

# Using System/23 Print Spool



**System/23**

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**First Edition (July 1982)**

This book provides a description of the IBM System/23 Print Spool functions and is intended to be an operator's handbook as well as a programmer's guide.

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# About this book

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Welcome to *Using System/23 Print Spool*.

This book contains the information needed to operate your Print Spool program. It also contains information needed by your System/23 programmer.

## Who should read this book?

If you are presently able to operate a System/23 computer attached to the 5247 Disk Unit, you are ready for this book.

This means you should have completed the operator training in *Learning to Use System/23* and in *Using Your 5247 Disk*.

The programming information in this book is intended for use by persons with a programming background.

Insert this book in binder 4, together with *Using Your 5247 Disk*.

Once you have completed the operator training in this book, keep it handy for reference purposes.

**Note:** To run Print Spool, you need the System/23 Print Spool Licensed Program diskette (Program number 5715-SP1).

# About this book

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## How to use this book

**Chapter 1** explains how Print Spool works. Read this chapter to get acquainted with the Print Spool program.

**Chapter 2** has three training exercises that show you how to begin and end Print Spool, as well as how to use some easy commands. Doing these exercises will help you get familiar with the procedures you'll be using most of the time.

**Chapter 3** has an advanced training exercise. This exercise should be done with the help of an experienced operator.

**Chapter 4** is a reference chapter where you can find all Print Spool commands and step-by-step procedures needed in your daily work. These commands and procedures are also presented in the quick reference checklist at the end of the book.

**Chapter 5** is for persons who have programming experience. This chapter has general programming guidelines and information about creating a file to change Print Spool's automatic functions (defaults).

**Appendix A** explains the error codes you may see on your screen while Print Spool is running. Use this chapter to correct the errors you may get while operating Print Spool. Ask your supervisor or programmer for help, if necessary. (Print Spool error codes run from 9000 to 9099. For all other action and error codes, refer to the *System Messages* manual in binder 3.)

Use **Appendix B** as a handy reference list of all the commands used for Print Spool.

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## System/23 requirements

This information is for your supervisor or the person in charge of your System/23 hardware.

Your System/23 computer needs the following for Print Spool to run:

- At least 96K of storage. The Print Spool program itself uses 32K of storage. Applications requiring more than 96K of storage cannot run with Print Spool.
- A 5247 Disk Unit attached to your System/23 computers.
- One or more printers.

Also note the following:

- Print Spool supports the IBM 5241, 5242, and 5217 Printers with the tractor feed attached.
- With Print Spool, you can use single or multi-part continuous forms paper. The paper width may vary from 9 1/2 to 15 inches.

# About this book

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## Programming restrictions

You cannot run the following programs while Print Spool is active in your computer:

- System/23 Word Processing.
- Load Machine Update Customer Support Function.
- Prepare Disk Customer Support Function.
- Add or Delete a Volume Customer Support Function.
- Recover Disk Customer Support Function.
- LISTSTOR Customer Support Function (except option 6). Option 6 of LISTSTOR can be run with Print Spool.

## For related information

You can find more information about System/23 in the following books:

- *BASIC Language Reference*, SA34-0109
- *Customer Support Functions*, Volume I (SA34-0175) and Volume II (SA34-0176)
- *Operator Reference*, SA34-0108
- *System Messages*, SA34-0141
- *Using Your 5247 Disk*, SA34-0188

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# Chapter 1. Print Spool and you

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## What is Print Spool?

Print Spool is a program that lets you use your System/23 printers more efficiently.

With Print Spool, your print jobs can be printed at the same time that you process another application on your computer. Print Spool also lets you control when and on which printer your jobs are printed. Let's find out how this happens.

Once you link Print Spool into your computer, it sets up a special holding area on the 5247 Disk. The print jobs created by you or by an application program go directly into this holding area. From here these print jobs are sent to an available printer for printing.

Print jobs can be sent to the holding area from your computer and from other computers attached to the 5247 Disk. As jobs come into the holding area, they are placed in a "waiting line" until a printer is available. Print Spool will print these jobs in the order in which they came to the holding area.

## Where will your print job be printed?

The print job you send may be printed on your printer or on a printer attached to another computer, whichever is available at the time. If no printer is attached to your computer, Print Spool will send your job to the first available printer. If you wish, you may direct your job to a specific printer. If you do, your job will be printed on that printer only.

The nice thing is that you don't have to wait for these jobs to come off the printer. Your computer can be used for other work **while** they are being printed.

# Print Spool and you

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## Can two computers share a printer?

Yes! With Print Spool, a printer can be shared by more than one computer. As a result, you can get by with fewer printers and use the printers you have more productively.

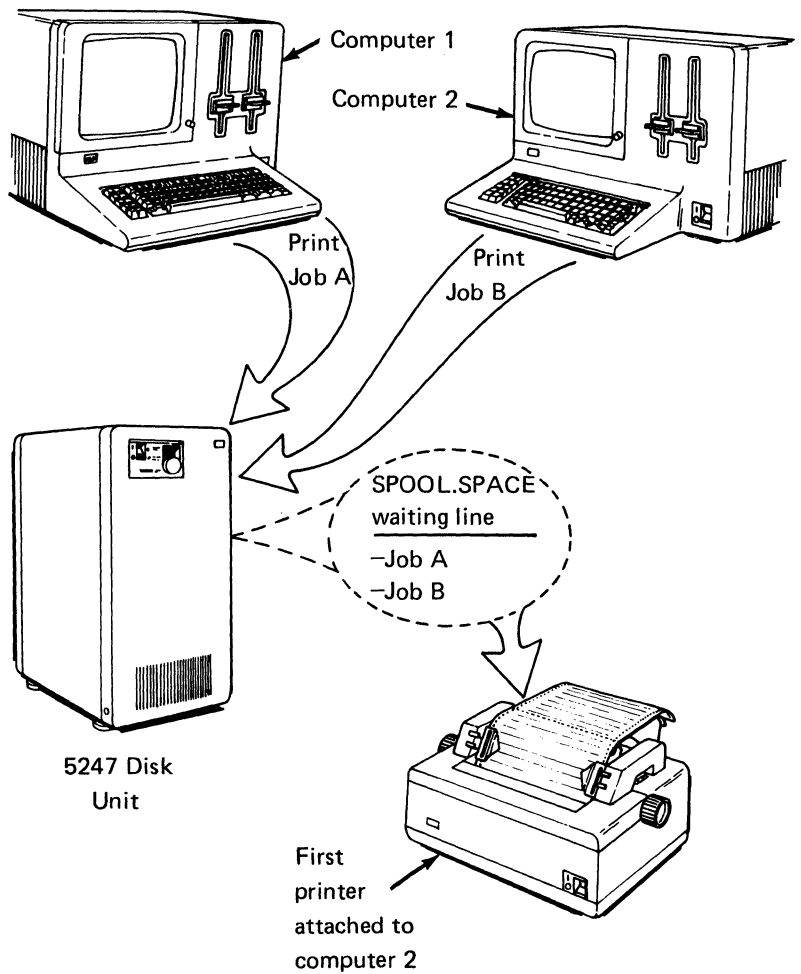
Let's look at an example in which two System/23 computers share one printer. Computer 1 has no attached printer, and computer 2 has one attached printer. Both computers are attached to a 5247 Disk Unit. Print Spool is linked into both computers.

Let's say that computer 1 sends a Payroll report (Print Job A) to the holding area, and a few moments later computer 2 sends an Accounts Receivable report (Print Job B) to the holding area.

Both jobs are put in the waiting line to be printed on the printer attached to computer 2.

Print Job A will be printed first and Print Job B will be printed next. **At the same time** that these jobs are printing, both computers can be used to run other applications. You can get more work done, without attending to each print job or waiting for it to be finished.

The figure on the next page shows how print jobs are sent to the waiting line in a system that has two computers and one printer.



The above figure shows print jobs A and B being sent to the waiting line on the 5247 Disk.

# Print Spool and you

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## Automatic functions

It is important to know what Print Spool automatically does for you. Here is a description of its automatic functions.

Once it is linked into your system, Print Spool does the following:

- Sets up a holding area on the 5247 Disk. From now on, we will call this holding area the SPOOL.SPACE file.
- Puts all print jobs sent to your computer's **first printer** on the waiting line in the SPOOL.SPACE file. (You will learn about your **first printer** when you do Exercise 1 in the next chapter.)
  - (Print jobs that you send to the **second printer** attached to your computer **do not** go to the SPOOL.SPACE file; they go directly to your **second printer** for printing.)
- Directs print jobs from the waiting line to an available **first printer**, in the order in which they were sent to the SPOOL.SPACE file.
- Starts automatic printing on an available **first printer** at the same time that you process an application.

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## Using operator commands

For added convenience, there are Print Spool commands that let you do the following:

- Stop and start a printer attached to your computer (STOP and START commands).
- Get a screen display of all jobs waiting in the holding area (STATUS command).
- Move a waiting print job to the top of the waiting line (NEXT command).
- Hold a print job, or redirect it from one printer to another printer, if needed (CHANGE command).
- Cancel a print job (CANCEL command).

**Note:** The START and STOP commands work only for a printer attached to your computer. You can find detailed information about each Print Spool command in Chapter 4. You can find a summary of these procedures in the quick reference checklist in Appendix B. Use this checklist only after you have become familiar with the details of each procedure in Chapter 4.

If you see an error code between 9000 and 9099, look up the explanation for it under "Print Spool error codes," in Appendix A of this book. For other error codes, refer to the *System Messages* manual in binder 3.





## Chapter 2. Getting started

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The three exercises in Chapter 2 will help you become familiar with the commonly used Print Spool commands and procedures.

In Exercise 1, you will learn how to:

- Link Print Spool into your system
- Find the SPOOL.SPACE file on the disk
- Get the Spool screen
- Remove Print Spool from the system.

**Note:** Do these exercises with Print Spool linked into **only one** computer (with diskette drives) that has a **first printer** attached. Ask your supervisor for help, if necessary.

If you run into a problem while doing these exercises, turn to the "Help section" at the end of this chapter.

# Getting started

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## Exercise 1: Linking and ending Print Spool

### Before you begin

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1. Make sure your 5247 Disk is switched on.

Follow the steps in "Switching on the disk," under "VOL002 is already on the disk," in *Using Your 5247 Disk*.

2. Perform PROC START.
3. To find out the identification number (1, 2, 3, or 4) of your computer, do the following:

Type: **PRINT WSID\$**

Press the Enter key.

A two-digit number appears on your screen. The first digit is your computer number.

For example, if you see the number 21, you are using computer number 2. Make a note of your computer number for use later in this book.

If the first digit is 0, your 5247 Disk is either not attached or not switched on. You should correct the problem and begin again from Step 1 above.

4. Make sure the printers attached to your computer are loaded with paper, and that the first page is lined up correctly.

- 
5. If you have more than one printer attached to your computer, find out which one is your **first printer**.

Press and hold the Cmd key, then press the CopyD key.

The printer that starts printing is your **first printer**. If your printer does not start printing, it is your **second printer** and you should not begin this exercise. Ask your supervisor for a computer with a first printer attached.

When you type operator commands, you will be referring to your first printer by the number 10. If your computer has a second printer attached, you will be referring to it by the number 11.

6. Find out from your supervisor if the entire Print Spool diskette (R01M00) has been copied to the 5247 Disk. If it has, then begin Exercise 1 on the next page. If the entire Print Spool diskette has not yet been copied to the 5247 Disk, continue with step 7.
7. Insert your Print Spool diskette into a diskette drive. Close the drive handle. (The VOLID of your diskette is R-zero-one-M-zero-zero.)
8. Use the COPY Customer Support Function to copy all files from the SPOOL diskette (R01M00) onto the 5247 Disk. Specify VOL002 on drive 5. For information on how to copy files, refer to "Copying from diskette to disk," in *Using Your 5247 Disk*.)
9. Remove the Print Spool diskette and store it as a backup.

**Note:** If you run into a problem while doing these exercises, turn to the "Help section" at the end of this chapter.

# Getting started

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## Exercise 1: Linking and ending Print Spool (continued)

### Step 1: Linking Print Spool

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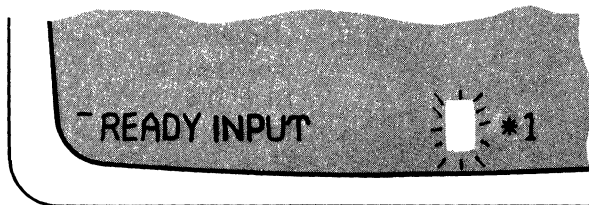
Before you can use Print Spool, you must link it into your computer. In your daily work, you should get used to linking Print Spool at the beginning of your day and ending it before leaving the office.

For this exercise, link Print Spool only into your computer, not into any other computer. Make sure your computer has an attached **first printer**.

When you see "READY INPUT" on your screen:

1. Type: **LINK SPOOL**
2. Press the Enter key.

Wait a few seconds. When you see a bright green rectangle to the left of the flickering \*1 on the status line, you know that the Print Spool program has been linked. We will call this bright green rectangle the "Spool window."



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## Step 2: Finding the SPOOL.SPACE file

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Once Print Spool is linked, it creates a holding area on the 5247 Disk. This holding area is actually a disk file (called SPOOL.SPACE) that is created in the first volume on the 5247 Disk. You can find this file if you list the contents of drive 5 on your screen.

Do this by using the DIR command.

1. Type: **DIR 5**
2. Press the Enter key.

Look for the filename SPOOL.SPACE on the screen. Press the Hold key to stop scrolling, if necessary.

```
09 SIGN                00003072 00001536 0001
05 STARTUP             00000512 00000512 0001
05 NEW                 00006144 00002048 0001
09 NAMES               00002048 00001536 0001
09 ACCOUNTS            00002048 00002048 0001
80 SPOOL.SPACE         03145728 03145728 0005
09 LINES               00007168 00007168 0001
05 LINES.PROC          00000512 00000512 0001
05 BLAST               00000512 00000512 0001
04 COUNT               00000512 00000002 0001
```

**Remember:** LINK SPOOL is the first thing you should do in order to run Print Spool. Get used to linking Print Spool at the beginning of your day and ending it before leaving the office. You will learn how to end Print Spool in Step 4.

# Getting started

## Exercise 1: Linking and ending Print Spool (continued)

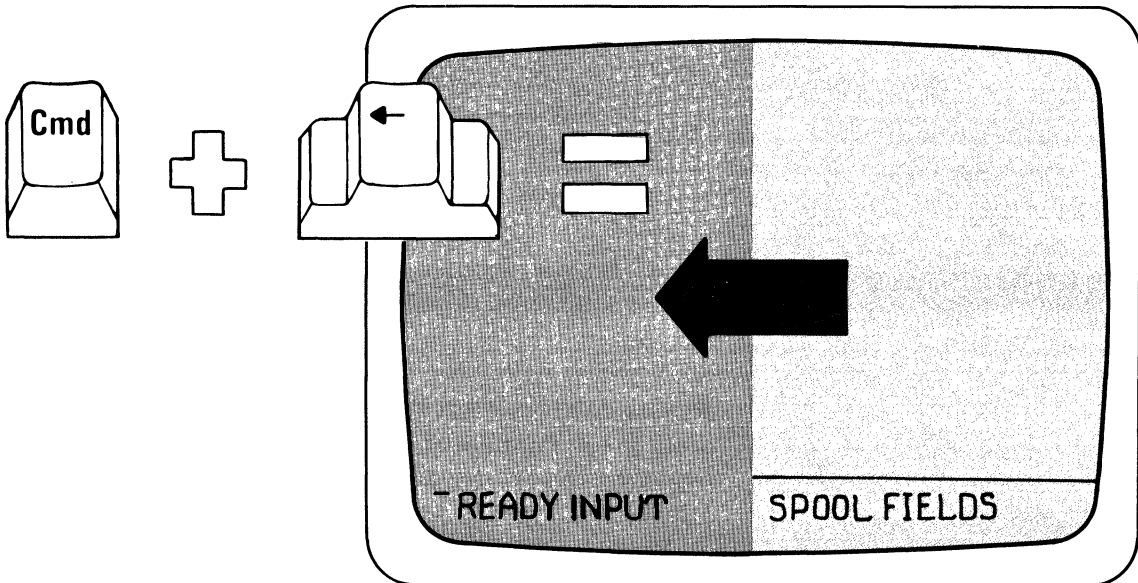
### Step 3: Getting the Spool screen

Once Print Spool has been linked, you can get a special screen that's called the "Spool screen." You need this screen to type Print Spool operator commands like START, STOP, and so on. We will type some of these commands in the next exercise. For now, let's get the Spool screen to see what it looks like.

Do the following:

Press and hold the Cmd key, then press the Backspace key.

The Spool screen slides across your present screen, from right to left. Notice "SPOOL FIELDS" at the bottom of the Spool screen; this is where you type Print Spool operator commands like START, STOP, and so on. Don't type anything now.



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## Step 4: Ending Print Spool

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At this point, let's find out how to end the Print Spool program.

Remember that in order to end Print Spool, you must first leave the Spool screen.

Do the following:

1. Press and hold the Cmd key, then press the Backspace key.
2. Wait for your READY INPUT screen to slide across from the right.

You have left your Spool screen. Now let's find out how to end the Print Spool program.

3. Type: **SYSTEM "ENDSPOOL"**

(Be sure to type the quote marks.)

4. Press the Enter key.

When you see "READY INPUT" again, it means that Print Spool has been removed from your system. Notice that the Spool window (the bright green rectangle) is gone from the status line.



# Getting started

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## Review

In Exercise 1, you learned how to:

- Link Print Spool by using the **LINK SPOOL** command.
- Find the SPOOL.SPACE file (holding area) on the 5247 Disk.
- Get the SPOOL FIELDS screen by pressing the Cmd and Backspace keys.
- End Print Spool by using the **SYSTEM "ENDSPOOL"** command.

## A few reminders

Here are a few reminders that will help you avoid mistakes in your day-to-day work with Print Spool:

- Before you run Print Spool each day, remember to switch on all System/23 units correctly.
- Remember to perform PROC START after switching on all units.
- Always make a note of your computer identification number. (You might want to place a numbered tag on each computer.)
- Before you can use Print Spool, you must always use the LINK SPOOL command and wait for the bright green Spool window on the status line.
- When you are finished running Print Spool at the end of the day, remember to use the SYSTEM "ENDSPOOL" command to remove the program from your computer.
- **Do not** switch off your 5247 Disk while other operators are using Print Spool.

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## Exercise 2: Stopping and starting a printer

In Exercise 2, you will learn to:

- Link the Print Spool program into your computer
- Get the Spool screen
- Use the STOP command to stop your printer in advance
- Create a print job with the DIR command
- Use the STATUS command to get the "status screen"
- Use the START command to start your printer
- End the Print Spool program

# Getting started

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## Exercise 2: Stopping and starting a printer (continued)

### Step 1: Relinking Print Spool into your computer

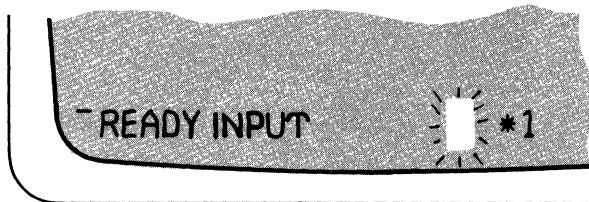
At the end of the previous exercise, you ended Print Spool. To get more practice with Print Spool, you must first relink Print Spool into your computer.

For this exercise, link Print Spool only into your computer, not into any other computer. Make sure your computer has an attached **first printer**. Ask your supervisor for help, if necessary.

When you see "READY INPUT" on your screen:

1. Type: **LINK SPOOL**
2. Press the Enter key.

Wait a few seconds. When the bright green rectangle (Spool window) appears on the status line, you know that the Print Spool program has been linked.



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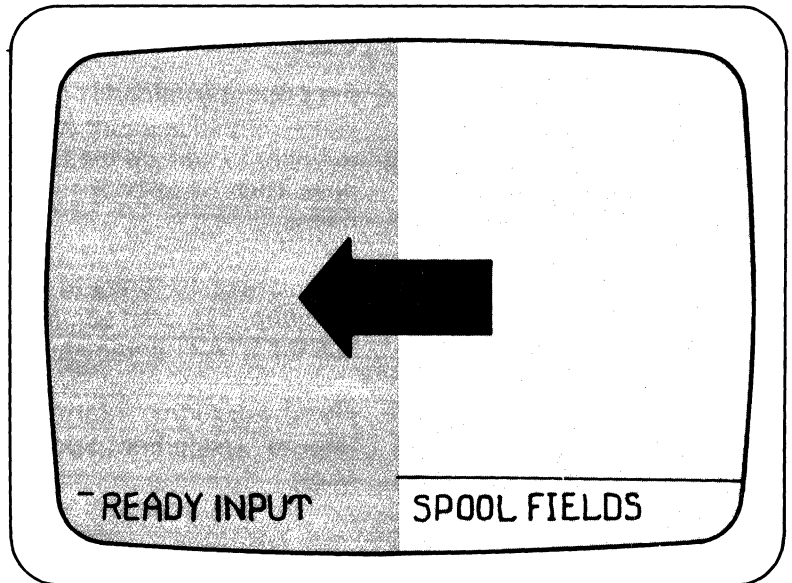
## Step 2: Getting the Spool screen

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Once Print Spool is linked into your computer, you can get the Spool screen (the one that slides across from right to left). You need this screen to type Print Spool operator commands like START, STOP, and so on. We will type some of these commands later in this exercise. But first, let's get the Spool screen by pressing the Cmd/Backspace keys as follows:

Press and hold the Cmd key, then press the Backspace key.

The Spool screen slides across your present screen, from right to left. Notice "SPOOL FIELDS" at the bottom of the Spool screen; you type Print Spool operator commands such as START and STOP on the status line of this screen.



# Getting started

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## Exercise 2: Stopping and starting a printer (continued)

### Step 3: Stopping your printer

Since your first printer is available, the first job you create will be printed here as soon as it reaches the holding area. In the next step (Step 4), you will be creating a job. To prevent your printer from automatically printing this job, you must stop your printer now.

**Note:** You can only stop a printer that is attached to your computer.

Let's go ahead and stop your first printer (printer 10):

1. Type: **STOP 10**
2. Press the Enter key.

When "SPOOL FIELDS" appears, your STOP command has taken effect.

Print Spool commands are listed for your convenience in the Quick reference under Appendix B in this book. Take a moment to look up the STOP command in the Quick reference now. Then come back to this page and continue reading below.

The number 10 refers to the **first printer** attached to your computer. To print something on this printer, you will need to use the START command. We'll do that later.

**Note:** For further information about the STOP command, refer to "Using Print Spool commands" in Chapter 4 of this book.

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#### **Step 4: Leaving your Spool screen**

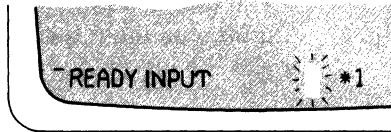
---

As a result of the STOP 10 command, your first printer (10) is stopped in advance. Now, you must leave the Spool screen and get back to your READY INPUT screen in order to create a print job.

To leave the Spool screen:

Press and hold the Cmd key, then press the Backspace key.

Your READY INPUT screen slides across, from right to left.



# Getting started

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## Exercise 2: Stopping and starting a printer (continued)

### Step 5: Creating a print job using DIR

---

You should see "READY INPUT" on your screen. To get some easy practice, you are going to create a print job by using the DIR (to the printer) command.

Do the following:

1. Type: **DIR 5,PRINT**
2. Press the Enter key.

Wait until you see "READY INPUT" again.

If you create a print job using DIR **while Print Spool is linked**, you must follow up with a CLEAR command to make the job ready for printing.

Here's how you use the CLEAR command.

3. Type: **CLEAR**
4. Press the Enter key.

The print job you created does not get printed right away. Instead, it is sent by Print Spool to the holding area on the 5247 Disk.

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## **Step 6: Getting the status screen**

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Your print job is now in the holding area, waiting to be printed. You can check this by using the STATUS command, after getting the Spool screen. Do the following:

1. Press and hold the Cmd key, then press the Backspace key.

Wait for the Spool screen (with SPOOL FIELDS on it) to slide across.

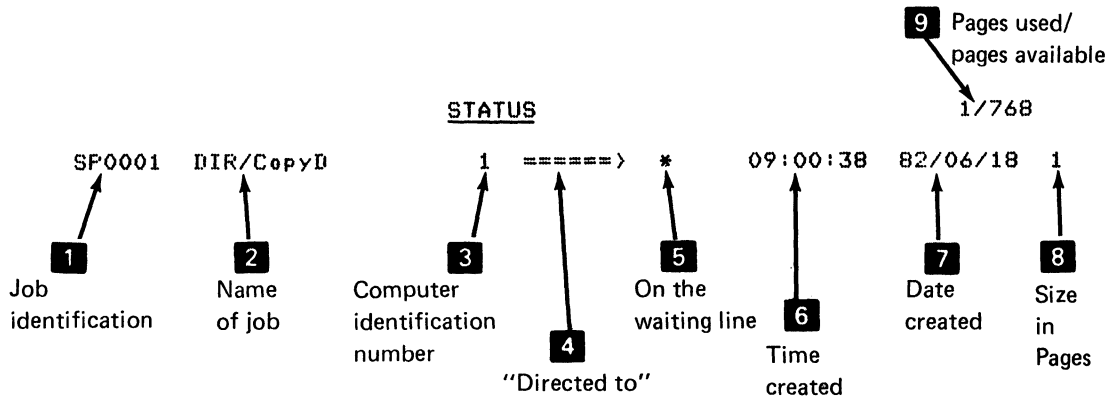
2. Type: **STATUS**
3. Press the Enter key.



# Getting started

## Exercise 2: Stopping and starting a printer (continued)

The following is an example of a status screen that lists a job like yours. Read the explanation for each item on this and the following page.



### Explanation:

- 1 The ID number of your job is SP0001. The next job will have an ID number of SP0002, and so on.
- 2 The name DIR/CopyD was assigned by the system. Other names that can appear here are names of application programs and Customer Support Functions.
- 3 Where the job was created (computer number 1 through 4).
- 4 The arrow =====> means "directed to."

- 
- 5 Where the job will be printed.

The \* means that the job is in the waiting line. It will go to **your** first printer (if you have one) when you use the START 10 command; if you do not have a first printer attached, the job will go to **any** available first printer.

(If you had directed your job to computer 2, printer 10, you would see 2/10 here in place of the asterisk \*.)

- 6 The time at which you created the job.
- 7 The date on which you created the job.
- 8 The approximate number of pages in the print job.

You may see a different number, depending on the number of files in VOL002.

- 9 In the upper right hand corner of the screen, you see two numbers. The first number roughly equals the number of pages Print Spool is using, out of an available size of approximately 768 printed pages in the holding area. (The first number on your screen may be different from what is shown on this page.)

**Note:** If you see a highlighted -->+<-- sign under your job SPOOLID column, it means there are too many jobs to fit on one screen.

If you want to display the remaining jobs, press the Enter key a second time.

# Getting started

---

## Exercise 2: Stopping and starting a printer (continued)

### **Step 7: Starting your printer**

---

Are you wondering why your job hasn't yet been printed? This is because, back in Step 3, you used the STOP 10 command to stop your first printer.

Go ahead and start your first printer now as follows:

1. Type: **START 10**
2. Press the Enter key.

When you see "SPOOL FIELDS," the START command has taken effect.

Once again, turn to the Quick reference in Appendix B and look up the START command. Then come back to this page and continue reading.

The command **START 10** tells your first printer to print the first job in the waiting line.

**Let the job finish printing.**

**Note:** For further information about the START command, refer to Chapter 4, "Using Print Spool commands."

---

## Step 8: Getting the status screen

---

Now get the status screen again.

1. Type: **STATUS**
2. Press the Enter key.

Your job is no longer listed. You see the numbers 0/768 in the upper right-hand corner of the screen.

Now look at the printout that came off the printer. The first page is a "separator page," which appears at the head of every printout. On this separator page you see a box of asterisks inside which is a printed line describing your print job. This line is just like the job description line you saw on your status screen earlier. Look at it carefully.

At the start of this printed line are two numbers that tell you at which computer and on which printer the job was printed.

Notice that the separator page (see example below) can help you find your job from among a stack of printed jobs.

```
*****  
*  
* 1/10 SP0001 DIR/COPYD          1 =====> *      09:00:38  82/06/18  1  *  
*  
*****
```

**Note:** If you have a 5217 Printer and your print wheel is different from the one that came with your printer, some of the printed characters on your separator page may be different from what you see in the example above.

# Getting started

---

## Exercise 2: Stopping and starting a printer (continued)

### Review

---

Take a moment now to review what you have learned.

You have learned how to:

- Link Print Spool into your computer by using the **LINK SPOOL** command.
- Get the SPOOL FIELDS screen, and return to your READY INPUT screen by pressing the Cmd/Backspace combination of keys.
- Stop your first printer by using the **STOP 10** command.
- Create a print job and make it ready for printing by first typing **DIR 5,PRINT** and then using the **CLEAR** command.
- Type the **STATUS** command to see the status screen.
- Print a job from the holding area by typing **START 10**.

Continue now with Exercise 3.

---

## Exercise 3: Handling a Print Spool error

This exercise shows you how to spot and handle an error that may occur when using Print Spool. Before you do this exercise, be sure to turn to Appendix A, "Print Spool error codes" and read the introductory explanation there.

In this exercise, you will:

- Intentionally cause a printer error
- Create a print job
- Correct the error you caused
- End Print Spool

**Remember:** Notice that you did not end Print Spool after the previous exercise. In your daily work, you need not use the **SYSTEM "ENDSPOOL"** command until you are finished running Print Spool for the day.

Go on to Step 1.

# Getting started

---

## Exercise 3: Handling a Print Spool error (continued)

### Step 1: Intentionally causing a printer error

To see how your computer indicates a printer error when Print Spool is linked, you are going to cause a printer error.

Go to your first printer (10) and remove the paper from it.

### Step 2: Creating a print job

Now let's create a print job. (Note that your first printer has not been stopped by a STOP command, so you would expect it to start printing as soon as you finish Step 2.)

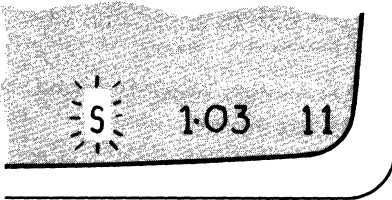
1. To return to your READY INPUT screen, press and hold the Cmd key, then press the Backspace key.
2. Type: **PROC JOB**
3. Press the Enter key.

**JOB** sends a print job named **MYJOB** to the holding area (SPOOL.SPACE file) on the 5247 Disk. But your job is not being printed because there is no paper in your printer.

---

### Step 3: Correcting a blinking S error

---



A blinking "S" in the Spool window means that Print Spool has found an error while printing a job.

1. Look at the blinking "S" inside the bright green Spool window on your status line.
2. To find out the error code, get to the SPOOL FIELDS screen. To do so, Press and hold the Cmd key, then press the Backspace key.
3. Look for action code 11 and error code 6208 on the status line of your SPOOL FIELDS screen.
4. Refer to the *System Messages* manual in binder 3 for an explanation of action code 11.
5. Replace the continuous forms paper in your first printer.
6. Press the Error Reset key.

Your job begins printing. Wait until the job is printed.



# Getting started

---

## Exercise 3: Handling a Print Spool error (continued)

### Step 4: Ending Print Spool

---

You are finished with Exercise 3. You can go ahead and end the Print Spool program.

1. To return to your READY INPUT screen, press and hold the Cmd key, then press the Backspace key.
2. Type: **SYSTEM "ENDSPOOL"**
3. Press the Enter key.

You have removed the Print Spool program from your computer.

---

## Review

Congratulations! You have completed your Print Spool training exercises. But don't forget to read Chapter 4 after this.

Let's review what you learned in Exercise 3. You learned to:

- Cause a printer error by removing the paper from the printer.
- Create a print job by using the **PROC JOB** command.
- Recognize an error (while Print Spool was printing a job) by spotting the blinking "S" in the bright green Spool window.
- Go to the SPOOL FIELDS screen to see the action and error codes.
- Correct the error.
- End Print Spool by using the **SYSTEM "ENDSPOOL"** command.

What you have learned in Exercises 1, 2, and 3 will help you use Print Spool to handle your day-to-day printing.

Chapter 3 has one exercise that is intended for operators who are experienced. If you are fairly new to System/23, skip Chapter 3 and read Chapter 4. There are no exercises to be done in Chapter 4.

# Getting started

---

## HELP section

In this section, you may find answers to some of the problems that new operators have when learning to use Print Spool.

### **Did you get error code 4260?**

---

If you did, you probably forgot to perform a PROC START before linking the Print Spool program into your computer.

Press the Error Reset key. On your READY INPUT screen, type **SYSTEM "ENDSPOOL"** and press the Enter key. Then perform a PROC START. Then use the LINK SPOOL command to relink Print Spool.

### **You can't seem to get the SPOOL FIELDS screen?**

---

You pressed Cmd/Backspace, but nothing happened. You probably forgot to link Print Spool into your computer.

Use the Cursor Right key to get the cursor on the input line, if necessary. On your READY INPUT screen, type LINK SPOOL and press the Enter key. Look for the bright green Spool window on the status line. When you see it, press Cmd/Backspace to get the SPOOL FIELDS screen.

### **Did you get error code 1008?**

---

If you did, you probably tried to type a Print Spool command on your READY INPUT screen. You must be in the SPOOL FIELDS screen to type one of the six Print Spool commands (STOP, START, STATUS, NEXT, CHANGE, and CANCEL).

Press the Error Reset key. Press Cmd/Backspace to get the SPOOL FIELDS screen, and continue.

---

### **You couldn't find an error code explained?**

Error codes between 9000 and 9099 are explained in Appendix A of this book. All other error codes and all action codes are explained in the *System Messages* manual in binder 3.

### **Not sure if a printer is stopped or started?**

Simply type the STOP or START command you need. If your printer has a START command in effect, the second command is ignored. The same is true for a STOP command.

### **Printer stopped before finishing a print job?**

Printing may stop in the middle of a job because an error such as "end-of-forms" has occurred. Look for a blinking "S" inside the bright green Spool window on the status line of your READY INPUT screen.

If you see a blinking "S" inside the Spool window, press Cmd/Backspace to get the SPOOL FIELDS screen. There you will see an action code and error code.

For an explanation of error codes between 9000 and 9099, refer to Appendix A of this book. All other action and error codes are explained in the *System Messages* manual in binder 3.

Correct the problem and continue.

# Getting started

---

## HELP section (continued)

### Did you lose one of your print jobs?

---

If a job was not printed, use the STATUS command on your SPOOL FIELDS screen to find out if the job is in the waiting line.

- **Job in waiting line:**
  - If the job is not "on hold" (0/10 or 0/11), type a START 10 or START 11 command, as needed, for each printer attached to your computer. Link Print Spool and repeat this procedure at each computer attached to your 5247 Disk.
  - If the job is "on hold," use the CHANGE command to redirect the job to an available printer (\*).
- **Job not in waiting line:**
  - If the print job was created by an application, find out if the application has ended. The job won't print until the application has ended.
  - If an application was not running, and if you used a DIR or Cmd/CopyD command to create a print job, you must make the job ready for printing. Do this by typing CLEAR on the READY INPUT screen, then press the Enter key.
  - If you find that your job has ended, look for your printed listing at the printers attached to your computer and also at the printers attached to other computers. Remember that with Print Spool a job created at one computer can be printed at a printer attached to another computer.

# Chapter 3. Advanced operator training

---

## Exercise 4: Rushing, holding, cancelling, and redirecting jobs

Exercise 4 shows you, the experienced operator, how to use a few more Print Spool commands and repeat some of the operations you have already learned.

In this exercise, you will:

- Link Print Spool again
- Get the Spool screen
- Create many print jobs
- Stop the first job from the waiting line while it is printing
- Get the status screen
- Rush a print job by placing the last job at the top of the waiting line
- Hold a print job from being printed
- Direct a print job back to the waiting line
- End Print Spool

# Advanced operator training

---

## Exercise 4: Rushing, holding, cancelling, and redirecting jobs (continued)

### Print Spool's automatic functions

---

In Exercises 1 and 2, you linked Print Spool. The SPOOL.SPACE file (holding area) that was created at that time is still on the 5247 Disk. When you relink Print Spool now, the same file will be used. A new file will not be created.

This means that the automatic functions that come with your Print Spool program are in effect. These automatic functions are:

- The size of SPOOL.SPACE equals approximately 768 printed pages. You will rarely need to change this size. However, if you ever need to do so, ask your programmer for help.
- All print jobs created for your first printer (printer 10) will go into a waiting line in the SPOOL.SPACE file. This will happen even if your computer has no first printer attached.
- Your first printer (if you have one) automatically starts printing as soon as there are jobs in the waiting line.

If your system has another computer with a first printer attached, and if Print Spool is also linked there, automatic printing starts on an available first printer. This means that your job could print on another computer's first printer.

Go on to Step 1 on the next page.

---

## Step 1: Linking Print Spool

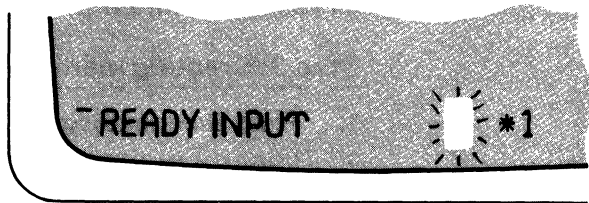
---

Let's go ahead and relink Print Spool. When you see READY INPUT:

1. Type: **LINK SPOOL**
2. Press the Enter key.

After a few seconds, you see the Spool window (bright green rectangle), which tells you that Print Spool has been linked into your system.

The automatic Print Spool functions described on the previous page are now in effect.





# Advanced operator training

---

## Exercise 4: Rushing, holding, cancelling, and redirecting jobs (continued)

### Step 2: Stopping your printer

---

As you have done before, press and hold the Cmd key, then press the Backspace key to get the Spool screen. (This operation will be referred to as "Press Cmd/Backspace" from now on.)

To stop your first printer:

1. Type: **STOP 10**
2. Press the Enter key.

You have now made sure that printing will not start right away on your **first printer**.

### Step 3: Creating many print jobs

---

1. Press Cmd/Backspace to leave the Spool screen.
2. "READY INPUT" should appear on the status line.
3. Type: **PROC JOB**
4. Press the Enter key.

**JOB** creates print jobs for this exercise. You won't need it for your daily Print Spool work.

5. Do substeps 2, 3 and 4 (Type: PROC JOB and press Enter) four more times to create four more jobs. Wait for "READY INPUT" each time.

You have now created five print jobs; they have all been placed in the waiting line in SPOOL.SPACE. In the next step, you'll be able to display them on your Spool screen.

---

#### Step 4: Getting the status screen

---

Remember, you must first get the SPOOL FIELDS screen.

1. Press Cmd/Backspace to get the SPOOL FIELDS screen.
2. Type: **STATUS**
3. Press the Enter key.

Your jobs are on the waiting line in the order in which they are listed on your status screen. (The asterisk means that a job will go to an available **first printer** when you use the START 10 command.)

The first number in the top right hand corner equals the number of pages being used out of a total size of approximately 768 pages.

The following is an example of a status screen with five jobs listed on it. **MYJOB** is the name of each job you just created. The information on your screen may be different.

		<u>STATUS</u>	10/768		
SP0001	MYJOB	1 =====> *	06:24:35	82/06/18	2
SP0002	MYJOB	1 =====> *	06:25:17	82/06/18	2
SP0003	MYJOB	1 =====> *	06:25:44	82/06/18	2
SP0004	MYJOB	1 =====> *	06:26:09	82/06/18	2
SP0005	MYJOB	1 =====> *	06:26:59	82/06/18	2

# Advanced operator training

---

## Exercise 4: Rushing, holding, cancelling, and redirecting jobs (continued)

### Step 5: Starting and stopping the printer

You are going to start the first printer, and then stop it while it is printing your first job, SP0001.

For this operation to work, you must perform substep 3 below quickly and accurately. Before doing anything, read the next four substeps, then begin typing.

1. Type: **START 10**
2. Press the Enter key.
3. As soon as printing starts:

Type: **STOP 10**

4. Press the Enter key.

Printing will stop within a few seconds, **before** the first job is done printing.

To stop a printer **after** a job currently printing is finished, you use the STOP 10,END command. (See Chapter 4 for more information about the STOP command.)

---

## Step 6: Rushing a print job

---

Sometimes you may want to move a print job up to the top of the waiting line in order to print it without any delay. This is what "rushing a job" means. You can rush a job by using the NEXT command. This means it will be printed next. To do this, first get the status screen by typing the STATUS command.

1. Type: **STATUS**
2. Press the Enter key.

To move the last job, SP0005, to the top of the list:

3. Type: **NEXT SP0005**
4. Press the Enter key.

Notice that SP0005 has jumped to the top of the list on your status screen. It is first in line to be printed. Your status screen may look like the following example:

		<u>STATUS</u>	10/768		
SP0005	MYJOB	1 =====> *	06:26:59	82/06/18	2
SP0001	MYJOB	1 =====> *	06:24:35	82/06/18	2
SP0002	MYJOB	1 =====> *	06:25:17	82/06/18	2
SP0003	MYJOB	1 =====> *	06:25:44	82/06/18	2
SP0004	MYJOB	1 =====> *	06:26:09	82/06/18	2

You will find the NEXT command listed in Appendix B, "Quick reference checklist."

# Advanced operator training

---

## Exercise 4: Rushing, holding, cancelling, and redirecting jobs (continued)

### Step 7: Holding a print job

---

You can temporarily **hold** a print job from being printed by using the CHANGE command. Let's hold the jobs that are named SP0003 and SP0004 on your screen.

1. Type: **CHANGE SP0003,0/10**
2. Press the Enter key.

By typing CHANGE SP0003,0/10, you assigned this print job to no computer. (Remember that computers attached to a 5247 Disk are identified by a number from 1 to 4.) Your job will not print until you reassign it. We'll do this later.

On your status screen, you should see 0/10 after the arrow on the line that describes SP0003.

Now do the same thing for SP0004.

1. Type: **CHANGE SP0004,0/10**
2. Press the Enter key.

Both SP0003 and SP0004 are "on hold."

		<u>STATUS</u>	10/768			
SP0005	MYJOB	1 =====> *	06:26:59	82/06/18	2	
SP0001	MYJOB	1 =====> *	06:24:35	82/06/18	2	
SP0002	MYJOB	1 =====> *	06:25:17	82/06/18	2	
SP0003	MYJOB	1 =====> 0/10	06:25:44	82/06/18	2	
SP0004	MYJOB	1 =====> 0/10	06:26:09	82/06/18	2	

---

## **Step 8: Printing your jobs**

---

You can now go ahead and print the remaining jobs on the waiting line. SP0005 will be printed first on your printer. Let's start your first printer (printer 10).

1. Type: **START 10**
2. Press the Enter key.

When printing is finished, use the STATUS command to see an updated status screen.

1. Type: **STATUS**
2. Press the Enter key.

The jobs you held earlier (SP0003 and SP0004) are still listed on the status screen.

```
                                STATUS                                4/768
SP0003 MYJOB                    1  =====>  0/10  06:25:44  82/06/18  2
SP0004 MYJOB                    1  =====>  0/10  06:26:09  82/06/18  2
```

# Advanced operator training

---

## Exercise 4: Rushing, holding, cancelling, and redirecting jobs (continued)

### Step 9: Cancelling a print job

---

You can cancel a print job, if you decide you don't want to print it. When you cancel a print job, it is removed from the holding area on the 5247 Disk. You will no longer be able to print this job.

You cancel a print job by using the CANCEL command. (Look up the CANCEL command in Appendix B, "Quick reference checklist.")

Let's go ahead and cancel print job SP0003.

1. Type: **CANCEL SP0003**
2. Press the Enter key.

Notice that the job is no longer on the status screen. Only print job SP0004 remains **on hold**.

```
                                STATUS                                2/768
SP0004  MYJOB                    1  =====>  0/10  06:26:09  82/06/18  2
```

---

## **Step 10: Redirecting a print job**

---

SP0004 will not be printed unless it is reassigned to an available printer (\*) or to a specific printer.

In this step, you will redirect job SP0004 to an available printer (\*). You do this by using the CHANGE command, but this time you specify \* instead of 0/10.

What do you think will happen when you do so? Let's try it.

1. Type: **CHANGE SP0004,\***
2. Press the Enter key.

The status screen shows that your print job has been reassigned to an available printer (\*).

Your job starts printing on your printer right away, because no STOP command was in effect.

**Wait until printing stops.**

(See Chapter 4 for more information about the CHANGE command.)



# Advanced operator training

---

## Exercise 4: Rushing, holding, cancelling, and redirecting jobs (continued)

### Step 11: Ending Print Spool

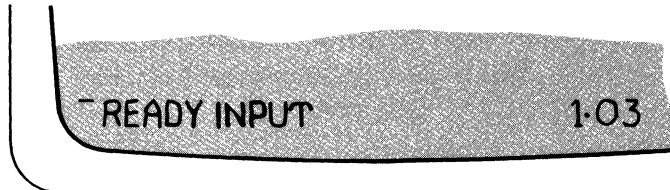
---

You can now end Print Spool the same way you did at the end of Exercises 1 and 3.

But before that, you must leave the SPOOL FIELDS screen and return to your READY INPUT screen.

1. Press Cmd/Backspace.
2. Wait until your "READY INPUT" screen (with the Spool window) slides across.
3. Type: **SYSTEM "ENDSPOOL"**
4. Press the Enter key.

You see "READY INPUT," and the Spool window is gone. You have removed the Print Spool program from your computer.



---

## Review

---

You now have a pretty good feel for how Print Spool manages your print jobs. You have tried your hand at all six Print Spool commands: **STOP**, **START**, **STATUS**, **NEXT**, **CHANGE**, and **CANCEL**.

Let's review what you covered in Exercise 4. You learned how to:

- Relink Print Spool by using the **LINK SPOOL** command.
- Create more than one print job by using the **PROC JOB** command five times. (You did this only for the purpose of training.)
- Stop a printer by using the **STOP 10** command.
- Rush a print job to the top of the waiting line by using the **NEXT** command.
- Hold a print job from being printed by using the **CHANGE** command.
- Start printing your jobs by using the **START 10** command.
- Cancel a print job by using the **CANCEL** command.
- Redirect a print job back to an available printer by using the **CHANGE** command.
- End Print Spool by using the **SYSTEM "ENDSPOOL"** command.

# Advanced operator training

---

## Freeing files no longer needed

When you copied the Print Spool diskette to the 5247 Disk, you also copied two files called JOB and MYJOB. These files were provided for the purpose of your training exercises. If your supervisor decides that these files are no longer needed for operator training, they can be freed from the 5247 Disk.

Before you do the following, check with your supervisor.

### How to free the files JOB and MYJOB

---

Do the following:

1. Make sure all diskette drives attached to your computer are open.
2. Type: **FREE JOB//5**
3. Press the Enter key.
4. Type: **FREE MYJOB//5**
5. Press the Enter key.

If you ever need to use these files again, remember that they are on your Print Spool diskette.

# Chapter 4. How to use Print Spool

---

## About this chapter

This is a reference chapter that describes the procedures and commands you learned in the training exercises as well as information about DIR and Cmd/CopyD. There are no exercises for you to do.

### How to use this chapter

---

- Read the “Points to remember” and “Performance considerations” carefully.
- Read Sections 1 and 2 for detailed information about the Print Spool commands you need to use daily, and for information on DIR (to the printer) and Cmd/CopyD.
- Refer to this chapter whenever you need specific information about operator procedures.
- Use the table below to find the page you need.

<i>FOR THIS COMMAND:</i>	<i>REFER TO:</i>
LINK SPOOL	Linking Print Spool (p. 4-5)
SYSTEM ENDSPPOOL	Ending Print Spool (p. 4-7)
STATUS	Getting the status screen (p. 4-8)
START	Starting a printer (p. 4-10)
STOP	Stopping a printer (p. 4-12)
CHANGE	Redirecting a print job (p. 4-13)
CHANGE	Holding a print job (p. 4-15)
CANCEL	Cancelling a print job (p. 4-16)
NEXT	Rushing a print job (p. 4-17)
DIR	DIR and Cmd/CopyD (p. 4-18)
Cmd/CopyD	DIR and Cmd/CopyD (page 4-18)

# How to use Print Spool

---

## Points to remember

Keep the following points in mind when you use Print Spool:

- You can use your computer to run an application **while** Print Spool prints your job. You don't have to wait for printing to be finished.
- Always get the Spool screen (with SPOOL FIELDS on it) before you type any of the Print Spool commands. These commands are:
  - START
  - STOP
  - STATUS
  - CHANGE
  - NEXT
  - CANCEL
- The START and STOP commands work only for a printer attached to your computer.
- In a system with more than one computer, Print Spool must be linked into each computer where you want it to be active.
- Your print job will be put into the waiting line even if your computer has no first printer attached.
- Each new print job created for Print Spool is assigned a numerically higher SPOOLID. If the first print job you create is higher than SP0001, it may be because print jobs previously created (by you or someone else) were assigned lower numbers.

- 
- Once linked, Print Spool automatically does the following:
    - Puts all print jobs sent to the first printer into the waiting line on the 5247 Disk and directs those jobs to any available first printer.
    - Starts printing on any first printer, unless a STOP 10 command is in effect for a first printer.
    - Creates a disk file (called SPOOL.SPACE) with a total size roughly equal to 768 printed pages of continuous forms paper. The SPOOL.SPACE file is not created if a previous SPOOL.SPACE file is on the 5247 Disk. But you still need to link Print Spool each time you want to run it.

### **Using special forms**

Check your application program manual or ask your programmer to find out if your application program can be run with Print Spool. If it can, follow the instructions in your application program manual or ask your programmer for help.

If your application program requires special forms but *cannot* be run with Print Spool, do the following:

1. Type **SYSTEM "ENDSPOOL"** to end Print Spool.
2. Insert the special forms into the printer attached to your computer.
3. Run your application program.

When your application program has ended:

4. Put the standard forms back into your printer.
5. Relink Print Spool in your computer.

# How to use Print Spool

---

## Performance considerations

Below are some guidelines to help you run your Print Spool program efficiently.

- Keep the line of jobs waiting to be printed as short as possible.
- Avoid putting print jobs "on hold." Print Spool operates best when there are no jobs waiting to be printed.
- Use the STOP 10 and STOP 11 commands, as needed, to stop your printer when no jobs are waiting. This will prevent the 5247 Disk from repeatedly searching the holding area for jobs.
- Here's something to keep in mind whenever you run an application or a Customer Support Function. If you press Cmd/Backspace to get the SPOOL FIELDS screen, the application program or Customer Support Function is suspended. Once you finish typing commands on the SPOOL FIELDS screen, you must return to your application program screen by pressing Cmd/Backspace again. This allows the application to continue.
- To avoid technical problems (time-outs) when running a communications licensed program, avoid getting the SPOOL FIELDS screen.
- With Print Spool linked, printing stops while an action and error code are being displayed on the status line. When you are ready to correct the error and have pressed the Error Reset or Cmd/Error Reset or Cmd/Attn key (as applicable), printing will continue.

---

## Section 1: Beginning and ending

### Linking Print Spool

---

#### **Follow these steps:**

1. Copy the Print Spool diskette onto the 5247 Disk, if you have not yet done so.. "READY INPUT" should appear on your screen.
2. Type: **LINK SPOOL**
3. Press the Enter key.

Do steps 2 and 3 on each computer where you want Print Spool to be active.

**What you see.** You see a bright green rectangle (Spool window) on the status line. This means that Print Spool is linked into your system.

When you see "READY INPUT" again, it means that you can begin creating print jobs for Print Spool.



# How to use Print Spool

---

## Section 1: Beginning and ending (continued)

### Getting the Spool screen

---

**Follow these steps:** "READY INPUT" should appear on your screen.

1. Press and hold the Cmd key.
2. Now press the Backspace key (upper right on the keyboard).
3. Release both keys.

**What you see.** The Spool screen moves across your original screen from right to left; your original screen is saved.

Once this happens, "SPOOL FIELDS" appears on the status line. This means that you can now type a Spool command of your choice. (Look under Section 2, "Using Print Spool commands," in this chapter.)

### Leaving the Spool screen

---

**Follow these steps:** Make sure you see "SPOOL FIELDS" on the screen.

1. Press and hold the Cmd key.
2. Now press the Backspace key.
3. Release both keys.

**What you see.** Your original screen slides across from right to left, replacing the Spool screen. You can continue processing. The Print Spool program will run by itself.

---

## Ending Print Spool

---

**Follow these steps:** "READY INPUT" should appear on your screen.

1. Type: **SYSTEM "ENDSPOOL"**
2. Press the Enter key.

Notice that the Spool window is gone and that "READY INPUT" has appeared.

The Print Spool program is removed from your computer. Repeat steps 1 and 2 on every computer where you wish to end Print Spool.

**Note:** After you use **SYSTEM "ENDSPOOL"** any jobs that were printing are stopped. These and other jobs that are not yet printed will stay in the SPOOL.SPACE file.

### **CAUTION**

**Be sure to use SYSTEM "ENDSPOOL" to end Print Spool before switching off your System/23 computer. By using this command you ensure that any print jobs you have created have been made ready for printing.**

# How to use Print Spool

---

## Section 2: Using Print Spool commands

To type a Print Spool command, you must first get the Spool screen by pressing Cmd/Backspace, as described in the previous section.

### Getting the status screen

---

You use the STATUS command to display the jobs that are lined up in the disk file, SPOOL.SPACE.

#### **Follow these steps:**

1. Press Cmd/Backspace to get the Spool screen.
2. Type: **STATUS**
3. Press the Enter key.

**Note:** If you see a highlighted -->+<-- sign under your job SPOOLID column on this screen, it means there are too many jobs to fit on one screen. Some of these jobs may have been sent from other computers. If you want to display the remaining information, press the Enter key a second time.

**What you see.** A listing of print jobs appears on your screen. The following is an example of a status screen.

									<u>STATUS</u>			39/768	
1/10	SP0001	ACCOUNTS	1	=====>	1/10	09:43:17	82/06/21	11					
	SP0002	DIR/COPYD	3	=====>	2/10	09:48:19	82/06/21	1					
	SP0004	COPY	3	=====>	*	09:49:15	82/06/21	7					
	SP0005	DIR/COPYD	3	=====>	1/11	09:53:24	82/06/21	4					
	SP0006	NAMES	2	=====>	3/10	09:52:29	82/06/21	11					
	SP0008	CHECKS	2	=====>	1/10	09:58:32	82/06/21	3					
	SP0009	COPY	1	=====>	*	10:01:55	82/06/21	2					

Reading from left to right, the columns indicate:

- 1 The computer and printer where a job is currently printing. SP0001 is printing at computer 1, printer 10. (SP0003 and SP0007 have finished printing.)
- 2 The SPOOLID given to each print job by the system
- 3 The name assigned to the print job
- 4 The computer where the job was created
- 5 ===> means "directed to"
- 6 The computer number and printer number where the job is assigned to be printed, or \* if the job is waiting for an available printer
- 7 The time when the job was created
- 8 The date when the job was created
- 9 The approximate size of the job in pages
- 10 In the top right hand corner of this screen, 39/768 means that Print Spool is using about 39 pages out of a total size of approximately 768 pages

# How to use Print Spool

---

## Section 2: Using Print Spool commands (continued)

### Starting a printer

---

The START command starts the first or second printer attached to your computer.

#### Follow these steps:

1. Press Cmd/Backspace to get the Spool screen, if necessary.
2. Type: START 10 or START 11  
(Specify either 10 or 11.)
3. Press the Enter key.

### Example

---

```
START 10
```

makes your first printer (10) print jobs waiting for an available printer (\*) as well as jobs specifically directed to your first printer (10).

---

You can also use the START command to print only jobs that are **directed** to your printer 10 or printer 11.

### **To start printing of only directed jobs**

---

#### **Follow these steps:**

1. Press Cmd/Backspace to get the Spool screen, if necessary.
2. Type: **START n/10** or **START n/11**  
(Replace "n" with your computer number.)
3. Press the Enter key.

#### **Example**

---

START 2/10

tells Print Spool to print jobs directed specifically to the first printer (10) attached to your computer (number 2).

Keep the following points in mind:

- If a previous STOP command is in effect, you must issue a START command to start printing jobs from the waiting line on your printer.
- Remember that you can continue to use your computer to run an application **while** Print Spool prints your jobs.

# How to use Print Spool

---

## Section 2: Using Print Spool commands (continued)

### Stopping your printer

---

#### To stop your printer in the middle of a job:

1. Press Cmd/Backspace to get the Spool screen.
2. Type: STOP 10 or STOP 11. (Specify either 10 or 11.)
3. Press the Enter key.

For example,

```
STOP 10
```

stops your first printer (10) a few seconds later.

- After a STOP 10 or STOP 11 command, the job that was printing remains in the SPOOL.SPACE file.
- If the job was not directed specifically to your printer, it will be reprinted from the beginning at another printer.
- If the job was directed specifically to the printer that was stopped, you need to use either START or CHANGE to print the job.
- A job that was stopped will print from the beginning when a START command is used.

#### To stop your printer after the current job:

1. Press Cmd/Backspace to get the Spool screen.
2. Type: STOP 10,END or STOP 11,END. (Specify printer 10 or 11.)
3. Press the Enter key.

For example,

```
STOP 10,END
```

stops your first printer **after** the current job has been printed.

---

## Redirecting a print job

---

You use the **CHANGE** command to redirect a print job from one printer to another.

### Follow these steps:

1. Press **Cmd/Backspace** to get the **Spool** screen.
2. Type: **CHANGE SPOOLID,computer number/printer number**

or **CHANGE SPOOLID,\***

(Type the **SPOOLID** of the job to be redirected; then type the computer number and the printer number to which the job is to be redirected. **CHANGE SPOOLID,\*** redirects the job to any available printer.)

3. Press the **Enter** key.

The **CHANGE** command drops your job to the bottom of the waiting line.

Read the explanation on the next page.



# How to use Print Spool

---

## Section 2: Using Print Spool commands (continued)

### Explanation:

- The "SPOOLID" identifies a print job. A SPOOLID consists of the letters "SP" followed by four digits.
- The computer to which your job is being directed is designated by a number from 1 to 4. (This is the first digit of the number displayed after typing the PRINT WSID\$ command.)
- The "printer number" is either 10 (first printer) or 11 (second printer).
- The asterisk (\*) redirects the print job to any available printer.

### Example

---

If you typed:

```
CHANGE SP0006,2/10
```

the print job SP0006 would be redirected to the first printer attached to computer 2.

If your status screen formerly showed:

```
SP0006  LISTFILE  3  ==>  3/10  time  date  5
```

it would now show the following:

```
SP0006  LISTFILE  3  ==>  2/10  time  date  5
```

---

## **Holding a print job**

---

You can also use the CHANGE command to keep a job from being printed.

To do so, simply use 0 as the computer number. This assigns your job to **no computer**. (Computers attached to the 5247 Disk are identified by numbers from 1 to 4.)

### **Example**

---

If you typed:

```
CHANGE SP0001,0/10
```

the print job SP0001 would be held in the waiting line until you either changed the computer number back to a number between 1 and 4, or redirected the print job to any available printer (\*).

**Note:** When you hold a job on the waiting line by using CHANGE, the jobs further down in the waiting line are printed sooner. The CHANGE command drops a job to the bottom of your status screen list.

# How to use Print Spool

---

## Section 2: Using Print Spool commands (continued)

### Cancelling a print job

---

You can cancel a print job by using the CANCEL command.

- When a job is cancelled, it is removed from the SPOOL.SPACE file. You will no longer be able to print this job.
- If a job being printed is cancelled, Print Spool starts printing the next job.

**Note:** Once you cancel a print job, it cannot be recovered. Make sure you want to cancel a job before using this command.

### To cancel a print job

1. Press Cmd/Backspace to get the Spool screen.
2. Type: **CANCEL SPOOLID.** (Specify the correct SPOOLID of the job to be cancelled.)
3. Press the Enter key.

### Example

---

The command:

```
CANCEL SP0001
```

removes the job named SP0001 from the SPOOL.SPACE file. This job will not be printed.

**Note:** You cannot cancel a job that is currently printing on a printer attached to another computer. If you try to do so, you get error code 9061.

---

## **Rushing a print job**

---

There may be times when you want something to be printed right after the current job is done. You can do this by using the NEXT command.

Note the following:

- If the job was directed to a specific printer, it will be printed only on that printer.
- Otherwise, it will be printed on any available printer.

### **Follow these steps:**

1. Press Cmd/Backspace to get the Spool screen.
2. Type: **NEXT SPOOLID**. (Specify the SPOOLID of the job to be rushed.)
3. Press the Enter key.

# How to use Print Spool

---

## Section 2: Using Print Spool commands (continued)

### DIR and Cmd/CopyD

---

Keep the following in mind whenever you use DIR (to the printer) or Cmd/CopyD with Print Spool linked in:

- When Print Spool is linked into your computer, you can use the system command DIR or Cmd/CopyD just the way you use them without Print Spool. When you use DIR (to the printer) or Cmd/CopyD, a print job is started.
- However, a job started by a DIR or Cmd/CopyD won't be printed until you make it ready for printing by typing the CLEAR command and pressing the Enter key. (See Step 5 of Exercise 2 in Chapter 2 for an example of how to use the CLEAR command.)
- You can also make such a job ready for printing when you use a LINK, LOAD, or RUN command.
- The name assigned to such a print job in the status screen is DIR/CopyD.
- You can combine the printer output from more than one DIR or Cmd/CopyD into a single print job. To do so, do not type the CLEAR command until you have typed all your DIR or Cmd/CopyD commands.
- You should not use DIR (to the printer) or Cmd/CopyD while a program is running unless the directions for running that program tell you to do so.

# Chapter 5. Programming information

---

## About this chapter

This chapter contains information to be used by persons with programming experience.

You can use Print Spool to handle your day-to-day print jobs without changing its built-in functions.

However, if you decide you need to change the automatic functions (defaults) that come with the Print Spool program, use the information in this chapter.

To change these automatic functions, you have to create a file called the SPOOL.CONFIGn file and save it on the 5247 Disk.

Section 1 of this chapter has procedures for creating and using this file.

Section 2 has programming information about the following:

- Defining a print job
- Handling special forms with Print Spool linked

# Programming information

---

## Section 1: Changing automatic functions

Your Print Spool program performs the following automatic functions:

1. Create the file SPOOL.SPACE on the 5247 Disk the first time you link Print Spool into your computer.
2. Make the size of the SPOOL.SPACE file equal to approximately 768 printed pages of continuous forms paper.
3. Put all print jobs sent to your first printer on the waiting line in the SPOOL.SPACE file.
4. Direct print jobs from the waiting line to any available first printer in your System/23.
5. Start automatic printing on any available first printer.

You can use Print Spool for your daily work without changing these automatic functions.

However, you can change these automatic functions if you need to do one or more of the following:

- Specify on which of your printers (10 or 11, or both) you want automatic printing to **start**.
- Specify to which computer and printer you want your print jobs to be **directed**.
- Specify a different SPOOL.SPACE **size** (larger or smaller than approximately 768 printed pages) to handle print jobs.

You can specify these options when you create the SPOOL.CONFIG file. Let's find out how.

---

## What is the SPOOL.CONFIGn file?

The SPOOL.CONFIGn file is a small file of commands that is read when the LINK SPOOL command is entered. (The "n" is replaced with your computer number.) You can create one file for each computer where Print Spool is linked.

There are three commands in the SPOOL.CONFIGn file:

- The START command
- The DIRECT command
- The SIZE command

You can use any combination of these commands, depending on what you want to do. You can also use them in any order.

The next few pages show you how to go about creating a SPOOL.CONFIGn file. The following topics are covered:

- A description of the three commands (START, DIRECT, and SIZE)
- A step-by-step procedure to follow when **creating** your SPOOL.CONFIGn file
- Instructions for **using** your SPOOL.CONFIGn file, when you want it to take effect.
- Instructions for **listing** your SPOOL.CONFIGn file, when you want a printout of it
- Instructions for **replacing** your SPOOL.CONFIGn file, when you want to change some commands in it



# Programming information

---

## What is the SPOOL.CONFIGn file? (continued)

### The START command

---

The START command is used in a SPOOL.CONFIGn file to start automatic printing on your first or second printer. (This START command is entered from the READY INPUT screen.)

- START 10 makes your printer 10 print jobs waiting for any available printer as well as jobs directed to your printer 10.
- START 11 makes your printer 11 print jobs waiting for any available printer as well as jobs directed to your printer 11.
- START n/10 starts automatic printing of jobs directed to your printer 10. (Replace "n" with your computer number.)
- START n/11 starts automatic printing of jobs directed to your printer 11. (Replace "n" with your computer number.)

If you want to start automatic printing on your first and second printers, type in a START command for each printer.

If you **do not** want automatic printing to start on your printer, do not include the START command in your SPOOL.CONFIGn file.

---

## The DIRECT command

---

You can use the DIRECT command to direct a print job to a specific printer. You can send a print job to:

- Any available printer
- A specific printer on one of the computers attached to your disk

### Example

---

```
DIRECT 10,3/10
```

directs a print job to computer number 3, printer 10. The first part of this command, **DIRECT 10**, tells Print Spool to direct jobs you send to your first printer. **DIRECT 11** *cannot* be used because Print Spool does not control jobs you send to your second printer (11).

```
DIRECT 10,*
```

directs a print job to any available printer (\*).

```
DIRECT 10,0/10
```

holds a print job from being printed temporarily.

If you create a SPOOL.CONFIGn file **without** a DIRECT command, print jobs for your first printer are **not** sent to Print Spool. They are printed on your first printer, as if Print Spool was not linked in.

# Programming information

---

## What is the SPOOL.CONFIGn file? (continued)

### The SIZE command

The SIZE command lets you specify a different number for the total size of SPOOL.SPACE. The SPOOL.SPACE file holds your jobs waiting to be printed. You specify the size of SPOOL.SPACE in units that are approximately equal to printed pages.

If the number you specify for SIZE is too small, the SPOOL.SPACE file may not hold all of the jobs that are waiting to be printed. If the number you specify is too large, you may waste space on your disk.

Begin by determining the size of the SPOOL.SPACE file you are currently using. To do this:

1. Link Print Spool into your computer.
2. Press Cmd/Backspace to get the Spool screen.
3. Type: STATUS
4. Press the Enter key.
5. Note the two numbers in the upper right hand corner of the screen. The first number equals the number of 4096-byte segments currently in use. (Note that the Print Spool program itself uses one additional segment of 4096-bytes.) The second number is the total number of 4096-byte segments in the SPOOL.SPACE file. If no previous SPOOL.CONFIGn file is on the disk, the total available size is 768.

---

## **Managing the size of the SPOOL.SPACE file**

---

The following considerations will help you manage the size of the SPOOL.SPACE file.

- Your SPOOL.SPACE is **too small** if you often see a blinking “=” in the Spool window. If the error code you get (after pressing Cmd/Attn) is 9022, you must increase the size of the file. Keep increasing the present size by 256 until the problem is corrected. The maximum size you can specify is 2048.
- Check occasionally to find out if your SPOOL.SPACE is **too large**. Use the STATUS command to compare the total size available with the size being used by your jobs. Do this especially if you have the greatest number of jobs waiting in SPOOL.SPACE.
- If you find that a large portion of the SPOOL.SPACE file is never used, you may want to decrease the total size. Try to leave a portion of unused space, in case you have many jobs to be printed.
- If you do not include a SIZE command in your SPOOL.CONFIGn file, the default size of 768 will be in effect.

# Programming information

---

## Creating the SPOOL.CONFIGn file

Once you have decided which combination of the three commands (START, DIRECT, SIZE) you want to use, and how you want to specify each, you are ready to go ahead and create your SPOOL.CONFIGn file.

### Follow these steps:

You should be in your READY INPUT screen.

1. Type: **CLEAR DATA**
2. Press the Enter key.
3. Type: **AUTO**
4. Press the Enter key.
5. When you see line number 00010:

Type: **START 10**

or **START 11**

or **START n/10**

or **START n/11**

(Replace "n" with your computer number.)

You can type two START commands, one for printer 10 and one for printer 11.

6. Press the Enter key (after each START command).

- 
7. When you see the next line number:

Type: **DIRECT 10**, computer number/printer number

or **DIRECT 10,\***

8. Press the Enter key.

Go on to step 9 only if you want to use the **SIZE** command. Otherwise, go to step 11.

9. When you see the next line number:

Type: **SIZE** number

Specify a number from 2 through 2048.

10. Press the Enter key.

11. When you see the next line number:

Press the Scroll up key.

12. Type: **SAVE SPOOL.CONFIGn//5**

(Replace the "n" with your computer number.)

13. Press the Enter key.

# Programming information

---

## Creating the SPOOL.CONFIGn file (continued)

**Example:.** Below is an example of what you would see on lines 16 through 22 of your screen after using the preceding procedure to create a SPOOL.CONFIG2 file for computer 2.

```
CLEAR DATA
AUTO
00010: START 10
00020: DIRECT 10,4/11
00030: SIZE 256
00040:
SAVE SPOOL.CONFIG2//5
```

This file does the following:

- Begins automatic printing on the first printer attached to computer 2.
- Prints (on this first printer) jobs specifically directed to it as well as jobs for any available printer.
- Directs first printer output to the second printer (11) on computer 4.
- Creates a SPOOL.SPACE file having a size of 256 units.

This SPOOL.CONFIG file will be put in the first volume of your 5247 Disk.

**Note:** Your SPOOL.CONFIGn file can be saved on any volume of the disk.

To begin *using* your SPOOL.CONFIGn file, refer to "Using the SPOOL.CONFIGn file you created," in this chapter.

For information on how to change or replace your SPOOL.CONFIGn file, see "Replacing your SPOOL.CONFIGn file," in this chapter.

---

## Using the SPOOL.CONFIGn file you created

To use the SPOOL.CONFIGn file you created, do one of the following:

### If you did not include the SIZE command

You should be in your READY INPUT screen.

1. End Print Spool (if it is already linked into your computer).

Type: **SYSTEM "ENDSPOOL"**

2. Press the Enter key.
3. Type: **LINK SPOOL**
4. Press the Enter key.

This makes your SPOOL.CONFIGn file take effect *on your computer*, not on other computers.

If an error occurs when linking Print Spool, check your SPOOL.CONFIGn file for typing errors.

If you decide at some point to return your computer to Print Spool's automatic functions (defaults), refer to "Replacing your SPOOL.CONFIGn file."



# Programming information

---

## Using the SPOOL.CONFIGn file you created (continued)

### If you included the SIZE command

---

1. Make sure all jobs in the existing SPOOL.SPACE file have been printed. Check the status screen to be sure of this.
2. End Print Spool on *every* computer where it is linked.

Type: **SYSTEM "ENDSPOOL"**

3. Press the Enter key.

Note that all waiting print jobs will be lost when SPOOL.SPACE is freed in the next step.

4. Type: **FREE SPOOL.SPACE**
5. Press the Enter key.
6. Relink Print Spool *first* on the computer where the SIZE command was used. Then relink Print Spool on every computer where you want it to be active.

Type: **LINK SPOOL**

7. Press the Enter key.

This makes the SIZE command take effect for *all* computers where Print Spool is linked. START and DIRECT commands take effect only on the computer where they were used.

**Note:** If a previous SPOOL.SPACE exists when you relink Print Spool, your SIZE command will be ignored.

---

## Listing your SPOOL.CONFIGn file

To get a printed listing of your SPOOL.CONFIGn file:

You should be in your READY INPUT screen.

1. Type: **LOAD SPOOL.CONFIGn,DATA**

Replace the "n" with your computer number.

2. Press the Enter key.
3. Type: **LISTP**
4. Press the Enter key.

If Print Spool is not linked into your computer, the listing of SPOOL.CONFIGn is printed on your first printer.

If Print Spool is linked into your computer:

1. Type: **CLEAR**
2. Press the Enter key.

A print job has now been created which has your SPOOL.CONFIGn listing. The name of the print job on the status screen is DIR/CopyD.

Make sure your printers are not stopped.

You can use the NEXT command, if necessary, to place this job next in line to be printed.

# Programming information

---

## Replacing your SPOOL.CONFIGn file

To replace an existing SPOOL.CONFIGn file with another one, simply free the existing file and create a new one.

(Before you free the SPOOL.CONFIGn file, you may want to get a printed listing of it. If so, follow the steps under "Listing your SPOOL.CONFIGn file.")

To free an existing SPOOL.CONFIGn file:

You should be in your READY INPUT screen.

1. Type: **FREE SPOOL.CONFIGn**

(Replace the "n" with your computer identification number.)

2. Press the Enter key.

For information on how to create a new SPOOL.CONFIGn file, refer to "Creating the SPOOL.CONFIGn file" in this chapter.

If you wish to return your computer to Print Spool's automatic functions (defaults), follow steps 1 and 2 above and relink Print Spool. Do not create a new SPOOL.CONFIGn file.

---

## Section 2: General programming information for Print Spool

The information in this section is for persons with programming experience. The procedures described here require a knowledge of System/23 BASIC.

### General considerations

---

- The name assigned to a print job created by a BASIC program is the name of the BASIC program that is loaded. If the program does not have a name (for example, if the program was edited inline and then run), the name assigned to the print job may be inaccurate.
- Print jobs are written into SPOOL SPACE when the operator enters the following system commands:
  - LISTP
  - DIR n,PRINT
  - Cmd/CopyD
  - PRINT #255
- If the operator enters these commands while a BASIC program is running, the printer output from the command may be combined with a print job being created by the BASIC program.

If the file reference number used by the BASIC program equals 255, the printer output from the command will become a part of the current print job.

If the file reference number used by the BASIC program does not equal 255, an error code will be returned to the operator.

# Programming information

---

## Section 2: General programming information for Print Spool (continued)

- A print job will start if the operator enters a command while a BASIC program is interrupted but *before* that BASIC program has started a print job.

When this happens, BASIC program printer output that is directed to file reference number 255 will be combined with output from the command. But if the BASIC program uses a file reference number other than 255, an error is returned to the BASIC program.

- Cmd/CopyD works on Print Spool when either the keyboard is open for input or when the Hold key is active. Otherwise, Cmd/CopyD is ignored.
- If a BASIC program is not running, every print job created with a LISTP, DIR n,PRINT, Cmd/CopyD, or PRINT #255 command must be followed by one of the System/23 commands: CLEAR, LINK, LOAD, or RUN, in order for the job to be made ready to print.
- If you are editing a BASIC program and want to perform a LISTP, let STOP be the first statement in your program. Then you can make your LISTP ready to print by running your program. Remember to delete that first statement before you save your program.

---

## **Defining a print job**

---

You can start a print job from a BASIC program in one of two ways:

- By issuing an OPEN statement for the first printer
- By allowing the BASIC program to open the printer when the first PRINT statement has been issued

Similarly, you can end a print job started by a BASIC program in one of two ways:

- By issuing a CLOSE statement to the printer
- By ending the BASIC program, thus closing the printer and ending the print job

The name that is assigned to the print job is the name of the BASIC program that is running when the print job is started.

## **Handling special forms**

---

You can suspend and restart Print Spool's control over a printer within a BASIC program by using the OPEN and CLOSE statements.

To suspend a specific printer for use by the BASIC program, you must issue an OPEN statement for that printer and specify a RESERVE parameter. This will suspend Print Spool's control of that printer.

To restart Print Spool's control of that printer, you must issue a CLOSE statement and specify a RELEASE parameter.

# Programming information

---

## Section 2: General programming information for Print Spool (continued)

**Example:** Let's suppose that the first printer is being used by Print Spool.

Let's also suppose that the BASIC program that is running requires a report to be printed on special forms.

You now issue the following statement:

```
OPEN #5:"NAME=//10,RESERVE" ,DISPLAY,OUTPUT
```

At this time, the operator should be told to insert the special forms into the printer. After the report is written, the operator should be told to re-insert the standard forms.

The BASIC program should then issue the following statement:

```
CLOSE #5,RELEASE:
```

Control of the first printer will be restored to Print Spool.

**Note:** 1. Keep in mind that, whenever you suspend Print Spool temporarily on a printer, the current print job on that printer will finish printing before the OPEN statement takes effect.

**Note:** 2. It takes an explicit CLOSE statement with a RELEASE parameter to restart Print Spool activity on a printer that was suspended with the use of OPEN RESERVE. The RELEASE is not performed automatically when the BASIC program ends. You should design your programs and procedures to ensure that a CLOSE statement with a RELEASE parameter is executed in case the operator ends the program prematurely.

# Appendix A. Print Spool error codes

---

When you use Print Spool, errors may sometimes occur. Some of these errors may **not** be related to Print Spool; others may be related to Print Spool.

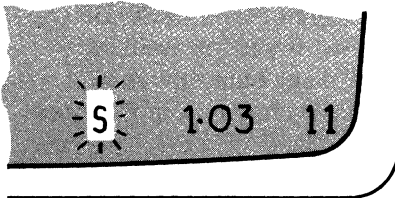
## Errors not related to Print Spool

When these errors occur, you see a flashing two-digit number (**action code**) and a four-digit number (**error code**) on the status line. The action codes and error codes you may see are explained in the *System Messages* manual.

## Errors related to Print Spool

Error codes between 9000 and 9099 are Print Spool error codes. They are explained in this appendix.

You also know a Print Spool error has occurred when you see a blinking "S" or "=" inside the Spool window (bright green rectangle) on the status line. These errors are explained below.



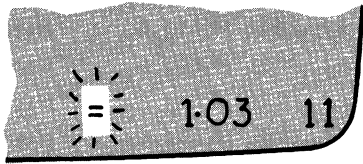
**Blinking S.** The blinking "S" inside the Spool window means that an error has caused printing to stop. Your application is still running and its print jobs are being sent to the disk. To find out the error, do the following:

1. Press Cmd/Backspace to get the Spool screen.
2. You will see an action code and an error code. Look up the explanation for each, and correct the error.
3. Press Cmd/Backspace to return to your original screen.



# Print Spool error codes

---



**Blinking =.** The blinking “=” in the Spool window means that your application is waiting. To find out why, press and hold the Cmd key and then press the Attn key. One of the following error codes will be displayed on the status line to indicate the reason for the wait:

- **Error code 9022:** The SPOOL.SPACE file is full. The application is waiting for space in the file to become available. When space does become available, the application will continue.
- **Error code 9023:** The application is waiting to use a printer attached to your computer. The printer is currently busy. When the job being printed is completed, the application will continue.

When you see either error code 9022 or 9023, you can do one of two things:

- If you wish to keep your application waiting, press the Error Reset key. You can use Cmd/Backspace to get to the Spool screen while the “=” is still blinking in the Spool window. You can enter any of the Print Spool commands in the Spool window. If you are waiting because SPOOL.SPACE is full, make sure that your printers are busy printing. This will create room for more print jobs in the SPOOL.SPACE file.
- If you wish to cancel your current application, press and hold the Cmd key, then press the Error Reset key.

---

**9011 Print Spool already linked**

You tried to link Print Spool after it had already been linked. Press the Error Reset key, and continue.

If you have just created a SPOOL.CONFIGn file and want it to take effect, type **SYSTEM "ENDSPOOL"** to remove the program, then press the Enter key. Then relink Print Spool.

**9012 Print Spool cannot be linked**

You tried to link Print Spool into a System/23 that has less than 96K of storage.

Call IBM for technical support.

**9013 Invalid file type**

The file SPOOL.SPACE has a file type that is invalid.

Press the Error Reset key. Then do the following:

1. Rename the SPOOL.SPACE file or use the FREE command to free it.

**Note:** If you free the file, its contents will be lost.

2. Relink Print Spool.

**9014 File size is wrong**

The SPOOL.SPACE file has the wrong size.

Press the Error Reset key. Then do the following:

1. Rename the existing SPOOL.SPACE file or use the FREE command to free it.

**Note:** If you free the file, its contents will be lost.

2. Relink Print Spool.

**9015 Printer not available**

You tried to use a printer on which a START command is in effect.

1. Press the Error Reset key.
2. Use the STOP command to stop the printer. Then resubmit the print job.

**9016 Printer not available**

You tried to use a LISTP, DIR (to the printer), Cmd/CopyD, or PRINT #255 command while an application was creating a print job.

Press the Error Reset key. Wait until the application program is finished running. Then resubmit your job.

# Print Spool error codes

---

## **9017 Highest SPOOLID reached**

The Print Spool program cannot assign a higher SPOOLID than 9999.

Press the Error Reset key. Then do the following:

1. Print all of the jobs in the SPOOLSPACE file.
2. End Print Spool on each computer where it is linked.
3. Relink Print Spool on each computer, and continue your operation.

## **9018 Print job too large**

You created a print job that is too large for the SPOOLSPACE file. Ask your programmer for help. (Refer to "Changing automatic functions" in Chapter 5, for information on how to create a larger SPOOLSPACE file.)

## **9019 Application wait cancelled**

You cancelled an application that was waiting while the SPOOLSPACE file was full. Ask your programmer for help. (Refer to "Changing automatic functions" in Chapter 5, for information on how to create a larger SPOOLSPACE file.)

## **9020 Program cannot be linked**

You tried to link a program or a Customer Support Function that cannot run while Print Spool is linked.

1. Press the Error Reset key.
2. End Print Spool by using the SYSTEM "ENDSPOOL" command.
3. Re-try your operation.

## **9021 Application wait cancelled**

You cancelled an application that was waiting to use a printer.

Rerun your application when printing has stopped.

## **9022 SPOOLSPACE file is full**

Your application is waiting because the SPOOLSPACE file is full.

To continue waiting, press the Error Reset key. Make sure your printers are busy printing. You can use Cmd/Backspace to get to the Spool screen to enter Spool commands.

To cancel the application, press and hold the Cmd key, then press the Error Reset key.

---

**9023 Printer is busy.**

Your application is waiting to use a printer attached to your computer. The printer is currently busy.

To continue waiting, press the Error Reset key. You can use Cmd/Backspace to get to the Spool screen. There you can use the STOP command to stop the printer.

To cancel the application, press and hold the Cmd key, then press the Error Reset key.

**9024 Job currently printing**

You used the Cmd/CopyD command at a time when Print Spool could not service your request.

Press the Error Reset key. Wait until the job currently printing on your first printer has finished. Then re-try the Cmd/CopyD operation.

**9050 Invalid keyword entered**

You entered a keyword that is misspelled or otherwise invalid as part of a Print Spool command .

Valid commands you can enter on your Spool screen are: STATUS, START, STOP, CHANGE, CANCEL, and NEXT.

Valid commands in a SPOOL.CONFIGn file are: SIZE, DIRECT and START.

Press the Error Reset key and correct the command.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in a SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

**9051 Invalid command**

You used an invalid command or entered a blank line.

Press the Error Reset key and correct the command.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in your SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

# Print Spool error codes

---

## **9052 Invalid printer number**

You specified an invalid printer number. Your first printer is identified by the number 10 and your second printer by the number 11.

Press the Error Reset key. Then correct the error by specifying 10 or 11 as the printer number.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in a SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

## **9053 Invalid number**

You typed a number that is out of range.

Press the Error Reset key.

Check the command you typed for an incorrect number. Correct the number.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in a SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

## **9054 Too much data entered**

You typed a command with too much data. You may have added at least one extra field.

Press the Error Reset key and correct the command.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in a SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

## **9055 Invalid computer number**

You specified a computer number that is invalid. Valid computer numbers for the CHANGE and DIRECT commands are from 1 to 4. Zero may also be specified if you want to hold a print job.

Press the Error Reset key and correct the command.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help.

---

**9056 Invalid SPOOLID**

You entered a SPOOLID that is invalid. A valid SPOOLID has the letters SP followed by four digits, and must be currently assigned to a print job. (Check the Print Spool status screen for the correct SPOOLID, if needed.)

Press the Error Reset key. Type the correct SPOOLID, and continue.

**9057 Command is incomplete**

In specifying a Print Spool command, you left out a necessary word or number.

Press the Error Reset key and correct the command.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in your SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

**9058 Syntax error**

In specifying a Print Spool command, you used a word, number, or character that is invalid. Press the Error Reset key and correct the command.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in your SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

**9059 STOP command pending**

You tried to cancel the job currently printing while a STOP 10, END or STOP 11, END command is pending. Do the following:

1. Press the Error Reset key.
2. Use a STOP 10 or STOP 11 command to stop your printer before the end of the current job.
3. Wait until printing has stopped. Then retype the CANCEL command.

**9061 Job printing on another computer**

You tried to cancel a job that is printing on another computer.

1. Press the Error Reset key.
2. Go to the computer where the job is printing and retype the CANCEL command.

# Print Spool error codes

---

## 9062 Conversion error

You entered a number that is invalid.

Press the Error Reset key and correct the number.

If this error occurred while you were linking Spool, there is a problem with one of the commands in your SPOOL.CONFIGn file. Ask your programmer for help. (To correct the error in your SPOOL.CONFIGn file, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

## 9063 Check SPOOLID

The SPOOLID you specified does not match any of the jobs in the SPOOL.SPACE file.

1. Press the Error Reset key.
2. Check the SPOOLID of your print job by using the STATUS command.
3. Retype your command and continue.

## 9064 Number out of range

You specified an incorrect number in the SIZE command of the SPOOL.CONFIGn file. The number must be between 2 and 2048. Ask your programmer for help. (To correct the error, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

## 9065 Invalid line length

At least one command in your SPOOL.CONFIGn file had more than 80 characters. The line length for each command cannot exceed 80 characters. Ask your programmer for help. (To correct the error, refer to "Replacing your SPOOL.CONFIGn file" in Chapter 5.)

## 9066 Printer currently in use

You tried to start a printer that is currently being used by an application program.

1. Press the Error Reset key.
2. Press Cmd/Backspace to return to the READY INPUT screen.
3. Wait until the application has ended.
4. Press Cmd/Backspace to return to the SPOOL FIELDS screen and retype your command.

## 9067 Printer switched off or not attached

You typed a START command for a printer that is either switched off or not attached.

Press the Error Reset key. If the printer is switched off, switch it on and retype the START command. If the printer is not attached, ask your supervisor for help.

---

**9068 Job currently printing**

You typed a **CHANGE** or **NEXT** command for a job that is currently printing.

Press the Error Reset key. You can type **STOP 10** or **STOP 11** to stop the printer. Then retype the **CHANGE** or **NEXT** command.

**9070 Printer in use**

You typed a **START** or **STOP** command for a printer that is being used by an application program. (An **OPEN RESERVE** is in effect.)

1. Press the Error Reset key.
2. Press **Cmd/Backspace** to return to the **READY INPUT** screen.
3. Wait until the application has ended.
4. Press **Cmd/Backspace** to return to the **SPOOL FIELDS** screen and retype your command.

**9072 Printer switched off or not attached**

You typed a **STOP** command for a printer that is either switched off or not attached.

Press the Error Reset key.

- If the printer is switched off, switch it on and retype the **STOP** command.
- If the printer is not attached, ask your supervisor for help.

**9075 Cannot end Print Spool now**

You used a **SYSTEM "ENDSPOOL"** command while a **BASIC** program was running or while a communications licensed program was linked.

1. Press the Error Reset key.
2. Wait until the **BASIC** program or communications licensed program has finished.
3. Retype the **SYSTEM "ENDSPOOL"** command.



# Print Spool error codes

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## 9076 Invalid option

The LISTSTOR option you selected cannot be run while Print Spool is linked. The only option you can select while Print Spool is linked is option 6.

1. Press the Error Reset key.
2. End the Customer Support Function.
3. When "READY INPUT" appears on the status line, type **SYSTEM** "ENDSPOOL" to end Print Spool.
4. Relink LISTSTOR and continue.

## 9077 Invalid computer number

You specified an invalid computer number in a START command. When typing a START n/10 command or START n/11 command, you must replace "n" with your own computer number.

Press the Error Reset key and correct the command. If this error occurred while you were linking Print Spool, there is an error in one of the commands used in your SPOOL.CONFIGn file. Ask your programmer for help.

## 9078 Not enough storage

There is not enough storage for both the application you are running and for Print Spool. Print Spool itself uses 32K of storage.

1. Press the Error Reset key.
2. Use the STOP 10 and STOP 11 commands, as applicable, to stop printing.
3. Press Cmd/Backspace to return to your READY INPUT screen.

You may want to end your application at a convenient point.

4. End Print Spool and rerun your application.

# Appendix B. Quick reference checklist

Use this checklist to find the procedure for a Print Spool function you need.

To:	Follow these steps:
Link Print Spool:	–Type: <b>LINK SPOOL</b> –Press the Enter key.
End Print Spool:	–Type: <b>SYSTEM "ENDSPOOL"</b> –Press the Enter key.
Get Spool screen:	–Press Cmd/Backspace. (Spool screen slides across.)
Leave Spool screen:	–Press Cmd/Backspace. (System screen slides across.)
Display jobs waiting in SPOOL,SPACE:	–Press Cmd/Backspace to get Spool screen. –Type: <b>STATUS</b> –Press the Enter key.
Stop your printer before job is finished printing: after the current job is done:	–Press Cmd/Backspace to get Spool screen. –Type: <b>STOP 10</b> or <b>STOP 11</b> –Press the Enter key. –Type: <b>STOP 10,END</b> or <b>STOP 11,END</b> –Press the Enter key.
Start printing from SPOOL,SPACE:	–Press Cmd/Backspace for Spool screen. –Type: <b>START 10</b> or <b>START 11</b> or <b>START n/10</b> or <b>START n/11</b> (Replace "n" with your computer number) –Press the Enter key.
Rush a print job (to the top of the waiting line):	–Press Cmd/Backspace for Spool screen. –Type: <b>NEXT SPOOLID</b> (Specify correct SPOOLID.) –Press the Enter key.

# Quick reference checklist

---

<b>To:</b>	<b>Follow these steps:</b>
Redirect print jobs to a specific printer:  Redirect print jobs to any available printer:	—Press Cmd/Backspace to get Spool screen. —Type: <b>CHANGE SPOOLID, computer #/printer #</b> (Type in SPOOLID of job; replace # with number of computer and printer.) or: <b>CHANGE SPOOLID,*</b> (Type in SPOOLID of job.) —Press the Enter key.
Cancel a job from the waiting line:	—Type: <b>CANCEL SPOOLID</b> (Type in SPOOLID of job.) —Press the Enter key.

## For programmers only

Change Print Spool's automatic functions: <b>Create SPOOL.CONFIGn:</b> <b>Use SPOOL.CONFIGn:</b> <b>List SPOOL.CONFIGn:</b> <b>Replace SPOOL.CONFIGn:</b>	Refer to the following sections in Chapter 5 of this book: Refer to "Creating the SPOOL.CONFIGn file." Refer to "Using the SPOOL.CONFIGn file." Refer to "Listing your SPOOL.CONFIGn file." Refer to "Replacing your SPOOL.CONFIGn file."
Restore Print Spool's automatic functions:	Before relinking Print Spool: <ol style="list-style-type: none"><li>1. Free existing SPOOL.CONFIGn</li><li>2. Free existing SPOOL.SPACE</li><li>3. Link Print Spool</li></ol>

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# READER'S COMMENT FORM

SC34-0501-0

## Using System/23 Print Spool

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