSI C73, 20R; KVA 1.3 in both standby and operating  International, 50 Hz: 176/242 VAC (1 phase); 15-amp service Power connector per local codes
Optional peripheral cabinet	U.S. and Canada, 60Hz: 186/240 VAC (1 phase) or 186/220 V AC (Line 1 to Line 2); 15-amp service; NEMA 6-15R or ANSI C73, 20R; KVA 0.936 in both standby and operating (fully configured with both 9-track and 18-track drives)  International, 50 Hz: 176/242 VAC (1 phase); 15-amp service Power connector per local codes
Printer	U.S./Canada, 60 Hz: 120/208 or 120/240 VAC; 30-amp service, NEMA 14-30R  KVA 2.70 in standby, 5.5 operating  International, 50 Hz: 220/230/240 VAC

**Note:** Agency certification requirements are: UL, CSA, IEC.

## 4890 LPS power receptacle requirements

All power outlets must be dedicated only to this equipment. Ensure that each power cord has a separate circuit.

You must use a power cord assembly (ELCI, RCD Inline, 220 VAC) when using a source other than the system controller to provide power to your PC user interface. Contact your sales and service representative to make sure the proper assembly is ordered and installed.

Make sure the power cord configurations match your receptacle requirements (tables 1-5 and 1-6).

For 50 Hz systems, consult your local service representative to

determine the type of plug and receptacle to use with your 50 Hz printer and system controller.

Table 1-5. **System controller and peripheral cabinet power receptacle requirements**

Electrical environment	Voltage	Current	Receptacle
U.S. and Canada 60 Hz	208/240, 1 Phase or 208/220 (L1-L2)	15A - Cabinet 15A - Controller	NEMA 6-15R or ANSI C73, 20R
International 50 Hz	220/230 1 Phase	15A - Cabinet 15A - Controller	Per local code

Table 1-6. **Printer power receptacle requirements**

Electrical environment	Voltage and current	Receptacle
U.S. and Canada 60 Hz	120/240/30A or 120/208/30A	NEMA 14.30 R
International 50 Hz DELTA	220, 230, 240 / 30A (DELTA), 3 Phase, 4 wire	Per local code

## 50 Hz system controller and peripheral cabinet power cord configurations

Figure 1-11 shows the 50 Hz system controller power cord configuration.

Figure 1-11. **System controller and peripheral cabinet power cord 50 Hz Installation 220/230 VAC, single phase, 15A cabinet, 15A system controller**

Measurement	Nominal	Range
Line to line	220 VAC	176-242 VAC
	240 VAC	176-242 VAC
Line to ground	220 VAC	176-242 VAC
	240 VAC	176-242 VAC

The 50 Hz plug and receptacle specifications vary according to local codes.

## 60 Hz printer outlet voltages

Refer to table 1-7 for the 60 Hz voltage requirements at the power outlet.

**Note:** All power outlets must have a dedicated circuit for each system equipment piece. Make sure that each power cord has a separate circuit.

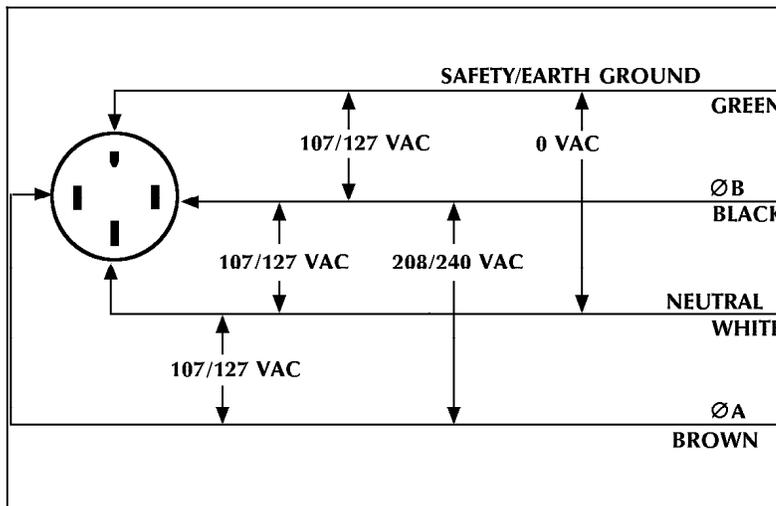
Table 1-7. **Printer (60 Hz) voltage requirements at power outlet**

Service outlet configuration	Measurement	Nominal	Range
4 Wire	Line 1 to Neutral	120V RMS	107-127 V RMS
4 Wire	Line 2 to Neutral	120V RMS	107-127 V RMS
4 Wire	Neutral to Ground	0	0-10 V RMS
4 Wire	Line 1 to Line 2	208V RMS	182-220 V RMS
4 Wire	Line 1 to Line 2	208V RMS	210-254 V RMS

## 60 Hz system power cord configurations

Figure 1-12 shows the configuration of the 60 Hz printer power cord.

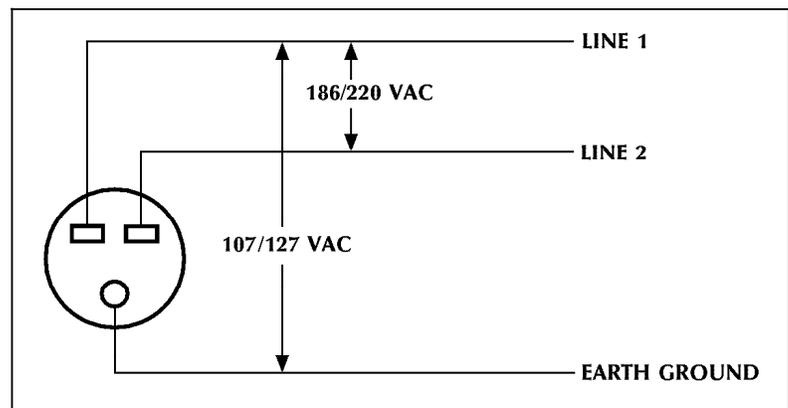
Figure 1-12. **Printer power cord 60 Hz installation for 30 amp NEMA 14-50R**



Voltage to ground is shown for troubleshooting.

Figure 1-13 shows the configuration of the 60 Hz system controller and peripheral cabinet power cord configuration.

Figure 1-13. **System controller and peripheral cabinet power cord 60 Hz installation for 15 amp NEMA 6-15R**



Voltage to ground is shown for troubleshooting.

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## Interface requirements

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This section describes requirements for the various interface environments.

### Channel-attached

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For an online configuration with an IBM host system, you must supply the following cables:

- Bus and tag cables (bus in, bus out, tag in, tag out)
- Emergency power off (EPO) cable (optional)
- Terminators (if necessary, due to location on channel).

For your convenience, it is possible to purchase the Bus and Tag cables for the printer through Xerox or Rank Xerox Corporation. Contact your Xerox or Rank Xerox site representative for current pricing and order information.

### Third party connections

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Xerox or Rank Xerox supports a number of third party connections. For product recommendations and ordering information, contact the Xerox Connection (U.S. only), or your Rank Xerox representative. Refer to the back of the book for information regarding the Xerox Connection.

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## Connecting IBM host equipment

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If you have an existing Xerox LPS installed, and are communicating with an IBM host environment, you may have an 871 Communications Module (CM) installed. You may continue to use that device for connection to the 4890 LPS.

If this is your first Xerox LPS installation, the Xerox Connection or your Rank Xerox representative may recommend the BARR/SNA device. This is a PC-based device that enables printing of host data streams from a remote site, 3270 emulation to network users, and allows transfer of large files from your IBM host environment to the LPS.

Contact the Xerox Connection or your Rank Xerox representative for additional information on either of these interface products, or for a suitable recommendation for your particular environment. The Xerox Connection (U.S. only) can provide you with statistics and installation requirements for any recommended interface product.

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## Connecting DEC equipment using XPMF-VMS

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The Xerox Print Management Facility option is an interconnect product that includes the hardware, software, and documentation necessary to link your LPS with various Digital Equipment Corporation (DEC) VAX and MicroVAX systems in the VMS environment. General installation guidelines are described in this section. Contact your Xerox site representative or refer to the *Xerox Print Management Facility - VMS Version, Installation Planning Guide* (publication number 720P85460) for additional information on this interconnect product.

An XPMF-VMS interconnect is composed of the following elements:

- The hardware components installed on the Xerox printer (by Xerox personnel)
- The appropriate DEC synchronous communications controller (and modems, if required), installed on the DEC VAX (by DEC personnel)
- The XPMF-VMS software installed on the VAX/VMS system (by the customer).

The host software module included in the XPMF package is specifically designed for compatibility with the Digital Equipment Corporation VMS operating system.

The UNIBUS communications controller within the Xerox or Rank Xerox system controller is compatible with the communications controllers of each of the following DEC bus-type environments:

- UNIBUS
- VAXBI
- Q-bus.

## Possible configurations

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There are a number of possible configurations, including:

- Single or multi-user standalone environments with a single local processor. Terminals are connected to the processor with any of the available (or compatible) DEC communications connectivity choices. The Xerox LPS is a peripheral using XPMF-VMS and the appropriate communications controller installed in the local DEC processor. The physical connection is a direct cable connection between the two devices, including a null modem supplied by Xerox.
- Two or more standalone VAX systems can be linked together to enable the transfer of information between systems. With the appropriate communications controller installed in one of the local DEC processors, data from other processors, local or remote, can be submitted to the Xerox LPS using XPMF-VMS, by way of the local processor. The physical connection is a direct cable connection between the two devices, including a null modem supplied by Xerox.
- The DEC processors may be located in different geographic locations than the Xerox LPS: the appropriate DEC communications controller installed in the DEC processor that is going to submit jobs to the Xerox LPS; the XPMF-VMS software loaded on that host processor; XPMF-VMS hardware in the Xerox LPS; and, in this case, a modem connection between the submitting DEC processor and the Xerox LPS.

The connectivity between the DEC processors is transparent to the Xerox LPS. It may be telephone line communications, a local area network (LAN), or wide area network (WAN). The connection of the Xerox LPS using the XPMF-VMS solution is to one of the DEC processors, local or remote.

If your Xerox LPS is within 50 feet/15.2 m of the DEC processor, the modem is optional.

## Components

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<b>Hardware</b>	The hardware interface residing in the LPS is based on a DEC Synchronous Controller. It is installed into the LPS system controller with an adapter kit and cable supplied by Xerox or Rank Xerox.
<b>Software</b>	<p>The interface is supported by Xerox software on both the Xerox LPS and the VAX system.</p> <p>The VAX-resident software performs the print supervisor (symbiont) role in the DECprint architecture and enhances the uses of the LPS. Refer to the <i>Xerox Print Management Facility - VMS Version, Installation Planning Guide</i> (publication number 720P85460) for additional information on the installation of this software.</p>

## Installation responsibilities

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|-----------------|---|
| <b>Xerox</b>    | Xerox responsibilities include the following: <ul style="list-style-type: none"><li>• Install the hardware component of the interface within the Xerox system controller</li><li>• Assist the customer, if necessary, in installing the software component</li><li>• Connect the provided 50 foot/15.2m cable to the 4890 LPS. This includes the null-modem cable if it is a local configuration.</li></ul>   |
| <b>Customer</b> | Customer responsibilities include the following: <ul style="list-style-type: none"><li>• Arrange for telephone lines and modems, if required by your interconnect configuration.</li><li>• Check kit contents to make sure all necessary items are included.</li><li>• Install the host-resident software component (part of the XPMF-VMS kit provided by Xerox) onto the VMS system.</li><li>• Obtain all necessary VAX hardware and software to form the selected connection solution.</li><li>• Coordinate the installation steps that involve both DEC and Xerox service organizations.</li><li>• Produce specifications for XPMF-VMS in the configuration of the printer.</li><li>• Install any communications controller components needed for the DEC VAX system targeted to submit jobs to the Xerox LPS.</li></ul> |

## Installation requirements

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|------------------------------|---|
| <b>Privileges</b>            | Before installing the host-resident software, you must have the following privileges and resources available: <ul style="list-style-type: none"><li>• SETPRV privilege, or CMKRNL, WORLD, and SYSPRV privileges</li><li>• A minimum of 1,000 blocks of free space during installation; 500 blocks after installation.</li></ul>   |
| <b>Hardware requirements</b> | The VAX-resident print supervisor (symbiont) software is supported on the following VAX/VMS systems: <ul style="list-style-type: none"><li>• UNIBUS VAX systems</li><li>• VAXBI VAX systems</li><li>• Q-Bus VAX systems.</li></ul> These three environments require the following items: <ul style="list-style-type: none"><li>• VMS/UNIBUS environment:<ul style="list-style-type: none"><li>— A supported VAX series hardware configuration (CPU, memory, peripherals) with UNIBUS I/O subsystem</li><li>— A DMR-11 synchronous interface and cabinet kit.</li></ul></li><li>• VMS/VAXBI environment:<ul style="list-style-type: none"><li>— A supported VAXBI series hardware configuration (CPU, memory, peripherals)</li></ul></li></ul> |

- A DSB32 synchronous interface and cabinet kit.
- VMS/Q-bus environment
  - A supported MicroVAX hardware configuration (CPU, memory, peripherals)
  - A DSV11 Q-bus synchronous interface and cabinet kit.

Appropriate communication cables and modems may be required. Consult your site representative for more information, and to obtain a copy of the *Xerox Print Management Facility - VMS Version, Software Installation Guide* (publication number 720P90610).

#### Software requirements

The VAX-resident print supervisor (symbiont) software requires the following supported software:

- VMS, Version 5.0 (or later)
- VAX Wide Area Device Driver.

#### Documentation

As stated in the beginning of this section, the XPMF-VMS option kit from Xerox contains documentation represented by four manuals delivered to the customer with the option kit hardware and software. The books in the *Xerox or Rank Xerox Print Management Facility - VMS Version* reference set include the following:

- *Software Installation Guide* (720P90610)
- *System Manager Guide* (620P90620)
- *User Guide* (720P90630)
- *Programmer Guide* (720P90640).

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## Training

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- The following information describes the training available for printer operators, system administrators, and other users.
- Operator training** Operator training is conducted at your location shortly after your LPS is installed. Training includes hands-on practice running basic jobs, maintenance, and problem solving. Determine the number of operators you want to attend initial training, and schedule training dates and times through your site representative.
- System training** Several training workshops and a self-study course are included in the LPS technical training curriculum. Workshops are designed to provide a system overview, as well as forms creation, job control, and increased productivity expertise. The workshops include the following courses:
- **LPS Introduction Workshop.** This one-day workshop includes a technical overview of Xerox or Rank Xerox LPS features, system disk structure, operating system software, the system generation procedure, disk utilities, problem solving, and an introduction to command files. Hands-on experience includes configuring and generating a new software system and performing maintenance procedures using the LPS utility commands.
  - **LPS Forms Description Language (FDL) Workshop.** This one-day workshop provides instruction on FDL commands, inserting logos and graphics, using the forms design ruler and quick reference card, coding and printing electronic forms,

modifying a form to print variable data, and converting to a two-up format.

There is also a self-styled option for FDL training that provides all of the information presented in the FDL Workshop as well as exercises to be completed on your LPS.

- **LPS Print Description Language (PDL) Workshop.** This three-day workshop provides lecture and hands-on practice for using PDL commands. This class is intended for system administrators and operators.
- **LPS Print Description Language (PDL) II Workshop.** This two-day workshop combines lecture and lab work to help users apply advanced PDL techniques in maximizing system productivity and developing new applications for the LPS.
- **LPS Command File Workshop.** This is a modularized two-day workshop that provides self-paced training for System Administrators and Operators, on setting up and using the LPS.

For detailed information about any of these courses, to enroll in workshops, or to order the self-study, refer to the back of the book for more information on customer education.

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## Ordering supplies for installation

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Consumable supplies (those that are depleted during operation of the LPS), such as paper, dry ink, and fuser lubricant, need to be ordered for your LPS.

This section describes the fonts and supplies needed for installation. Your site representative will help you place your initial order for fonts and supplies.

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## Fonts

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There are four classifications of fonts:

- Standard fonts
- 4890 core fonts
- Licensed fonts
- Custom fonts.

<b>Standard fonts</b>	Your LPS operating system software includes a library of over 250 standard 300 dots per inch (dpi) fonts, referred to as the A03 font family. These fonts are provided for compatibility with jobs created on 9700 and 4050 family LPS devices for customers who also use these printers at their site.
<b>4890 core fonts</b>	Five core fonts are also provided with the LPS. These fonts yield a slightly better printed result on the 4890 than the standard fonts listed above. The core fonts are available in data center format (for use with operating system software such as Forms Description Language) or in Interpress format.
<b>Licensed fonts</b>	In addition to the library of standard fonts delivered with your LPS, over 100 licensed fonts are also available.
<b>Custom fonts</b>	Custom fonts and graphic images such as company logos and signatures can be digitized by Xerox or Rank Xerox for use on your LPS. Contact Xerox Font Services (U.S. only), or your Rank

Xerox representative for information about custom fonts. Refer to the back of this book for information regarding Xerox Font Services.

### Receiving fonts

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The fonts provided by Xerox or Rank Xerox are contained either on floppy disks, 1/4 cartridge, open reel tape, or 1/2 inch cartridge, 1600 bits per inch (bpi), labeled magnetic tape. One tape may contain several fonts, each in a separate file.

Your site representative will assist you with determining your LPS font needs for installation.

## Paper

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### Acceptable paper stocks and sizes

Select your paper carefully to eliminate the possibility of paper jams and poor print quality.

Your LPS can print on standard white, colored, predrilled, and preprinted paper, labels, and transparencies. The acceptable paper sizes are from 8.0 by 10 inches/ 203 x 254 mm to 8.5 by 14 inches/216 x 356 mm. Consult *Helpful Facts About Paper* for more information regarding acceptable paper types.

The 4890 also prints on any non-standard size paper within the range specified above.

### Paper weights and grade

For best results, use 20 pound/80 gsm (grams per square meter) bond xerographic grade paper. Xerox or Rank Xerox papers are specifically designed for optimal performance in your LPS. The heaviest acceptable weight paper is 110 pound/200 gsm. The lightest acceptable weight paper is 20 pound/80 gsm.

Paper is fed into the LPS with the long side as the leading edge. When you purchase paper, buy long-grain paper. Make sure the grain is parallel with the long side (long-grain) for the most reliable feeding and stacking.

### Storing paper

Paper has a tendency to curl under the heat that is present inside xerographic equipment. To minimize the amount of curling, use paper with low moisture content. Paper with excessive moisture content has a tendency to jam because of the greater curl. The maximum recommended moisture content is 5.7 percent.

Keep these points in mind when preparing your paper storage area:

- Store paper in its own wrapper; do not leave it unwrapped or where it can be damaged by dampness or heat.
- Store paper on a flat surface and not on its side or edge.
- Store reams of paper in a closed cabinet.
- Always store paper in a cool, dry area. Store on pallets or shelves, not on the floor.
- Plan ahead and keep a supply of paper for at least a day in the same area as the printer to allow environmental stabilization prior to printing.

## Dry ink

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Dry ink is the powder that forms the image on the printed page. Dry ink is combined with carrier beads and stored in a bottle mounted on the black developer housing (for black dry ink) and on the customer changeable unit (CCU) for color dry ink.

There are five dry ink colors available in addition to black: red, green, blue, magenta and cyan. The dry ink bottles come six to a carton for black dry ink and three to a carton for color dry ink. You should have at least one extra container of black dry ink, and one of each color that you normally use.

Use only Xerox dry ink in your LPS. For ordering information refer to the consumable supplies table in the "Postinstallation" chapter.

## Fuser lubricant

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Fuser lubricant is a consumable item required by the LPS. At least one box needs to be ordered and kept on hand for installation by the Xerox service representative. The printer holds up to three tubes when full and is refilled to capacity during each service call. Refer to the consumable supplies table in the "Postinstallation" chapter.

## Developer

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Developer is not a consumable material, but may become contaminated and will then need to be replaced. Your site representative will replace the developer, if necessary. Developer is not ordered by the customer, even if it must be replaced.

## Diskettes

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Diskettes are optional items that provide loading and backup of fonts, forms, and user files to and from the LPS system disk. The recommended media for use in the floppy disk drive is the standard 96 tracks per inch (tpi), high-density, double-sided diskettes. The floppy disk drive is 1.2 MB high density. Either high-density/high-capacity, and 1.2 MB or double density and low capacity 360 KB floppy disks may be used. Refer to the consumable supplies table in the "Postinstallation" chapter.

## Stitcher wire

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Stitcher wire is a consumable item for an LPS with the high-capacity stitcher/stacker option. You need to order stitcher wire reels and keep them on hand. They are installed by your service representative, or operators who have completed OCM or ACT training. Refer to the consumable supplies table in the "Postinstallation" chapter.

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## 1/4 inch cartridge tapes

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Cartridge tapes are required for the 1/4 inch cartridge tape drive. The 1/4 inch cartridge tape holds between 320 and 525 MB, depending on the configuration.

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## Space planning templates

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The dimensions and space requirements for LPS components are listed earlier in this chapter. The space planning templates are designed to simplify the space planning process by helping you create a floor plan for your LPS base components, particularly if you will have shared clearance space.

Templates are provided for the system controller, optional peripheral cabinet, and the various printer configurations. Make sure you allow space for optional equipment as appropriate. Remember to consider other pieces of equipment, such as storage cabinets and tables, as well as posts, building columns, and other immovable objects when planning space for your LPS. Your site representative can help you plan space for additional components.

The easiest way to use the space planning templates is to photocopy them and cut out and move the templates around on the grid (located at the end of this chapter) to find the optimum placement for your LPS components. You can also photocopy the templates onto a transparency and use the transparency on top of the grid.

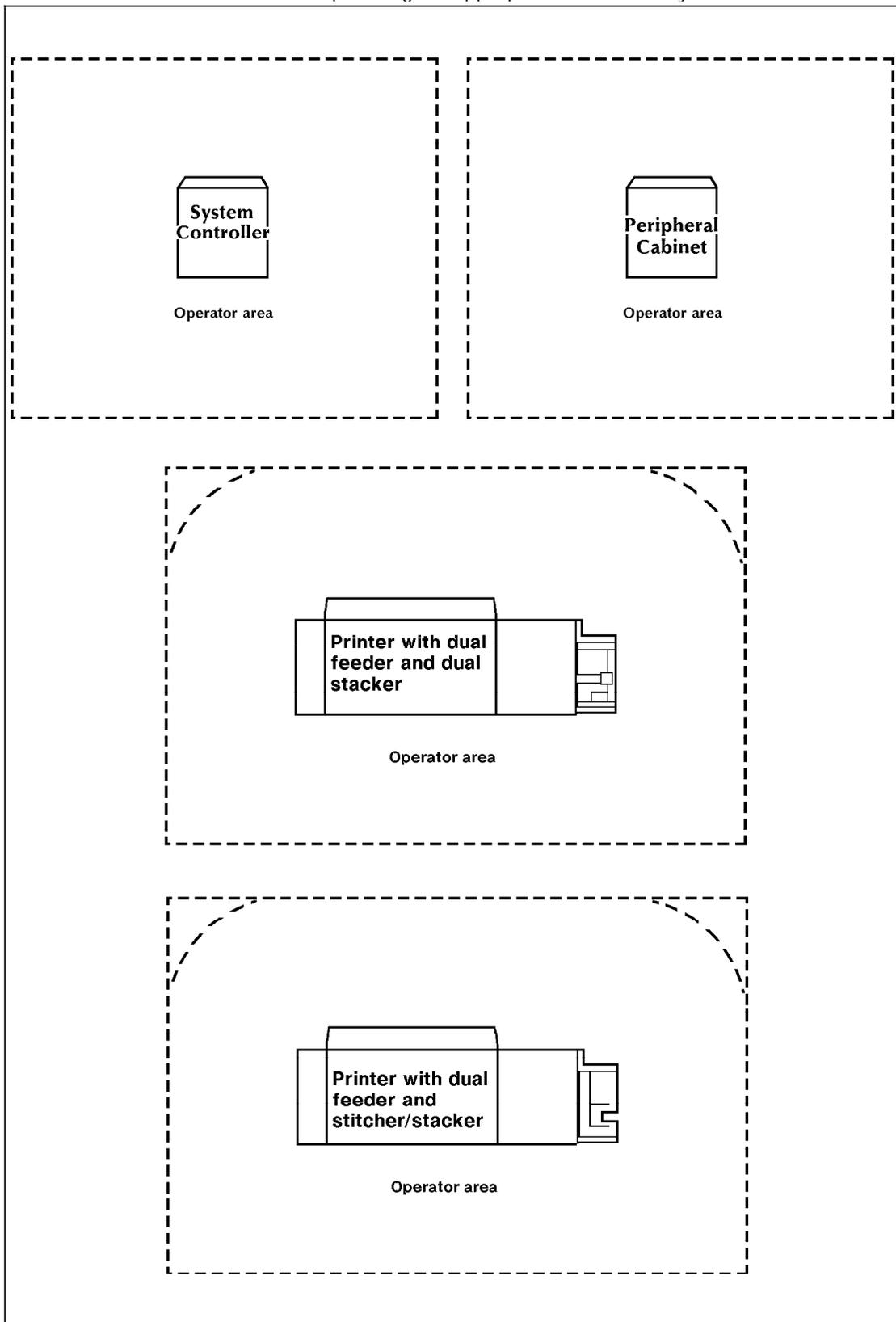
The templates are to scale with the grid; each square is equal to 1 foot/250 mm. The curved dotted lines in the corners of the space perimeters indicate the corners that may be rounded off while still maintaining the required clearance space.

There are a number of factors to keep in mind when planning your site. These include:

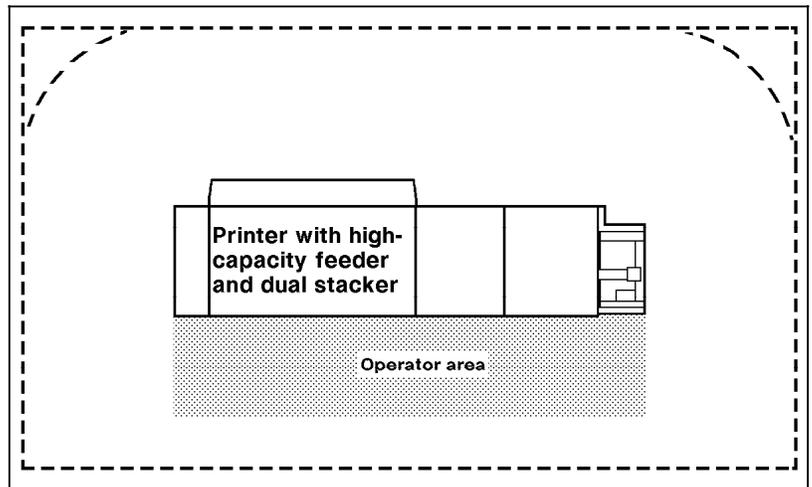
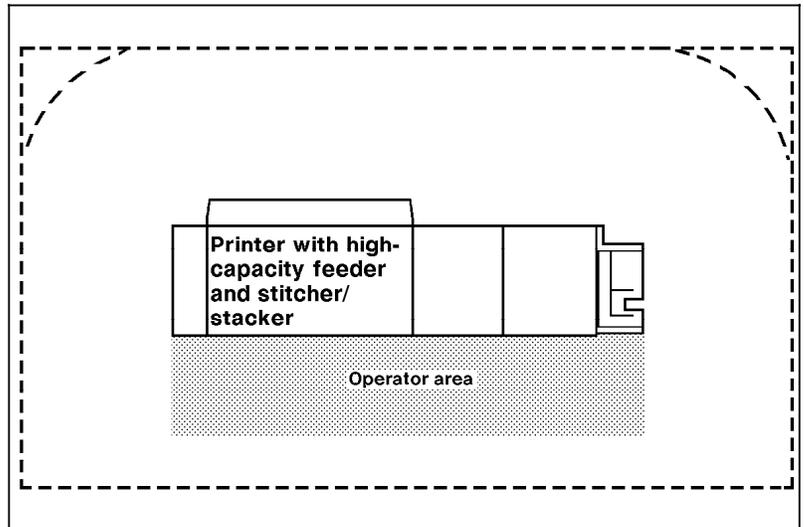
- Clearance space requirements
- Cable length
- Efficiency of use.



Refer to these templates when considering the various factors in planning the appropriate location for your LPS.













This chapter describes the activities you and your Xerox representative perform during the installation of the 4890 hardware and software. Before installation begins, complete the tasks described in the "Preinstallation" chapter.

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## Installation process

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The installation process generally takes one to several days to complete, depending on the scheduling of operator training. Equipment, software kits, and documentation kits may all arrive in one day or over the course of several days.

When all necessary items are in place, a team of Xerox personnel completes the installation of your LPS.

The installation process typically occurs in the following order:

- Install equipment (hardware) and options
- Perform test and system generation on your LPS
- Place the system online, if appropriate
- Load initial applications and run sample jobs
- Perform initial operator training.

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## Installation responsibilities

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Xerox is responsible for the physical installation of the LPS components and the loading of software and applications. You have the general site responsibility of ensuring that the right personnel and supplies are available. Refer to the installation planning checklist for a complete list of responsibilities.

## **Xerox responsibilities**

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Xerox is responsible for the following installation activities:

- Installing the LPS
- Loading the software and initial applications
- Training operators
- Reviewing preventative maintenance schedules and service call procedures.

## **Customer responsibilities**

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Customer responsibilities include the following:

- Making sure all needed supplies are available
- Having system specialist available during the software and application tape loading
- Having the appropriate operators available for training
- Checking the documentation and software kits for completeness
- Having a test job ready to run, if desired.

After the installation of your laser printing system, a number of ongoing tasks must be performed. These tasks may include all or some of the following:

- Maintaining an adequate inventory of consumable supplies
- Overseeing routine customer maintenance and meter reporting
- Arranging additional operator training
- Ordering additional fonts and documentation
- Placing service calls for hardware problems and obtaining assistance in solving application-related problems
- Identifying and implementing new applications.

As installation coordinator, it is your responsibility to designate a person to perform these tasks.

This chapter describes these tasks and some of the support services available to you. There is also a consumable supplies table and a supplies checklist at the end of the chapter.

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## Xerox support services

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Xerox provides many services in support of your laser printing system. These services include the following:

- Xerox Printing Systems Support Center
- Xerox Connection
- Xerox Font Services
- Xerox Documentation and Software Services
- Xerox Supplies Order Service.

Detailed information about these services follows:

Prior to installation, your sales representative is available to answer your questions about the products, services, or billing. If you need assistance in resolving application-related problems or questions, contact Xerox or Rank Xerox Customer Support Center.

Refer to the back of this book for information regarding the telephone numbers of the support group you need to contact. A Xerox or Rank Xerox System Analyst is also available to assist you with applications development.

## Ordering supplies and requesting services

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In the back of this book is a card to use for reference purposes when ordering supplies, fonts, documentation, or other services. Refer to this card whenever you need to order additional supplies.

## Routine maintenance

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Routine maintenance tasks must be performed to ensure maximum efficiency of your LPS. These tasks include the following:

- Adding dry ink
- Adding fuser lubricant
- Cleaning the keyboard and display and the exterior surfaces of the system
- Replacing the developer waste container when full
- Replacing the dry ink waste container when full.

Step-by-step instructions on performing these routine maintenance tasks are contained in the *Xerox 4890 HighLight Color LPS Operator Guide*. You need to decide how many operators are responsible for performing these maintenance tasks. Most maintenance procedures are covered in the initial operator training provided shortly after installation.

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## Meter reading and reporting

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As print jobs are processed, firmware in the printer accumulates, saves, and maintains usage data in its nonvolatile memory (NVM).

Sometime during the last five working days of each month, usage data must be reviewed and the information transmitted to Xerox for billing purposes. Refer to the *Xerox 4890 HighLight Color LPS Operator Guide* for complete instructions on how to report meter readings.

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## Consumable supplies table

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Table 3-1 lists the supplies available for your laser printing system. Use this table to help you determine the supplies you need.

Table 3-1. Consumable supplies

Item	Description	Part number
<b>Paper (inches)</b>	<b>(millimeters)</b>	Xerox paper quantities are 10-ream (5,000 sheets) cartons unless otherwise noted.
8.5 x 11	216 x 279	4024 Dual Purpose 3R721
8.5 x 14	216 x 356	4024 Dual Purpose 3R727
8.5 x 11	216 x 279	4024 Dual Purpose, 3-hole 3R2193
8.5 x 11	216 x 279	4024 Dual Purpose, 4-hole 3R3008
8.5 x 11	216 x 279	4024 Dual Purpose, 7-hole 3R3010
8.5 x 11	216 x 279	4024 Smooth 3R2675
8.5 x 14	216 x 356	4024 Smooth 3R2677
8.5 x 11	216 x 279	4200 Dual Purpose 3R2047
8.5 x 14	216 x 356	4200 Dual Purpose 3R2051
8.5 x 11	216 x 279	4200 Dual Purpose, 3-hole 3R2641
8.5 x 11	216 x 279	4200 Dual Purpose, 4-hole 3R3012
8.5 x 11	216 x 279	4200 Dual Purpose, 7-hole 3R3014
8.5 x 11	216 x 279	Dual Purpose Colors - Blue 3R3052
8.5 x 11	216 x 279	Dual Purpose Colors - Blue, 3-hole 3R3068
8.5 x 14	216 x 356	Dual Purpose Colors - Blue 3R3084
8.5 x 11	216 x 279	Dual Purpose Colors - Green 3R3056
8.5 x 11	216 x 279	Dual Purpose Colors - Green, 3-hole 3R3072
8.5 x 14	216 x 356	Dual Purpose Colors - Green 3R3088
8.5 x 11	216 x 279	Dual Purpose Colors - Pink 3R3058
8.5 x 11	216 x 279	Dual Purpose Colors - Pink, 3-hole 3R3074
8.5 x 14	216 x 356	Dual Purpose Colors - Pink 3R3090
8.5 x 11	216 x 279	Dual Purpose Colors - Yellow 3R3054
8.5 x 11	216 x 279	Dual Purpose Colors - Yellow, 3-hole 3R3070
8.5 x 14	216 x 356	Dual Purpose Colors - Yellow 3R3086
8.5 x 11	216 x 279	Dual Purpose Colors - Buff 3R3060
8.5 x 11	216 x 279	Dual Purpose Colors - Buff, 3-hole 3R3076
8.5 x 14	216 x 356	Dual Purpose Colors - Buff 3R3092
8.5 x 11	216 x 279	Dual Purpose Colors - Goldenrod 3R3062
8.5 x 11	216 x 279	Dual Purpose Colors - Goldenrod, 3-hole 3R3078
8.5 x 14	216 x 356	Dual Purpose Colors - Goldenrod 3R3094

Table 3-1. Consumable supplies (continued)

Item		Description	Part number
<b>Paper (inches)</b>	<b>(millimeters)</b>		
8.5 x 11	216 x 279	Dual Purpose Colors - Ivory	3R3064
8.5 x 11	216 x 279	Dual Purpose Colors - Ivory, 3-hole	3R3080
8.5 x 14	216 x 356	Dual Purpose Colors - Ivory	3R3096
8.5 x 11	216 x 279	Dual Purpose Colors - Gray	3R3066
8.5 x 11	216 x 279	Dual Purpose Colors - Gray, 3-hole	3R3082
8.5 x 14	216 x 356	Dual Purpose Colors - Gray, 3-hole	3R3098
8.5 x 11	216 x 279	Dual Purpose Colors - Rainbow Pack (35,000 sheets/carton-250 sheets/pack)	3R3107
8.5 x 14	216 x 356	Image Series Dual Purpose	3R2950
8.5 x 11	216 x 279	Image Series Dual Purpose, 3-hole	3R3016
8.5 x 14	216 x 356	Image Series Dual Purpose	3R2954
8.5 x 11	216 x 279	Image Series Smooth	3R54
8.5 x 14	216 x 356	Image Series Smooth	3R83
8.5 x 11	216 x 279	Image Series Elite	3R1950
8.5 x 14	216 x 356	Image Series Elite	3R1952
8.5 x 11	216 x 279	4024 Dual Purpose, Mylar reinforced 3-hole	3R2057
<b>Transparencies</b>		Xerox transparencies are packaged 100 to a box	
8.5 x 11	216 x 279	Clear, paper-backed	3R3028
<b>Labels (gummed)</b>		All labels are on 8.5 x 11 inch sheets, 100 sheets to a box	
8.5 x 11	216 x 279	33 labels per sheet	3R3139
8.5 x 11	216 x 279	24 labels per sheet	3R4474
8.5 x 11	216 x 279	8 labels per sheet	3R4475
8.5 x 11	216 x 279	Custom form (uncut)	3R4476
8.5 x 11	216 x 279	6 labels per sheet	3R3146

Table 3-1. **Consumable supplies** (continued)

Item	Description	Part number
<b>Cover stock (inches)</b>	<b>(mm)</b>	
8.5 x 11	216 x 279 Cover stock - White	3R3041
8.5 x 11	216 x 279 Cover stock - Gray	3R3042
8.5 x 11	216 x 279 Cover stock - Ivory	3R3043
8.5 x 11	216 x 279 Cover stock - Blue	3R3044
8.5 x 11	216 x 279 Cover stock - Yellow	3R3045
8.5 x 11	216 x 279 Cover stock - Green	3R3046
<b>Dry ink</b>	Colored dry ink is packaged in three bottles per carton; black, six bottles per carton, (Consumption rate is approximately 33,000 pages per bottle.)	
	Black dry ink	6R296
	Red dry ink	6R297
	Blue dry ink	6R298
	Green dry ink	6R299
	Magenta dry ink	<b>TBD</b>
	Cyan dry ink	<b>TBD</b>

Table 3-1. **Consumable supplies** (continued)

Item	Description	Part Number
<b>Waste containers</b>	Dry ink waste container	93K1400
	Developer waste container	93R850
<b>Developer material</b>	Packaged one container per carton (may only need replacement if current supply becomes contaminated).	
<b>Fuser lubricant</b>	Packaged two tubes per carton. (Consumption rate is approximately 200,000 pages per tube.)	8R983
<b>Stitcher wire</b>	Packaged one reel per box. (Consumption rate is approximately 32,000 stitches per reel.)	8R1174
<b>Floppy disks</b>	Packaged ten floppy disks per box, 5.25 inch double-sided, dual density, 48 TPI/40 tracks	11R66003
<b>Floppy disks</b>	Packaged ten floppy disks per box, 5.25 inch high density double sided, 96 TPI/80 tracks	8R2467
<b>1/4 inch cartridge tape</b>	1/4 inch cartridge tape (26-track blank tape), 350 Mb	9R84168
<b>Cleaning supplies</b>	Open reel tape Magnetic Head Cleaning Kit	8R03812
	1/2 inch Cartridge Tape Cleaning Cartridge	9R88789
	1/4 inch Cartridge Tape Drive Head Cleaning Kit	9R88432
	5.25 floppy disk cleaning kit, packaged two disks per box.	9R80230
	Tape transport film remover	8R00027
	Foam-tipped swabs	99P87256
	Lint-free towels	35P2163

Table 3-2 **Supplies checklist (next page)**

Use this checklist to help record the supplies and accessories you require, the date the order should be placed, and the actual date of the order.

**Supplies checklist**

Item	Description	Quantity	Date to order	Date ordered
Paper				
Dry ink (specify color)				
Fuser lubricant				
Dry ink waste container				
Developer waste container				
Stitcher wire				
Labels				
Transparencies				
Floppy disks (5.25 inch)				
1/4 inch cartridge tape				
Cleaning supplies				



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# Glossary

<b>4890 palette</b>	A predefined set of colors or inks provided with the 4890 HighLight Color LPS. Different versions are provided with the printer and with host- or PC-based application software.
<b>A3</b>	International paper size measuring 297 mm by 420 mm or 11.69 by 16.54 inches.
<b>A4</b>	International paper size measuring 210 by 297 mm or 8.27 by 11.69 inches.
<b>additive primary color</b>	There are five additive primary colors: red, green, blue, magenta and cyan. When light of these five colors is combined in equal amounts, the result is white light.
<b>American Standard Code for Information Interchange (ASCII)</b>	Standard 7-bit code that represents alphanumeric information. Each alphanumeric character and several nonprinting characters are assigned a binary number, covering 128 possible characters. It is used for information interchange among data processing systems, data communication systems, and associated equipment.
<b>ANSI</b>	American National Standards Institute.
<b>application software</b>	Host- or LPS-resident software that directs the computer to perform specific tasks or functions. Common business applications include payroll, accounting, and inventory.
<b>argument</b>	Independent variable of a function, such as a parameter.
<b>ascender</b>	Portion of a lowercase alphabetic character that extends above the main body of characters such as b, d, or h. See also <i>descender</i> .
<b>asynchronous</b>	Transmission in data communications controlled by start and stop characters; thus, time intervals between transmitted data blocks may be unequal in length.
<b>ASCII</b>	American Standard Code for Information Interchange. Standard 7 or 8-bit code that represents alphanumeric characters and several nonprinting characters by assigning each a binary number covering 128 possible characters. It is a common standard for information interchange among data processing systems, data communication systems, and associated equipment.
<b>B4</b>	International paper size measuring 250 mm by 353 mm or 9.84 by 13.9 inches.

<b>batch processing</b>	Process that allows for repetitive operations to be performed sequentially on batched data without much involvement from the computer operator.
<b>background job</b>	Low-priority job, usually batched, which is executed automatically as system resources become available.
<b>baud</b>	Measurement of data flow between devices in bits per second. Common baud rates are 110, 300, 1200, 2400, 4800, and 9600.
<b>BCD</b>	Binary coded decimal.
<b>binary</b>	Numbering system with a base of 2. All numbers are represented by combinations of 1 and 0.
<b>binary synchronous communication</b>	See <i>BSC</i> .
<b>binary synchronous transmission</b>	Data transmission where synchronization of characters is controlled by timing signals generated at the sending and receiving stations.
<b>bit</b>	Abbreviation for binary digit, the smallest unit of information recognized by a computer.
<b>bitmap</b>	Visual representation of graphic images in which a bit defines a picture element (pixel) and a matrix of bits defines an image. For example, if a bit is 1, the corresponding pixel is printed.
<b>bitmapped</b>	Display image generated bit by bit for each point or dot. A software-driven scanner is used to create characters and/or graphics.
<b>bits per second</b>	See <i>bps</i> .
<b>block length</b>	Number of characters or bytes contained in a block of data (the block is treated as a unit within the computer). Block length is usually invariable within a system and may be specified in units such as records, words, computer words, or characters.
<b>blocking</b>	Process of combining two or more records into a single block of data which can be moved, operated upon, stored, and so on, as a single unit by the computer.
<b>BOF</b>	Bottom of form.
<b>boot</b>	To load the initial instructions of a program into memory. These instructions direct the loading of the operating system and application software.
<b>BOT</b>	Beginning of tape.

<b>bpi</b>	Bits per inch.
<b>bps</b>	Bits per second. In serial communication, the instantaneous bit speed a device or channel transmits a character.
<b>BSC</b>	Binary synchronous communications. 1. Data transmission in which synchronization of characters is controlled by timing signals generated at the sending and receiving stations. 2. Communication using binary synchronous line discipline. 3. Uniform procedure using a standardized set of control characters and control character sequences for synchronous transmission of binary-coded data between stations.
<b>buffer</b>	Area of memory in which data is stored during transfer from one device to another. Used for: 1. Accumulating data into blocks before storage or processing. 2. Adjusting differences of speed between devices, or between a device and a communicating facility.
<b>byte</b>	Fixed number of bits (in data processing, usually 8) processed as a single binary value.
<b>cache memory</b>	A fast, small memory used to enhance CPU performance, separate from the main processor memory.
<b>CCID</b>	Character code identifier. Code associated with the universal identifier "Xerox" to indicate the version of the Xerox character code standard used to code Interpress strings.
<b>CCU</b>	Customer Changeable Unit. The color housing that fits inside the printer.
<b>central processing unit</b>	Interprets and executes instructions, performs all operations and calculations, and controls input and output units and auxiliary attachments.
<b>channel</b>	1. In data communications, a path or line that enables two or more devices to communicate (sometimes called a circuit, facility, or link). 2. In computers, a path for communication between the central processing unit (CPU) and input and output units, or between the CPU and peripheral devices.
<b>character cell</b>	Area defined by the outside dimensions of a character plus all horizontal and vertical spacing. In electronic printing, the character cell is defined by a bitmap of dots.
<b>character code identifier</b>	See <i>CCID</i> .
<b>character set</b>	Set of all characters defined in a font, including alphabetic, numeric, and special characters such as symbols.
<b>characters per inch</b>	See <i>cpi</i> .

<b>clearing house service</b>	Directory of registered users, services, and other resources, allowing relevant information about each item to be retrieved by name.
<b>clocking</b>	A method of synchronizing sending and receiving data communications devices. Clocking allows synchronous transmission at high speeds.
<b>cluster</b>	Group of related feeder trays, usually containing the same size and type of paper (stock). Each cluster has a name, consisting of one to six alphanumeric characters.
<b>CME</b>	Entry modifying the output printing characteristics of a report on a copy-to-copy basis.
<b>CMT</b>	Character mapping table.
<b>CMYK</b>	A printing industry standard color definition model where all colors are defined in terms of values for the four-color process primary colors: cyan, magenta, yellow, and black. Refer to color definition model.
<b>Code</b>	1. A set of symbols representing data or instructions to a computer. 2. To write a program or routine that instructs a computer to perform specified operations.
<b>code conversion</b>	Translation of one type of character or symbol code to another.
<b>color definition model</b>	A standardized format for defining colors using quantifiable values. The most popular such models are RGB, CMYK, and HSB.
<b>color substitution</b>	The 4890 HighLight Color LPS uses an algorithm to translate a color specified in a printing industry standard color definition model to a tone of the Highlight primary color using a 4890 palette.
<b>command language</b>	A language used to instruct an operating system.
<b>communication line</b>	Telecommunication line connecting devices at one location with devices at other locations in order to transmit and receive information.
<b>communication link</b>	Physical means connecting one location to another to transmit and receive information, such as a data link
<b>compiler</b>	Software that translates instructions written in high-level language into machine language for execution by a system.
<b>composite character</b>	Character that has multiple bitmap references combined into one and stored on disk in font memory.

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<b>continuous printing</b>	Refers to Interpress job integrity under any of the following conditions: excessive graphics, forms, or font use problems.
<b>continuous tone</b>	A photograph, rendering, or other similar image that is made of blended gray tones or values that flow into each other gradually and without hard edges.
<b>control program</b>	An operating system program that manages job flow, input/output processing, and other overall system functions and resources.
<b>Copy Modification Entry</b>	See <i>CME</i> .
<b>copy-sensitive</b>	Job in which multiple copies of a report contain different data, such as paychecks and banking statements.
<b>cpi</b>	Characters per inch. Measure of the size of a fixed-pitch font expressed as the number of characters of the font that can be set in one horizontal inch. See also <i>pitch</i> .
<b>CSI</b>	Command status interface.
<b>Data Capture Utility</b>	See <i>DCU</i> .
<b>data communications</b>	Transmission and reception of encoded information over telecommunication lines.
<b>data file</b>	Collection of related data records organized in a specific manner so that each record is similarly structured. An example of this would be a payroll file set up with one record for each employee, last name first, indicating the rate of pay and all deductions.
<b>data link</b>	Physical means of connecting one location with another for communication. This might include the communications lines, modems, and controls that transmit information between two or more stations.
<b>DCU</b>	Data capture utility. LPS function that saves and prints all system controller activity and provides tracing and event logging facilities.
<b>DDCMP</b>	Digital Data Communication Message Protocol.
<b>default</b>	Value assigned to a field by the system if no input is received from the operator.
<b>defined ink</b>	The tone (defined in the ink catalog file and reproduced for your reference on the printed samples of 4890 HighLight Color LPS palettes) as it is applied to the page.

<b>descender</b>	Portion of the lowercase alphabetic character that extends below the main body of characters such as g, p, or y. See also <i>ascender</i> .
<b>DEC</b>	Digital Equipment Corporation.
<b>device</b>	Any piece of hardware other than the CPU (Central Processing Unit).
<b>digitize</b>	To express or represent data in digital (binary) form so that it can be processed electronically.
<b>DJDE</b>	Dynamic job descriptor entry. Command within an input data stream used to modify the printing environment dynamically.
<b>DMA</b>	Direct memory access.
<b>DMR</b>	Data mode ready. Command parameter that designates a Digital Equipment Corporation host system.
<b>document</b>	1. Data medium and the data recorded on it, usually permanent, which can be read by you or a computer. 2. Collection of information pertaining to a specific subject or related subjects.
<b>dot</b>	Picture element (pixel) imaged by a printer. The number of dots imaged per inch measures printer resolution, for example, 300 dots per inch (dpi). See also <i>spot</i> .
<b>dpi</b>	Dots per inch. Indicates the number of dots per inch displayed on a terminal screen or printed to form a character or graphic.
<b>dry ink</b>	Minute particles of resin and carbon black that can accept an electrical charge and create images. Resin and carbon black or color pigment toner are combined with developer to form the dry ink.
<b>DSDD</b>	Double sided double density.
<b>DSSD</b>	Double sided single density.
<b>DSU</b>	Digital signal unit.
<b>duplex</b>	1. Ability of a data communications system to send and receive information simultaneously. 2. In printing, duplex means printing on both sides of the paper.
<b>dynamic Job descriptor entry</b>	See <i>DJDE</i> .
<b>EBCDIC</b>	Extended binary coded decimal interchange code. Coded character set consisting of up to 256 8-bit coded characters.

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<b>edge marking</b>	Use of graphic objects (usually lines or boxes) that bleed off the edge of the physical page. See also <i>physical page</i> .
<b>electronic publishing</b>	The integrated production of documents on demand, using digitally stored documents, computerized composition, and electronic printing systems.
<b>elite</b>	Smallest size standard typewriter type which is 12 characters per horizontal inch.
<b>embedded blanks</b>	Blank spaces within a command line.
<b>EMT</b>	Emulator trap. Language instruction.
<b>enabler</b>	Hardware devices or software packages that come with the printer and allow it to perform as specified.
<b>ENET</b>	Ethernet network.
<b>EOF</b>	End of file.
<b>EOT</b>	End of tape.
<b>escapement</b>	Lateral positioning of characters or font families.
<b>Ethernet</b>	Xerox developed local area network (LAN) that allows transmission of data by cable from one device to another. A modified version of the Ethernet specification has been approved as IEEE standard 802.3.
<b>Extended binary coded decimal interchange code</b>	See <i>EBCDIC</i> .
<b>extended metrics</b>	Measurements used in Interpress to alter the size of fonts, allowing more precision with character escapement. Used for rendered characters.
<b>FCB</b>	Forms control buffer. Controls the vertical format of printed output.
<b>FCP</b>	File control parameter.
<b>FCG</b>	Finishing Configuration Utility.
<b>FCU</b>	File Conversion Utility.
<b>FDL</b>	Forms description language. LPS-resident source language used to design electronic forms. See also <i>FSL</i> and <i>form</i> .

<b>FDR</b>	File directory.
<b>feedback</b>	Portion of an output signal that is returned, directly or indirectly, to be compared to a reference signal to maintain the quality of the output signal.
<b>FFM</b>	Font file management.
<b>firmware</b>	Permanent programs stored in read-only memory (ROM).
<b>fixed font</b>	Font containing characters with fixed spacing.
<b>fixed pitch</b>	Font set with every character cell having the same width. In reference to character sets, this term describes typefaces with all character cells having equal width. Monospaced as opposed to proportional spaced.
<b>fixed spacing</b>	Arrangement of characters on a line so that all characters occupy the same amount of horizontal space.
<b>flag</b>	Small indicator marking the occurrence of an event or the existence of a certain condition while the program is executing.
<b>floating accent</b>	Nonspacing accent characters that can be combined with characters and printed as a composite.
<b>font</b>	Complete set of characters of a particular font family having the same point size, weight, stress, and orientation.
<b>Font Interchange Standard (FIS)</b>	A standard that defines the digital representation of fonts and character metrics for the generation of an entire series of Interpress fonts.
<b>form</b>	1. Compiled .FSL file. 2. Specific arrangement of lines, text, and graphics stored in an electronic version. Forms can be printed without variable data or merged with variable data during the printing process. See also <i>FDL</i> and <i>FSL</i> .
<b>format</b>	1. Layout of a document, including margins, page length, line spacing, and typeface. 2. In data storage, the way the surface of a disk is organized to store data. 3. To prepare the surface of a disk for acceptance of data.
<b>format line</b>	Line preceding the message text in a formatted message display.
<b>form feed</b>	Keyboard and printer control character that causes the printer to skip to the top of the next page.
<b>forms control buffer</b>	See <i>FCB</i> .

<b>forms description language</b>	See <i>FDL</i> .
<b>forms source library</b>	See <i>FSL</i> .
<b>FPS</b>	Formatting print service.
<b>FSL</b>	Forms source library. Uncompiled collection of user-created files containing FDL commands. See also <i>FDL</i> and <i>form</i> .
<b>FST</b>	Font specification table.
<b>fuse</b>	To affix dry ink to paper by heat or pressure or a combination of both.
<b>GB</b>	Gigabyte. Unit of approximately one billion bytes.
<b>GCR</b>	Group code recording.
<b>GHO</b>	Graphics handling option.
<b>gigabyte</b>	See <i>GB</i> .
<b>group code recording (GCR) mode</b>	Refers to the specific density of data (such as 6250 bpi) as it is recorded on tape, which is measured in bits per inch (bpi).
<b>gsm</b>	Grams per square meter.
<b>GVG</b>	Graphics video generator.
<b>halftone screen</b>	A tool used in offset printing, typesetting, and laser printing to convert a continuous tone (such as photographic) image to dots, which allows the image to be rendered accurately in these printing processes.
<b>hardcopy</b>	Machine output in permanent form, such as printed reports and listings. Output in a permanent form (usually on paper or paper tape) rather than in temporary form, as on a display. Contains readable printed copy of machine (such as computer) output.
<b>hardware</b>	Physical components (mechanical, magnetic, electronic, and so on) of a system, as opposed to programs, procedures, rules, and associated documentation. The hardware is operated by software and firmware.
<b>HCF</b>	High-capacity feeder.
<b>HCSS</b>	High-capacity stitcher/stacker; also referred to as stitcher/stacker.

<b>hexadecimal</b>	Numbering system with a base of 16. The numbers 10 through 15 are represented by A through F.
<b>HFDL</b>	Host forms description language.
<b>hierarchy</b>	Relative priority assigned to arithmetic or logical operations that must be performed.
<b>high-level language</b>	Programming language consisting of words and symbols that are close to normal English and, also readily understandable by the user. High-level source languages are used for most commercial programs.
<b>highlight color</b>	Printing with black plus another color. A range of colors, tints, and shades is printed by varying the percentage of black dots, colored dots, and the white space between the dots.
<b>HIP</b>	Host interface processor.
<b>host</b>	Computer accessed by users that serves as a source of high-speed data processing for workstations with less computer power. Commonly referred to as mainframe.
<b>host interface</b>	Connection between network and host computer.
<b>HSB</b>	A printing industry standard color definition model in which all colors are defined in terms of values for hue, saturation, and brightness. Refer to <i>color definition model</i> .
<b>hue</b>	The name that describes a color's general appearance, such as red, green, and blue.
<b>identifier (id)</b>	Character(s) used to identify or name data and possibly to indicate certain properties of that data image area on a physical page that may contain text or graphics.
<b>IFU</b>	Interpress font utility. A utility for managing Interpress fonts.
<b>image area</b>	Area on a physical page that may contain text or graphics.
<b>initialize</b>	1. To prepare a blank diskette so it can accept data. This is usually accomplished when a program is booted. 2. To set all information in a computer system to its starting values.
<b>initial program load</b>	See <i>IPL</i> .
<b>ink catalog</b>	File containing inks that is referenced by all software for color information. The ink catalog file has the extension <i>.ICT</i> .

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<b>ink referencing</b>	Process by which inks within the ink catalog are referenced in PDL and FDL commands, and by page description language interpreters.
<b>ink substitution</b>	Option of aborting the printing process or continuing with a substitute ink if the referenced ink is not found.
<b>input devices</b>	Keyboards, magnetic media, or any device used to give a system information.
<b>input/output</b>	General term encompassing the flow of data into and out of a system. Also referred to as I/O.
<b>interface</b>	The device that connects two systems to allow them to communicate.
<b>Interpress</b>	Industry-standard page description language developed by Xerox. Interpress documents can be printed on any sufficiently powerful printer equipped with Interpress print software.
<b>Interpress font utility (IFU)</b>	Utility for managing fonts.
<b>Interpress font utility (IFU) program</b>	Program used to convert FIS fonts to LPS fonts.
<b>Interpress master</b>	File written according to the Interpress standard.
<b>IPD</b>	Interpress decomposer.
<b>IPL</b>	Initial program load. For the optional 9-track magnetic tape drive, the internal initialization sequence whereby certain functions are loaded into random access memory (RAM).
<b>IPM</b>	Interpress mapping.
<b>ips</b>	Inches per second.
<b>JCB</b>	Job control block.
<b>JCL</b>	Job control language.
<b>JDE</b>	Job descriptor entry. Collection of job descriptions.
<b>JDL</b>	Job description library. Collection of compiled job descriptions. See also <i>JSL</i> .
<b>JID</b>	Job identifier.
<b>job descriptor entry</b>	See <i>JDE</i> .

<b>job descriptor library</b>	See <i>JDL</i> .
<b>job source library</b>	See <i>JSL</i> .
<b>JSL</b>	Job source library. Collection of uncompiled job descriptions. See also <i>JDE</i> and <i>JDL</i> .
<b>keyword</b>	Required part of a command.
<b>label</b>	Reference to a file saved on tape or disk, a record indicating the file name or date created, or other control information.
<b>LAN</b>	Local area network. LAN is the lower two layers of the network architecture: the physical layer and the data link layer
<b>landscape</b>	Orientation in which text and images are positioned parallel to the long edge of the paper.
<b>laser printing</b>	Technology that uses a laser to transfer character forms to a page by direct or indirect means.
<b>latent image</b>	Static charge present on the photo conductor before contact with dry ink particles.
<b>leading</b>	(pronounced <i>ledding</i> ) Vertical distance between lines of type (also called line space), measured from a baseline of one line to the baseline of the next.
<b>legal size</b>	Paper size measuring 8.5 by 14 inches or 216 by 356 mm.
<b>letter size</b>	Paper size measuring 8.5 by 11 inches or 216 by 279 mm.
<b>light emitting diode (LED)</b>	Solid substance that glows when a current is passed through it. Often used for indicator lights on disk drives or modems, as well as for displays on other electronic equipment.
<b>LF</b>	Line feed character.
<b>line feed</b>	Control character that (unless set to be interpreted as a line end) causes the printing system to begin printing in the current character position of the next line.
<b>literal</b>	Alphanumeric character beginning with a letter, including an asterisk, period, colon, or slash, and not enclosed in single quotes.
<b>logical page</b>	In Xerox printing systems, a logical page is a formatted page that is smaller than the physical page. A logical page is defined by an origin, thus allowing more than one logical page to be placed on a physical page.

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<b>logo</b>	Small illustration or design, usually simple, typically used to identify a company.
<b>long-edge feed</b>	See <i>LEF</i> .
<b>lpi</b>	Lines per inch.
<b>LPS</b>	Laser printing system.
<b>LUN</b>	Logical unit number. A number that identifies a peripheral device to the OSS.
<b>magnetic media</b>	Term for all storage devices (disks, tape, and so on) on which data is stored in magnetic form.
<b>map</b>	To establish a set of values having a defined correspondence with the quantities or values of another set.
<b>mask</b>	Selection of bits from a storage unit by use of an instruction that eliminates the other bits in the unit. In accessing files, a file name mask is used to reference one or more files with similar file-id (identifier) syntax. In Interpress, a mask serves as a template, indicating the shape and position of an object on a page.
<b>master file</b>	File serving as a general reference point for a particular application system and providing information to be used by the program. It is usually updated and maintained to reflect the results of current or daily processing operations.
<b>MB</b>	Megabyte. Unit of approximately one million bytes.
<b>metacode</b>	Method of controlling the image generator. The character dispatcher uses these codes to generate scan line information. This information is sent in the form of character specifications to the image generator, which uses it to compose the bit stream that modulates the laser. Also called native mode.
<b>MHz</b>	Megahertz. One million cycles per second. Used to measure electromagnetic waves.
<b>mixed environment</b>	Multiple printers or printing systems in the same location.
<b>modem</b>	Device that converts digital information into an analog signal suitable for sending over analog telecommunication lines. Also converts an analog signal from telecommunication lines into digital information.
<b>monochrome</b>	Printing in one color only.

<b>nesting</b>	Subroutine or set of data, such as a comment, contained sequentially within another set of data.
<b>network</b>	System of hardware and software that manages communication and sharing of common resources (such as printers) between computers and terminals for multiple users at once.
<b>node</b>	Station, terminal or computer operating in a network environment.
<b>object file</b>	Source file converted into machine language (binary code).
<b>octal</b>	System of representing numbers based on 8.
<b>offline</b>	Devices not under the active control of a central processing unit. For example, a computer makes output to a magnetic tape. The tape is then used by an offline printing system to produce printed data. Offline operations are much slower than online operations. Refer to <i>online</i> .
<b>offset</b>	To place printed output sets in slightly different positions from each other in an output bin for easy separation of collated sets.
<b>offset printing</b>	Widely-used method of commercial and corporate printing, in which ink is picked up by a metal or paper plate, passed to an offset drum, then passed to the paper.
<b>online</b>	Devices under the direct control of a central processing unit, such as a printing system in interactive communication with a mainframe. Refer to <i>offline</i> .
<b>operand</b>	That which is acted upon, for example, data, in an operation or process.
<b>operating system</b>	Software that controls the low-level tasks in a computer system, such as input or output and memory management. The operating system is always running when the computer is active.
<b>orientation</b>	In reference to image area, describes whether the printed lines are parallel to the long edge of the paper (landscape) or the short edge of the paper (portrait).
<b>origin</b>	In reference to image area, the upper left corner of a sheet.
<b>output</b>	1. Material produced by a peripheral device of a computer, such as a printout or a magnetic tape. 2. The result of completed operations.
<b>overprint lines</b>	Print lines whose carriage control specifies printing with no line spacing after the last printed line.

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<b>overprint ratio</b>	Maximum number of variable data and form characters that can be intersected by a single scan line.
<b>page end</b>	Command character (form feed) to terminate the current page.
<b>page orientation</b>	Direction that data is printed on a report. Refer to <i>landscape page orientation</i> and <i>portrait page orientation</i> .
<b>pagination</b>	Process of separating text into pages.
<b>palette</b>	Predefined set of colors or inks. Different versions are provided with the printer and with some application software packages.
<b>parameter</b>	Part of a command, other than the keyword. See <i>keyword</i> .
<b>pass-through job</b>	On systems with XPAF, a job that is sent directly from a host to a Xerox printer through XPAF without undergoing XPAF processing.
<b>parse</b>	To read or interpret a command; to build up a parameter list from information within a command.
<b>PCC</b>	Printer carriage control.
<b>PDE</b>	Page description entry.
<b>PDL</b>	Print description language. Language used to describe printing jobs to a laser printing system. PDL describes the input (type, format, characteristics), performs the processing functions (logical processing), and describes the output (type, format, font selection, accounting options).
<b>PE</b>	Phase encoded.
<b>physical page</b>	Actual page size your printer uses to print a form.
<b>pica</b>	1. Unit of measurement equal to twelve points or approximately 1/6 inch. 2. A 10-pitch typeface having ten characters per inch and 12 points in height. See also <i>point</i> .
<b>pitch</b>	Width of a fixed-pitch font expressed in characters per horizontal inch.
<b>pixel</b>	Acronym for picture element. Smallest addressable point of a bitmapped screen that can be independently assigned color and intensity.
<b>point</b>	In Xerox laser printing systems, a unit of measurement equal to 0.0139 inch. Points are always used to express type, size, and leading. There are 12 points to a pica and about 72 points to an inch. See also <i>pica</i> .

<b>point size</b>	Height of character set from the top of its ascenders to the bottom of its descenders in units (points). Point size does not always include leading.
<b>portrait</b>	Orientation in which text and images are positioned parallel to the short edge of the paper.
<b>PostScript</b>	Proprietary page definition language, compatible with the Xerox 4890 HighLight Color LPS when a front-end conversion utility is installed.
<b>ppm</b>	Pages per minute.
<b>print quality adjustment</b>	See <i>PQA</i> .
<b>primary color</b>	A color that, when combined with one or more other primary colors in a color model system in varying quantities, produces the palette of colors described by that model.
<b>print description language</b>	See <i>PDL</i> .
<b>print ratio</b>	The maximum number of variable data and form characters that may be intersected by a single scan line.
<b>printer subsystem controller</b>	See <i>PSC</i> .
<b>print file</b>	Portion of the system disk memory (up to 4 MB) reserved for temporary storage of formatted pages for printing. Pages are retained until they are delivered to the output tray.
<b>PQA</b>	The process the 4890 HighLight Color LPS uses to maintain the electrostatic state of the xerographic subsystem to ensure optimal print quality.
<b>printout</b>	Informal expression referring to almost anything printed by a computer peripheral device.
<b>PROM</b>	Programmable read-only memory.
<b>prompt</b>	Message or symbol displayed on a system console requiring the operator to take action.
<b>process color printing</b>	In process color printing, every color in the spectrum is printed by combining various percentages of the four-color process primary colors—cyan, magenta, yellow, and black.
<b>processor</b>	Applies to any system that is capable of receiving and performing operations upon data and supplying the results of those operations.

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<b>protocol</b>	Formal set of conventions governing format of data and control of information exchange between two communication devices.
<b>proportional font</b>	Font containing characters that vary in width.
<b>proportional spacing</b>	Text where each alphanumeric character is given a weighted amount of space. Such output has print-like appearance. Proportional spacing allows more space for wide characters and less space for narrow characters.
<b>proportional type</b>	Characters that vary in width.
<b>PSC</b>	Printer subsystem controller. Command and task that download the printer and/or raster image processor (RIP) software if selected.
<b>query</b>	Request for data or other information, entered by an operator while the system is processing.
<b>queue</b>	Managed database of documents waiting to be processed.
<b>RAM</b>	Random access memory.
<b>raster data</b>	Binary data, usually consisting of dots arranged in scan lines, according to the print order.
<b>raster image processor</b>	See <i>RIP</i> .
<b>rasterization</b>	The creation of a bitmap image on a page for printing.
<b>read-only memory</b>	See <i>ROM</i> .
<b>read/write head</b>	A small electromagnet that reads, writes, and erases data in the form of magnetic dots on the surface of an external storage medium, such as a magnetic disk.
<b>real time</b>	To process transactions as they are entered into a system. User and system interchange allow transactions to be processed and the results returned to the user.
<b>remote access</b>	Access to a central computer by terminals or devices geographically separated from that computer.
<b>RGB</b>	A printing industry standard color definition model where all colors are defined in terms of values for the three additive primary colors: red, green and blue. Refer to <i>color definition model</i> .
<b>ROM</b>	Solid-state memory for programs. It cannot be rewritten.

<b>rendered character</b>	Character whose bitmap is a combination of other bitmaps positioned relative to each other, such as accented characters and single characters consisting of two or more characters. A rendered character does not require additional disk space or font memory.
<b>report</b>	In setting a separation boundary, report refers to a subset of a job. A job may consist of one or more reports.
<b>resolution</b>	Number of dots per inch (dpi) or spots per inch (spi). The greater the number of dots, the higher the resolution and the clearer the image. The terms dots, spots, and pixels are synonymous.
<b>RIP</b>	Raster image processor. LPS option that supports the Interpress V3.0 Publications Set.
<b>scale</b>	To adjust font or image size according to given proportions.
<b>sci</b>	START command index.
<b>scroll</b>	Manipulation of a display to bring upper or lower portions of a document page into view when available space is insufficient to view the entire document at once.
<b>SCSI</b>	Small computer system interface. Common standard for connecting devices to computers.
<b>SDI</b>	System diagnostics interface. OSS task used by service personnel to diagnose system problems.
<b>secondary storage</b>	Form of storage external to a system, such as magnetic tapes or floppy disks.
<b>security</b>	1. Procedure for limiting access to the system's resources, programs, or files, to authorized personnel. 2. Protecting programs and files from unintentional or undesired modification.
<b>SEF</b>	See <i>short-edge feed</i> .
<b>sequential</b>	1. In numeric sequence, usually in ascending order. 2. A file structure in which records are written one after another and cannot be randomly accessed.
<b>set</b>	Multiple copies of the same report.
<b>SFC</b>	Status file converter.
<b>SFS</b>	Status file service.

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<b>shade</b>	Color resulting from adding black to a pure hue. See also <i>tint</i> and <i>tone</i> .
<b>short-edge feed</b>	Movement of paper through the printer in the direction of the paper width (the shorter side of a sheet of paper).
<b>SIF</b>	Sequence insert file.
<b>simplex printing</b>	Printing on one side of the page.
<b>small computer system interface</b>	See <i>SCSI</i> .
<b>SNA</b>	System network architecture. Total description of logical structure, formats, and protocols of operation sequences for transmitting an information unit through the communication system.
<b>special processing</b>	Commands allowing the user to process special reports such as printing certain records, and printing on special paper
<b>spi</b>	Spots per inch. See <i>resolution</i> .
<b>spooling</b>	Process of releasing data from main memory and storing it temporarily until a peripheral device is ready to accept it, for example, storing print data before sending it to a printer.
<b>spot</b>	A picture element imaged by the printer. Synonymous with <i>dot</i> and <i>pixel</i> .
<b>statement</b>	Detailed instructions in a program step, written according to specific rules called syntax.
<b>static data</b>	Information usually found on preprinted forms or overlays.
<b>station</b>	1. In data communications, a terminal device connected to a data link. 2. In computer networks, any of the numerous terminal devices that form a network.
<b>stock</b>	User-defined name in the JSL that specifies a certain type of paper for printing a job.
<b>stock descriptor</b>	A stock reference or a stock name.
<b>stock name</b>	The name of a cluster as defined by a system command.
<b>stock reference</b>	An application specific pseudonym for a cluster.
<b>stockset</b>	Collection of stocks to be used on a print job. See also <i>stock</i> .

<b>string</b>	Connected sequence of alphanumeric characters treated as one unit of data by a program.
<b>symbiont</b>	Device which shares a common purpose and close association with other devices. This term is used to identify the Xerox print software which resides in the Digital host system as part of the XPMF-VMS communications link.
<b>symbol</b>	Character used in a computer language to specify a particular function.
<b>synchronous</b>	Efficient encoding of data suitable for high-speed, block-oriented data transmission by using equal time elements.
<b>syntax</b>	Rules governing the structure of expressions in a programming language.
<b>syntax error</b>	System response to a mistake in a command's entry.
<b>sysgen</b>	Abbreviated form of system generation.
<b>System</b>	1. In data processing, a collection of computer components and procedures organized to accomplish a set of specific functions. 2. Assembly of components united by some form of regulated interaction to form an organized whole. 3. Operations or procedures used to accomplish a business activity.
<b>System controller</b>	The part of the LPS that provides interfacing capability, data handling, formatting, buffering, and operator control for the system. Also called the system controller.
<b>system disk</b>	Magnetic disk storage medium, usually of large capacity, that is not removable as opposed to floppy disk or disk packs.
<b>system file</b>	Master software program that keeps all components working together.
<b>system generation</b>	Process whereby the system is made ready to operate. Typically involves selecting the operative parameters and activating the relevant software.
<b>System Network Architecture</b>	See <i>SNA</i> .
<b>system page</b>	Maximum area in which text and graphics can be imaged on a printing system.
<b>tape density</b>	Expression of the format of a magnetic tape measured in number of bytes that can be stored per inch of tape.

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<b>tape drive</b>	Input/output device that controls the movement of magnetic storage tape past the read/write head while data is accessed or stored.
<b>telecommunications</b>	The transfer of data through telephone lines.
<b>teleprocessing</b>	Data transfer through telecommunication lines for processing among various remote terminals and the central processing unit (CPU).
<b>templates</b>	1. Preset document formats, usually furnished along with application software, such as electronic spreadsheets or data base programs. 2. Also applies to keyboard overlays showing function keys for particular software packages.
<b>temporary storage</b>	Main memory locations reserved for intermediate results of processing, control values, or other information that needs to be kept on hand as a program proceeds.
<b>terminal</b>	Interface device connected to a computer or network. A terminal has no processing capability of its own.
<b>throughput</b>	Measure of the number of pages printed during a given unit of time, usually expressed as pages per minute.
<b>tint</b>	Color resulting from adding white to a pure hue. See also <i>shade</i> and <i>tone</i> .
<b>TOF</b>	Top of form.
<b>toggle</b>	In an LPS system, to switch (alternate) from one tray to another. The system will switch from an active feeder or stacker tray to an inactive one to allow continuous printing when the proper commands are invoked.
<b>token</b>	A coded character representing a word used in programs. For instance STOP is a word and the one-byte token for it in a BASIC dialect is 250.
<b>tone</b>	Primary color in its pure form, or mixed with black or white to create a lighter tint or darker shade of the primary color. See also <i>shade</i> and <i>tone</i> .
<b>total xerographic convergence (TXC)</b>	For the 4890 HighLight Color LPS, a function of the operating system software (OSS) that monitors the state of the color and black developer housings. If TXC detects a condition that may affect print quality, TXC requests that the operator initiate Print Quality Adjustment (PQA) to adjust the xerographic subsystem. Refer to <i>print quality adjustment</i> .
<b>tpi</b>	Tracks per inch.

<b>transaction processing</b>	Method of data processing that updates files and results are generated immediately after data entry.
<b>translation</b>	1. In data communications, the conversion of one code to another on a character-by-character basis. 2. In programming, the function of a language processor that converts a source program from one programming language to another.
<b>transmission speed</b>	In data communications, the rate data is passed through communication lines, usually measured in bits per inch (bpi).
<b>Tri-level xerography</b>	The feature of the 4890 HighLight Color LPS that enables the rasterization of both the black and the color images in a single pass by the creation of a third charge state.
<b>truncated</b>	Cut off before completion, as when data transfer from a host to a printer is cut off before all data has been transmitted.
<b>two-up</b>	Printing two logical pages on one side of a physical page.
<b>TXC</b>	Total xerographic convergence.
<b>type style</b>	Italic, condensed, bold, and other variations of typeface that form a type family.
<b>typeface</b>	Set of fonts having identical design features that give the type a uniform appearance.
<b>UCS</b>	Universal Character Set. Printer feature that permits the use of a variety of character arrays.
<b>UCSB</b>	Universal Character Set Buffer.
<b>UI</b>	User interface.
<b>Universal Character Set</b>	See <i>UCS</i> .
<b>utility program</b>	General-purpose program that performs activities, such as initializing a disk or sorting, which are not specific to any application.
<b>validation</b>	Process of testing a system's ability to meet performance objectives by measuring or monitoring its performance in a live environment.
<b>variable data</b>	Changeable information which is merged with a standard document to create specialized or personalized versions of that document. Variable data is not a part of a form design, but varies from page to page.

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<b>variable text</b>	Text of changing nature (such as names and addresses) combined with a form letter to make a complete document.
<b>verification</b>	Process of testing a system's ability to meet performance objectives by running programs in a simulated environment.
<b>virtual page</b>	Page area selected by a forms designer for printing.
<b>vpos</b>	Vertical positioning.
<b>WAN</b>	Wide area network.
<b>weight</b>	Perceived blackness of a character affected by varying the width of the stroke. Weight is expressed in general terms as either bold or roman.
<b>wildcard</b>	Character (usually an asterisk *) which can be inserted into a command string to indicate that it may represent one or more characters in that position.
<b>write protection</b>	Data protection feature implemented on magnetic media (for example, floppy disk, 9-track tape) to prevent stored data from being modified, written over, or erased.
<b>x axis</b>	Horizontal axis on a forms grid.
<b>x height</b>	Height of lowercase letters without their ascenders or descenders (height of letter "x").
<b>xdot</b>	Unit of measurement representing a fraction of an inch. May also be referred to as a picture element (pixel) or spot; for example, 1/600 spots per inch (spi).
<b>xerographic engine</b>	Component of a printer that develops an image, transfers it to paper, and fuses it for output as hardcopy.
<b>xerographic mode</b>	Either of two possible printer configurations: 1. Black mode which allows printing with black dry ink only. 2. Highlight mode which enables both highlight color and black printing.
<b>xerographic mode persistence (XMP)</b>	For the 4890 HighLight Color LPS, a value specified during sysgen, in JDL or in DJDE code that specifies on what basis xerographic mode switching (XMS) may take place. Refer to <i>xerographic mode switching</i> .
<b>xerographic mode switching (XMS)</b>	A function of the operating system software (OSS) that controls the xerographic mode of the 4890 HighLight Color LPS. The operator or programmer controls XMS through the xerographic mode persistence (XMP) setting. Refer to <i>xerographic mode</i> .
<b>XICS</b>	Xerox Integrated Composition System.

<b>XJCF</b>	Xerox Job Control Facility.
<b>XNS</b>	Xerox Network Systems is the network architecture and protocol used with Xerox equipment.
<b>XPAF, XPF</b>	Xerox Printer Access Facility.
<b>XPPI</b>	Xerox Pen Plotter Interface.
<b>XPS</b> (Xerox Print Service)	Xerox Print Service (XPS) Manager is a printer front end to other hosts. XPS Manager server communicates with the printer via a layered communication protocol, based on the XNS protocol suite but enhanced with "online" capability.
<b>XPS</b> (Xerox Publishing System)	Xerox Publishing System.
<b>XPMF-VMS</b>	Xerox Print Management Facility-VMS Version.
<b>y axis</b>	Vertical axis on a forms grid.

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