



USERS MANUAL

LC-6211

DOT MATRIX PRINTER

Trademark acknowledgments

LC-6211, LC-10, LC-90, LC-100, NX-1000, NX-1010, NX-1040, SPC-8K: Star Micronics Co. Ltd.

EX-800, FX-850, LX-810, LX-850: Seiko Epson Corporation

IBM PC: International Business Machines Corporation.

MS-DOS, Microsoft Windows, Windows 3.1: Microsoft Corporation

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About this manual

This manual describes how to set up, use, and care for the Star LC-6211 printer. The following is a list of what you can expect to find in each chapter.

- Chapter 1** Choosing a place for your printer, unpacking and setup, ribbon cassette installation, loading paper, connecting to your printer
- Chapter 2** How to use the control panel
- Chapter 3** How to use the printers Electronic DIP Switch (EDS) Mode to set up the printer to match the needs of your system and software
- Chapter 4** Selecting the best type of paper, adjusting for paper thickness, manual sheet feeding, clearing paper jams
- Chapter 5** How to set up for printing with MS-DOS
- Appendix A** How to deal with printing problems
- Appendix B** Specifications
- Appendix C** Interface information
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- Appendix F** Glossary

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Chapter 1: Printer Setup

This chapter contains important information on setting up your printer. Be sure to read this chapter carefully before using the printer for the first time. In this chapter you will learn about:

- Choosing a place for the printer
- Unpacking and setting up the printer
- Installing the ribbon cassette
- Loading paper
- Connecting to your computer

Choosing a place for the printer

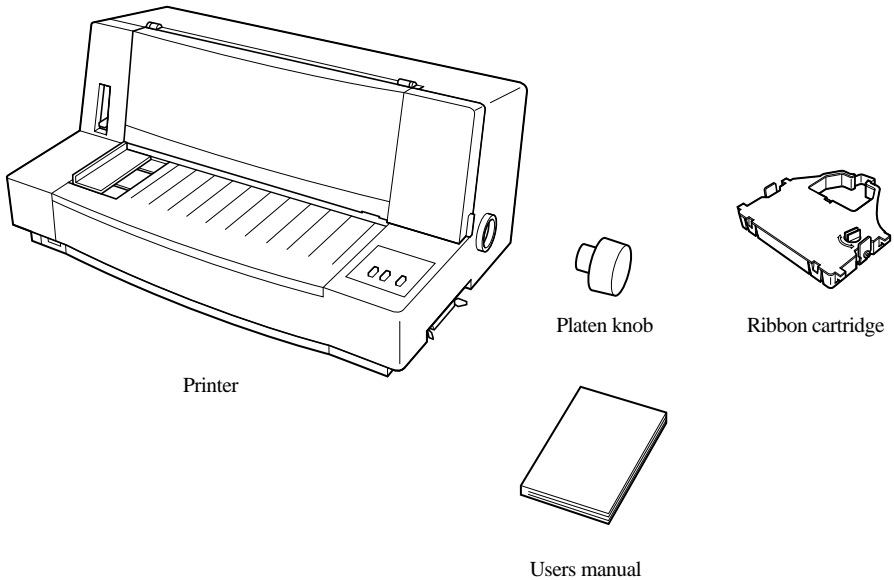
Before actually unpacking the printer, you should take a few minutes to think about where you plan to use it. Remember the following points when doing this.

- ✓ Choose a firm, level surface where the printer will not be exposed to vibration.
- ✓ The power outlet you plan to connect to for power should be nearby and unobstructed.
- ✓ Make sure that the printer is close enough to your computer for you to connect the two with your printer cable.
- ✓ Allow six inches (15 centimeters) of free space on either side of the printer. If you are going to use fanfold paper, make sure that there is adequate space for paper behind the printer.
- ✓ Make sure that the printer is not exposed to direct sunlight.
- ✓ Make sure that the printer is well away from heaters.
- ✓ Make sure that the surrounding area is clean, dry, and free of dust.
- ✓ Make sure that the printer is connected to a reliable power outlet. It should not be on the same electric circuit as copiers, refrigerators, or other appliances that cause power spikes.
- ✓ Use a power outlet that matches the power rating noted on the label affixed to the bottom of your printer.
- ✓ Make sure that the room where you are using the printer is not too humid.

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Unpacking the printer

Check to make sure that the carton contains each of the items shown in the following illustration.



If anything is missing, contact the store where you bought the printer and ask them to supply the missing part.

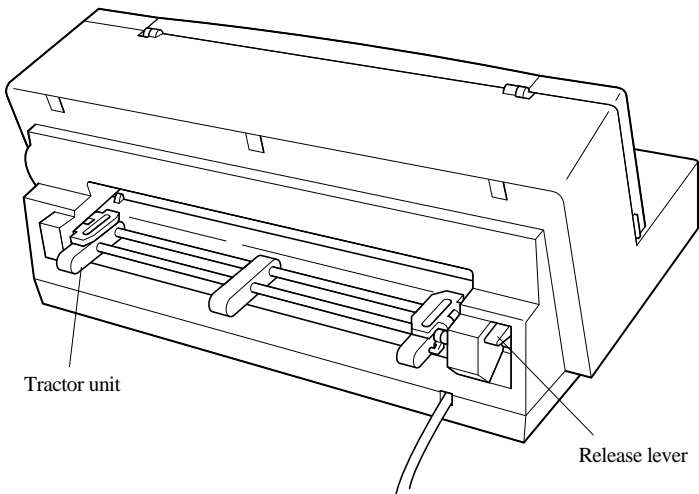
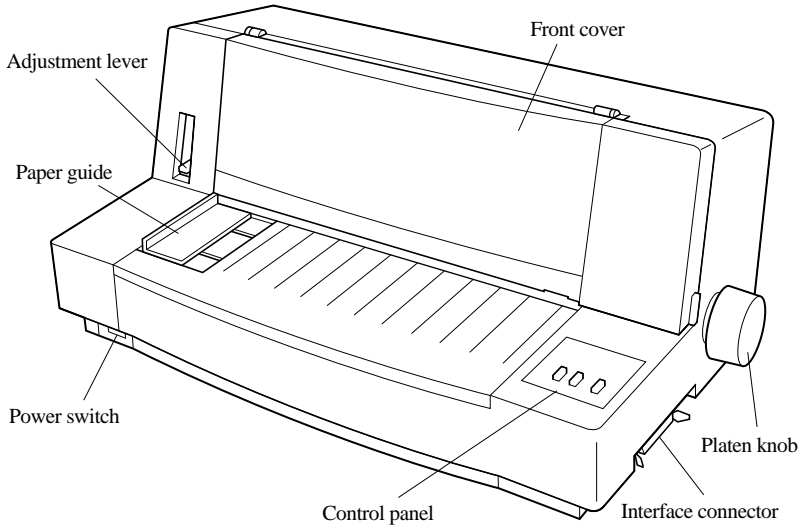
A serial-to-parallel interface converter (SPC-8K) is also available as an option. Consult with your dealer for details.

Note:

It is a good idea to keep the original box and all the packing materials just in case you later need to pack the printer up again and send it somewhere at a later date.

General guide

The following illustrations show the major component parts of the your printer.

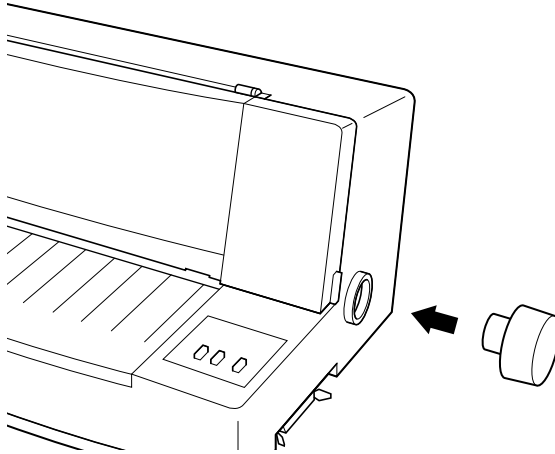


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Installing the platen knob

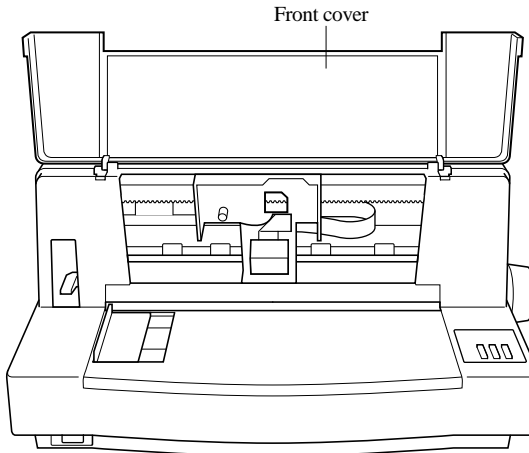
The platen knob is packed into a recess in the packaging material.

- ❑ Install the knob on the shaft located inside the large hole on the right side of the printer. Make sure that the flat side of the shaft is aligned with the corresponding flat surface inside the knob's spindle. Press the knob carefully but firmly into place as far as it will go.



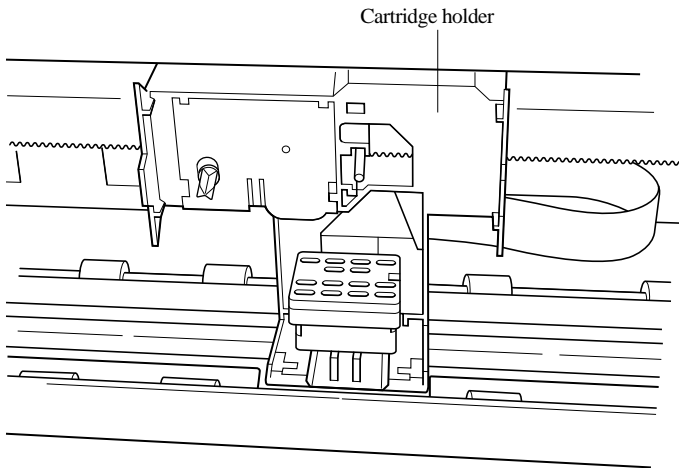
Opening the front cover

- ❑ Hook your fingers under the two small tabs on either side of the front cover and pull forward and up to swing the front cover open.



Installing the ribbon cartridge

- Make sure that printer is unplugged from its power outlet.
- Open the front cover of the printer.
- By hand, move the cartridge holder to the center position of the paper guide where there is a cutout to allow easy installation and removal of the ribbon cartridge.



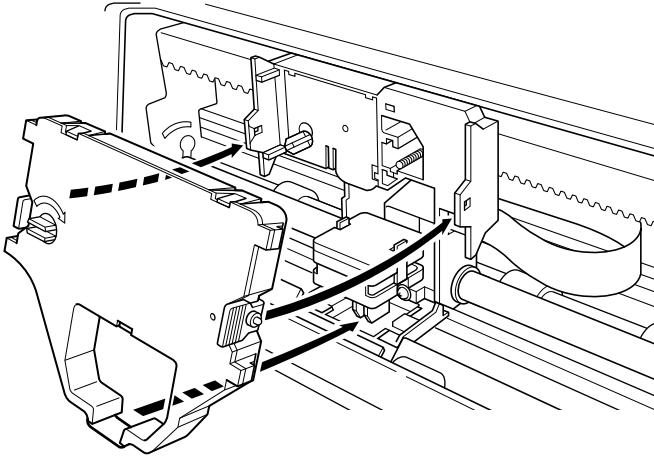
Important!

Never try to move the print head while the printer is plugged into a power outlet. Doing so can damage the printer. If you have just used the printer, let the print head cool for a few minutes before you touch it.

- Remove the ribbon cartridge from its package.
- Rotate the knob on the ribbon cartridge clockwise to take up any slack in the ribbon.

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- Carefully place the cartridge onto the cartridge holder making sure that the spindle of the holder fits into the socket on the bottom of the cartridge.



- Press down gently but firmly on the cartridge until it snaps securely into place.
- Rotate the knob on the cartridge again to take up any slack.
- Close the front cover of the printer.

Important!

Printing that is poor quality or too light is almost always due to a ribbon that is simply worn out or “used up.” If you experience problems with print quality, check the condition of the ribbon. If the black part looks gray and well-worn, replace the ribbon with a new one.

Removing the ribbon cartridge

Use the following procedure to remove the ribbon cartridge from the printer when you want to replace it with a new one.

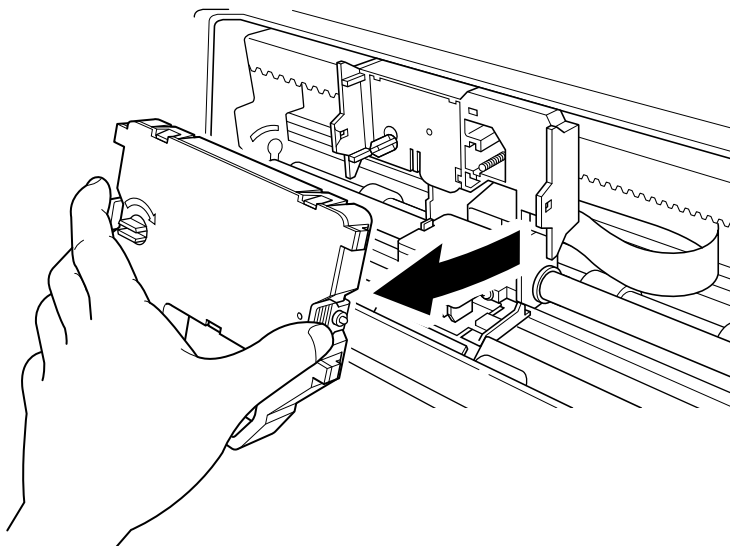
- Make sure that printer is unplugged from its power outlet.
- Open the front cover of the printer.

- ❑ By hand, move the cartridge holder to the center position of the paper guide where there is a cutout to allow easy installation and removal of the ribbon cartridge.

Important!

Never try to move the print head while the printer is plugged into a power outlet. Doing so can damage the printer. If you have just used the printer, let the print head cool for a few minutes before you touch it.

- ❑ Using your thumb and forefinger to squeeze the two tabs on the ribbon cartridge towards the center, carefully remove the cartridge from the holder.



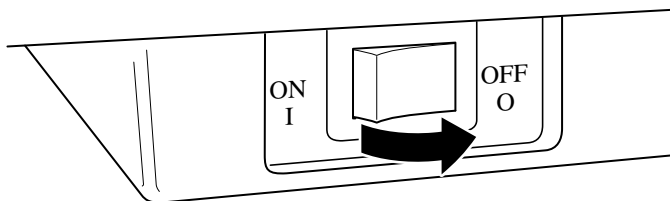
- ❑ Use the procedure under “Installing the ribbon cartridge” on page 5 to install a new cartridge.

Connecting to a power outlet and turning power on and off

- ❑ Plug the power cord of the printer into a standard power outlet whose voltage matches the power rating noted on the label affixed to the bottom of your printer.

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- Set the switch on the front of the printer to ON to turn power on, and to OFF to turn power off.



Important!

We recommend that you unplug the printer from the power outlet whenever you do not plan to use it for long periods. Because of this, you should locate the printer so that the power outlet it is plugged into is nearby and easy to access.

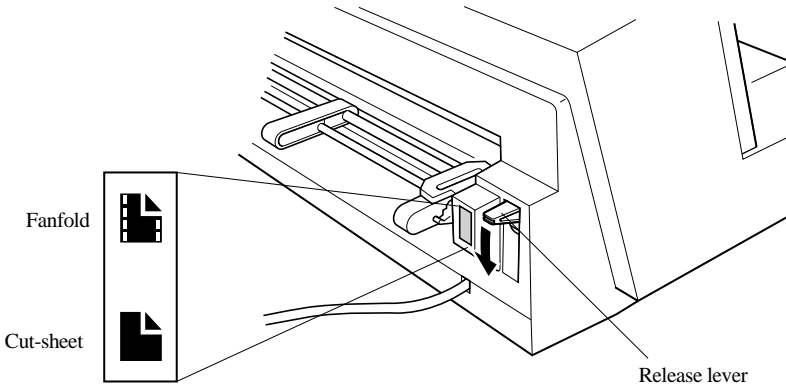
At this point you may want to perform a test of the printer to make sure it is working properly. See “Testing the Printer” on page 32 for details on how to perform tests.

Loading paper

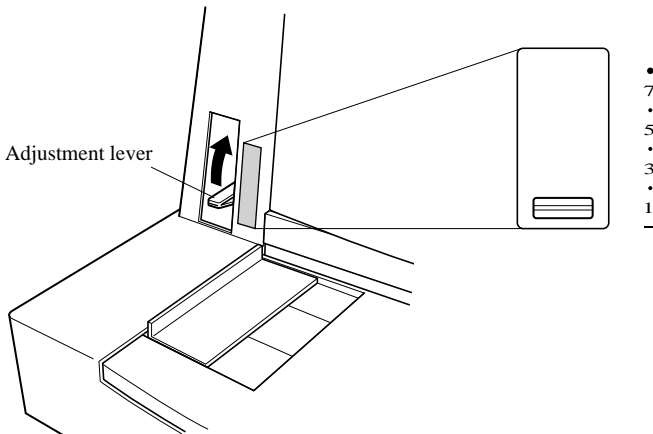
This section tells you how to load fanfold paper. Note that you can also use cut-sheet paper and multi-page form paper. For details on using other types of paper, see “Paper Handling” on page 25 of this manual.

- Position the stack of paper behind the printer.
- Unplug the printer from its AC power supply.

- ❑ Set the release lever on the back of the printer to the fanfold position.

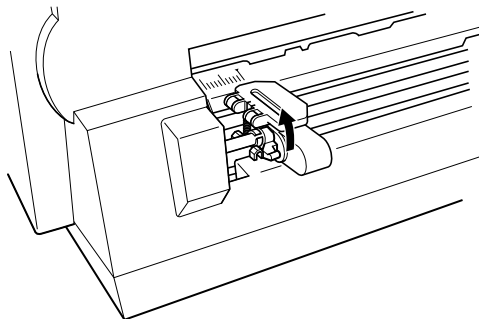


- ❑ Set the adjustment lever to the value that matches the thickness of the paper you are using. The setting for normal paper is 1. Set the lever to a larger value for thicker paper, or to a smaller value for thinner paper. See the table on page 27 for details.

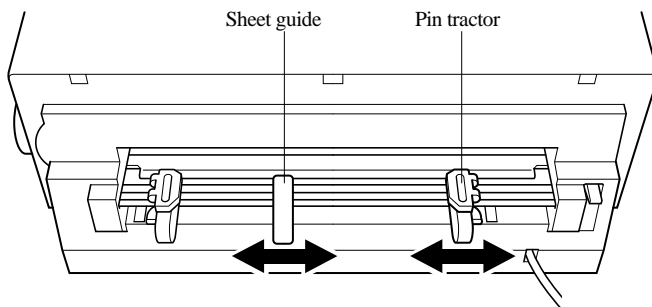


- ❑ Unlock the tractor on the left (when viewing the printer from behind) by pulling its gray lever up, and adjust the position of the left tractor.

Note that there is a guide inside the printer in front of the left tractor. The ▼ mark of the guide indicates where the left margin of the printing will be.

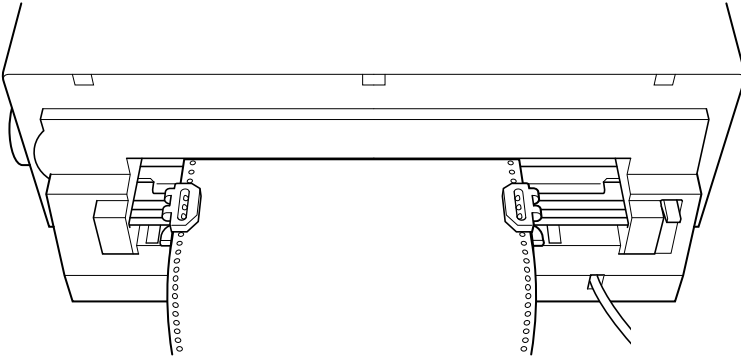
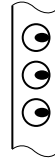
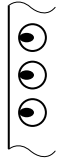
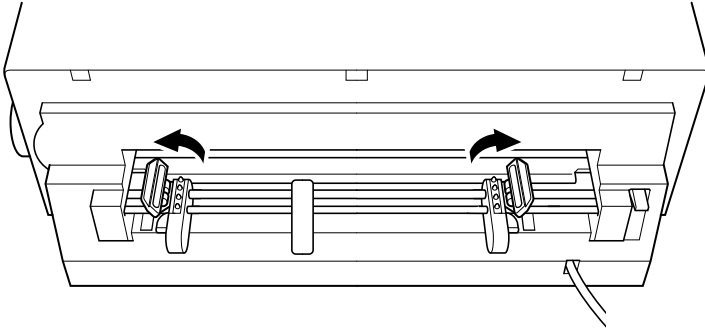


- ❑ Once the left tractor is aligned the way you want it, push the gray lever back down to lock it in place.
- ❑ Now move the tractor on the right to the approximate position of the right side of the paper you are using. Pull its gray lever up to unlock it, and push the lever back down to lock it into place. Also move the center paper support so that it is approximately halfway between the two tractors.



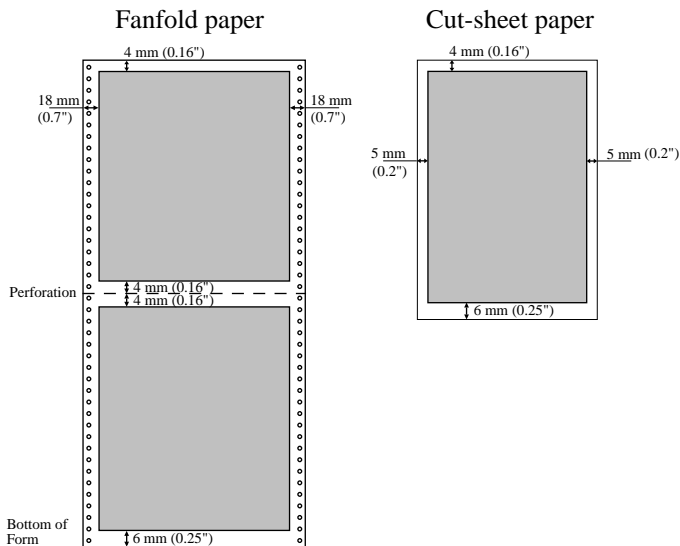
- ❑ Open the covers of both tractors and align the paper so that the pins on the tractors are inserted into the holes of the paper.
- ❑ Close the tractor covers. At this point you can make final adjustments to the paper position by releasing the gray levers and moving the tractors. After making these adjustments, be sure that you re-lock the tractors by pushing the gray levers back into their original positions.
- ❑ Plug the printer back into its AC power source. The printer will beep a number of times to indicate that paper is not loaded properly.

- ❑ Press the control panel's **SET/EJECT/PARK** button and the paper will feed to the starting position.



Printing on fanfold paper

When printing on fanfold paper, take care not to print too close to the perforations that separate each sheet. The following shows the recommended print area for fanfold paper and cut-sheet paper.



Parking fanfold paper

It is not necessary to remove fanfold paper currently loaded in the printer in order to print on cut-sheet paper fed by hand. Instead, simply use the following procedure to *park* the fanfold paper.

- Tear off the paper at a perforation so there is no more than half a page sticking out of the front cover of the printer.

If necessary, you can press the control panel's **ON LINE** button to put the printer on-line, and then use the **SET/EJECT/PARK** button to feed the paper until a perforation is just past the front cover.

- Press the control panel's **ON LINE** button to put the printer off-line.
- Press the control panel's **SET/EJECT/PARK** button. The printer automatically reverse feeds the fanfold paper until it is no longer in contact with the platen.

- Set the release lever on the back of the printer to the cut-sheet position.
The paper is now parked, and you can load cut-sheet paper into the printer using the procedures under “Manual sheet feeding” on page 27.

Unparking fanfold paper

After you are finished printing on cut-sheet paper, use the following procedure to unpark fanfold paper and make it available for printing.

- If any cut-sheet paper is still in the printer, put the printer off-line and then press the control panel’s **SET/EJECT/PARK** button to eject it.
- Check to make sure the printer is off-line.
- Set the release lever on the back of the printer to the fanfold position.
- Press the control panel’s **SET/EJECT/PARK** button. The printer automatically feeds the fanfold paper back into position, ready for printing.

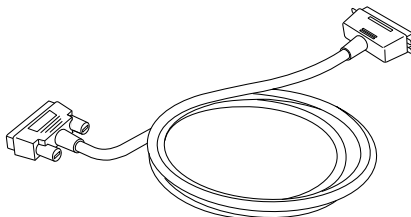
Using the tear-off function

The following procedure makes it easy to tear off fanfold paper without disturbing the current position of the paper.

- Check to make sure that the printer is on-line.
- Press the control panel’s **SET/EJECT/PARK** button.
The printer feeds the perforation of the fanfold paper to the tear-off edge of the printer cover.
- Tear off the paper.
- When you resume printing, the printer reverse feeds the paper to its former position.

Connecting to your computer

The computer sends data to the printer through a cable. This printer does not come with a cable, so you must purchase one of your own. You will probably want to use a standard parallel cable for connection, but note that you can also use an optional serial-to-parallel interface converter (SPC-8K).



Important!

The following instructions apply to the Centronics parallel cable that is used with an IBM-compatible personal computer. Note that they do not apply to all types of computers and cables. If you are unsure about what type of cable you should use to connect with your computer, consult with your dealer.

For an IBM-compatible personal computer:

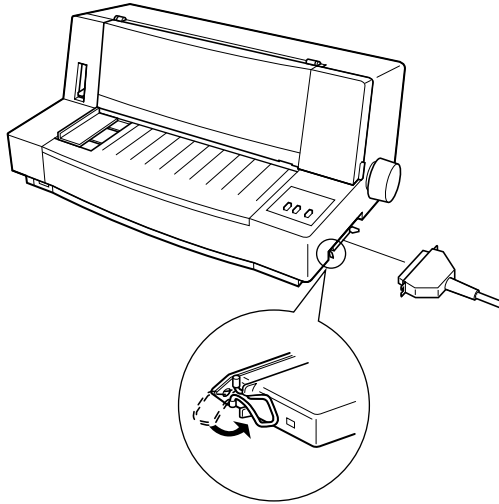
- ✓ Use a standard 36-pin Centronics parallel cable.
- ✓ The parallel cable should be no longer than six feet (two meters). Longer cables can result in poor transfer of information.

Important!

Make sure that the printer is unplugged from the AC outlet and that the computer is switched off before connecting them.

- Plug one end of the parallel cable into the parallel port of your computer. The parallel port should be labelled “Printer,” “Parallel,” “PRN,” “LPT1,” or something similar.

- ❑ Plug the other end of the parallel cable into the socket on the side of the printer and secure it in place with the clips.

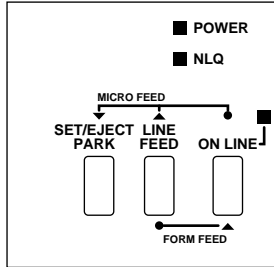


Note:

Consult with your dealer for details on how to set up your computer when using the optional SPC-8K serial-to-parallel interface converter.

Chapter 2: Control Panel Operations

The control panel gives you push-button control over the printer's power and paper feed operations. It also includes indicator lights that tell you the current status of the printer at a glance.



This chapter describes general functions that can be performed using the control panel buttons while the printer is turned on and either on-line or off-line. The buttons perform different functions in the EDS and Dot Adjustment Modes. Functions of control panel buttons in these modes are described in the sections covering them.

Important!

The procedures described in this chapter will not work if paper is not loaded into the printer. Be sure to use the procedures on page 8 of this manual to load paper before trying any of the following operations.

Switching between on-line and off-line

- Press **ON LINE** to switch the printer between being on-line and off-line.
- When the printer is in on-line, the **ON LINE** indicator is lit and the printer can receive data from the computer. This means that you should make sure that the printer is on-line whenever you are trying to print.
- When the printer is in off-line, the **ON LINE** indicator goes out, which means that the printer cannot receive any data.

Important!

Make sure that the on-line/off-line setting of the printer is correct before performing any other control panel operations.

Paper loading

- Prepare either cut-sheet or fanfold paper for feeding.
For details on how to prepare for paper feeding, see page 8 for fanfold paper and page 27 for cut-sheet paper.
- The **POWER** indicator flashes to indicate there is no paper in the printer.
- Press **SET/EJECT/PARK** to feed the paper into the printer.

Line feed

- Make sure the printer is off-line (**ON LINE** indicator is not lit).
- Press **LINE FEED** once to feed paper one line. Holding down **LINE FEED** continually feeds paper, one line at a time, until you release the button.

Paper eject (cut-sheet paper)

- Make sure the printer is off-line (**ON LINE** indicator is not lit).
- Press **SET/EJECT/PARK** to eject the paper.
- After the paper is ejected, the printer will beep and the **POWER** indicator will flash to indicate there is no paper in the printer.
- Later, you can press **SET/EJECT/PARK** again to feed the paper back into the printer.

Form feed (fanfold paper)

- Make sure the printer is off-line (**ON LINE** indicator is not lit).
- While holding down **LINE FEED**, press **ON LINE** to feed the paper to the top of the next page.

Parking fanfold paper

- Make sure the printer is off-line (**ON LINE** indicator is not lit).
- Press **SET/EJECT/PARK** to eject the paper.
- After the paper is ejected, the printer will beep and the **POWER** indicator will flash to indicate there is no paper in the printer.
- Later, you can press **SET/EJECT/PARK** again to feed the paper back into the printer.

Micro feed

Use the following operation to feed the paper in very small increments. This makes it possible to align the print head exactly where you want it.

- Make sure the printer is off-line (**ON LINE** indicator is not lit).
- While holding down **ON LINE**, press **LINE FEED** to feed the paper forwards or **SET/EJECT/PARK** to feed the paper backwards.

Setting the top of form position

The current position of paper loaded in the printer is automatically set as the top of the page whenever you turn power on. You can also use the following procedure at any time to specify a different position as the top of the page.

- Prepare either cut-sheet or fanfold paper for feeding.
- Press **SET/EJECT/PARK** to feed the paper into the printer.
- Make sure the printer is off-line (**ON LINE** indicator is not lit).
- Use the micro feed operations (see above) to move the paper so that the print head is located where you want the new top of form position to be.
- While holding down **SET/EJECT/PARK**, press **LINE FEED**.
The printer will beep once to indicate that a new top of form position has been set.

Clearing a top of form setting

- While holding down **SET/EJECT/PARK**, press **LINE FEED**.
The printer will beep three times to indicate that the top of form position has been cleared.

Setting the printing speed

- Make sure the printer is on-line (**ON LINE** indicator is lit).
- Press the control panel's **LINE FEED** button to switch between NLQ (**NLQ** indicator is lit) and draft (**NLQ** indicator is not lit) printing.
NLQ printing provides high quality, but is somewhat slower. Draft printing is quicker, but the quality is not as good as NLQ.

Tear-off function

This procedure feeds fanfold paper to a position where it can be torn off easily.

- Make sure the printer is on-line (**ON LINE** indicator is lit).
- Press the control panel's **SET/EJECT/PARK** button.
- Tear off the paper.
- When you resume printing, the printer reverse feeds the paper to its former position.

Chapter 3: Using the EDS Mode

The letters “EDS” stand for “Electronic DIP Switches.” Just like the small DIP switches that are used by many computers, printers, and other devices, the EDS lets you configure the printer so that it matches your system and software needs. This chapter describes how to enter the printer’s EDS Mode and provides details about available settings and how to change them.

The following table shows the three categories of EDS settings that are available, along with the actual settings under each category.

Category	Setting	On	Off
General	RAM Usage	Input Buffer	Download Buffer
	Graphics Direction	Bi-directional	Uni-directional
	Tear Off	Disabled	Enabled
	Auto LF With CR	Disabled	Enabled
	Paper Out	Enabled	Disabled
	Line Spacing	1/6-inch	1/8-inch
	STROBE Timing	Normal	Reverse
Font	Print Mode	Draft	NLQ
	Banking Character	Disabled	Enabled
	Zero Style	Normal	Slashed
	Character Table	Graphics	Italic
Page Length	11"/Letter (default setting) 8" 11.7"/A4 12" 8.5"/letter 14"/Legal 10.5"/Executive 7.25"/Executive 3.5" 5.5"		

All switch settings are ON when the printer is shipped from the factory.

Entering the EDS Mode

- Turn off the printer.
- Make sure that paper is loaded in the printer.
- While holding down the control panel's **SET/EJECT/PARK** button, turn the printer back on.

This causes the following message to be printed.

*** EDS SETTINGS ***

```

YES      --> Push Set/Eject/Park Switch
NO       --> Push Feed Switch
NEXT MODE --> Push ON-Line Switch
EXIT     --> Push ON-Line & Feed Switch
    
```

MODE	FUNCTION	SET ON	SET OFF
GENERAL	: RAM Usage	: Input Buffer	: Download Buffer
	: Graphics Direction	: Bi-directional	: Uni-directional
	: Tear-off	: Disabled	: Enabled
	: Auto LF with CR	: Disabled	: Enabled
	: Paper Out	: Enabled	: Disabled
	: Line Spacing	: 1/6 inch	: 1/8 inch
	: Strobe Timing	: Normal	: Reverse
FONT	: Print Mode	: Draft	: NLQ
	: Banking Character	: Disabled	: Enabled
	: Zero Style	: Normal	: Slashed
	: Character Table	: Graphics	: Italics
PAGE LENGTH	: 11inch/Letter	: 14inch/Legal	
	: 8inch	: 10.5inch/Executive	
	: 11.7inch/A4	: 7.25inch/Executive	
	: 12inch	: 3.5inch	
	: 8.5inch/Letter	: 5.5inch	

Change current setting ?

Note:

The paper is not fed after the message is printed, so you will have to open up the printer's front cover to read it.

- Press **SET/EJECT/PARK** to answer "Yes" or **LINE FEED** to answer "No" for each option as it appears on the printout. Each time you reply, printer prints the next setting.
- To jump to the next category at any time, press **ON LINE**.
- After you are finished making the EDS settings you want, hold down **ON LINE** and press **LINE FEED**.

This exits the EDS Mode and registers all of the changes you have made.

EDS Mode Settings

RAM Usage

- Specify whether RAM should be used as an input buffer or as a download buffer.

Selecting **Input Buffer** tells the printer to use available RAM to store data it receives from the computer. This speeds up the printing operation, but it also means that RAM cannot be used to store character patterns used to define downloaded characters. Selecting **Download Buffer** tells the printer to use available RAM to store character patterns you define using the download character control codes (page 48).

Graphics Direction

- Select either unidirectional (**Uni-direction**) or bidirectional (**Bi-direction**) printing for graphics.

Bidirectional printing is faster, while unidirectional printing generally provides better print quality.

Tear-off

- Enable or disable the tear-off function.

Selecting **Enabled** for this switch lets you use the tear-off function with fanfold paper. Selecting **Disabled** causes this function to be switched off. Note that this setting controls tear-off function control from application software only. It does not affect the manual tear-off function using control panel buttons described on page 13. The manual tear-off function is always enabled.

Auto LF with CR

- Enable or disable auto LF with CR.

When **Disabled** is selected for this switch, the computer must send both a line feed code and a carriage return code at the end of each line. Most applications do this automatically. When **Enabled** is selected, the printer automatically performs a line feed whenever it receives a carriage return from the computer. Note the following check points when trying to figure out which setting to use here:

- ✓ If you find that your output is double-spaced when it should not be, change this setting to **Disabled**.
- ✓ If you find that lines are printing over each other, change this setting to **Enabled**.

Paper Out

- Enable or disable the paper out detect function.

When paper out detection is set to **Enabled**, the printer automatically stops printing whenever it senses there is no more paper. When set to **Disabled**, the printer continues printing as long as there is data. Selecting **Disabled** makes it possible to print right up to the bottom of a page, but it also creates the danger of printing when there is no paper loaded in the printer, which can damage the print head and platen.

Line Spacing

- Select the line spacing you want to use.

Strobe Timing

- Select the timing you want to use for receipt of data by the printer.

Selecting **Normal** allows the printer to receive data from the computer when the parallel interface's strobe signal falls. Selecting **Reverse** allows data receipt when the strobe signal rises.

Print Mode

- Select the print mode you want to use.

Selecting **NLQ** provides near letter quality output, while selecting **Draft** provides draft quality. Draft quality printing may be less attractive than near letter quality, but the printing operation is faster.

Banking Character

- Enable or disable banking character font.

When the banking character is set to **Enabled**, the printer uses a special banking font to print the dollar sign and numerals 0 through 9. When set to **Disabled**, the special banking font is not used.

Zero style

- Select the type of zero you want to use.

Selecting **Normal** prints zeros without lines running through them, while **Slashed** prints zeros with a diagonal slash running through them. Note that you can make this setting only when you are not using the special banking font (see **Banking Character**, above). The zero style of the special banking font overrides any setting you make here.

Character Table

- Select the character table you want to use for printing.

For details on what characters are included in these character tables, see “Character Sets” on page 44 of this manual.

Page Length

- Specify the length of the paper you are using.

Chapter 4: Paper Handling

Your printer is designed to print on a variety of different paper types. This chapter tells you everything you need to know about paper, and how to set the printer up for manual paper feed. In this chapter, you will learn about:

- Selecting the best type of paper to use
- Adjusting for paper thickness
- Manual sheet feeding
- Clearing paper jams

Selecting paper types

Use the following information when selecting paper.

Cut-Sheet Paper

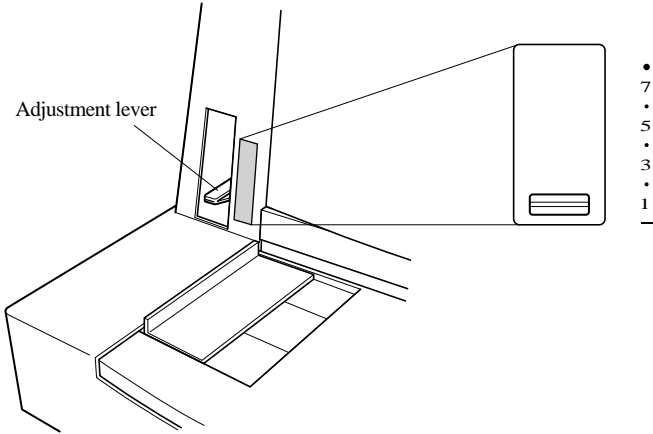
Width:	5.5" to 12" / 140 to 305 mm
Length:	5.5" to 11" / 140 to 280 mm
Thickness (1-ply):	52 to 156 g/m ² / 45 to 135 kg / 14 to 42 lbs
Copy Paper:	40 to 52 g/m ² / 34 to 45 kg / 11 to 14 lbs; pressure sensitive paper
	Total Thickness: 0.020" / 0.5 mm
Copies:	Original + 6

Fanfold Paper

Width:	4.5" to 12" / 114 to 305 mm
Length:	6" / 152 mm (min.)
Thickness (1-ply):	52 to 81 g/m ² / 45 to 70 kg / 14 to 22 lbs
Copy Paper:	40 to 52 g/m ² / 34 to 45 kg / 11 to 14 lbs; pressure sensitive paper
	Total Thickness: 0.020" / 0.5mm
Copies:	Original + 6

Adjusting for paper thickness

Paper comes in different weights, normally expressed as gsm (grams per square meter) or lbs (pounds). Some form paper also has multiple pages that make them quite thick. Use the following procedure to change the gap between the print head and the platen and adjust for paper thickness.



- Move the adjustment lever to one of its nine settings. Position 1 is most suitable for single-sheet paper.

The following table provides a general guide for setting the adjustment lever. Experiment with different settings until you find the one that gives you the print quality you want.

Paper Type		Weight Per Sheet	Thickness	Recommended Position
Single-sheet		14 lbs (52 gsm)	0.06 mm	1
		17 lbs (64 gsm)	0.08 mm	1
		21 lbs (81 gsm)	0.10 mm	1
		28 lbs (104 gsm)	0.13 mm	1
		42 lbs (156 gsm)	0.19 mm	2
Copy	2-ply	11 lbs (40 gsm)	0.13 mm	2
	3-ply	11 lbs (40 gsm)	0.20 mm	3
	4-ply	11 lbs (40 gsm)	0.26 mm	4
	5-ply	11 lbs (40 gsm)	0.33 mm	5
	6-ply	11 lbs (40 gsm)	0.39 mm	6
	7-ply	11 lbs (40 gsm)	0.45 mm	7

Continuous use of the wrong adjustment lever setting can drastically reduce print head life!

Automatic fanfold feeding

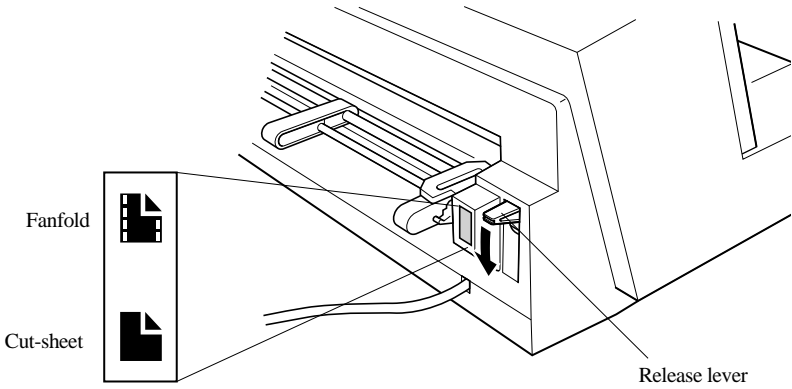
- See “Loading paper” on page 8 for details on using fanfold paper.

Manual sheet feeding

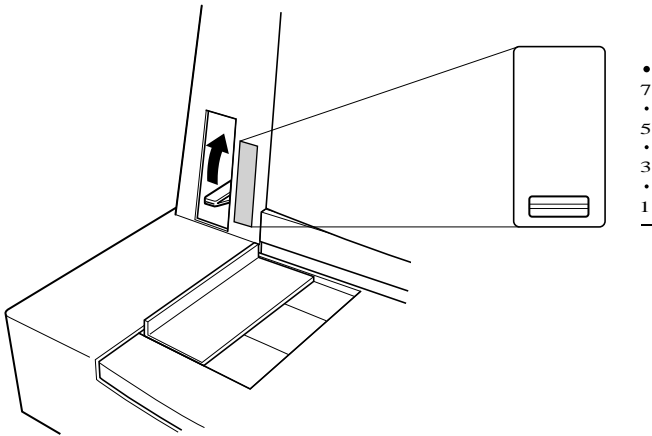
You can use the following procedure to manually feed cut-sheets of paper into the printer.

- Make sure that there is no fanfold paper in the printer. If there is, use the procedure under “Parking fanfold paper” on page 12 to park the fanfold paper and prepare for manual sheet feeding.

- Set the release lever on the back of the printer to the cut-sheet position.

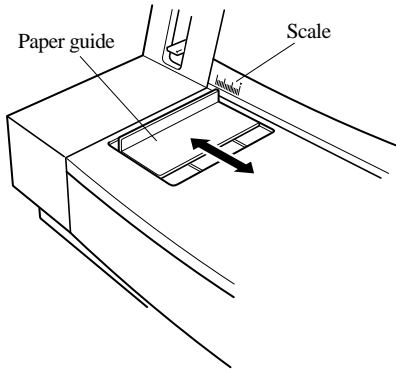


- Set the adjustment lever to the value that matches the thickness of the paper you are using. The setting for normal paper is 1. Set the lever to a larger value for thicker paper, or to a smaller value for thinner paper.

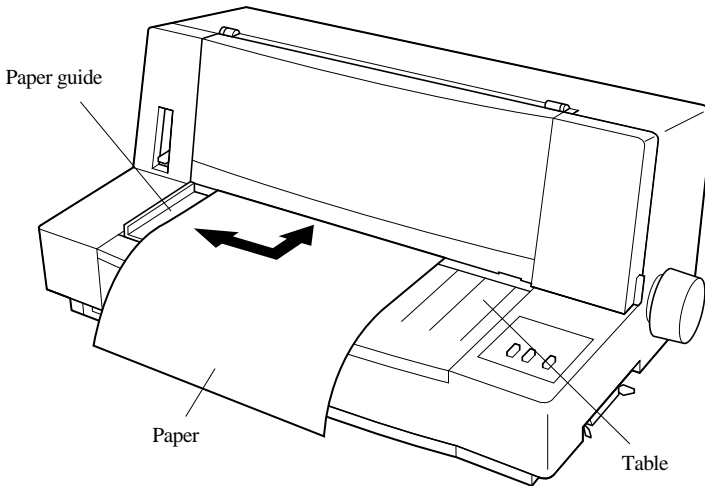


- Adjust the paper guide to the position you want.

Note that the ▼ mark of the guide indicates where the left margin of the printing will be.



- ❑ Making sure that the left edge of the paper is against the paper guide, insert a sheet of paper into the front of the printer.



- ❑ Press the control panel's **SET/EJECT/PARK** button once to feed the paper into the printer.
- ❑ Start the printing operation from your software application.
- ❑ After the printing is complete, press **SET/EJECT/PARK** to eject the paper from the printer.

Note:

If you are inserting letterhead paper, insert the sheet so that it is face up with the letterhead portion up.

Clearing paper jams

Use the following procedure to clear paper jams from the printer.

- Unplug the printer from its AC power outlet.
- Open the front cover of the printer.
- Carefully try to pull the jammed paper from the printer.
If necessary, move the release lever on the back of the printer to the fanfold position or rotate the platen knob to remove the paper.
- Close the front cover of the printer.

Chapter 5: Using the Printer with MS-DOS

This chapter contains information about how to use the printer with applications software running under MS-DOS. In this chapter, you will learn about:

- How to set up for printing with MS-DOS

Setting up for printing with MS-DOS

To print from an application running under MS-DOS, you must first select the printer from within the application. Typically, the program will feature an **INSTALL** or **SETUP** command for selection of printers. Refer to the manual for the application you are using for details on how to select a printer for it.

Note:

Remember that you must select a printer for each individual application before you can print from it.

- Start up the application and use the correct procedure for that application to select a printer. The following is a list of printers that can be used. If your application lists more than one of these, select the printer that is nearest to the top of this list.

Star LC-6211
Star LC-90 / NX-1010
Star LC-100 / NX-1040
Star LC-10 / NX-1000
Epson FX-850
Epson EX-800
Epson LX-850 / LX-810

- To print, follow the instructions given in the manual of the application you are using. Typically, you would select the application's **PRINT** command, make any necessary changes in the window that appears (such as the number of copies to be printed), and then press the **RETURN** key to start printing.

Appendix A: Troubleshooting

The appendix tells you what you need to know if you experience problems with your printer. It tells you how to test the printer, how to check system software settings, and how to adjust the vertical alignment. In addition, there is information on actions to take for specific problems, and on the meanings of printer beep tones.

Warning!

The printer uses high voltage. Do not attempt any other repair or maintenance except as expressly recommended in this appendix. Unauthorized repair and maintenance not only exposes you to the danger of electrical shock, it also may damage your printer and void your warranty.

Testing the Printer

Use the following procedure to test the printer to make sure that everything is working correctly.

- Turn off the printer.
- Make sure that paper is loaded in the printer.
- While holding down the control panel's **ON LINE** button, turn the printer back on.

This test continually prints the version number of the software contained in the printer's ROM, the current EDS settings, and the current Dot Adjustment settings, followed by the entire character set printed in each font and pitch available.

- To stop demo printing, turn the printer off.

Note:

The test prints across the entire width of the carriage. Make sure that the printer is loaded with the widest possible paper available in order to avoid damage to the print head and platen.

Hexadecimal dump

This procedure prints in hexadecimal format all codes (character codes and control codes) that are sent to the printer by the computer. The printer does not execute any control codes (such as 0A - linefeed), it just prints them out. The hexadecimal dump is useful when you are writing programs for printer control.

- Turn off the printer.
- Make sure that paper is loaded in the printer.
- While holding down the control panel's **LINE FEED** button, turn the printer back on to enter the Hex Dump Mode.
- To exit the Hex Dump Mode, turn the printer off.

Adjusting the dot alignment

You may never have to use the procedure described in this section, but after you have been using your printer for some time you may find that the dots of some graphics do not align correctly. For example, what should look like:



may come out looking like one of the following:



or like this:



This is caused when mechanical parts of the printer get out of alignment. This happens only rarely and you may never experience it at all throughout the life of the printer. If you do have problems, use the following procedure to correct it.

- Turn off the printer.
- Make sure that paper is loaded in the printer.
- While holding down the control panel's **SET/EJECT/PARK** and **ON LINE** buttons, turn the printer back on to enter the Dot Adjustment Mode. The printer will print something like the following.

*** DOT ADJUSTMENT SETTING ***

DRAFT 0 : |||

Note that the printer will feed the paper forward and back each time during this operation so you can view the printout.

- If the three lines do not align properly, use **SET/EJECT/PARK** to move the middle line to the left or **LINE FEED** to move it to the right.
The above step performs alignment for DRAFT mode only. You must make separate adjustments for the D-DENSITY/SPEED, NLQ, NORMAL-DENSITY, PLOTTER GRAPHICS, CRT GRAPHICS-1, CRT GRAPHICS-II, and DOUBLE-DENSITY modes as well.
- Press **ON LINE** to change to another printing mode.
- Repeat the above steps for each printing mode, if necessary
- After making changes to the adjustments, hold down **ON LINE** and press **LINE FEED** to exit the Dot Adjustment Mode and register your adjustments.

Troubleshooting guide

Use the following table to help track down the causes of problems and to determine the best solution to deal with them.

Problem	Possible Cause	Recommended Action
The ON LINE indicator does not light.	The printer is not receiving power.	Check whether the power cord is correctly plugged into the power outlet.
		Check whether the power outlet is working by unplugging the printer and plugging in another device.
Printer sounds like it is printing, but it is not. Printing is weak.	The ribbon is jammed, twisted, or not set correctly between the print head and the print head shield.	Make sure that the ribbon cartridge is installed correctly.
	The printer is not set up correctly for the thickness of paper you are using.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 26.
	The ribbon is worn out or "used up."	Replace the ribbon with a new one.

Problem	Possible Cause	Recommended Action
Printer test works, but printer will not print out data from the attached computer.	Your application program's or system software's printer selection is wrong.	Check the printer selection of your application software.
	The computer's system software is not set up properly for the printer or for the type of interface cable you are using.	Check the system software settings.
	The interface cable is connected incorrectly or damaged.	Check to make sure that the printer interface cable is connected correctly. If it is, try a different cable.
Printer does not feed paper properly.	Jamming paper.	Remove all paper from the printer and then reload it.
	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 26.
Line spacing is incorrect.	Jamming paper.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 26.
	The line spacing or leading selected your application program is wrong.	Choose a different line spacing or leading setting from your application.
	Auto line feed with carriage return is enabled by the EDS setting.	Use the EDS Mode to disable auto line feed with carriage return. See "Auto LF with CR" on page 22.
Printer makes excessive noise.	The front cover is removed.	Replace the front cover.
	The printer is vibrating.	Move any objects that are touching the printer.
		Make sure that the printer is on a level steady surface.

Problem	Possible Cause	Recommended Action
Lines print over each other.	Auto line feed with carriage return is disabled by the EDS setting.	Use the EDS Mode to enable auto line feed with carriage return. See "Auto LF with CR" on page 22.
	Jamming paper.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 26.
Incorrect number of lines are printed on the page.	Auto line feed with carriage return is enabled by the EDS setting.	Use the EDS Mode to disable auto line feed with carriage return. See "Auto LF with CR" on page 22.
	The line spacing or leading selected by your application program is wrong.	Choose a different line spacing or leading setting from your application.
	Dot adjustment is not correct.	See "Adjusting the dot alignment" on page 33.
Text and graphics are malformed. Print quality is poor.	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 26.
	The print head is damaged.	Return the printer to your dealer for repair.
	The ribbon is worn out or "used up."	Replace the ribbon with a new one.
Printer case is hot.	The printer's air vents are blocked or obstructed.	Switch off the printer and let it cool. Check the air vents on the bottom of the printer to see if they are blocked. Remove the obstruction is possible. If the problem persists, return the printer to your dealer for repair.

Problem	Possible Cause	Recommended Action
Forms are smudged. Printing is too dark.	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 26.
	The ribbon is jammed, twisted, or not set correctly between the print head and the print head shield.	Make sure that the ribbon cartridge is installed correctly. See "Installing the ribbon cartridge" on page 5.
	Print head shield is damaged or missing.	Return it to your dealer for repair.
Printer prints past the edge of the paper.	The paper guide is not positioned correctly.	Remove the paper and adjust the position of the paper guide. Reload the paper and try printing again.
	The ribbon is jammed, causing the print head to jam.	Make sure that the ribbon cartridge is installed correctly. See "Installing the ribbon cartridge" on page 5.
	Paper is jamming, causing the print head to jam.	Remove all paper from the printer and reload it. Try printing again.
		Set up the printer for the paper thickness you are using. See "Adjusting for paper thickness" on page 26.
Incorrect margin settings are selected by your application program.	Choose different margin settings from your application program.	

Problem	Possible Cause	Recommended Action
Left margin moves to the right during printing.	The paper is not loaded correctly, causing the print head to jam.	Remove all paper from the printer and reload it. Try printing again.
	The ribbon cartridge is not installed correctly, causing the print head to jam.	Make sure that the ribbon cartridge is installed correctly. See “Installing the ribbon cartridge” on page 5.
	The printer is not set up correctly for the thickness of paper being used.	Set up the printer for the paper thickness you are using. See “Adjusting for paper thickness” on page 26.
	Inappropriate settings are selected by your application program.	Choose different settings in your application.
	Static electricity caused by interference from nearby electrical devices or by low-level humidity is affecting printer operation.	Make sure that the printer is not too close to any devices with electric motors or that raise the humidity level.
Some characters are printed incorrectly.	Static electricity caused by interference from nearby electrical devices or by low-level humidity is affecting printer operation.	Make sure that the printer is not too close to any devices with electric motors or that raise the humidity level.
	Inappropriate settings are selected by your application program.	Choose different settings in your application.
	Wires are missing from the print head.	Return the printer to your dealer for repair.

Problem	Possible Cause	Recommended Action
Printer behaves erratically. Printing suddenly stops.	The interface cable is connected incorrectly or damaged.	Check to make sure that the printer interface cable is connected correctly. If it is, try a different cable.
	Static electricity caused by interference from nearby electrical devices or by low-level humidity is affecting printer operation.	Make sure that the printer is not too close to any devices with electric motors or that raise the humidity level.

Checking system software settings in Windows

Whenever you have problems printing from a Windows application, you should check the following three things:

- ✓ Is the printer you are using set as the default printer?
- ✓ Is the printer you are using correctly selected in your application?
- ✓ Is the correct port selected?

You should also refer to your *Microsoft Windows User's Guide* for other information that might be helpful. If you still experience problems, consult with your software dealer.

To check the default printer selection

- Double-click the **Control Panel** icon in the Main window.
- Double-click the **Printers** icon.
- Check to see that the name of your Star printer is the default printer. If it is not, double-click on the name of your printer in the list of installed printers.
- Click on **Close** to return to the Control Panel window.

To check the application printer selection

- Select **Print** from the application's **File** menu, and a window appears listing available printers.
- Check to see that the name of your Star printer is selected. If it is not, select it and try printing from your application again.

To check the port

- Double-click the **Control Panel** icon in the Main window.
- Double-click the **Printers** icon.
- Double-click on the name of your Star printer in the list of installed printers.
- Click on **Connect**.
- Make sure that your printer cable is connected to the port highlighted in the list of ports.
If you are using a parallel cable, you will probably be using LPT1. If you are using the optional serial-to-parallel interface converter, you should be using COM1 or COM2. Click on the correct port name.
- Click **OK**.
- Click on **Close** to return to the Control Panel window.

Checking system software settings in MS-DOS

If you are using a parallel cable and cannot print a text file using the MS-DOS PRINT command, you may have a problem with your AUTOEXEC.BAT file. Open the file and look for the following line:

```
MODE LPT1 :=COM1 or MODE LPT1 :=COM2
```

These lines indicate printing you are using a serial cable connection, and so you should delete them, save the AUTOEXEC.BAT file, and try printing again.

Of course, if you are having problems printing with the optional serial-to-parallel converter, you should conversely check to make sure that one of the above lines is included in your AUTOEXEC.BAT file. The file must also contain information on parameter settings. For details, see the user's manual that comes with the optional Serial-to-Parallel Interface Converter.

If the above is not the problem or if you make the above changes and still experience problems printing using the MS-DOS PRINT command, refer to your *MS-DOS Users' Guide* or consult with your software dealer.

If you are successful in printing using MS-DOS PRINT command but cannot print from an application, check to see what printer driver is select in the application. See "Setting up for printing with MS-DOS" on page 31. If this does not help, consult with your software dealer.

Appendix B: Specifications

Printing System	Serial Impact Dot-Matrix		
Printing Speed	Pitch	Draft (cps/dpi)	NLQ (cps/dpi)
	Pica (10 cpi)	180/120H	45/240H
	Elite (12 cpi)	216/120H	54/240H
	Condensed pica (17 cpi)	154/240H	77/240H
	Condensed elite (20 cpi)	180/240H	90/240H
	H: half-dot		
Print Direction	Draft:	Bi-directional logic seeking	
	NLQ:	Uni-directional or bi-directional logic seeking (selectable); Default: bi-directional	
	Bit-Image:	Uni-directional or bi-directional logic seeking (selectable); Default: bi-directional	
Print Head	Number of pins:	9	
	Life:	200 million dots/pin (adjustment lever position 1 to 3) 100 million dots/pin (adjustment lever position 4 to 7)	
Line Spacing	1/6", 1/8", 7/72", n/72", n/216"		
Character Matrix	Pitch	Draft	NLQ
	Pica (10 cpi)	9 × 11H	18 × 23H
	Elite (12 cpi)	9 × 9H	18 × 19H
	Condensed pica (17 cpi)	9 × 11H	18 × 12H
	Condensed elite (20 cpi)	9 × 9H	18 × 10H
	H: half-dot		
Environment	Operating Temperature:	41°F to 95°F (5°C to 35°C)	
	Storage Temperature:	-22°F to 149°F (-30°C to 65°C)	
	Operating Humidity:	30% to 80% (noncondensing)	
	Storage Humidity:	20% to 90% (noncondensing)	
Paper	Cut-sheet		
	Paper width:	5.5" to 12" / 140 to 305 mm	
	Paper length:	5.5" to 11" / 140 to 280 mm	
	Thickness (1-ply):	52 to 156 g/m ² / 45 to 135 kg / 14 to 42 lbs	
	Copy Paper:	40 to 52 g/m ² / 34 to 45 kg / 11 to 14 lbs; pressure sensitive paper	
		Total thickness: 0.020" / 0.5 mm	
	Copies:	Original + 6	
	Fanfold		
	Paper width:	4.5" to 12" / 114 to 305 mm	
	Paper length:	6" / 152 mm (min.)	
	Thickness (1-ply):	52 to 81 g/m ² / 45 to 70 kg / 14 to 22 lbs	
	Copy Paper:	40 to 52 g/m ² / 34 to 45 kg / 11 to 14 lbs; pressure sensitive paper	
		Total thickness: 0.020" / 0.5 mm	

	Copies:	Original + 6
Emulation	ESC/P	
Maximum Buffer Size	Without download:	15.2 kB
	With download:	0.5 kB
Interface	Standard:	Centronics parallel
	Option:	RS-232C serial
Ribbon Type	On-carriage, dedicated	
	Monochrome (X9):	Black only
Ribbon Life	2 million characters (ASCII Draft)	
Dimensions and Weight	Width:	20.67" / 525 mm
	Depth:	14.57" / 370 mm
	Height:	9.06" / 230 mm
	Weight:	16.1 lbs. / 7.3 kg
Power Supply	220V AC $\pm 10\%$, 240V AC $\pm 10\%$; 50/60Hz (depending on country of purchase)	
Power consumption	7W during stand-by	
	30W in ASCII draft printing	
Options	SPC-8K Serial-To-Parallel Converter	

Appendix C: Interface Pin Outs

Parallel Interface

Pin	Name	Function
1	STROBE	Goes low for $\geq 0.5\mu\text{s}$ when active.
2	DATA0	These signals represent information for the 1st through 8th bit of parallel data, respectively. Each signal is HIGH when data is logical 1, and LOW when logical 0.
3	DATA1	
4	DATA2	
5	DATA3	
6	DATA4	
7	DATA5	
8	DATA6	
9	DATA7	
10	ACK	10 μs low to acknowledge receipt of data.
11	BUSY	Printer sets line low when ready to receive data.
12	PAPER	High when paper runs out.
13	SELECT	High when printer is on-line.
14-15		Not used.
16	SIGNAL GND	Signal ground
17	CHASSIS	Chassis ground (isolated from signal ground)
18	+5V	+5V DC output from printer
19 - 30	GND	Twisted pair ground return
31	RESET	Printer is reset when this signal goes low.
32	ERROR	Low when printing cannot continue due to error.
33	EXT GND	External ground
34 - 36		Not used

Optional Serial Interface

Pin	Name	Function
1	GND	Printer chassis ground
2	TXD	Data from printer
3	RXD	Data to printer
4	RTS	Always space
5	CTS	Space when computer is ready to send data. Printer ignores this signal.
6		Not used.
7	GND	Signal ground
8 - 10		Not used.
11	RCH	Printer sets line to space when ready to receive data. Same signal as Pin 20.
12 - 19		Not used.
20	DTR	Printer sets line to space when ready to receive data.
21 - 25		Not used.

Appendix D: Character Sets

Character Set #2 (Graphics Character Table)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	<NUL>			0	@	P	~	p	Ç	É	á	⋮	⋮	⋮	α	≡
1	<DC1>	!	1	A	Q	a	q	ü	æ	í	⋮	⋮	⋮	⋮	β	±
2	<DC2>	"	2	B	R	b	r	é	Æ	ó	⋮	⋮	⋮	⋮	Γ	≥
3	<DC3>	#	3	C	S	c	s	â	ô	ú	⋮	⋮	⋮	⋮	Π	≤
4	<DC4>	\$	4	D	T	d	t	ä	ö	ñ	⋮	⋮	⋮	⋮	Σ	⋮
5		%	5	E	U	e	u	à	ò	N	⋮	⋮	⋮	⋮	σ	⋮
6		&	6	F	V	f	v	ã	û	ñ	⋮	⋮	⋮	⋮	μ	÷
7	<BEL>	'	7	G	W	g	w	ç	ù	ó	⋮	⋮	⋮	⋮	τ	≈
8	<BS > <CAN>	(	8	H	X	h	x	ê	ÿ	¿	⋮	⋮	⋮	⋮	Φ	°
9	<HT>)	9	I	Y	i	y	ë	ö	⌈	⋮	⋮	⋮	⋮	Θ	·
A	<LF>	*	:	J	Z	j	z	è	Ü	⌋	⋮	⋮	⋮	⋮	Ω	√
B	<VT> <ESC>	+	;	K	[	k	{	ï	ç	½	⋮	⋮	⋮	⋮	δ	∞
C	<FF>	,	<	L	\	l	;	î	£	¼	⋮	⋮	⋮	⋮	ε	∞
D	<CR>	-	=	M	]	m	}	ì	¥	⅓	⋮	⋮	⋮	⋮	∅	²
E	<SO>	.	>	N	^	n	~	ÿ	℞	⅔	⋮	⋮	⋮	⋮	ε	∞
F	<SI>	/	?	O	_	o		À	ƒ	»	⋮	⋮	⋮	⋮	∩	∞

Character Set #2 (Italic Character Table)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	<NUL>			0	@	P	~	p	à	\$		0	@	P	~	p
1	<DC1>	!	1	A	Q	a	q	è	ß	!	1	A	Q	a	q	
2	<DC2>	"	2	B	R	b	r	ù	Æ	"	2	B	R	b	r	
3	<DC3>	#	3	C	S	c	s	ò	æ	#	3	C	S	c	s	
4	<DC4>	\$	4	D	T	d	t	ì	ø	\$	4	D	T	d	t	
5		%	5	E	U	e	u	°	ø	%	5	E	U	e	u	
6		&	6	F	V	f	v	£	"	&	6	F	V	f	v	
7	<BEL>	'	7	G	W	g	w	ï	ñ	'	7	G	W	g	w	
8	<BS > <CAN>	(	8	H	X	h	x	¿	ö	(	8	H	X	h	x	
9	<HT>)	9	I	Y	i	y	Ñ	ü)	9	I	Y	i	y	
A	<LF>	*	:	J	Z	j	z	ñ	ä	*	:	J	Z	j	z	
B	<VT> <ESC>	+	;	K	[	k	{	æ	ö	+	;	K	[	k	{	
C	<FF>	,	<	L	\	l	;	℞	ü	,	<	L	\	l	;	
D	<CR>	-	=	M	]	m	}	À	É	-	=	M	]	m	}	
E	<SO>	.	>	N	^	n	~	á	é	.	>	N	^	n	~	
F	<SI>	/	?	O	_	o		ç	¥	/	?	O	_	o		

Character Set #1

Other characters are the same as those for Character Set #2, above.

	0	1
0	<NUL>	
1		
2		<DC1>
3		<DC2>
4		<DC3>
5		<DC4>
6		
7	<BEL>	
8	<BS >	<CAN>
9	<HT>	<EM>
A	<LF>	
B	<VT>	<ESC>
C	<FF>	
D	<CR>	
E	<SO>	
F	<SI>	

	8	9
0	<NUL>	
1		
2		<DC1>
3		<DC2>
4		<DC3>
5		<DC4>
6		
7	<BEL>	
8	<BS >	<CAN>
9	<HT>	<EM>
A	<LF>	
B	<VT>	<ESC>
C	<FF>	
D	<CR>	
E	<SO>	
F	<SI>	

International Character Set

The character codes shown in the table are hexadecimal.

Conuntry	23	24	40	58	5A	5B	5C	5D	5E	60	7B	7C	7D	7E
U.S.A.	#	\$	@	X	Z	[	\	\]	^	~	{	|	}	~
FRANCE	#	\$	à	X	Z	°	ç	§	^	~	é	ù	è	~
GERMANY	#	\$	§	X	Z	Ä	Ö	Ü	^	~	ä	ö	ü	ß
ENGLAND	£	\$	@	X	Z	[	\	\]	^	~	{	|	}	~
DENMARK 1	#	\$	@	X	Z	Æ	Ø	Å	^	~	æ	ø	å	~
SWEDEN	#	¤	é	X	Z	Ä	Ö	Å	Ü	é	ä	ö	å	ü
ITALY	#	\$	@	X	Z	°	\	é	^	ù	à	ò	è	ì
SPAIN 1	₞	\$	@	X	Z	ı	Ñ	¿	^	~	ı	ñ	}	~
JAPAN	#	\$	@	X	Z	[	¥	]	^	~	{	|	}	~
NORWAY	#	¤	é	X	Z	Æ	Ø	Å	Ü	é	æ	ø	å	ü
DENMARK 2	#	\$	é	X	Z	Æ	Ø	Å	Ü	é	æ	ø	å	ü
SPAIN 2	#	\$	á	X	Z	ı	Ñ	¿	é	ı	ñ	ó	ú	
LATIN AMERICA	#	\$	á	X	Z	ı	Ñ	¿	é	ı	ñ	ó	ú	

Appendix E: Printer Control Codes

This appendix lists the printer's control commands. It gives the name of each control command and the applicable ASCII code.

Font and Character Set Control Commands

Description	ASCII Code
Select italic	ESC 4
Cancel italic	ESC 5
Select Character Set #2	ESC 6
Select Character Set #1	ESC 7
Select international character set	ESC <i>Rn</i>
Print characters from all character chart	ESC (^
Select character table	ESC <i>tn</i>
Select draft print mode	ESC <i>x0</i>
Select NLQ print mode	ESC <i>x1</i>

Print Pitch Control Commands

Description	ASCII Code
Select condensed print	SI
Same as SI	ESC SI
Select one line expanded print	SO
Same as SO	ESC SO
Cancel condensed print	DC2
Cancel one-line expanded print	DC4
Set print pitch to elite	ESC M
Set print pitch to pica	ESC P
Cancel expanded print	ESC <i>w0</i>
Select expanded print	ESC <i>w1</i>
Cancel proportional print	ESC <i>p0</i>
Select proportional print	ESC <i>p1</i>

Top/Bottom Margin and Vertical Tab Commands

Description	ASCII Code
Advance paper to next vertical tab position	VT
Reverse feed paper one line	ESC LF
Select VFU channels	ESC / <i>n</i>
Set vertical tab positions	ESC <i>Bn</i> ...NULL
Set bottom margin	ESC <i>Nn</i>
Cancel bottom margin	ESC O
Set VFU in a channel	ESC <i>bm</i> ...NULL

Special Print Mode Commands

Description	ASCII Code
Set master print mode	ESC !
Cancel underlining	ESC -0
Select underlining	ESC -1
Select emphasized print	ESC E
Cancel emphasized print	ESC F
Select double-strike print	ESC G
Cancel double-strike print	ESC H
Select superscripts	ESC S0
Select subscripts	ESC S1
Cancel super/subscripts	ESC T

Bit Image Graphic Commands

Description	ASCII Code
Select bit image mode	ESC * <i>m n1 n2</i>
Redefine bit image mode	ESC ? <i>n1 n2</i>
8-pin single-density bit image	ESC K <i>n1 n2</i>
8-pin double-density bit image	ESC L <i>n1 n2</i>
8-pin double-density bit image, double-speed	ESC Y <i>n1 n2</i>
8-pin quadruple density bit image	ESC Z <i>n1 n2</i>
9-pin bit image mode	ESC ^ <i>n0 n1 n2</i>

Line Spacing Commands

Description	ASCII Code
Advance paper one line (line feed)	LF
Reverse paper one line	ESC LF
Set line spacing to 1/8"	ESC 0
Set line spacing to 7/72"	ESC 1
Set line spacing to 1/6"	ESC 2
Set line spacing to $n/216$ "	ESC 3n
Set line spacing to $n/72$ "	ESC An
One time feed of $n/216$ "	ESC Jn
One time reverse feed of $n/216$ "	ESC jn

Form Feed and Related Commands

Description	ASCII Code
Advance paper to top of next page (form feed)	FF
Set page length to n inches	ESC C 00H n
Set page length to n lines	ESC Cn
Reverse form feed	ESC FF

Download Character Commands

Description	ASCII Code
Cancel download character set	ESC %0
Select download character set	ESC %1
Define download characters into RAM	ESC &00H
Copy standard ROM font into RAM	ESC :00H n 00H

Horizontal Print Position Control Commands

Description	ASCII Code
Move print head to next horizontal tab position	HT
Return print head to left margin (carriage return)	CR
Move print head to absolute horizontal position	ESC \$ <i>n1 n2</i>
Add <i>n</i> dot spaces between characters	ESC SP <i>n</i>
Set horizontal tab positions	ESC D <i>n</i> ...NULL
Set right margin	ESC Q <i>n</i>
Move print head to specified horizontal position	ESC \ <i>n1 n2</i>
Left justification	ESC a0
Centering	ESC a1
Right justification	ESC a2
Set left margin	ESC l <i>n</i>

Other Commands

Description	ASCII Code
Sound printer bell	BEL
Move printer head back one space (backspace)	BS
Set printer on line	DC1
Set printer off line	DC3
Cancel line in print buffer	CAN
Delete last character sent	DEL
Cancel MSB control	ESC #
One-line uni-directional printing	ESC <
Set MSB to logical 0	ESC =
Set MSB to logical 1	ESC >
Disable paper out detect	ESC 8
Enable paper out detect	ESC 9
Initialize printer	ESC @
Cancel uni-directional printing	ESC U0
Select uni-directional printing	ESC U1
Cancel double-high mode	ESC w0
Select double-high mode	ESC w1

Appendix F: Glossary

Centronics cable

Parallel cable normally used to connect the printer to the computer.

control code

A numeric code that instructs the computer to perform an operation. For example, the computer sends the printer a form feed control code (12) to tell it to eject the current page.

Electronic DIP Switch settings

Printer settings that take effect when you switch on the printer. You can make these settings using the control panel.

emulation

Ability of the printer to act like (emulate) certain types of printer.

hexadecimal dump

Printout of all character codes and control codes as they are received by the printer, along with their hexadecimal values.

NLQ font

Near letter-quality font.

off-line

Printer mode in which the printer cannot be used for printing.

pitch

Spacing between characters.

power outlet

Local AC power source that you plug into to supply power to your printer. Be sure that your printer is rated for the electrical power in your area. Your printer's rating can be found on the plate on the bottom of the printer.

on-line

Printer mode in which the printer is ready to print.

serial-to-parallel interface converter

Option that makes it possible to connect the printer to a computer via a serial interface instead of the standard Centronics parallel interface.

serial cable

Cable that can be used to connect the printer to the computer. Use of a serial cable also requires connection of the optional serial-to-parallel interface converter.

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Customer service information

If you experience any technical difficulties with your Star printer, please refer to Appendix A How to deal with printing problems. This chapter describes easy methods to diagnose and resolve some of the problems which you may encounter.

For further technical support, you should first contact your Authorized Star Dealer. If you require additional support, Star Micronics offers a wide variety of technical support services. Please use one of the telephone numbers listed below, depending on the country in which your Star printer was purchased.

Star Micronics Technical Hotline:

Hong Kong:	852-2795-2335
Australia:	61-2-748-4300
New Zealand:	64-9-570-1470

Star Micronics Bulletin Board Service:

Australia and New Zealand:	61-2-748-2960
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Customer response

Star Micronics Co., Ltd. invites your suggestions and comments on your printer and this manual. Please address your correspondence to Attn: Product Manager

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