

Infoprint Manager for AIX



# Operator and user procedures

*Version 4 Release 1*



Infoprint Manager for AIX



# Operator and user procedures

*Version 4 Release 1*

**Second Edition (November 2002)**

This edition applies to Infoprint Manager for AIX, Version 4 Release 1 Modification 0 and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters. Be sure to use the correct edition for the level of the product.

Order publications through your IBM representative or the IBM branch office serving your locality. Publications are not stocked at the address given below.

IBM Printing Systems welcomes your comments. For your convenience, a form for reader's comments is provided at the back of this publication. If the form has been removed, you may send your comments to the following address:

INFORMATION DEVELOPMENT  
IBM PRINTING SYSTEMS  
DEPARTMENT H7FE BUILDING 004M  
PO BOX 1900  
BOULDER CO 80301-9191

If you prefer to send comments electronically, use one of the following methods:

- Internet/Email: [printpub@us.ibm.com](mailto:printpub@us.ibm.com)
- Fax: 1-800-524-1519 (within U.S.) or 1-303-924-6873 (outside U.S.)

**Internet**

Visit our home page at <http://www.ibm.com/printers>.

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© Copyright International Business Machines Corporation 1998, 2002. All rights reserved.

US Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

---

# Contents

<b>Tables</b>	<b>v</b>
<b>Part 1. Operator and user procedures</b>	<b>1</b>
<b>Chapter 1. Finishing options</b>	<b>3</b>
Setting up finishing options for IPDS-only printers	3
Telling Infoprint Manager what options the finisher supports	3
Setting up Infoprint Manager and clients to use finishing options.	3
Selecting the correct finishing options	6
Setting up finishing options for PS/PCL printers	10
Telling Infoprint Manager what options the finisher supports.	10
Setting up Infoprint Manager and clients to use finishing options	10
Selecting the correct finishing options	13
<b>Chapter 2. Other procedures</b>	<b>15</b>
Turning duplexing on and off for the Infoprint 45 and Infoprint 70.	15
Submitting a job to a DocuTech Model 135 printer	16
Create a BSD destination for the DocuTech 135 printer	16
Submit a job to the Docutech 135 printer	16
Release the job from the Docutech 135 server interface and printer console	16
Supporting status information for IBM Network and HP printers	16
Network printers	16
HP printers	17
Interrupting and restarting a job that's currently printing	17
Stopping the job.	17
Restarting the job	17
Moving backward or forward in a job that's currently printing	20
Spacing a printer	20
Stopping a printer to perform scheduled maintenance	22
Fixing a printer problem and starting to print again.	22
Try this first	22
Fixing more complicated problems	23
Restarting the job that was printing when the problem occurred.	23
<b>Appendix A. IPDS print operator commands</b>	<b>27</b>
<b>Appendix B. IPDS error recovery</b>	<b>31</b>
IPDS error recovery: Data stream errors	31
Data stream error example 1 (job continues printing):	32
Data stream error example 2 (job is terminated, no pages print):	32
Data stream error example 3 (job is terminated; some pages print):	33
IPDS error recovery: Insufficient memory in the printer	33
Insufficient memory in the printer exmple:	33
IPDS error recovery: Intervention required conditions	34
Example:	34
IPDS error recovery: Unrecoverable problems	34
Unrecoverable problem example:	35
<b>Notices</b>	<b>37</b>
Trademarks	39
EuroReady	39
<b>Index</b>	<b>41</b>



---

## Tables

1. Options to set for paper fed LEF on the Infoprint 45 . . . . .	6	6. Options to set for paper fed LEF for the Infoprint 70 . . . . .	13
2. Options to set for paper fed LEF on the Infoprint 60 . . . . .	7	7. Options to set for paper fed SEF for the Infoprint 70 . . . . .	14
3. Options to set for paper fed LEF on the Infoprint 2000 . . . . .	7	8. Options to set for paper fed SEF or LEF for the Infoprint 2085/2105 . . . . .	14
4. Options to set for paper fed SEF on the Infoprint 45 . . . . .	8	9. 2-up duplex print job: front and back views	18
5. Options to set for paper fed SEF on the Infoprint 60 . . . . .	8	10. 2-up duplex print job: front and back views	24





---

## **Part 1. Operator and user procedures**



---

## Chapter 1. Finishing options

---

### Setting up finishing options for IPDS-only printers

Depending on the printer model, you can set up several finishing options. Infoprint Manager can be set up to support many of these possibilities, including edge stitching (stapling one edge of the print job to create a booklet), saddle stitch (stapling in the middle of the page to create a folded booklet), and corner stapling. The following sections describe how to set up finishing options for IPDS printers, including the Infoprint 45, Infoprint 60, and Infoprint 2000.

### Telling Infoprint Manager what options the finisher supports

The first step in enabling the finishing options is to let Infoprint Manager know what options the finisher supports. Follow the steps below to set the appropriate values.

**Note:** If you will only be submitting print jobs that specify a form definition to this printer or if you will only be submitting jobs to this printer using PSF Direct, you do not have to complete this procedure. You can proceed to “Setting up Infoprint Manager and clients to use finishing options” on page 10.

1. Start the Infoprint Manager Administration GUI.
2. Find or create the PSF printer (actual destination) that sends jobs to the printer you are setting up.
3. Right-click the printer and select **Properties** from the pop-up menu.
4. In the Printer Properties notebook, click the **Job** tab.
5. Find the **Finishing options allowed** field.

**Note:** If you don't see the **Finishing options allowed** field, click **Show More**.

6. Select all of the finishing options that your finisher supports in the **Possible values** list and add them to the **Values** list.
7. Click **OK**.

### Setting up Infoprint Manager and clients to use finishing options

How you set up to use finishing options varies depending upon what kind of print jobs you create and how you submit them. There are several categories; find the one below that most resembles your situation.

#### Using the **pdpr** command

When you submit print jobs from the command line with the **pdpr** command, you can use the **job-finishing** attribute on the **-x** flag to specify finishing options. For example:

```
pdpr -d printername -x"job-finishing=staple-top-left" printfilename
```

You can also use the **form-definition** attribute on the **-x** flag to specify finishing options. For example:

```
pdpr -d printername -x"form-definition=F1name" printfilename
```

For a list of allowed values, proper syntax, and usage guidelines for the **job-finishing** and **form-definition** attributes, refer to *Infoprint Manager: Reference*.

### Using a form definition

If you submit your print jobs using a form definition (either by specifying a certain one or by using a default form definition), you can identify the finishing options that you want to apply in the form definition. When you specify printing and finishing options this way, no Infoprint finishing attributes are necessary to request the finishing options. The print job is sent to the printer and the options are read out of the formdef. If the finisher supports the options chosen, the job should print correctly without any more configuration on your part.

**Note:** Infoprint Manager does not check the finishing options you specify in the formdef against the options you set in “Telling Infoprint Manager what options the finisher supports” on page 10. As a result, if the finisher doesn’t support the options, the job will fail.

### Using PSF Direct

PSF Direct is a function of Infoprint<sup>®</sup> Manager for Windows<sup>®</sup> and Infoprint Manager for AIX<sup>®</sup>. PSF Direct lets a PSF program (PSF for OS/390<sup>®</sup>, PSF for OS/400<sup>®</sup>, PSF/VM, or PSF/VSE) print remotely, using SNA LU 6.2 protocol, on printers supported by Infoprint Manager. The PSF program sends the print data stream directly to the Infoprint Manager printer, bypassing the Windows or AIX spool.

When you submit a job using PSF Direct, all of the job options (including finishing options) are set on the host system. Use the method provided by your host system or document creation applications to request finishing.

When you use PSF Direct, you do not need to use the Infoprint Administration GUI to identify the finishing operations that the Infoprint printer supports. When you send the print job to the printer, the printer uses the options you set on the host system. If the finisher supports the options specified, the job should print correctly; otherwise, if the finisher does not support the options, the job fails.

For more information about using PSF Direct, refer to the documentation for your specific type of connection.

### Using Infoprint Submit or Submit Express

When you submit a job using Infoprint Submit or Submit Express, you can select a variety of options, including finishing. Build your job ticket as you usually would, and specify the finishing options that you want to use in the **Finishing** field on the appropriate tab.

### Using Infoprint Select

If you apply Infoprint Manager for AIX Program Temporary Fix (PTF) U483882 (available in November 2002), your enhanced Infoprint Select client allows you to specify job-finishing attribute values or a form definition when submitting a job to the server. For more information on using the job-finishing attribute, refer to the *Infoprint Manager: Reference*. For instructions on setting attribute values within Select, consult the help system provided with the PTF U483882 level of Infoprint Select.

**Using the Infoprint AFP driver:** If you are interested in using the powerful features of AFP in a wide range of environments, you may want to install and use the Infoprint AFP driver with Infoprint Select. To install and set up the Infoprint AFP driver, see “Setting up the AFP driver” in *Infoprint Manager for AIX: Getting*

*Started* . To specify the AFP driver for your printer, follow the directions in the "Creating Infoprint Select printers" topic in the *Infoprint Manager for AIX: Getting Started* manual, and specify one of the following drivers depending on your printer model:

1. For the Infoprint 45 printer, specify the **IBM AFP 4345** driver.
2. For the Infoprint 60 printer, specify the **IBM AFP 3160** driver.
3. For the Infoprint 2000 printer, specify the **IBM AFP 2710** driver.

Once installed, you can click either the **Printing Preferences** button on Windows 2000 systems or the **Setup** button on Windows NT systems from the **Print** window, and then use the AFP driver to specify inline form definitions with finishing options, or make use of other AFP features.

**PSF printer:** If you want to use Infoprint Select to submit print jobs with finishing options to a PSF printer, you must create a Select printer that uses the specific printer driver for your printer shown here. The driver is installed on your system when you install Infoprint Select. Use the procedure that is described in the *Infoprint Manager for AIX: Getting Started* manual for creating a Select printer, modifying it as described below.

1. Follow the procedure through creating a port and selecting an Infoprint destination.
2. When the **Add Printer** wizard asks you to choose a manufacturer and a printer model, don't select anything, just click **Have Disk**.
3. In the **Install from Disk** dialog, click **Browse** and navigate to the directory that you installed Infoprint Select in. The default directory is c:\Infoprint.

**Note:** Because this dialog assumes the the driver is actually on a floppy disk or CD-ROM, you may receive an error that the drive is not ready. In the error box, click **Cancel**. A Windows **Open** dialog should then open. Use that dialog to navigate to the correct directory.

4. Select the **Ibmprint.inf** file and click **Open**.
5. Select the appropriate driver based on your printer model and click **OK**.
  - For the Infoprint 45 printer, specify the **IBM AFP 4345** driver.
  - For the Infoprint 60 printer, specify the **IBM AFP 3160** driver.
  - For the Infoprint 2000 printer, specify the **IBM AFP 2710** driver.
6. In the **Install from Disk** dialog, click **Next**.
7. Complete the wizard as usual.

When you submit jobs to this printer, you can choose the finishing option you want to use.

**Note:** The **IBM Infoprint 60 with Finisher** driver only supports four finishing options: **top corner**, **bottom corner**, **2 edge stitch** (two staples in one side of the paper), and **3 edge stitch** (three staples on one side of the paper). If you need to use other finishing options, you have to use a different submission method.

## Using MVS Download

MVS Download is an optional feature of PSF for OS/390 that uses TCP/IP to automatically send data sets from the JES spool, without formatting them, directly to Infoprint Manager for AIX or Infoprint Manager for Windows. Infoprint Manager receives the data sets into files, formats them, and sends them to the printer. When you submit a print job with MVS Download, do one of these:

- Specify a mapping from a JCL keyword to a finishing attribute in the AIX shell script. The selected JCL parameter you specify in OS/390 maps to the Infoprint Manager **pdpr** finishing attribute.
- Use the existing form definition JCL keyword to form definition attribute mapping. The JCL FORMDEF parameter you specify in OS/390 maps to the Infoprint Manager **pdpr** form definition attribute.
- Specify a default form definition or finishing attribute so all jobs have the same finishing option.

### Using Infoprint Manager hot folders

An Infoprint Manager hot folder is a directory that is associated with a logical destination. When you copy or move a file to the hot folder, Infoprint Manager automatically submits the file to that logical destination. The default job and document finishing attributes that are set for the logical destination are applied to jobs submitted through the hot folder. You can also specify other finishing attributes or use different values for existing attributes. For instructions on using hot folders refer to the "Setting up hot folders to submit jobs" chapter in *Infoprint Manager for AIX: Getting Started*.

### Using Infoprint Manager LPD and an LPR client

The Infoprint Manager Line Printer Daemon (LPD) is a utility that lets you submit print jobs from other operating systems using a Line Printer (LPR) client. To submit print jobs with finishing to the Infoprint Manager LPD, you must use an LPR client, such as **lprafp**, that lets you use `-o` options to specify advanced printing options (for example, form definitions and page definitions) when you submit jobs to Infoprint Manager. You can either specify finishing attributes on the submission command or use a default job.

## Selecting the correct finishing options

In Infoprint Manager, the finishing options have very descriptive names so that it is easy to choose the one you want for your job. However, the names of those options are based on print jobs that use the "portrait" orientation, and as a result are misleading for jobs that printed in the "landscape" orientation. In addition, some of the options are valid if the paper is fed through the printer long edge first (LEF) and not valid if the paper is fed short edge first (SEF), and vice versa. As a result, choosing the correct finishing option can be confusing. The following tables can help you determine which option to choose for the Infoprint 45, Infoprint 60, and Infoprint 70, based on how you want your job to be finished.

### Paper fed LEF

Table 1. Options to set for paper fed LEF on the Infoprint 45

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
One staple in the upper left corner	staple top left	staple bottom left
One staple in the upper right corner	Not supported	staple top left
One staple in the bottom left corner	staple bottom left	Not supported
More than one staple on the left edge of the paper	edge stitch, OR edge stitch left	Not supported
More than one staple on the top edge of the paper	Not supported	edge stitch OR edge stitch left

Table 2. Options to set for paper fed LEF on the Infoprint 60

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
One staple in the upper left corner	staple top left	staple bottom left
One staple in the upper right corner	staple top right	staple top left
One staple in the bottom left corner	staple bottom left	staple bottom right
One staple in the bottom right corner	staple bottom right	staple top right
More than one staple on the left edge of the paper (uses the default number of staples that is set for the finisher)	edge stitch OR edge stitch left	Not supported
Two staples on the left edge of the paper	edge stitch 2	Not supported
Three staples on the left edge of the paper	edge stitch 3	Not supported
More than one staple on the top edge of the paper (uses the default number of staples that is set for the finisher)	Not supported	edge stitch OR edge stitch left
Two staples on the top edge of the paper	Not supported	edge stitch 2
Three staples on the top edge of the paper	Not supported	edge stitch 3
More than one staple on the right edge of the paper	edge stitch right	Not supported
More than one staple on the bottom edge of the paper	Not supported	edge stitch right

Table 3. Options to set for paper fed LEF on the Infoprint 2000

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
One staple in the upper left corner	staple top left	staple bottom left
One staple in the upper right corner	staple top right	staple top left
One staple in the bottom left corner	staple bottom left	staple bottom right <sup>1</sup>
One staple in the bottom right corner	staple bottom right <sup>1</sup>	staple top right
Two staples on the left edge of the paper	edge stitch, edge stitch left, OR edge stitch 2	Not supported
Two staples on the top edge of the paper	Not supported	edge stitch, edge stitch left, OR edge stitch 2
Two staples on the right edge of the paper	edge stitch right	Not supported

Table 3. Options to set for paper fed LEF on the Infoprint 2000 (continued)

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
Two staples on the bottom edge of the paper	Not supported	edge stitch right

<sup>1</sup> Some printers support this option via 180-degree image rotation, some do not. See printer documentation for more details.

**Note:** For the Infoprint 2000, paper must be pulled from the paper tray long-edge-first (LEF) for finishing options to be applied. Because ledger and A3 paper are both pulled from the paper tray short edge first (SEF), the Infoprint 2000 does not support finishing options for those paper sizes.

## Paper fed SEF

Table 4. Options to set for paper fed SEF on the Infoprint 45

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
One staple in the upper left corner	staple top left	Not supported
One staple in the upper right corner	staple top right	staple top left
One staple in the bottom right corner	Not supported	staple top right
More than one staple on the right edge of the paper	Not supported	edge stitch OR edge stitch top
More than one staple on the top edge of the paper	edge stitch OR edge stitch top	Not supported

Table 5. Options to set for paper fed SEF on the Infoprint 60

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
One staple in the upper left corner	staple top left	staple bottom left
One staple in the upper right corner	staple top right	staple top left
One staple in the bottom left corner	staple bottom left	staple bottom right
One staple in the bottom right corner	staple bottom right	staple top right
More than one staple on the top edge of the paper (uses the default number of staples that is set for the finisher)	edge stitch OR edge stitch top	Not supported
Two staples on the top edge of the paper	edge stitch 2	Not supported
Three staples on the top edge of the paper	edge stitch 3	Not supported



Table 5. Options to set for paper fed SEF on the Infoprint 60 (continued)

<b>Desired output</b>	<b>Select this value for "portrait" jobs</b>	<b>Select this value for "landscape" jobs</b>
More than one staple on the right edge of the paper (uses the default number of staples that is set for the finisher)	Not supported	edge stitch OR edge stitch top
Two staples on the right edge of the paper	Not supported	edge stitch 2
Three staples on the right edge of the paper	Not supported	edge stitch 3
More than one staple on the left edge of the paper	Not supported	edge stitch bottom
More than one staple on the bottom edge of the paper	edge stitch bottom	Not supported
Default number of staples in the center of the sheet	saddle stitch	saddle stitch

---

## Setting up finishing options for PS/PCL printers

Depending on the printer model, you can set up several finishing options. Infoprint Manager can be set up to support many of these possibilities, including edge stitching (stapling one edge of the print job to create a booklet), saddle stitch (stapling in the middle of the page to create a folded booklet), and corner stapling. The following sections describe how to set up finishing options for printers that can be sent PostScript and PCL, including the Infoprint 70, Infoprint 2085, and Infoprint 2105.

### Telling Infoprint Manager what options the finisher supports

The first step in enabling the finishing options is to let Infoprint Manager know what options the finisher supports. Follow the steps below to set the appropriate values.

#### Notes:

1. For the Infoprint 70, Infoprint 2085, and Infoprint 2105, the PSF DSS will set default values for the `job-finishing-supported` attribute, so you do not need to perform this setup process for the actual destination. These are the default settings:

#### **Infoprint 70**

staple-top-left, staple-bottom-left, staple-top-right, edge-stitch.

#### **Infoprint 2085, Infoprint 2105**

staple-top-left, staple-bottom-left, staple-top-right, edge-stitch, edge-stitch-left.

2. If you will be submitting only print jobs that specify a form definition to this printer or if you will only be submitting jobs to this printer using PSF Direct, you do not have to complete this procedure. You can proceed to “Setting up Infoprint Manager and clients to use finishing options”.
  1. Start the Infoprint Manager Administration GUI.
  2. Find or create the PSF printer (actual destination) that sends jobs to the printer you are setting up.
  3. Right-click the printer and select **Properties** from the pop-up menu.
  4. In the Printer Properties notebook, click the **Job** tab.
  5. Find the **Finishing options allowed** field.

**Note:** If you don't see the **Finishing options allowed** field, click **Show More**.

6. Select all of the finishing options that your finisher supports in the **Possible values** list and add them to the **Values** list.
7. Click **OK**.

### Setting up Infoprint Manager and clients to use finishing options

How you set up to use finishing options varies depending upon what kind of print jobs you create and how you submit them. There are several categories; find the one below that most resembles your situation.

#### Using the `pdpr` command

When you submit print jobs from the command line with the `pdpr` command, you can use the `job-finishing` attribute on the `-x` flag to specify finishing options. For example:

```
pdpr -d printername -x"job-finishing=staple-top-left" printfilename
```

You can also use the **form-definition** attribute on the **-x** flag to specify finishing options. For example:

```
pdpr -d printername -x"form-definition=F1name" printfilename
```

For a list of allowed values, proper syntax, and usage guidelines for the **job-finishing** and **form-definition** attributes, refer to *Infoprint Manager: Reference*.

### Using a form definition

If you submit your print jobs using a form definition (either by specifying a certain one or by using a default form definition), you can identify the finishing options that you want to apply in the form definition. When you specify printing and finishing options this way, no Infoprint finishing attributes are necessary to request the finishing options. The print job is sent to the printer and the options are read out of the formdef. If the finisher supports the options chosen, the job should print correctly without any more configuration on your part.

**Note:** Infoprint Manager does not check the finishing options you specify in the formdef against the options you set in “Telling Infoprint Manager what options the finisher supports” on page 10. As a result, if the finisher doesn’t support the options, the job will fail.

### Using PSF Direct

PSF Direct is a function of Infoprint Manager for Windows and Infoprint Manager for AIX. PSF Direct lets a PSF program (PSF for OS/390, PSF for OS/400, PSF/VM, or PSF/VSE) print remotely, using SNA LU 6.2 protocol, on printers supported by Infoprint Manager. The PSF program sends the print data stream directly to the Infoprint Manager printer, bypassing the Windows or AIX spool.

When you submit a job using PSF Direct, all of the job options (including finishing options) are set on the host system. Use the method provided by your host system or document creation applications to request finishing.

When you use PSF Direct, you do not need to use the Infoprint Administration GUI to identify the finishing operations that the Infoprint printer supports. When you send the print job to the printer, the printer uses the options you set on the host system. If the finisher supports the options specified, the job should print correctly; otherwise, if the finisher does not support the options, the job fails.

For more information about using PSF Direct, refer to the documentation for your specific type of connection.

### Using Infoprint Submit or Submit Express

When you submit a job using Infoprint Submit, you can select a variety of options, including finishing. Build your job ticket as you usually would, and specify the finishing options that you want to use in the **Finishing** field on the appropriate tab.

### Using Infoprint Select

If you apply Infoprint Manager for AIX Program Temporary Fix (PTF) U483882 (available in November 2002), your enhanced Infoprint Select client allows you to specify job-finishing attribute values or a form definition when submitting a job to the server. For more information on using the job-finishing attribute, refer to the *Infoprint Manager: Reference*. For instructions on setting attribute values within Select, consult the help system provided with the PTF U483882 level of Infoprint Select.

The automatic data stream transforms that PSF printers use do not support finishing (stapling), so in general, if you plan to use Infoprint Select to submit PCL or PostScript jobs to a PSF printer (destination), you may not specify finishing options when you submit a job, even if the print driver you use supports those options. However, there are other submission methods that will allow you to submit jobs with finishing options using Select.

**Using the Infoprint AFP driver:** If you are interested in using the powerful features of AFP in a wide range of environments, you may want to install and use the Infoprint AFP driver with Infoprint Select. To install and set up the Infoprint AFP driver, see "Setting up the AFP driver" in *Infoprint Manager for AIX: Getting Started*. To specify the AFP driver for your printer, follow the directions in the "Creating Infoprint Select printers" topic in the *Infoprint Manager for AIX: Getting Started* manual and specify one of the following printer drivers depending on your printer model:

1. For the Infoprint 70 printer, specify the **IBM AFP 2770** driver.
2. For the Infoprint 2085 printer, specify the **IBM AFP 2785** driver.
3. For the Infoprint 2105 printer, specify the **IBM AFP 2705** driver.

Once installed, you can click either the **Printing Preferences** button on Windows 2000 systems or the **Setup** button on Windows NT systems from the **Print** window, and then use the AFP driver to specify inline form definitions with finishing options, or make use of other AFP features.

**Using a PSF other-driver printer:** You can use the **document-formats-ripped-at-destination** actual destination attribute to prevent the automatic data stream transform from occurring. Refer to the *Infoprint Manager: Reference* for details.

**Using an AIX printer:** An AIX printer does not transform the data stream. This type of destination uses fewer processing resources but provides less functionality.

**Any other destination type:** If you want to use Infoprint Select to submit print jobs to a different destination type (such as a BSD or IPP printer), the only way to request finishing options on PCL and PostScript jobs is to use default jobs. A *default job* is a list of attributes that is applied to every job that a particular logical destination receives. You can use the Infoprint Manager Administration GUI to modify the default job for the logical destination that Infoprint Select sends jobs to so that it requests the appropriate finishing options.

If you use default jobs, you will need a different logical destination for each finishing option. Every job that you send to a particular logical destination will be finished the same way. For example, if you set the **Finishing options** attribute of the default job to **staple-top-left**, every job that is submitted to that printer will have a staple in the top left corner. In addition, a logical destination can only have one default job, and a default job can only have one finishing option set.

### Using MVS Download

MVS Download is an optional feature of PSF for OS/390 that uses TCP/IP to automatically send data sets from the JES spool, without formatting them, directly to Infoprint Manager for AIX or Infoprint Manager for Windows. Infoprint Manager receives the data sets into files, formats them, and sends them to the printer. When you submit a print job with MVS Download, do one of these:

- Specify a mapping from a JCL keyword to a finishing attribute in the AIX shell script. The selected JCL parameter you specify in OS/390 maps to the Infoprint Manager **pdpr** finishing attribute.

- Use the existing form definition JCL keyword to form definition attribute mapping. The JCL FORMDEF parameter you specify in OS/390 maps to the Infoprint Manager **pdpr** form definition attribute.
- Specify a default form definition or finishing attribute so all jobs have the same finishing option.

### Using Infoprint Manager hot folders

An Infoprint Manager hot folder is a directory that is associated with a logical destination. When you copy or move a file to the hot folder, Infoprint Manager automatically submits the file to that logical destination. The default job and document finishing attributes that are set for the logical destination are applied to jobs submitted through the hot folder. You can also specify other finishing attributes or use different values for existing attributes. For instructions on using hot folders refer to the "Setting up hot folders to submit jobs" chapter in *Infoprint Manager for AIX: Getting Started*.

### Using Infoprint Manager LPD and an LPR client

The Infoprint Manager Line Printer Daemon (LPD) is a utility that lets you submit print jobs from other operating systems using a Line Printer (LPR) client. To submit print jobs with finishing to the Infoprint Manager LPD, you must use an LPR client, such as **lprafp**, that lets you use `-o` options to specify advanced printing options (for example, form definitions and page definitions) when you submit jobs to Infoprint Manager. You can either specify finishing attributes on the submission command or use a default job.

## Selecting the correct finishing options

In Infoprint Manager, the finishing options have very descriptive names so that it is easy to choose the one you want for your job. However, the names of those options are based on print jobs that use the "portrait" orientation, and as a result are misleading for jobs that printed in the "landscape" orientation. In addition, some of the options are valid if the paper is fed through the printer long edge first (LEF) and not valid if the paper is fed short edge first (SEF), and vice versa. As a result, choosing the correct finishing option can be confusing. The tables below can help you determine which option to choose based on how you want your job to be finished.

### Paper fed LEF

Table 6. Options to set for paper fed LEF for the Infoprint 70

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
One staple in the upper left corner	staple top left	staple bottom left
One staple in the upper right corner	Not supported	staple top left
One staple in the bottom left corner	staple bottom left	Not supported
More than one staple on the left edge of the paper	edge stitch, OR edge stitch left	Not supported
More than one staple on the top edge of the paper	Not supported	edge stitch OR edge stitch left

## Paper fed SEF

Table 7. Options to set for paper fed SEF for the Infoprint 70

Desired output	Select this value for "portrait" jobs	Select this value for "landscape" jobs
One staple in the upper left corner	staple top left	Not supported
One staple in the upper right corner	staple top right	staple top left
One staple in the bottom right corner	Not supported	staple top right
More than one staple on the right edge of the paper	Not supported	edge stitch OR edge stitch top
More than one staple on the top edge of the paper	edge stitch OR edge stitch top	Not supported

## Paper fed LEF or SEF (Infoprint 2085/2105)

Table 8. Options to set for paper fed SEF or LEF for the Infoprint 2085/2105

Desired Output	Option for Portrait Jobs		Option for Landscape Jobs	
	LEF	SEF	LEF	SEF
One staple in the top left corner	Staple top left		Staple bottom left	Not supported
One staple in the top right corner	Not supported	Staple top right	Staple top left	
One staple in the bottom left corner	Staple bottom left	Not supported	Not supported	
One staple in the bottom right corner	Not supported		Not supported	Staple top right
Staples or punches on the top edge	Not supported	Edge stitch, edge stitch top, punch-2, punch-3, punch-4	Edge stitch, edge stitch left, punch-2, punch-3, punch-4	Not supported
Staples or punches on the left edge	Edge stitch, edge stitch left, punch-2, punch-3, punch-4	Not supported	Not supported	
Staples or punches on the right edge	Not supported		Not supported	Edge stitch, edge stitch top, punch-2, punch-3, punch-4

**Note:** Edge stitch is the finisher default.

---

## Chapter 2. Other procedures

---

### Turning duplexing on and off for the Infoprint 45 and Infoprint 70

If your printer has the capability to duplex and has an option on the console to turn it on and off, you should understand the hierarchy of duplex processing options based on your selections.

The Infoprint 45 and Infoprint 70 can produce either simplex (single-sided) or duplex (double-sided) output. You can turn the duplex option **ON** or **OFF** at the printer console, depending upon what type of output you need. However, you can also turn duplexing on and off using the **sides** attribute in Infoprint Manager. If you use Infoprint Manager to turn duplexing on or off, the Infoprint Manager setting will override the setting on the printer.

You can set the **sides** attribute on a document, default document, or an actual destination. You can also specify **duplex** or **simplex** in a form definition (formdef). If you set the attribute in a document, that setting overrides the value in the formdef. The formdef overrides the setting on the default document, which overrides the setting on the actual destination. All of these settings override the setting on the printer console.

**Important:** The default value of the **sides** attribute on all three objects (document, default document, and actual destination) is **Use default**. When Infoprint Manager encounters that value, it considers the attribute "not set" and looks to the next item in the priority list to see if **sides** is set there. Infoprint Manager keeps going down the list until it finds a value to use.

Some examples of this behavior follow.

- You turn duplexing **OFF** at the console of your Infoprint 45. Then, you submit a job to your Infoprint 45 through Infoprint Manager. The job uses a formdef that requests duplex printing. The **sides** attributes on the document, default document, and actual destination are set to **Use printer default**.

Infoprint Manager looks at the **sides** attribute on the document, and considers it "not set," so it looks at the formdef. The job prints duplex.

- You turn duplexing **OFF** at the console of your Infoprint 70. Then, you use Infoprint Submit to send a job with **Sides** set to duplex, and don't use a formdef. The **sides** attributes on the default document is set to **Use printer default** and on the actual destination is set to **1**.

Infoprint Manager looks at the **sides** attribute on the document, and sees that Submit set it to **2**. Infoprint Manager ignores all of the other values and the job prints duplex.

For additional information about the **sides** attribute, refer to the *Infoprint Manager: Reference*, Chapter 10, "Attributes for documents and default documents."

---

## Submitting a job to a DocuTech Model 135 printer

To send jobs to your networked DocuTech system, you must first create a BSD destination on your AIX server. Once this is done, you can submit the job through Infoprint Manager and release it for printing using your local DocuTech procedures.

### Create a BSD destination for the DocuTech 135 printer

Using the Infoprint basic administrator's GUI, do the following:

1. Drag the BSD template from the Types column in the template area, and drop it on the Actual Destinations pane. You will be prompted to select the server that will contain the actual destination.
2. Fill in the required information fields. Physical printer name is a name you determine, and the command will be as follows: `/usr/lpd/rembak -S docu1 -P docutech135` where `-S` is the name of the remote print server where the job will be sent, and where `-P` is the name of the queue on the remote print server where the job will be sent.
3. Select the **OK** button. Infoprint creates a new actual destination using the information you supplied. It also creates a new logical destination and new default job. The new default job is associated with the new logical destination and requests the actual destination.
4. Enable the actual destination and logical printer.

### Submit a job to the Docutech 135 printer

Use a familiar print submission mechanism such as Infoprint Select or the `pdpr` command to submit the job to the logical destination you just created.

For example, `pdpr -pyuma-lp /bin/test.ps` could be used to route a test job to a logical printer named yuma-lp.

**Note:** The job will appear briefly in the jobs window and will be spooled to the Docutech server.

### Release the job from the Docutech 135 server interface and printer console

1. Access the list of queued jobs, and the file you submitted should display in the refreshed list. From the server window, release the job for printing. Job status for each released job will display as the file is released.
2. Now on the DocuTech console, open the printer queue by clicking on its icon, and open the Job File list. The new job appears in the Job File list.
3. Click on the job and move or copy the file to the printer queue. Your Infoprint manager job will then print on the DocuTech printer.

---

## Supporting status information for IBM Network and HP printers

### Network printers

If you have IBM network printers in your Infoprint Manager environment, be sure to install the current version of the IBM network printer drivers in order to take advantage of Infoprint Manager's messaging support.



## HP printers

If you have HP printers that you have already configured in Infoprint Manager, you will need to change the **destination-command** attribute to use the **pioinfo** backend program rather than the **piojetd** backend program.

The necessary command is:

```
pdset -cde -x "destination command='/usr/lpd/pio/etc/pioinfo ipaddr'"
```

where *ipaddr* is the ip address or host name of the printer.

---

## Interrupting and restarting a job that's currently printing

Use this procedure if you want to stop printing a job and start printing it again or if you want to stop printing a job, move it to a different printer, and start printing again. If you are printing an AFP print job, you can also use this procedure to stop printing a job and start it again from any page in the job, not just from the beginning.

**This procedure does NOT stop the printer; it only stops the job you select.**

Once the job is stopped, the next job in the queue will start to print. If you need to stop the printer (for example, to replace toner), use the procedure “Stopping a printer to perform scheduled maintenance” on page 22.

**Note:** Refer to the online help in the Infoprint Manager GUI if you need instructions on completing any of these steps.

### Stopping the job

1. Open the Infoprint Manager Operations GUI or the Infoprint Manager Administration GUI.
2. In the GUI, find the job that you want to stop and select it.
3. Click **Job** → **Hold**.

**Note:** If the **Hold** item doesn't appear in the **Job** menu, use **Add/Remove Menu Items** to add it.

4. Click **OK**.

The job will stop printing, the icon will change to black, and the job will be listed in the job window of the main Infoprint Manager GUI window.

### Restarting the job

Use this procedure if you want to do one of the following:

- Print the entire job on the same printer it was printing on before.
- Print the entire job on a different printer.
- Print part of the job (such as page one to page fifty, or page twelve to the end).

**Important:**

- When you use **Job** → **Hold**, the job information resets to the beginning of the job. Checkpoint information is not stored.
- You can only start printing in the middle of the job if the job is transformed into AFP before it gets printed. You cannot print part of an ASCII, KGL, metacode, or LCDS job; you have to print the whole job.

- You can only start printing in the middle of the job if the job has only one printable document. If it has more than one printable document, you either have to print the whole job or use spacing to skip a section of the job. Refer to the **Moving backward or forward in a print job that's already printing** topic for instructions on spacing.

If you submitted this job using DPF from a host system, you can start printing from any page in the job, but Infoprint Manager ignores any value you enter for the end page. You will always print to the end of the job.

**Note:** Spacing will only work if you send the job to a PSF DSS printer.

To restart the print job:

1. If you want to print the entire job on the same printer it was printing on before, select the job in the job window and click **Job → Release**. The job will start printing from the first page.
2. If you want to print the entire job on a different printer, skip to **Before you Continue** between steps 8 and 9 below.
3. If you only want to print part of the job, figure out what page you want to start printing from.

**Important:** If you don't want to start printing from the first page of the job, be careful when you choose which page to start with. Duplex and n-up jobs can be confusing because you have to start printing with the **first** page on the **front** side of the sheet of paper. If you don't choose the correct start page, the job will print, but the sequence will probably be wrong.

For example, if you are printing a 2-up duplex job, each sheet of paper actually has four pages printed on it, like this:

Table 9. 2-up duplex print job: front and back views

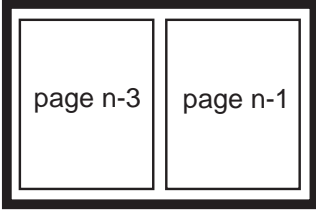
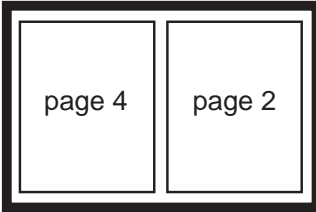
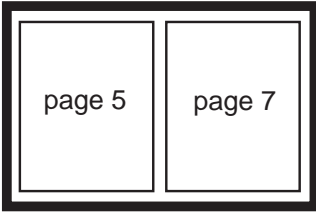
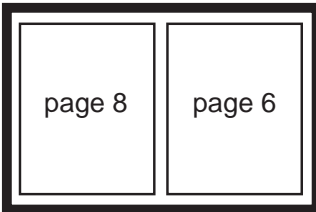
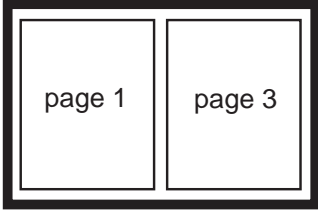
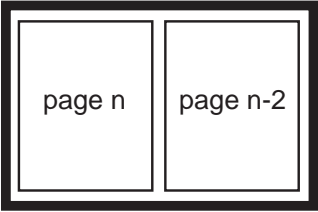
	Front of sheet	Back of sheet
Sheet one		
Sheet two		

Table 9. 2-up duplex print job: front and back views (continued)

	Front of sheet	Back of sheet
<b>Last sheet</b>		

Since you have to start printing this job at the first page on the front side, you can choose page one or page five (or any other page that would fall in that position). If you choose a different page, the sequence of pages will be wrong, and the job won't print correctly.

4. Figure out what page you want to stop printing on (if you don't want to print all the way to the end of the job).

You don't have to be as precise on the last page to print; the last page can be in any location on the sheet of paper.

5. Select the job you want to print.

6. With the job selected, click **Job** → **Change Page Range to Process**.

If you don't see the **Change Page Range to Process** item in the **Job** menu, use **Add/Remove Menu Items** to add it.

7. In the **Change Page Range to Process** dialog, select **Range of Pages** and type the start page and end page you figured out above.

**Note:** If you submitted this job using Distributed Print Facility (DPF), Infoprint Manager ignores the end page that you specify. DPF jobs always print from the start page you specify to the end of the job.

8. Click **OK**.

**Before you continue:**

You should only move a job to an Infoprint printer that uses the same destination support system (DSS) as the one the job was originally submitted to. If you move the job to a printer that uses a different DSS and the new printer doesn't support all of the attributes of the job, the job will fail to print. To check which DSS your Infoprint printer uses, do the following.

- a. Select the printer in the tree view of the Main window of the Infoprint Manager GUI.
- b. See if the **Type** column appears in the details view. The **Type** column displays the DSS that the Infoprint printer uses.
- c. If you don't see the **Type** column, use **Add/Remove menu items** to add it.

Continue with step 9.

9. Select the job again and click **Job** → **Move job**.

10. In the **Move Jobs** dialog, select the printer that you want to print the job on. You can choose the same printer it was printing on before or a different one.

When you release the job in step 12 below, if the job is accepted it will go back into the queue and wait to be printed. Depending on how many jobs are ahead of

it in the queue, it may take a while for the job to print. If you want the job to print right away, you can either move it to the top of the queue (so it prints next) or you can change its priority (so it prints sooner, but not necessarily next).

11. To move the job to the top of the queue, select the job in the Infoprint Manager GUI and use the **Make Job First** task. To change the priority of the job, use the **Change Priority** task.
12. Select the job in the job window and click **Job → Release**.

**Note:** If the task you want to use doesn't appear in the menu, use **Add/Remove menu items** to add it.

---

## Moving backward or forward in a job that's currently printing

In Infoprint Manager, moving from page to page in a job is called *spacing the printer*:

- *Forward spacing* is moving to a point later in the job (such as skipping from page 10 to page 15).
- *Backspacing* is moving to a point earlier in the job (such as backing up from page 40 to page 20).

## Spacing a printer

**Things to remember:**

- **You can only space a printer that uses the PSF Destination Support System (DSS) and one of the following attachment types:**
  - PSF TCP/IP
  - PSF Channel
  - PSF BSD
  - PSF Other

To see what DSS your printer uses, do the following:

1. Select the printer in the tree view of the Main window of the Infoprint Manager GUI.
  2. See if the **Type** column appears in the details view. The **Type** column displays the DSS that the Infoprint printer uses.
  3. If you don't see the **Type** column, use **Add/Remove menu items** to add it.
- **You can only space a printer after a job has already started to print.**

If you only want to print a section of a job (such as page 11 to page 20) or if you want to start printing from a page other than the first page of the job, use the **Change Page Range to Process** task in the Infoprint Manager GUI.
  - **Spacing works better on high-speed printers than on low speed printers.**

While spacing is supported on all printers that you print to using the PSF DSS, it is very difficult to space printers that print 40 pages per minute (ppm) or less. Spacing works adequately on printers that print between 60 and 100 ppm, and works very well with high-speed Infoprint printers that are configured correctly.
  - **The Infoprint 2000, Infoprint 3000, Infoprint 4000, and Infoprint 4100 printers require additional configuration for spacing to work efficiently.**

Refer to the **Setting up high speed printers for spacing** topic for instructions on configuring your printer.
  - **Page numbers refer to pages of the print job, not necessarily to any page numbers in your document.**

For example, in a book, the first page of chapter one is usually "page 1." However, it might be page 15 of the print job, because of the title page, credits, and table of contents.

- **You cannot space to the back side of a sheet of paper.**

If you are printing a duplex job, you will always print both the front and back sides of the sheet of paper that you space to.

To space a printer, do the following:

1. Start the Infoprint Manager GUI.
2. In the GUI, find the Infoprint printer that you need to space.
3. Select the Infoprint printer by clicking on it, then click **Printer → Stop**.

**Note:** If you don't see **Stop** in the menu, use **Add/Remove menu items** to add it.

4. In the **Stop printer\_name** dialog, select **Pause** and **Now**, and click **OK**.

Even though you selected **Now**, the printer will keep printing for a while because it has to get to a point in the job where it can stop. For Infoprint 2000, Infoprint 3000, and Infoprint 4000 printers that are configured correctly, you shouldn't have to wait more than 10 seconds. For other printers, you may have to wait longer.

5. Once the printer has stopped printing, look at the last sheet that printed. Write down the number of that sheet of the job.
6. Figure out what sheet of paper in the job you want to space to. Write down the number of that sheet of the job.
7. Figure out the number of sheets of paper you need to space.

- To **forward space** the printer:

Subtract the number of the sheet that printed last (from step 5) from the number of the sheet that you want to skip to (from step 6), and then subtract one. Like this:

$(\text{number from step 6}) - (\text{number from step 5}) - 1 = \text{number of sheets to skip}$

- To **backspace** the printer:

Subtract the number of the sheet that you want to go back to (from step 6) from the page that printed last (from step 5), and add one (for the current page). Like this:

$(\text{number from step 5}) - (\text{number from step 6}) + 1 = \text{number of sheets to back up}$

8. Determine the number of "sides" to space the printer.
  - If you are printing a simplex job, the number of sides is the same as the number of sheet from step 7.
  - If you are printing a duplex job, multiply the number from step 7 by two to get the number of sides.  $(\text{number from step 7} \times 2 = \text{number of sides})$
9. In the Infoprint Manager GUI, find the printer you want to space and select it.
10. With the printer selected, click **Printer → Space**.
11. In the **Space printer\_name** dialog, select **Backspace** or **Forward space** and type the number of sides you found in step 8.
12. Click **OK**.
13. Make sure the printer is still selected and click **Printer → Resume** to start the printer again.

---

## Stopping a printer to perform scheduled maintenance

Use this procedure to stop a printer so you can perform routine maintenance, such as updating the microcode, changing paper, or cleaning the printer. While you have the printer stopped, Infoprint Manager will not be able to send or schedule jobs to it. This procedure will work for printers that use any DSS.

1. Open the Infoprint Manager Operations GUI or the Infoprint Manager Administration GUI.
2. In the GUI, find the printer that you want to stop and select it.
3. Use **Printer**—>**Disable** to disable the printer.

The Infoprint printer will stop accepting jobs, but the printer will not stop printing immediately. All of the jobs that were in the **processing** state before you disabled the printer will print before it stops.

4. After the printer stops printing, you can perform whatever maintenance you need to.
5. When you are finished and the printer is ready to receive jobs again, go back to the Infoprint Manager GUI.
6. Find the printer in the GUI and select it.
7. Use the GUI to enable the printer again.

The printer will be available to accept and print jobs again.

---

## Fixing a printer problem and starting to print again

Use this procedure when the printer stops printing because of a paper jam, "out of paper" error, or for some other reason.

**Note:** Refer to the online help in the Infoprint Manager GUI if you need instructions on completing any of these steps.

### Try this first

"Out of paper" errors and some paper jams are easy to recover from. Most of the time, you don't have to do anything to Infoprint Manager to fix them; Infoprint Manager just waits until the printer is ready to print again. While it is waiting, Infoprint Manager continues to accept jobs and schedule them to the printer.

If the printer stops printing because of a problem, first try the following.

1. Check the printer.
  - If a lot of pages of the job are ruined and need to be reprinted, stop here. Don't finish this procedure. Use the "Fixing more complicated problems" on page 23 procedure below instead.
  - Otherwise, load paper if the bins are empty or clear paper jams as the printer console indicates. Once everything is clear, the printer should reset itself and continue sending jobs. Infoprint Manager should pick up where it left off.
2. Find the printer in the Infoprint Manager GUI. Make sure that its status is **ready**. If it is not, select the printer and use the GUI to enable it.
3. If just a few pages of the print job need to be printed again, the easiest thing to do is to resubmit the job and print just those pages. You can only print part of the job if you are using the PSF DSS and if the job will be transformed to AFP before it is printed.

## Fixing more complicated problems

Use this procedure when the problem is more difficult to fix or if you have to reprint numerous pages of a job.

1. Open the Infoprint Manager GUI.
2. Find the Infoprint Manager printer (also called an actual destination) that sends jobs to that printer and select it.
3. Use the GUI to disable the printer.  
The printer won't be able to accept any print jobs until you enable it again.
4. If the printer stopped printing in the middle of a job, find that job in the GUI and select it.
5. With the job selected, click **Job** → **Hold**.

**Note:** If the **Hold** item doesn't appear in the **Job** menu, use **Add/Remove Menu Items** to add it.

6. Click **OK**.  
The job will stop printing, the icon will change to black, and the job will be listed in the job window of the main Infoprint Manager GUI window.
7. Decide what you want to do with any other jobs that are in the queue waiting for this printer. Some of the options are:
  - Leave them in the queue, so they print when you enable the printer again. If you can fix the problem quickly, this option is the easiest one. In addition, if your printers are pooled, the other printers will take care of all of the jobs until this one is ready.
  - Move them to a different printer so they can be scheduled to print while you are working on this one.
  - Delete them. You should only consider this option if it is easier to resubmit the jobs than to use other methods to recover them.
8. Fix the problem at the printer.  
Once the problem is fixed, the printer may start to print again, just to clear the pages that were in the buffer before you disabled it and deleted the job. If any other jobs were in **processing** state when you disabled the printer, they will print as well.
9. Go back to the Infoprint Manager GUI, find the Infoprint printer again, and select it.
10. Use the GUI to enable the printer.  
The printer will be available to accept jobs again. If you left jobs in the queue, the printer should start accepting and printing them.

## Restarting the job that was printing when the problem occurred

You can either:

- Start the job from the beginning.
- Start the job from a point before the problem occurred (so the ruined pages get printed).

### **Important:**

- You can only start printing in the middle of the job if the job is transformed into AFP before it gets printed. You cannot print part of an ASCII, KGL, metacode, or LCDS job; you have to print the whole job.

- You can only start printing in the middle of the job if the job has only one printable document. If it has more than one printable document, you either have to print the whole job or use spacing to skip a section of the job. Refer to the **Moving backward or forward in a print job that's already printing** topic for instructions on spacing.

**Note:** Spacing will only work if you send the job to a PSF DSS printer.

1. If you want to print the entire job on the same printer it was printing on before, select the job in the job window and click **Job → Release**. The job will start printing from the first page.
2. If you want to print the entire job on a different printer, skip to **Before you Continue** between steps 8 and 9 below.
3. If you only want to print part of the job, figure out what page you want to start printing from.

**Important:** If you don't want to start printing from the first page of the job, be careful when you choose which page to start with. Duplex and n-up jobs can be confusing because you have to start printing with the **first** page on the **front** side of the sheet of paper. If you don't choose the correct start page, the job will print, but the sequence will probably be wrong.

For example, if you are printing a 2-up duplex job, each sheet of paper actually has four pages printed on it, like this:

Table 10. 2-up duplex print job: front and back views

	Front of sheet	Back of sheet
Sheet one		
Sheet two		
Last sheet		

Since you have to start printing this job at the first page on the front side, you can choose page one or page five (or any other



page that would fall in that position). If you choose a different page, the sequence of pages will be wrong, and the job won't print correctly.

4. Figure out what page you want to stop printing on (if you don't want to print all the way to the end of the job).

You don't have to be as precise on the last page to print; the last page can be in any location on the sheet of paper.

5. Select the job you want to print.

6. With the job selected, click **Job** → **Change Page Range to Process**.

If you don't see the **Change Page Range to Process** item in the **Job** menu, use **Add/Remove Menu Items** to add it.

7. In the **Change Page Range to Process** dialog, select **Range of Pages** and type the start page and end page you figured out above.

**Note:** If you submitted this job using Distributed Print Facility (DPF), Infoprint Manager ignores the end page that you specify. DPF jobs always print from the start page you specify to the end of the job.

8. Click **OK**.

#### **Before you continue:**

You should only move a job to an Infoprint printer that uses the same destination support system (DSS) as the one the job was originally submitted to. If you move the job to a printer that uses a different DSS and the new printer doesn't support all of the attributes of the job, the job will fail to print. To check which DSS your Infoprint printer uses, do the following.

- a. Select the printer in the tree view of the Main window of the Infoprint Manager GUI.
- b. See if the **Type** column appears in the details view. The **Type** column displays the DSS that the Infoprint printer uses.
- c. If you don't see the **Type** column, use **Add/Remove menu items** to add it.

Continue with step 9.

9. Select the job again and click **Job** → **Move job**.
10. In the **Move Jobs** dialog, select the printer that you want to print the job on. You can choose the same printer it was printing on before or a different one.

When you release the job in step 12 below, if the job is accepted it will go back into the queue and wait to be printed. Depending on how many jobs are ahead of it in the queue, it may take a while for the job to print. If you want the job to print right away, you can either move it to the top of the queue (so it prints next) or you can change its priority (so it prints sooner, but not necessarily next).

11. To move the job to the top of the queue, select the job in the Infoprint Manager GUI and use the **Make Job First** task. To change the priority of the job, use the **Change Priority** task.
12. Select the job in the job window and click **Job** → **Release**.

**Note:** If the task you want to use doesn't appear in the menu, use **Add/Remove menu items** to add it.



## Appendix A. IPDS print operator commands

Infoprint Manager offers a comprehensive set of operator commands that can be used to manage printing on IPDS printers. These commands can be used to help manage printing priorities and also help by providing the operator with functions that are useful when dealing with problems that may occur in the printing system. This table describes several of the most commonly used operator tasks, and their corresponding commands. For more information, refer to the *Infoprint Manager: Reference*.

	Task	Description	Infoprint Manager Command Syntax
1	Disable	Stop a printer from receiving new jobs.	<b>pddisable -cd dest</b> where <i>dest</i> specifies either a logical or an actual destination (printer) object.
2	Enable	Allow a printer to receive new jobs.	<b>pdenable -cd dest</b> where <i>dest</i> specifies either a logical or an actual destination (printer) object.
3	Query active job	Query which job is actively printing on a printer <b>Note:</b> The query response is based on the last set of station counters obtained from the printer, which is printing pages continuously. To get an absolutely accurate query you must: <ul style="list-style-type: none"> <li>• Pause the printer (7)</li> <li>• Issue the query</li> <li>• Resume the printer (11).</li> </ul>	<b>pdl -f "destination-name-requested==ldest &amp;&amp; current-job-state==printing" server:</b> where <i>server</i> specifies the Infoprint AIX server to which the job was submitted, and <i>dest</i> specifies the actual destination (physical printer).
4	Query page number	Query the page number of the currently printing page. Refer to <b>Note</b> after (3).	<b>pdl -cj -r current-page-printing jobid</b> where <i>jobid</i> specifies the <b>job-identifier</b> attribute. IBM recommends using the global ID, which follows the convention <i>server:0123456789</i> where <i>server</i> specifies the name of the Infoprint AIX server to which this job was submitted and 0123456789 indicates a 10-digit numeric value assigned by the Infoprint spooler. You can determine the <b>job-identifier</b> attribute value by specifying: <b>pdl -cj server:</b>
5	Query job details	Query the number of copies, sheets and pages stacked for a job. Refer to <b>Note</b> after (3).	<b>pdl -cj -r "job-copies-completed media-sheets-completed pages-completed" jobid</b> where <i>jobid</i> specifies the <b>job-identifier</b> attribute.
6	Clean	Remove all jobs from a printer.	<b>pdclean ldest</b> where <i>ldest</i> specifies the logical destination (logical printer).

7	Pause printer	Pause a printer immediately.	<b><i>pdpause -cd dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
8	Pause printer	Pause a printer after the current copy completes.	<b><i>pdpause -cd -w after-current-copy dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
9	Pause printer	Pause a printer after the current job completes.	<b><i>pdpause -cd -w after-current-job dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
10	Resume printer	Resume a printer that had been paused.	<b><i>pdresume -cd dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
11	Cancel job	Cancel a specific job.	<b><i>pdrm jobid</i></b> where <i>jobid</i> specifies the <b>job-identifier</b> attribute.
12	Pause job	Pause a specific job after the current copy completes.	<b><i>pdpause -cj -w after-current-copy jobid</i></b> where <i>jobid</i> specifies the <b>job-identifier</b> attribute.
13	Pause job	Pause a specific job immediately.	<b><i>pdpause -cj jobid</i></b> where <i>jobid</i> specifies the <b>job-identifier</b> attribute.
14	Pause job	Pause the job that is currently printing immediately.	<b><i>pdpause -cd -j dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
15	Pause job	Pause the job that is currently printing after the current copy.	<b><i>pdpause -cd -j -w after-current-copy dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
16	Resume job	Resume a job that was paused.	<b><i>pdresume -cj jobid</i></b> where <i>jobid</i> specifies the <b>job-identifier</b> attribute.
17	Back space	Back space (reprint a specific number of sides) the job that is printing.	<b><i>pdspace -cd -b sidecount dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
18	Reprint	Reprint the job that is printing from the beginning.	<b><i>pdspace -cd -b -1 dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).
19	Forward space	Forward space (skip a specific number of sides) the job that is printing.	<b><i>pdspace -cd -f sidecount dest</i></b> where <i>dest</i> specifies the actual destination (physical printer).

If one of these commands is received and it affects a job that has been sent or is in the process of being sent to the printer, Infoprint Manager immediately stops sending data to the printer and sends the printer a command to stop printing (this applies to commands 7, 9, 10, 12-15).

For printers that support the SNMP Remote Operator interface, like the Infoprint 4000, the printer will stop within a few seconds. For printers without this support, some pages will likely print before the printer stops.

The number of pages that print before the printer stops will vary depending on the number, size, and complexity of jobs that are in process as well as the speed and type of printer involved. Once the printer has stopped, Infoprint Manager performs the steps necessary to execute the requested operator command.



---

## Appendix B. IPDS error recovery

When driving an IPDS printer, Infoprint Manager sends page and resource data to the printer. The printer reports status and errors back to Infoprint Manager. The printer status information is in the form of station counters representing progress of pages sent to the device through the printer microcode and the physical printing mechanism. Station counters report the number of pages and the number of copies of pages proceeding through each point in the printer.

Infoprint Manager requests printer status information (an acknowledgement request) after sending each job. The acknowledgement response contains the latest values of all the printer station counters. Once all pending jobs have been processed, Infoprint Manager polls the printer periodically until all the pages of each job have been stacked.

The actual destination object **ack-interval** attribute is configurable and defines how often Infoprint Manager requests updated station counters from the printer while processing a particular job. The value for this attribute is specified in terms of pages and can be from 1 to 9999; the default value is 100 pages. For a 360 page job, an **ack-interval** setting of 100 pages means that Infoprint Manager will send an acknowledgement request to the printer after sending pages 100, 200, 300, and 360.

The printer responds to an acknowledgement request and returns station counters when all of the pages up to that point have been processed. This does not necessarily mean that all of those pages have printed or are stacked. The acknowledgement response from the printer after the 100th page will show that 100 pages have been processed (received). The printer may report, however, that only 10 pages have stacked.

The **ack-interval** value affects printing performance and the currency of job status information. A small **ack-interval** value causes increased communication and processing and can cause a reduction in printer throughput. A small **ack-interval** value will, however, increase the frequency that job attributes such as **current-page-printing**, **job-copies-completed**, **media-sheets-completed**, and **pages-completed** are updated. A small **ack-interval** value will also enable the Infoprint Manager software to have more recent station counters than it would with a large **ack-interval** value.

Errors reported from the printer can be grouped into the following categories:

- “IPDS error recovery: Data stream errors”
- “IPDS error recovery: Insufficient memory in the printer” on page 33
- “IPDS error recovery: Intervention required conditions” on page 34
- “IPDS error recovery: Unrecoverable problems” on page 34

---

### IPDS error recovery: Data stream errors

For data stream errors, the job may continue printing or the job may be terminated, depending on the severity of the error. There are hundreds of specific data stream errors. If one data stream error is defined for the error, Infoprint Manager directs the printer to continue processing the page and take an alternate exception action.

When a data stream error occurs, messages are produced describing the problem and the recovery actions performed. The messages report details about the error and include the page number where the error occurred. After Infoprint Manager receives a data stream error from the printer and produces a message, it uses station counters returned from the printer to continue printing without skipping or reprinting any pages.

Reporting of some data stream errors (using undefined code points in a font or printing outside of the valid printable area) can be controlled with job attributes. This allows the job submitter to decide whether or not error messages or printer error marks should be generated when the following type of errors are encountered:

- “Data stream error example 1 (job continues printing):”
- “Data stream error example 2 (job is terminated, no pages print):”
- “Data stream error example 3 (job is terminated; some pages print):” on page 33

### Data stream error example 1 (job continues printing):

If page 3 of a 10–page document attempts to print outside the valid printable area (an error) and the submitter specified (data-fidelity-problem-reported=all), the following occurs:

1. Pages 1-2 and 4-10 in the document print normally.
2. For page 3, the printer prints only the data that is inside the valid printable area. In addition, a printer error marker (PEM) is printed on the page where the print data extends outside the valid printable area.
3. After all 10 pages have printed, a set of messages is printed:

0420-094:	The following messages were generated for file /info/afp/baddata with Job ID 123. This file printed on the Infoprint destination ip60, which is a 3160 destination.
0420-484:	The destination reported that an attempt was made to print outside of the valid printable area.
0420-249:	Infoprint received IPDS exception X'08C1..00', action code X'01' from the destination.
0420-098:	The error occurred while printing page 3 of copy 1 of this print job.
0420-254:	The destination reported an error that caused Infoprint to stop processing the page.

### Data stream error example 2 (job is terminated, no pages print):

If a document is submitted and it requests a specific form definition which does not exist, the following occurs:

1. The document does not print. However, auxiliary sheets such as the start sheet (header) and end sheet (trailer) page, if requested, do print.
2. A message page will print with the following messages:

0420-094:	The following messages were generated for file /info/afp/testfdef with Job ID 456. This file printed on the Infoprint destination ip60, which is a 3160 destination.
0420-128:	ERROR: Infoprint cannot find or cannot access the FORMDEF resource named F1BAD.



0420-060:	The error occurred with the object type page with token name PAGE0001.
0420-060:	The error occurred with the object type document with token name ASCII.
0420-098:	The error occurred while printing page 1 of copy 1 of this print job.

### Data stream error example 3 (job is terminated; some pages print):

If page 5 of a 10–page document requests a font (C0D0GT15) which cannot be located, the following occurs:

1. Pages one through four print; page five does not print. Printing of the document ends; pages 6 through 10 also do not print.
2. A message page will print with the following messages:

0420-094:	The following messages were generated for file /info/afp/long.list3820 with Job ID 167. This file printed on the Infoprint destination psf4317, which is a 4317 destination.
0423-284:	Infoprint mapped the FGID, GCSGID, width, vertical size combination: 230, 0, 96, 160 to the FCS name C0D0GT15. The FGID.GRD mapping file specified that this mapping be performed.
0423-291:	Map Coded Font (MCF) structured field could not be processed because Infoprint could not locate the font character set C0D0GT15. Attempted resolution/type(s): 300-pel Font Fidelity for this job was CONTINUE. Destination supported resolution/type(s): 300-pel.
0420-060:	The error occurred with the object type Active Environment Group with token name 1.
0420-060:	The error occurred with the object type page with token name 1.
0420-060:	The error occurred with the object type document with token name LONG.
0420-098:	The error occurred while printing page 1 of copy 1 of this print job.
0423-302:	The font reference in the MCF1 structured field, repeating group number 1, with sequence number 1, at file offset 118, could not be processed successfully. Additional error and diagnostic messages follow.
0420-729:	The error occurred in file /info/afp/long.list3820. The structured field in error was structured field EAG with code X'D3A9C9' and sequence number 1 located at file offset 250.

---

### IPDS error recovery: Insufficient memory in the printer

In some cases, a printer may not have sufficient storage to process the data or resources required for a page. When this occurs, Infoprint Manager responds by deleting resources in the printer which are not required for the page and then tries to print the page again. Frequently, this recovery will allow the page to print successfully. If the printer still reports that there is insufficient storage to process the page, the job is terminated and a message is produced indicating that the page and its associated resources are too complex.

#### Insufficient memory in the printer exmple:

A 30 page document is submitted. Each page of the document references several complex page segments.

1. Infoprint Manager sends pages for the document to the printer.

- Before each page is sent, Infoprint Manager downloads page segments that are required by the page.
2. The printer reports an insufficient memory error to Infoprint Manager (for page 23).
    - Infoprint Manager deletes all the page segments (and any other resources) previously downloaded to the printer. All of the printer memory available for resources should now be free. Infoprint Manager then attempts to load only the page segments required for page 23. Because unnecessary page segments have been removed from printer memory, all of the page segments for page 23 can be successfully downloaded into the printer. No messages are reported to the server and no message pages are printed.
  3. All 30 pages of the job print successfully.

---

## IPDS error recovery: Intervention required conditions

A printer may experience intervention required conditions that are not related to the data stream or complexity of the data. These conditions cause printing to stop. Some intervention required conditions are handled directly by some printers and are not reported back to Infoprint Manager. In these cases, Infoprint Manager continues to send data to the printer.

### Example:

1. As soon as the paper jam occurs, printing stops and the destination (printer) object changes to red.
  - A message is sent to the operator:
    - 0420-466: The destination reported a paper jam; clear the jam.
2. The actual destination (printer) object's destination-state changes to "needs key operator."
  - Infoprint Manager waits until the paper jam has been cleared.
3. The operator then clears the paper jam, according to the printer jam recovery procedure. Some damaged pages are usually discarded as part of this procedure.
4. Once the printer jam is cleared, the destination (printer) object is no longer red. Using station counters from the printer, Infoprint Manager repositions to the correct page and continues printing the document.
5. At the end of the document, a message page is printed which contains the following:
  - 0420-094: The following messages were generated for file /info/paperjam with Job ID 787. This file printed on the Infoprint destination ip32, which is a 4332 destination.
  - 0420-467: A paper jam occurred in the destination while printing this job. Inspect the output to determine if it is complete and that all printed pages are acceptable.

---

## IPDS error recovery: Unrecoverable problems

Unrecoverable problems cause the Infoprint Manager software or printer software to stop functioning or prevent them from communicating with each other. Examples of unrecoverable errors include: server system crash, software core dump, printer abort, power failure, or severe network problems.

These errors prevent the Infoprint Manager software from obtaining current station counter status information from the printer. In these cases, Infoprint Manager cannot determine how many pages and which jobs printed since the last set of valid station counters were received. Infoprint Manager considers a job complete only when all pages are reported by the printer as stacked. In most cases, some pages for one or more jobs will print between the time Infoprint Manager last received a printer acknowledgment and the time the unrecoverable error occurs.

Those jobs, because they are considered incomplete, will normally start printing from the beginning when the problem is resolved and both the Infoprint Manager software and the printer are operating and communicating again.

However, if the submitter or operator does not want the job to start printing from the beginning, there is a way to modify where printing starts for the documents in these jobs. The document object **page-select** attribute can be modified before the job is processed again. This attribute allows the submitter to specify a page range (first to last) for each document in a job. This way, the submitter or operator can control which pages are printed after the problem is resolved.

Depending on the type of error and the network configuration, some errors may not be reported to Infoprint Manager immediately. In these cases, an operator can issue a **pdshutdown** command to the actual destination object. This command works without any attempts to communicate with the printer. Infoprint Manager will checkpoint the job that was partially stacked at the printer and use the station counters from the last valid acknowledgment to determine which page of which job to checkpoint. A small **ack-interval** value will make it possible to checkpoint using a more recent set of station counters than would be available with a large **ack-interval** value. The job can be resumed later from that checkpoint.

Some unrecoverable errors are reported immediately to the Infoprint Manager software and the actual destination object (printer) is disabled. When this occurs, the **pdshutdown** command cannot be issued and therefore no checkpoint can be taken. Infoprint Manager does not perform automatic checkpointing.

### Unrecoverable problem example:

1. The destination (printer) object becomes disabled and the icon changes to **black**.
2. The job object changes to the **pending** state.
3. Later, the printer power is restored.
4. The operator must enable the destination (printer) object.
5. Jobs start printing on the printer in the order they have been scheduled.

All 300 pages of the job that were printing during the power failure print again.



---

## Notices

This information was developed for products and services offered in the U.S.A.

IBM® may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property rights may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing  
IBM Corporation  
North Castle Drive  
Armonk, NY 10504-1785 U.S.A.

**The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:**

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation  
Licensing  
2-31 Roppongi 3-chome, Minato-ku  
Tokyo 106, Japan

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation  
Department 11PA Building 002S  
PO Box 1900  
Boulder CO 80301 USA

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee. The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.
- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine readable documentation.

---

## Trademarks

The following are trademarks or registered trademarks of International Business Machines Corporation:

Advanced Function Printing  
AFP  
AIX  
AS/400  
IBM  
IBM Cross Platform Technologies for Windows  
Infoprint  
Intelligent Printer Data Stream  
IPDS  
Micro Channel  
MVS  
OS/2  
OS/390  
OS/400  
Print Services Facility  
S/390  
System/370

The following are trademarks of other companies:

- Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.
- Microsoft, MS-DOS, Windows, Windows NT, Windows 2000, Windows ME, Microsoft Visual Basic, Microsoft Visual C++, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.
- Pentium is a registered trademark of Intel Corporation in the United States, other countries, or both.
- UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, and service names may be trademarks or service marks of others.

---

## EuroReady

Infoprint Manager is capable of processing data containing the euro sign. Font character sets and code pages that contain and map the euro sign consistently with the application must be present either in a host library or in the printer. AFP fonts that support the euro sign are included in the AFP Font Collection (Program Number 5648-B33).





---

# Index

## A

attribute  
ack-interval 31, 35  
current-page-printing 31  
job-copies-completed 31  
media-sheets-completed 31  
page-select 35  
pages-completed 31

## B

backspacing 20, 21

## C

command  
IPDS operator 27  
pdclean 27  
pddisable 27  
pdenable 27  
pdl 27  
pdpause 28  
pdpr 3, 10  
pdresume 28  
pdrm 28  
pdshutdown 35  
pdspace 28

## D

data stream  
error 31  
job continues printing 32  
job is terminated, no pages print 32  
job is terminated, some pages print 33  
delete  
and retain 23  
destination support system (DSS) 19, 20, 25  
DSS (see also Destination support system) 20

## E

error  
IPDS  
data stream errors 31  
insufficient memory 33  
intervention required conditions 34  
unrecoverable problems 34  
messages 32, 33, 34  
out of paper 22  
paper jam 22

## F

finishing  
Infoprint 45 3  
Infoprint 70 10

form definition  
finishing 4, 11  
forward spacing 20, 21

## I

Infoprint 2000  
spacing 20, 21  
Infoprint 3000  
spacing 20, 21  
Infoprint 4000  
spacing 20, 21  
Infoprint 45  
duplexing 15  
finishing options 3  
using 15  
Infoprint 70  
duplexing 15  
finishing options 10  
using 15  
Infoprint Select  
finishing 4, 11  
Infoprint Submit  
finishing 4, 11  
insufficient memory 33  
example 33  
intervention required conditions 34  
example 34  
IPDS  
error recovery  
data stream errors 31  
insufficient memory 33  
intervention required conditions 34  
unrecoverable problems 34  
print operator commands 27

## J

job  
hold 17  
restarting 17  
stopping 17

## M

maintenance 22  
memory  
insufficient 33

## N

notices 37

## O

operator  
tasks 27  
out of paper 22

## P

- paper fed LEF 6, 7, 13
- paper fed SEF 7, 8, 14
- paper jam 22
- pdclean 27
- pddisable 27
- pdenable 27
- pdls 27
- pdpause 28
- pdpr
  - finishing 3, 10
- pdresume 28
- pdrm 28
- pdshutdown 35
- pdspace 28
- PostScript 4, 11
- PSF Destination Support System (DSS) 20, 22
- PSF printer
  - finishing 5

## R

- restarting job 17
- retained jobs 19, 25

## S

- selecting
  - finishing options 6, 13
- sides 21
- spacing 18, 24
  - backspacing 20
  - forward spacing 20
- stopping job 17

## U

- unrecoverable problems 34
  - example 35

---

# Readers' Comments — We'd Like to Hear from You

Infoprint Manager for AIX  
Operator and user procedures  
Version 4 Release 1

Overall, how satisfied are you with the information in this book?

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How satisfied are you that the information in this book is:

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Accurate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to find	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Well organized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable to your tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us how we can improve this book:

Thank you for your responses. May we contact you?  Yes  No

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

---

Name

---

Address

---

Company or Organization

---

Phone No.



Fold and Tape

Please do not staple

Fold and Tape



NO POSTAGE  
NECESSARY  
IF MAILED IN THE  
UNITED STATES

# BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

IBM Corporation  
Information Development  
IBM Printing Systems  
Department H7FE Building 004M  
Boulder, CO 80301-9817



Fold and Tape

Please do not staple

Fold and Tape





Program Number: 5765-F68

Printed in U.S.A.