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Disclaimer

Canon Computer Systems, Inc. has reviewed this manual thoroughly in order that it will be an easy to use guide to your Canon BJC-2000 Series Color Bubble Jet Printer. All statements, technical information, and recommendations in this manual and in any guides or related

Using Your Documentation

The following documentation is supplied with the Canon BJC-2000 Series Color Bubble Jet™ Printer to help you efficiently use your new printer.

Quick Start Guide

This sheet describes the steps you follow to set up your printer and install the BJC-2000 Series Printer Driver for Windows®. You can follow the steps illustrated on this sheet to start printing in minutes.

User's Manual

This manual offers detailed information on how to operate your printer. It includes printing operations, maintenance, and specifications. Read this manual to master basic operations and when you need to know the specifications of the printer.

Conventions

This *User's Manual* uses the following conventions to alert you to information that will help you operate the printer correctly and safely.



Note

Notes provide advice or suggestions regarding the use of the printer.



Caution

Cautions alert you to operations that could cause damage to your hardware or software, or cause injury to yourself.

Distinctive typefaces identify the printer buttons you press, the lights on the operator panel, and any commands you enter at your computer.

- The buttons you press appear in this typeface: **RESUME** button.
- When you type something on your computer, it appears in this typeface: DIR/P.
- The selections you make in Windows are shown in bold: Click **OK**.

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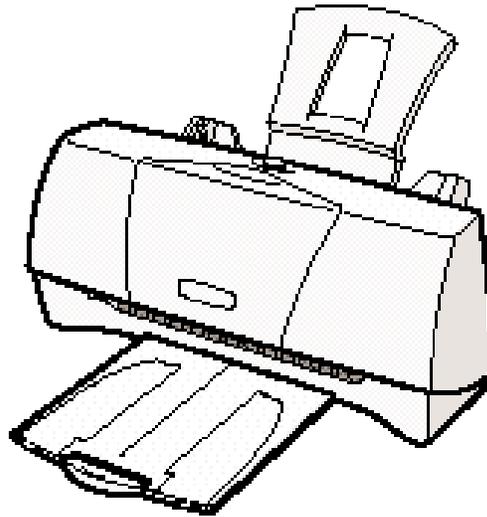
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Introduction 1



Congratulations on your purchase of the Canon BJC-2000 Series Color Bubble Jet Printer. We appreciate your choosing this printer to meet your printing needs.

The BJC-2000 Series printers offer excellent print quality and fast print speed using both color and black inks. We are certain you will be satisfied with this advanced Bubble Jet technology.



This chapter:

- Lists the supplies, accessories, and options you can purchase for the printer
- Lists hardware and software requirements
- Describes Canon's customer support services

Supplies and Accessories

Your BJC-2000 Series printer supports excellent and unique print media options that will allow you to produce dazzling, professional, and fun presentations. All of these print media are specially designed and manufactured to work with your Canon Color Bubble Jet printer so you can produce the finest output possible.



Canon has an extensive dealer network equipped to offer you supplies as you need them. To find a dealer near you, call the Canon Referral Service at **1-800-848-4123**.

If supplies are not available from your local dealer, you can order directly from Canon by calling **1-800-385-2155**.

BJ Cartridges and BJ Tanks

You can use the following BJ[®] cartridges with the BJC-2000 Series printers:

- BC-21e Color BJ Cartridge
- BC-20 Black BJ Cartridge
- BC-22e Photo BJ Cartridge

You can purchase the following BJ tanks for use in the BC-21e Color BJ Cartridge:

- BCI-21 Black BJ Tank
- BCI-21 Color BJ Tank



Note

BJ cartridges contain the Bubble Jet print head and BJ tank(s), while BJ tanks contain ink only.



Note

Canon has more engineers dedicated to creating quality ink for providing the best results for output on Bubble Jet printers than any other organization. Canon does not prohibit the use of third-party inks and the use of third-party inks does not invalidate the product's limited warranty. However, Canon cannot guarantee the quality or performance of your printer when you are using inks from other suppliers.

Canon's limited warranty does not cover damage caused to Canon's Bubble Jet products that is attributable to the use of third party parts or supplies, including inks. The limited warranty remains in effect for its life once that particular damage has been properly repaired.

For optimum printing results, Canon recommends that you use only Canon BJ cartridges and BJ tanks.

You can also purchase the optional Canon BC-22e Photo Kit, which includes everything you need to produce photo-realistic images:

- BC-22e Photo BJ Cartridge
- SB-21 Ink Cartridge Storage Box
- Canon High Resolution Paper HR-101 (60 sheets)

See Chapter 4, *Maintaining the Printer*, for details on replacing BJ cartridges.

Canon Specialty Papers

Canon manufactures numerous specialty papers, including:

- Glossy Photo Paper
- Banner Paper
- Brilliant White Paper
- High Resolution Paper
- T-Shirt Transfers
- Greeting Cards
- Glossy Photo Cards
- Bubble Jet Paper (water resistant)

- Fabric Sheets
- Transparencies
- Back Print Film
- High Gloss Film

See Chapter 3, *Paper Handling*, for details on Canon's Specialty Papers.

Color Image Scanner Cartridge



You can use your BJC-2000 Series printer as a color image sheetfed scanner by removing the BJ cartridge from the printer and replacing it with the optional IS-22 Color Image Scanner Cartridge. This scanner cartridge employs an optical head in place of a print head to scan images and text on paper fed through the printer.

See Appendix C, *Installing the Optional Color Image Scanner*, for instructions on how to install the scanner cartridge. For details about using the scanner cartridge, see the *IS-22 Color Image Scanner Cartridge User's Manual* that comes with the scanner cartridge package.

Hardware and Software Requirements



Important! Before you start, make sure you have the following computer setup. (These are the minimum requirements.)

- IBM® PC or compatible computer with a 486 PC processor or better (Pentium® processor recommended)
- Microsoft® Windows® 98, Windows 95, or Windows 3.1
- 8 megabytes (MB) of RAM (16 MB or more recommended for high resolution printing)
- 40 MB hard disk space
- Bi-directional, Centronics®-compatible parallel cable (IEEE 1284-compliant); a cable less than 6.6 feet in length is recommended

- CD ROM drive (2x or better)
(If you do not have a CD ROM drive, you can download the printer driver from Canon's Web site or BBS, or call the Canon Customer Care Center to order the Printer Setup on diskettes for a small shipping and handling fee. See the Canon Customer Care Center information below for numbers.)

Canon Creative has additional requirements. See the Canon Creative *Quick Start Guide* for details.

Additional System Requirements for Windows NT 4.0 Users

- Pentium 90 processor or higher (Pentium 200 recommended)
- Service Pack 3 or later
- 32 MB RAM (64 MB recommended)
- 60 MB hard disk space available (150 MB recommended)
- CD ROM drive (or access to a CD ROM drive over the network connection)

Canon Customer Care Center

Canon Computer Systems, Inc. offers a full range of customer technical support* options including:

- 24-hour, 7-day-a-week, toll-free automated support for troubleshooting issues on most current products **(1-800-423-2366)**
- Speak to a technician free of service charge (currently Monday–Friday, 8:00 am–10:00 pm and Saturday 12:00 pm–6:00 pm EST, excluding holidays) for products still under warranty** **(1-757-413-2848)**
- Speak to a technician (currently \$24.99 per call) during holidays and days/hours not listed above regarding urgent product questions or for products no longer under warranty **(1-800-423-2366)**
Or for a charge of \$2.50 per minute, to a maximum of \$25.00 per call **(1-900-246-1200)**

- Technical support via the Canon Computer Systems, Inc. Web site (**www.ccsi.canon.com**)
- 24-hour, toll-free Fax Retrieval System (**1-800-526-4345**)
- To download the latest drivers using your modem, 24-hour Bulletin Board Service (**1-757-420-2000**)
- Within Canada, 24 hours a day, 7 days a week* (**1-800-263-1121**)

*Support program specifics subject to change without notice.

**Refer to individual product information for warranty details.

Servicing the Printer

The Canon BJC-2000 Series Color Bubble Jet Printers are designed with the latest technology to provide trouble-free operation. The Warranty Card that comes with the printer describes Canon's one-year limited warranty for your Bubble Jet printer. Be sure to read the warranty information to find out about the different service options available to you.



Save your sales receipt for proof of purchase. In the event that your printer needs service, you will need your proof of purchase to obtain warranty service.

If you feel your BJC-2000 Series Color Bubble Jet Printer needs servicing, contact Canon on the World Wide Web to locate the Canon Authorized Service Facility (ASF) nearest you. If you do not have access to the Web, you can call Canon (see page 1-5).

Using the Printer With Windows 2



This chapter describes how to use the printer with your Windows applications. It includes:

- Understanding the printer driver
- Printing a document
- Using the Printer Driver in Windows
- The Windows tabs
- Recommended Print Mode settings
- Customizing the Print Mode settings
- Executing a print job
- Printing speed versus color

Using the Printer
With Windows

Understanding the Printer Driver

Before you can use any type of printer with your computer, you must install software that allows the printer and computer to communicate; the software is called a **printer driver**. The printer driver tells the computer what kind of a printer you are using. The printer driver also controls the various settings, such as print quality and paper type. You define these settings within the printer driver, and the printer driver then communicates the settings to both the computer and the printer.



Note

You must install the BJC-2000 Series Printer Driver for Windows before you can use the printer with your computer. If you are using Windows 98, Windows 95, or Windows NT 4.0, see your *Quick Start Guide* for instructions. If you are using Windows 3.1, see Appendix B for instructions.

Printing a Document

This procedure describes the general steps required for printing from various Windows applications. The exact steps for printing a document may vary depending on the application program you are using. Refer to your software application's documentation for the exact printing procedure.

1

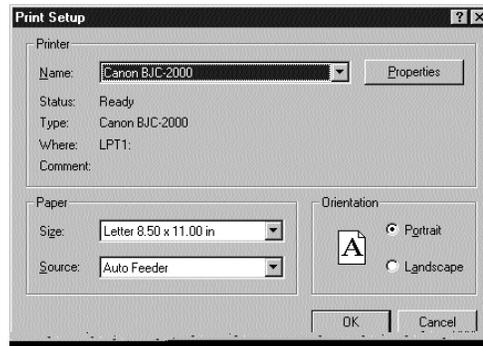
Start your application.

- Start the program you are using to create the document, and open the document you want to print.

2

Make sure the Canon BJC-2000 is selected as your default printer.

- Choose **Print** or **Print Setup** from the File menu. You will see a screen similar to this:



- Click on the **Properties** (or **Setup**) button if you want to make any adjustments as appropriate for printing your document. (See *The Windows Tabs* for details.)
- After making any necessary changes to the printing parameters, click **OK** to start the print job.

Using the Printer Driver in Windows

You use the printer driver to define the type of printing you plan to do. The default settings may be adequate for most of your printing operations, but you will want to change these settings for any special color printing or when you use media other than plain paper.

Accessing the Printing Options—Windows 98, Windows 95, or Windows NT 4.0

To view or change your printer settings, you must open the printer driver dialog box. The printer driver dialog box contains tabs on which the printing options are displayed.

You can open the printer driver dialog box in one of the following ways:

- From within any Windows application, you can select the **Print** or **Print Setup** command.
- From the Printers folder, you can select the printer and then select the **Properties** command (Windows 98 or Windows 95) or the **Document Defaults** command (Windows NT 4.0) from the File menu.
- From the Printers folder, you can select the printer, click the right mouse button, and then select the **Properties** command (Windows 98 or Windows 95) or the **Document Defaults** command (Windows NT 4.0) from the drop down list.

The title and the tabs you see across the top of the printer driver dialog box depend on how you start the printer driver and on the operating system you are using. The Main, Paper, Features, and Maintenance tabs contain the printing options that make up your printer driver. The other tabs you see, such as General or Details, relate to your operating system; for information regarding the options on these tabs, see your Windows documentation.





Note

For detailed information on any of the printing options, you can use the Windows 98, Windows 95, or Windows NT online Help:

- Use the right mouse button to click an item on the screen; then click the **What's This?** command.
 - Click ? and then click an item.
 - Press F1.
-

Accessing the Printing Options—Windows 3.1

You can access the printing options from the Printers dialog box in the Control Panel, or you can select the **Print Setup** option available from the File menu of most applications that run in Windows.



Note

If the **Print Setup** option does not appear in the File menu for your application, refer to the user's manual supplied with the application. It should provide information about changing the printer setup parameters.

In Windows 3.1, the printing options are displayed on these tabs: Main, Paper, Features, and Maintenance. See the next section, *The Windows Tabs*, for details.

If you have not installed the BJC-2000 Series Printer Driver for Windows 3.1, see Appendix B for instructions.

The Windows Tabs

The BJC-2000 Series Printer Driver for Windows has several tabs from which you can select your printing options. Be sure to use the Windows help features to learn more about using these settings.



Note

The tabs you see may be arranged differently than shown here. The arrangement of the printing options on the tabs varies depending on the operating system you are using. However the settings are the same.

The Main Tab

This tab allows you to select your Print Mode.

SELECT YOUR PRINT MODE,
WHICH INCLUDES PRINT QUALITY
AND COLOR SETTINGS

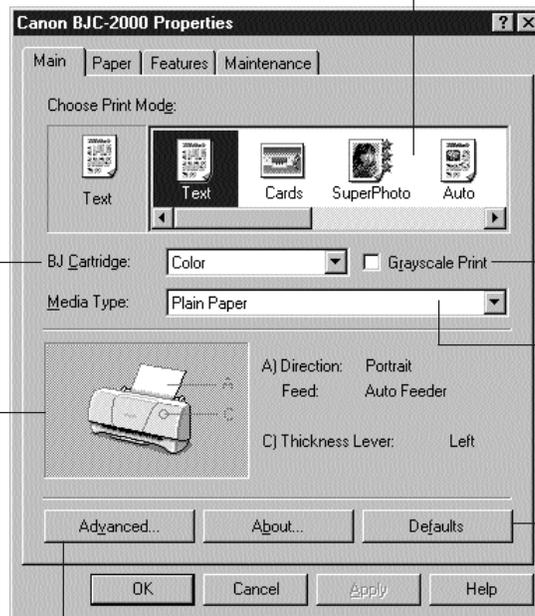
SPECIFY THE TYPE
OF BJ CARTRIDGE
INSTALLED

ILLUSTRATES THE
CURRENT PAPER
SETTINGS

CLICK HERE TO
PRINT COLOR DATA
AS GRAYSCALE

SELECT YOUR
MEDIA TYPE

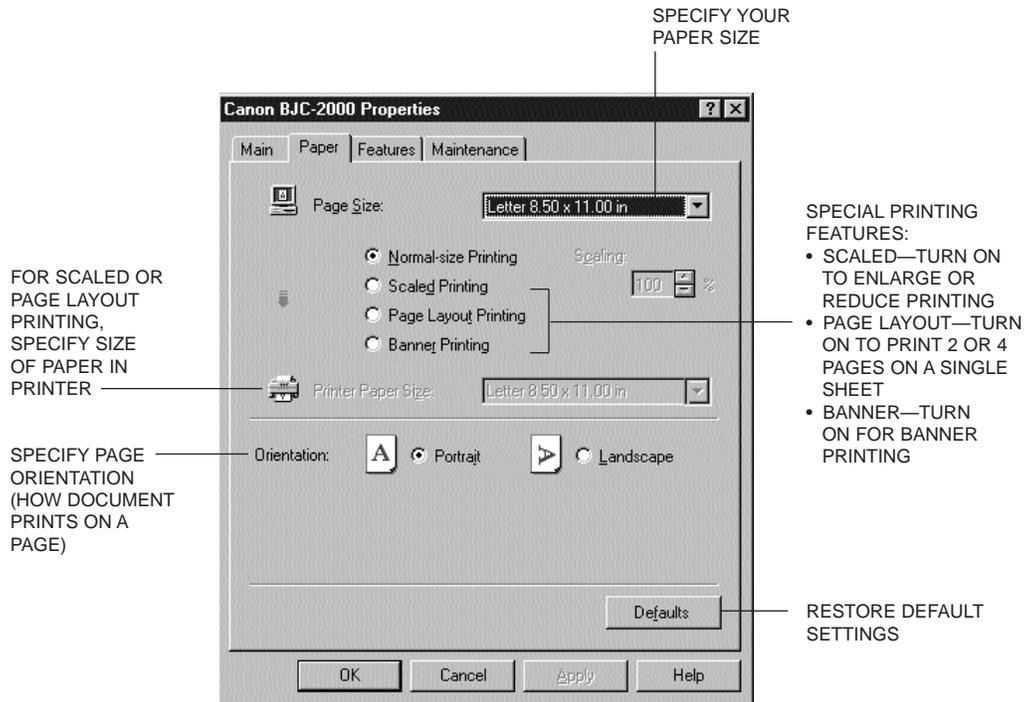
RESTORE DEFAULT
SETTINGS



CLICK HERE TO CUSTOMIZE
THE PRINT MODE SETTINGS
(SEE PAGE 2-11)

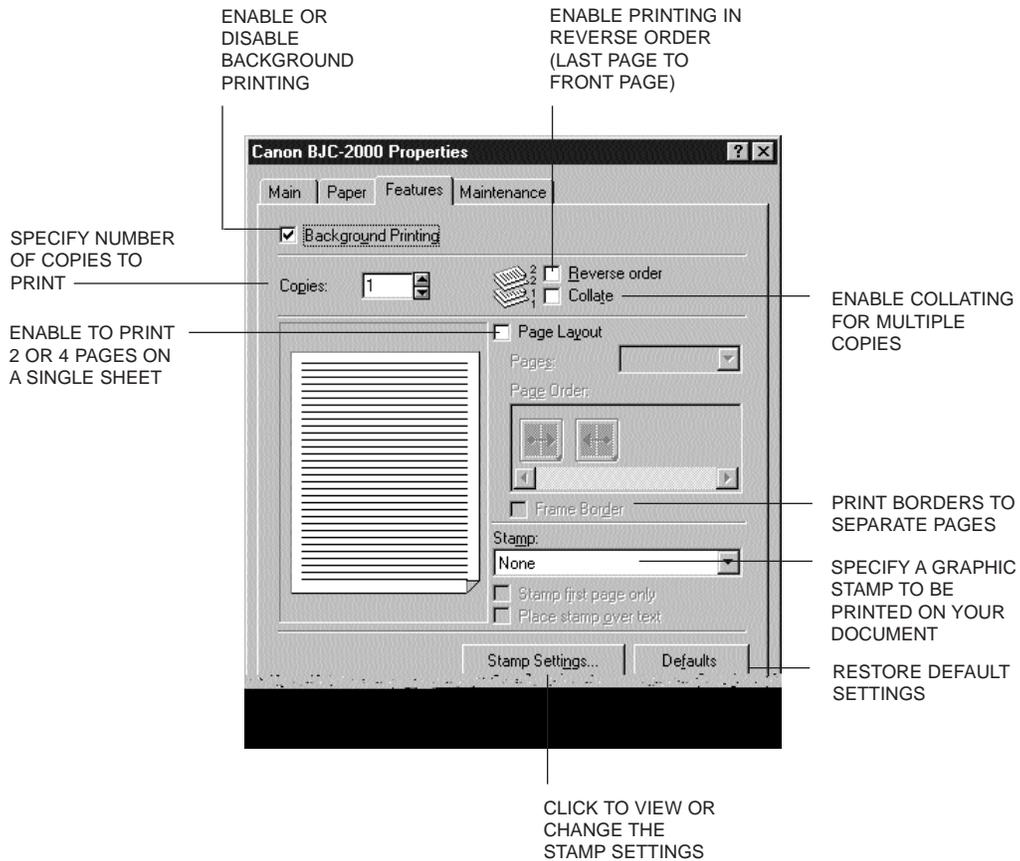
The Paper Tab

This tab allows you to specify paper size and page orientation.



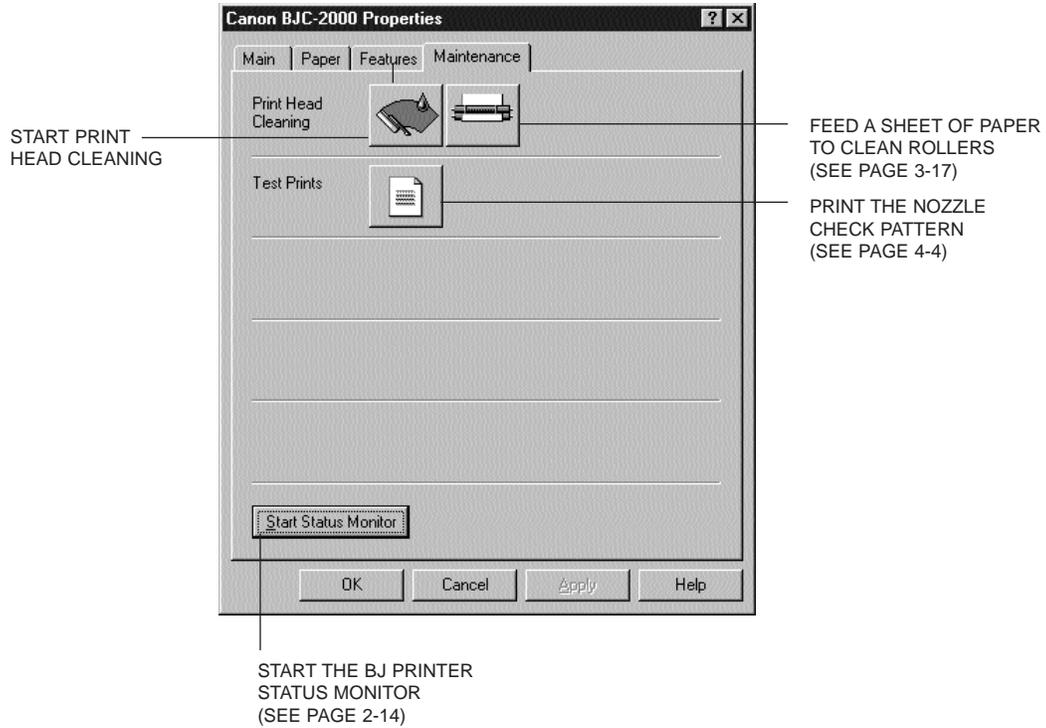
The Features Tab

This tab allows you to specify background printing features, which include multiple copies and page layout.



The Maintenance Tab

This tab allows you to initiate print head cleaning, roller cleaning, and test prints.



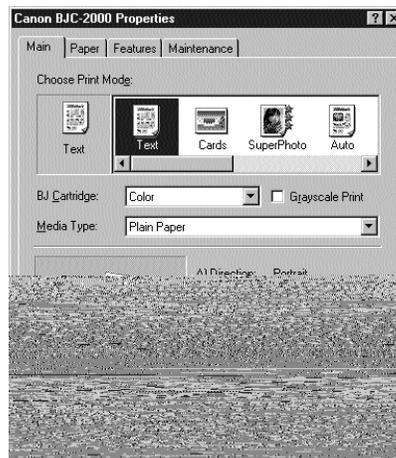
Specifying Your Printing Options on the Windows Tabs

Be sure to use your online help to find out about the settings available for each printing option.

- To move between the Windows tabs, click on any of the tabs.
- To save the settings and exit, click the **OK** button.
- To cancel your setting selections on a tab, click the **Cancel** button.
- To save your settings without exiting, click the **Apply** button.
- To access helpful information about the printer and the printer driver, click on the **Help** button.
- To find out about a setting, click the question mark ? in the upper right corner. Move the larger question mark to the setting you are interested in and click again.

Recommended Print Mode Settings

The Print Mode you select on the Main tab optimizes the printer's settings for print quality, media, paper feed method, and color adjustment.



- For normal printing, select one of the following Print Modes:



Text
For standard printing quality.



Auto
To print text, photos, illustrations, tables, and graphics at higher than normal printing quality.



Draft
To emphasize speed rather than quality; for printing draft texts.

- For high-quality printing of photos and graphics, you can use special high-resolution paper and select one of the following Print Modes:



Graphics
For graphics with clearly defined graph and color boundaries.



Photo
For photos and graphics with many gradation levels.



SuperPhoto
Highest quality for photos (this setting requires use of the BC-22e Photo BJ Cartridge).



Camera
For printing images and photos from a digital camera. Use the BC-22e Photo BJ Cartridge with this setting.

Customizing the Print Mode Settings

On the Main tab, you can click the **Advanced** button to customize the selected Print Mode. You see the following three tabs.

The Quality Tab

SELECT THE TYPE OF CARTRIDGE INSTALLED

SPECIFY MEDIA TYPE

SPECIFIES PAPER FEED METHOD OF AUTO FEED

SPECIFIES THE BALANCE BETWEEN PRINT QUALITY AND PRINT SPEED

SPECIFY HALFTONING

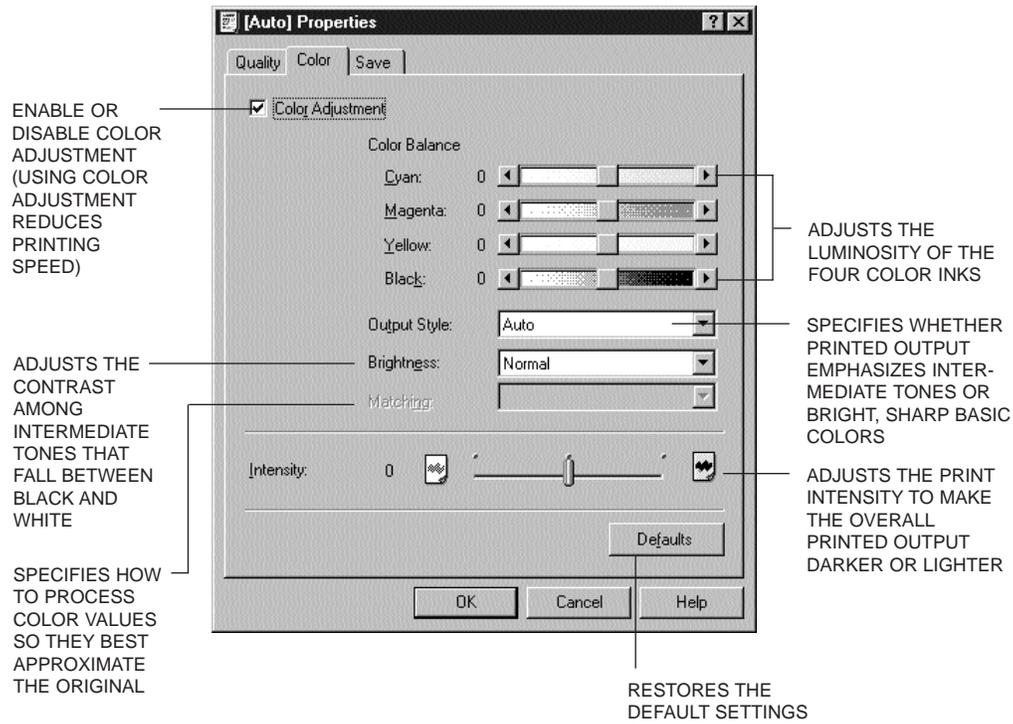
- **AUTO**—ALLOWS THE PRINTER TO DETERMINE THE TYPE OF IMAGE DATA AND APPLY THE APPROPRIATE DITHERING METHOD
- **FINE (FAST)**—USE FOR HIGH SPEED PRINTING OF CHARACTERS OR TABLES
- **FINE**—USE FOR PRINTING GRAPHICS OR CHARTS WITH CLEARLY DEFINED COLOR BOUNDARIES
- **DIFFUSION**—USE FOR PRINTING NATURAL COLOR IMAGES SUCH AS PHOTOGRAPHS

ENABLES THE IMAGE DATA CORRECTION FEATURE TO SMOOTH LOW-RESOLUTION IMAGE DATA FOR PRINTING

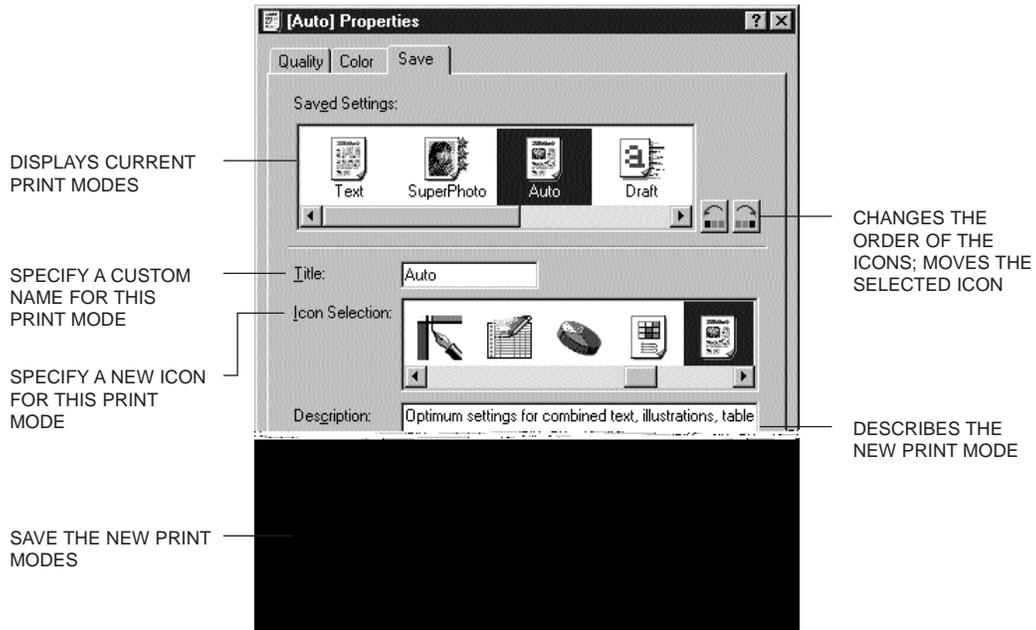
RESTORES THE DEFAULT SETTINGS



The Color Tab



The Save Tab



Note

You cannot use the names of existing modes (Text, Auto, etc.) nor the reserved name Graph.

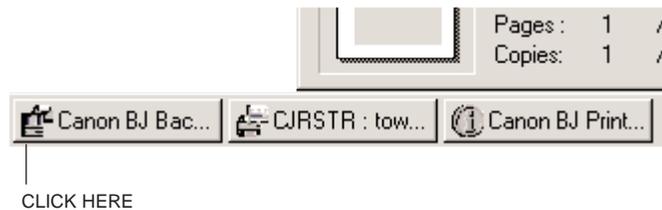
Executing a Print Job

After you start a print job, the following three features start up in sequence.

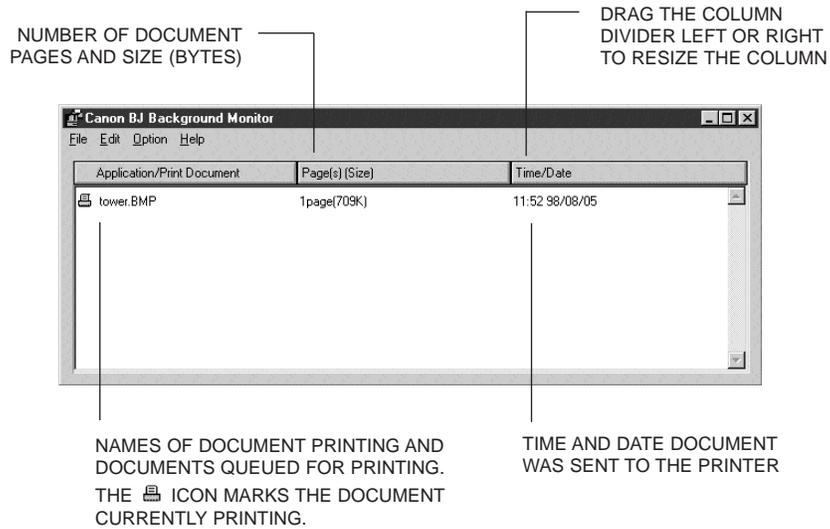
- **BJ Background Monitor**
Displays the status of the print jobs in the background. Use the background monitor to change the order of the print jobs or cancel a print job.
- **BJ Backgrounder**
Displays the transmission status of the current print job. Use the backgrounder to pause or cancel a print job.
- **BJ Status Monitor**
Displays the printer status. If an error occurs, the status monitor will describe the error and provide a solution for the problem.

The BJ Background Monitor

To open the BJ Background Monitor, click its button on the Task Bar.



You see this screen:

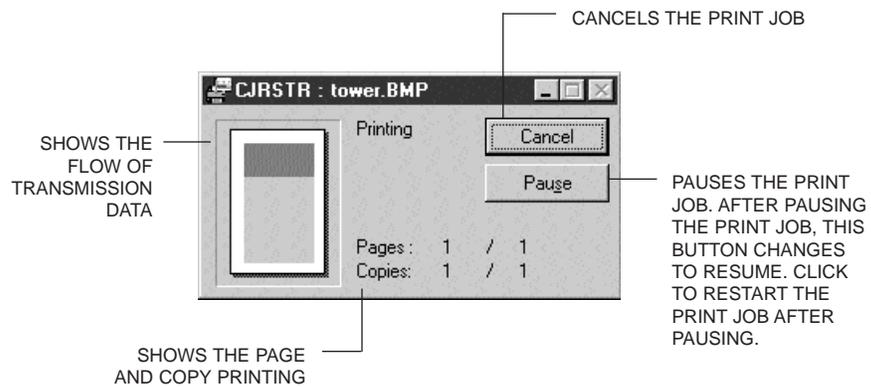


Note

For more details about the BJ Background Monitor, select **Help** from the Help menu of the BJ Background Monitor.

BJ Backgrounder

The BJ Backgrounder screen looks similar to this:



BJ Status Monitor

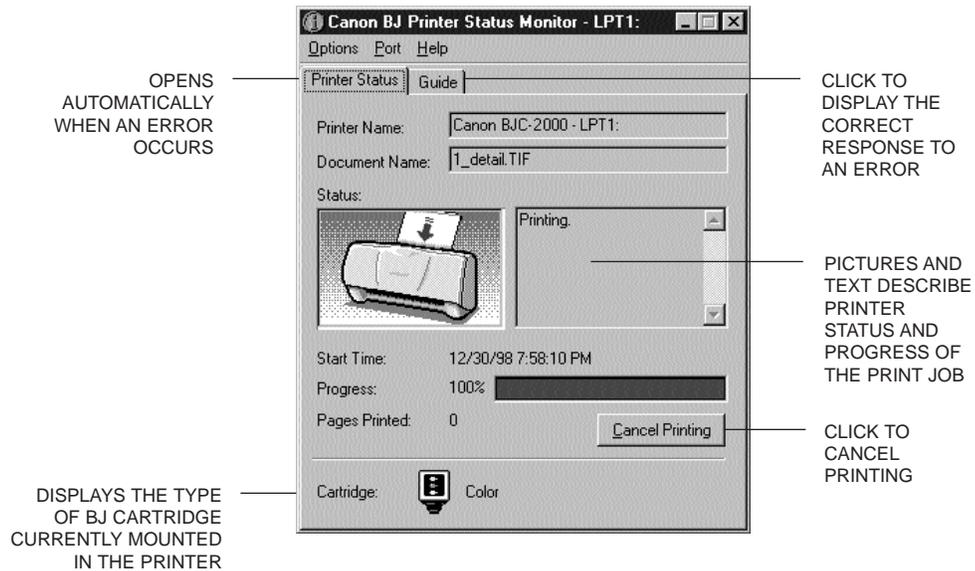
To open the BJ Status Monitor during printing, click its button on the Task Bar.



Note

For information about the BJ Status Monitor, click **Help** to pull down the Help menu and select **Screen Topics**.

The BJ Status Monitor shows the printer status and the progress of documents printing in Windows. It looks similar to this:



Printing Speed Versus Color

The BJC-2000 Series Printer Driver for Windows can interpret and translate the full spectrum of colors, up to 16.7 million colors. When printing in color, there is a significant increase in the amount of information that the driver has to interpret and translate. When printing with black ink only, the driver has only one color to interpret.

By decreasing the amount of colors that the printer driver has to interpret, you can significantly decrease the time needed to translate the information. This will speed up the overall printing process.

Ways to Improve Print Speed in Windows

To improve printing speed, you can try the following:

- Turn off the Print Manager in the Windows Control Panel (Windows 3.1 only)
This avoids the extra step of sending the print file to the Print Manager and may increase your printing speed by as much as 25%, depending on the computer you are using.
- Add a permanent swap file in Windows 3.1
Under the 386 Enhanced icon in the Windows Control Panel, add or create a permanent swap file that is from 4 MB to 9 MB. The computer will be able to prepare the print file faster. See your Windows documentation for instructions.
- Avoid diffusion halftones
In the Quality tab, choose Diffusion for Halftoning only when printing final output or photographic images. Choosing a Halftoning setting of Fine/Fast allows documents to print as much as 20% faster because the computer does not need to compute to “best possible position” for each dot.
- Avoid color adjustment
In the Color tab, disable the Color Adjustment option. This feature takes longer to process in the computer because it requires special information.

- **Free up your memory**
Use only one software program at a time and unload any screen saving utilities or programs stored in Windows background; this frees up more memory for Windows processing.
- **Use Draft mode when possible**
If you will be printing text in black ink only, choose a Print Mode of Draft or Text. Use Draft mode to emphasize speed rather than quality; in Draft mode the printer will need to disperse fewer dots.
- **Limit the number of colors on each page**
The computer will need to calculate and transmit fewer dots. Too many colors can make the image confusing and less effective as well as cause the print speed to slow down.
- **Use basic colors when printing presentation graphics**
Use black, yellow, magenta, blue, green, and red when possible. The computer will need to calculate and transfer less dot information.
- **Use Plain Paper as the Media Type**
The print head will make only one pass for each printed line.
- **Use smaller graphics and more white space in your documents**
The computer will be able to prepare the print file faster.
- **Add more RAM to your computer**
The computer will be able to prepare the print file faster.
- **Use a computer with a faster processor**
The computer will be able to prepare the print file faster.

Paper Handling 3



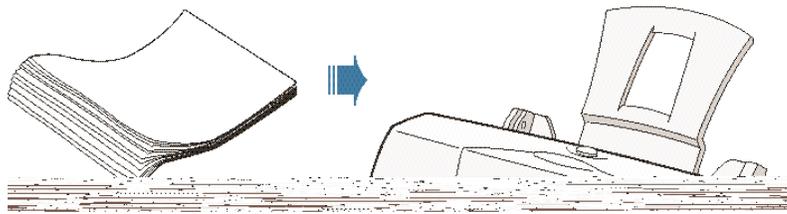
This chapter describes how to use the printer for all your printing operations. It includes:

- Selecting paper types
- Setting the paper thickness lever
- Summary of printer settings for various print media
- Automatically loading paper
- Printing on envelopes
- Using Canon's Specialty Papers

To ensure the best performance of your printer, you'll want to select the best paper and load it correctly. You can stack paper in the sheet feeder to load it automatically, or you can manually feed one sheet at a time.

Selecting Paper Types

One of the most important things you can do to assure the best possible performance of your Bubble Jet printer is to select the correct paper. Your printer produces letter quality print on most plain bond papers, including cotton bond and photocopying papers; it does not require special ink jet papers. However, the print quality varies with different paper types. Be sure to test a type of paper before you purchase a large quantity.



Plain Paper

The printer supports paper sizes of letter, legal, and A4 in portrait orientation. You can use regular copier paper, cotton bond papers, and typical letterhead. Always use paper without curls, folds, staples, or damaged edges.

Glossy Photo Paper

Canon Glossy Photo Paper is a high gloss, thicker paper that produces the look and feel of a photograph. Use this paper with the BC-21e Color or BC-22e Photo BJ Cartridge to produce photo-realistic prints from your printer. (In your printer driver, select Glossy Paper when you have Glossy Photo Paper loaded.)

Banner Paper

Canon's Banner Paper is specifically designed for printing one continuous sheet in a banner format. The connected sheets are divided by a perforation. You can print from two to six sheets at one time.

Brilliant White Paper

Canon's unique paper formulation gives you a bright white printing surface that produces incredibly brilliant colors and dark, crisp black text. This paper works great for everyday use, as well as proposals, color presentations, color charts/graphs, flyers, and newsletters. You can print on both sides of the sheet. (In your printer driver, select Plain Paper when you load this paper.)

High Resolution Paper

The Canon High Resolution Paper is designed to produce photo-realistic quality output with sharp and vivid graphics. For best results, use the optional BC-22e Photo BJ Cartridge to produce images comparable to your favorite photographs.

T-Shirt Transfers

Use Canon's popular T-Shirt Transfers to create and personalize T-shirts, sweatshirts, aprons, tablecloths, napkins, tote bags, and anything else your imagination allows! Use on any cotton or cotton/poly blend fabric. Your image is printed in mirror image (when you select T-Shirt Transfer for your Media Type in the BJC-2000 Series Printer Driver) so when you iron it onto the T-shirt the image is viewed correctly.

Greeting Cards

Get the most out of your Canon Creative or other card making software with Canon Greeting Cards. These cards give your unique, personalized cards the look and feel of professional cards. You can create cards, invitations, announcements, and more.

Glossy Photo Cards

Use Canon's Glossy Photo Card media when creating greeting cards and other fun items that you want to fill the entire card. These cards are the same stock as Canon's Glossy Photo Paper and have perforations around the printable area. You can print beyond the perforation and then tear off the margins; this allows you to fill the entire card with an image or color.

Bubble Jet Paper (water resistant)

The Canon Bubble Jet Paper has been developed for high quality printing with minimal or no smearing or running when in contact with water or damp surfaces, making it a good choice for damp or rainy environments. The paper is specially coated and printable on both sides. (In your printer driver, select Plain Paper when you load this paper.)

Fabric Sheets

Use Fabric Sheets for Canon Bubble Jet printers to print pillow covers, scarves, flags, and other textile items. Use these sheets for appliqués and other craft and sewing projects. Fabric sheets are 9.5 × 14 inches. Be sure to select Fabric Sheet as your Media Type in the printer driver.

Transparencies

Canon Transparencies are recommended. These transparencies produce excellent contrast, sharpness, and color.

Back Print Film

Canon Back Print Film has been specially developed for Canon Color Bubble Jet printers. The film is designed to deliver brilliant, high-intensity color images suitable for business presentations, design work, or professional reports. Back print film is printed on the back (non-glossy) side of the film in mirror image and then viewed from the front or glossy side using a backlighting device. Be sure to select Back Print Film as your Media Type in the printer driver.

High Gloss Film

The Canon High Gloss Film features a bright white finish that lends striking visual power to charts, graphs, and photographic images. Use this film to make your presentation materials and graphics look professional.



Note

If you are printing in an application outside Windows, your software application or printer driver must support mirror image printing in order to use Back Print Film or T-Shirt Transfers.

Paper Guidelines

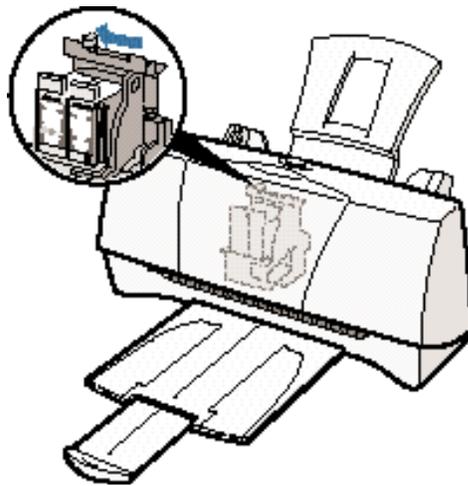
When selecting or loading paper, please remember the following:

- Attempting to print on damp, curled, wrinkled, or torn paper can cause paper jams and poor print quality.
- Use cut-sheet paper only. You cannot use multipart paper.
- Whenever possible, hold the paper by the edges and avoid touching the print side. Any scratching or soiling of the print side will adversely affect the print quality.
- When storing paper, put the paper back in its original package and avoid locations that are exposed to direct sunlight or that are subject to high temperatures or humidity. To avoid bending or wrinkling the paper, store the package on a flat surface.
- After printing, do not touch the print side until the ink is dry. If water gets on the printed media, do not touch the print side until the media is dry.
- When using graph paper, the lines may not match because the 1/6-inch line spacing of the printer is slightly less than that of graph paper. Adjust the line spacing in your application.
- If the print density of your page is very high, light paper stock may curl slightly due to the large amount of ink. If you need to print dense graphics, try printing on thicker paper.
- Do not use thicker paper than meets the specifications for this printer. Printing with a paper that is thick enough to come in contact with the print head nozzles may damage the BJ cartridge.
- When printing on legal size paper (or larger), do not extend the paper output tray.

Setting the Paper Thickness Lever

To ensure trouble-free paper handling, you'll want to set the blue paper thickness lever before loading paper.

- Left for printing on paper
- Right for fabric sheets, heavier-weight paper or other print media, or envelopes



Note

Be sure to check this lever before and after printing on heavier-weight print media or envelopes.

Printer Settings for Various Print Media

Media	Paper thickness lever	Paper output guides	Paper feed limit (Sheets)
Plain paper	Left	Down	Approx. 50 (0.2" or 5 mm stack)
Glossy Photo Paper	Left	Up	10
Banner Paper	Left	Up	1 (2 to 6)
Brilliant White Paper	Left	Down	Approx. 50 (0.2" or 5 mm stack)
High Resolution Paper	Left	Up	Approx. 40 (0.2" or 5 mm stack)
T-Shirt Transfers	Left	Down	1
Greeting Cards	Left	Down	1
Glossy Photo Cards	Left	Down	1
Bubble Jet Paper	Left	Down	Approx. 50 (0.2" or 5 mm stack)
Fabric Sheets	Right	Down	1
Transparencies	Left	Down	20
Back Print Film	Left	Down	10
High Gloss Film	Left	Down	1
Other heavier-weight print media	Right	Down	1
Envelopes	Right	Down	5

Loading Paper

You can stack paper in the sheet feeder to load it automatically, or you can manually feed one sheet at a time through the sheet feeder.

You can place approximately 50 sheets of plain paper (20 lb or 75 g/m²) in the sheet feeder at a time.

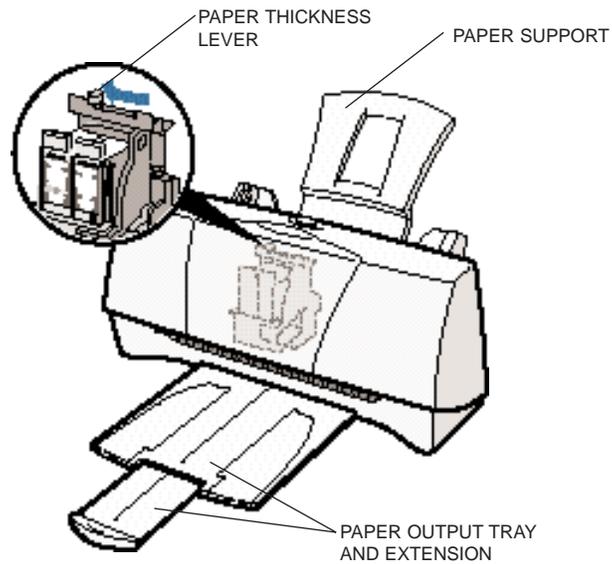
You can stack approximately 20 sheets of transparency film or 10 sheets of back print film in the sheet feeder. However, these special media may not advance correctly under unusual environmental conditions (such as extreme temperatures or humidity). If you have trouble with special papers becoming skewed or feeding multiple sheets, do not stack them in the sheet feeder. Load them one sheet at a time.

Automatically Feeding Paper

1

Prepare the printer.

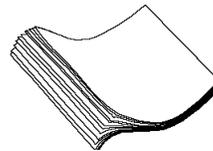
- Make sure the printer is plugged in.
- Make sure the paper support is attached to the printer.
- Open the front cover and make sure the blue paper thickness lever is set:
 - Right for envelopes, fabric sheets, or thick paper
 - Left for all other print media
- Close the front cover.
- Pull out the paper output tray and extension.



2

Fan the paper.

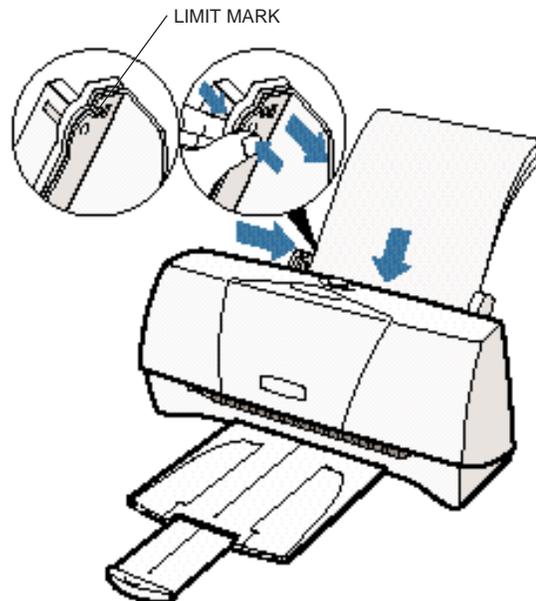
- For best results, fan the paper before loading it.
- Always fan a stack of paper along the edge that will feed into the printer first.



3

Load the stack of paper into the sheet feeder.

- Align the edge of the paper stack with the right edge of the sheet feeder.
- Pinch the paper guide so it moves smoothly and slide the paper guide snug against the left side of the paper stack.
- Make sure that the paper stack is not higher than the limit mark.



**Start your
print operation.**

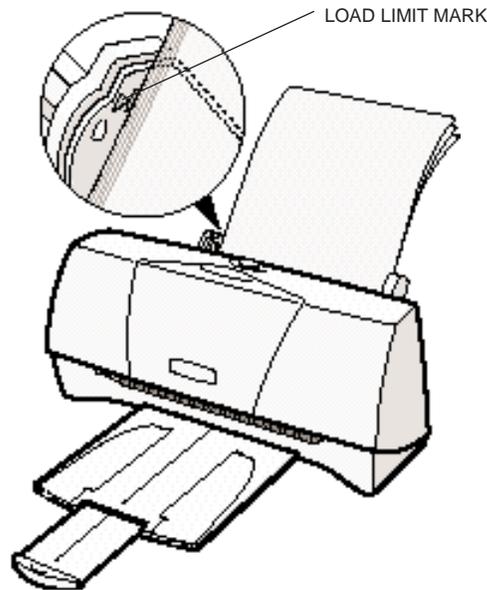
- Use the printer driver to set any necessary print properties; for example, you need to change the settings in the printer driver if you are printing photos or using special paper.

Auto Feed Guidelines

When automatically feeding stacks of paper, follow these guidelines:

- Do not open the front cover while printing. This may cause paper jams, smudges, or malfunctions.
- Do not leave paper stacked in the printer for long periods of time; longer sheets of paper may become bent or curled over time. This may cause the paper to misfeed or jam.
- Depending on the density of your printed pages, the ink may need time to dry. Within two to three seconds, the ink becomes smudge resistant.
- If your printed page contains lots of graphics, the ink may take longer to dry.
- The capacity of the paper output tray is 20 sheets of paper. To reduce paper jams, remove paper from the output tray before the count reaches 20.
- If paper curls after printing, remove it immediately; otherwise, paper jams may occur.
- Make sure there are no gaps between the stack of paper and the paper guide nor the right edge of the sheet feeder.

- Do not try to load paper into the sheet feeder beyond the paper limit mark (▶) on the left side or the tabs on both sides of the sheet feeder; stacking too much paper may cause paper feeding or printing problems.



Printing on Envelopes

You can stack up to 5 envelopes in the sheet feeder or you can manually feed envelopes one at a time.

U.S. Commercial number 10 (COM10) envelopes, Canon envelopes, and European DL envelopes are recommended. You may be able to stack envelopes of other sizes in the sheet feeder; however, Canon cannot guarantee consistent performance on envelope sizes other than COM10, Canon, and DL.

The following envelopes are not recommended because they may cause jams or smears, or may damage your printer.

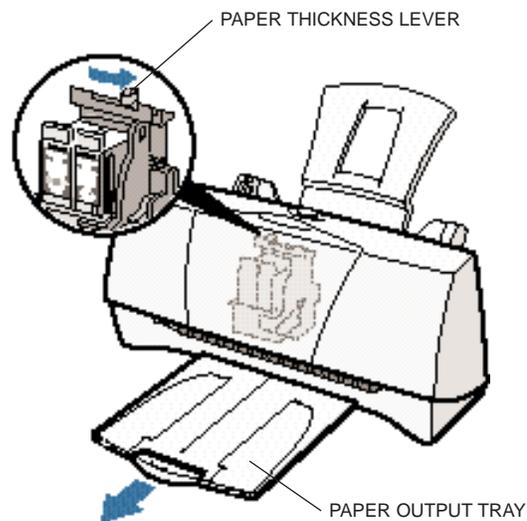
- Envelopes with windows, holes, perforations, cutouts, and double flaps.
- Envelopes made with special coated paper or deeply embossed paper.
- Envelopes using peel-off sealing strips.
- Envelopes in which letters have been enclosed.

When you are ready to print on envelopes, follow these steps to stack envelopes in the sheet feeder. (You can also manually feed envelopes one at a time.)

1

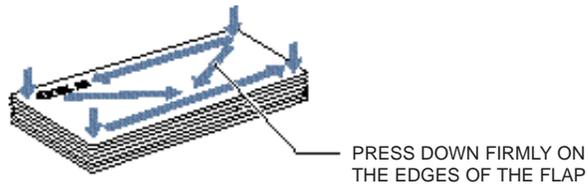
Prepare the printer.

- Open the front cover and make sure that the blue paper thickness lever is set to the right (✉). Close the front cover.
- Pull out the paper output tray.

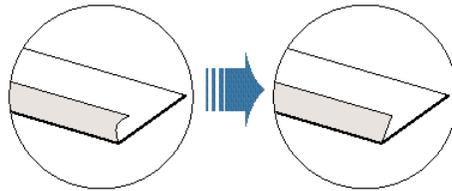


Prepare the envelopes.

- Arrange the stack of envelopes on a firm surface and press down firmly on the edges to make the folds crisp.
- Press all the way around the envelopes to remove any curls and expel air from inside the envelopes.



- Make sure any curls are removed from the flap of each envelope.



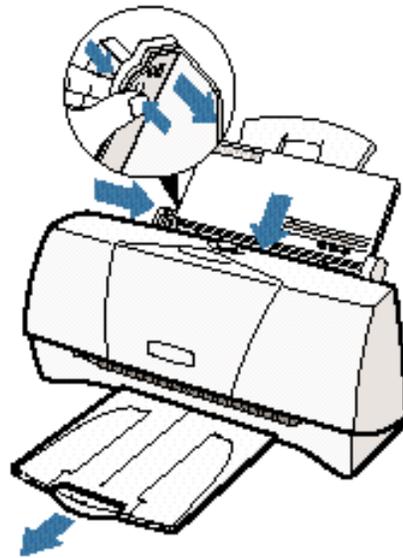
- Make sure the flaps are straight. Use the end of a pen or similar object to flatten the leading edge of envelopes.



3

Insert the envelopes.

- Slide a stack of envelopes into the sheet feeder until it stops.
- The top of the envelope goes in first with the flap toward the sheet feeder.
- Pinch the paper guide so it will move smoothly and slide the paper guide snug against the left side of the stack.
- You can load up to 5 envelopes at one time.



4

Start your print operation.

- Make sure the printer is plugged in.
- When 5 envelopes have been printed, remove them from the paper output tray.

Using Canon's Specialty Papers

This section provides guidelines for printing on Canon's Specialty Papers and describes special procedures required for High Resolution Paper, Fabric Sheets, Banner Paper, and Glossy Photo Paper and Cards.

Specialty Paper Guidelines



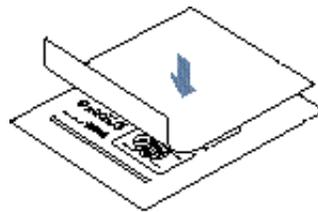
Be sure to read any instructions that come with your Canon Specialty Paper. These instructions provide important information regarding how to achieve the highest print quality with these papers.

Follow these guidelines:

- When automatically feeding transparencies or back print film, remove each sheet after it is delivered. Do not allow film sheets to stack up.
- Let the printed sheets of film or paper dry completely before storing them.

Media type	Drying time
Canon Glossy Photo Paper or Cards	10 minutes
Canon Fabric Sheets	1 hour
Canon Transparencies	15 minutes
Canon Back Print Film	15 minutes

- When a sheet of film has dried completely, cover its printed side with a sheet of plain (not coated) paper before storing it; this is recommended even if you place the sheets of film in a clear file or plastic holder.



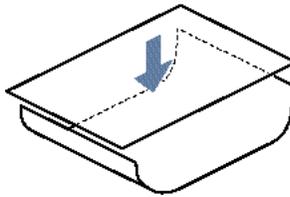
- Do not leave the film in the sheet feeder for long periods of time. Dust and dirt may accumulate on the film resulting in spotty printing.
- To avoid smudging caused by fingerprints, use a pair of thin cloth gloves while loading and handling the film.
- To avoid fading, do not expose the printed film to prolonged sunlight.
- Store unused papers and films flat. Do not remove papers from their protective packaging until you are ready to use them.
- Store unused film at temperatures between 59°F to 86°F (15°C to 30°C). The relative humidity should be between 10% and 70%.

Uncurling Back Print Film

If Back Print Film becomes curled, follow these steps to uncurl it:

1

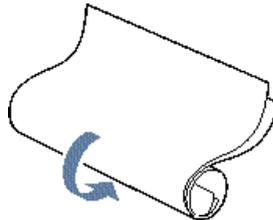
Cover the non-glossy side of the film with a sheet of plain paper.



2

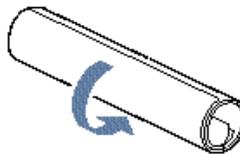
Roll the film and paper up in the direction opposite the curl.

- Do not roll the film too tight.
- The film and paper rolled together should be about one inch (2.5 cm) in diameter.



Keep the film rolled up for about five minutes.

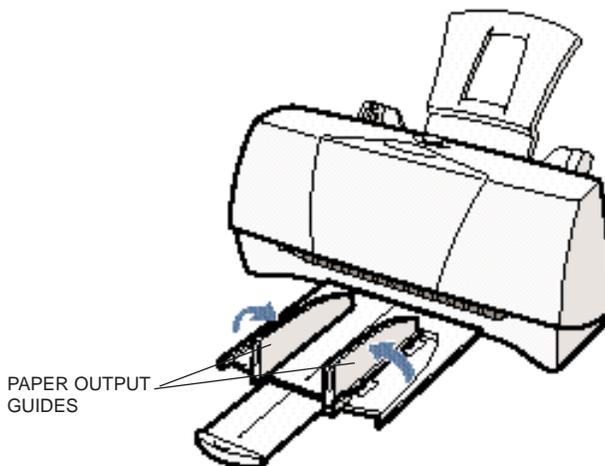
- You may want to fasten the roll with a small piece of tape.



High Resolution Paper

Using the Printer's Output Tray

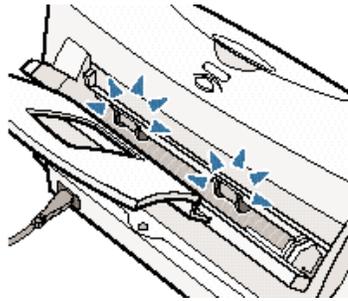
The paper output tray on your printer is equipped with paper output guides. When using the BC-22e Photo BJ Cartridge to print on Canon's High Resolution Paper, lift the paper output guides on both sides of the printer's output tray:



- Always lift both paper output guides.
- With the paper output guides up, the output tray holds 20 sheets.
- After using the BC-22e Photo BJ Cartridge to print on High Resolution Paper, lower the paper output guides.

Using the Cleaning Sheet

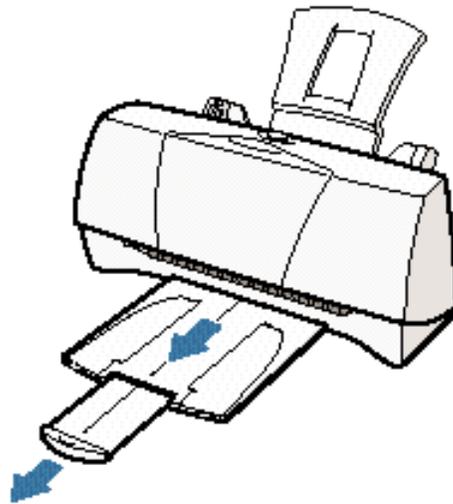
Canon's High Resolution Paper is designed for high quality printing. This paper is specially coated to produce delicate color output. After using a package of High Resolution Paper (200 sheets), you need to use the cleaning sheet enclosed with the paper to remove paper dust from the printer's rollers; this will help prevent paper feed problems.



1

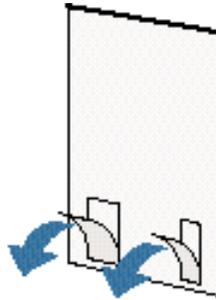
Set up
the printer.

- Make sure the paper output tray is extended.

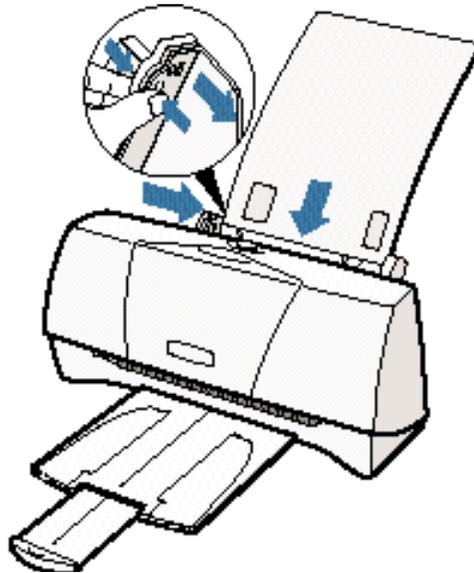


Insert the cleaning sheet.

- Remove the two pieces of tape from the sheet.

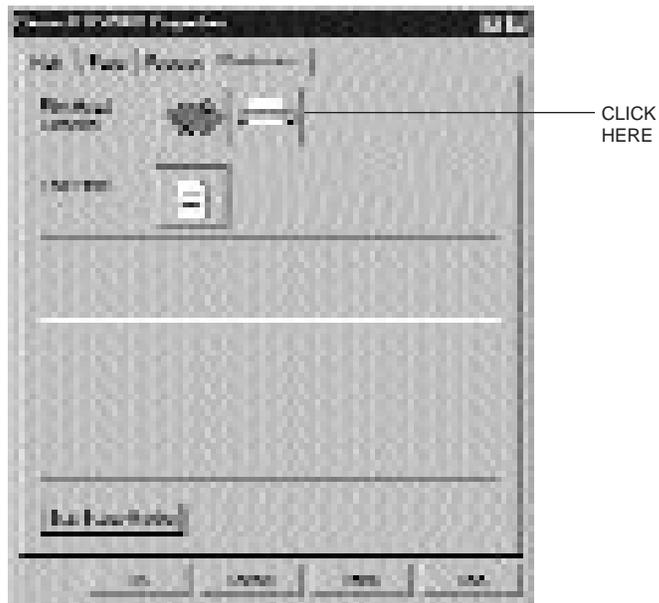


- Insert the sheet with the sticky side out (toward you) and down (going into the printer's sheet feeder).
- Adjust the paper guide to the edge of the cleaning sheet.



Use the Printer Driver to feed the sheet.

- Open the Printer Driver Properties window.
- Click the **Maintenance** tab.
- On the Maintenance tab, click the roller cleaning icon.



- When prompted to confirm the cleaning, click **Yes**.
- The printer feeds the sheet and then ejects it.
- Use a cleaning sheet once only.

Fabric Sheets

Fabric Sheets for Canon printers come with a booklet that describes special handling procedures. Be sure to look through this booklet for special information regarding the Fabric Sheets. This section describes specific steps for using Fabric Sheets with this printer.

Be sure to follow these guidelines.

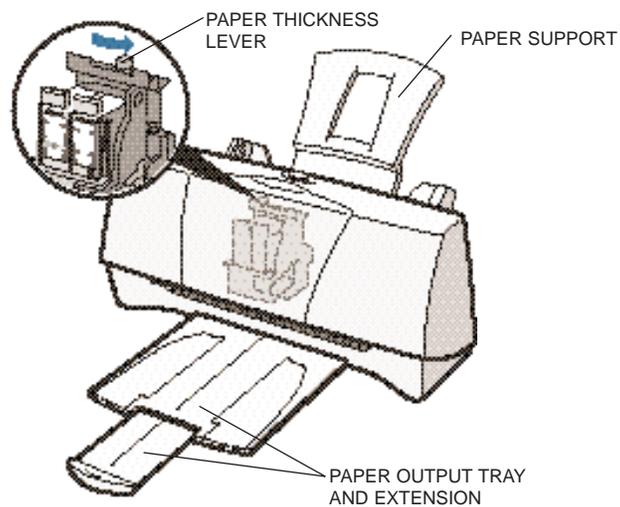
- To avoid paper jams, smearing, and other problems, do not open the printer's cover during printing.
- Use the fixing agent that comes with the Fabric Sheet.
- Do not touch newly printed fabric sheets until the ink is completely dry. This takes about one hour.

Printing on a Fabric Sheet

1

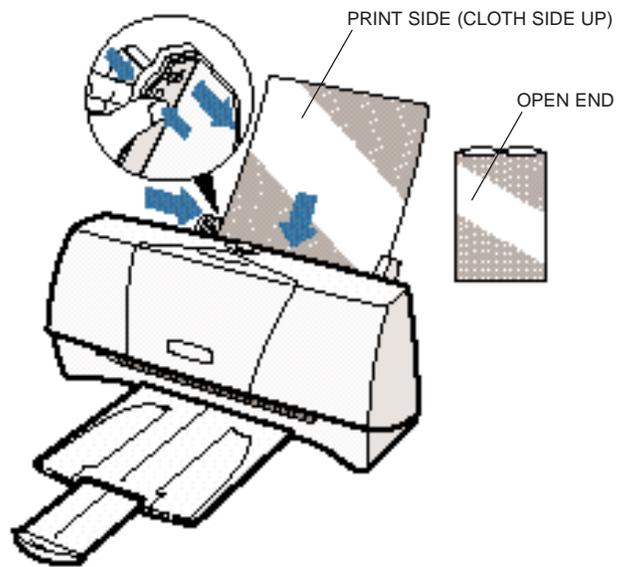
Prepare the printer.

- Make sure the blue paper thickness lever is to the right position.
- Make sure the paper output tray and extension are extended.



Insert the fabric sheet.

- Insert the sheet with the cloth side out (toward you) and the open end up (away from the printer's sheet feeder).
- Pinch the paper guide so it will move smoothly and slide the paper guide snug against the left side of the sheet.
- Do not attempt to load more than one sheet at a time.

**Note**

- Do not remove the film backing from the fabric sheet until printing is completed.
- Do not touch the front side of the fabric sheet when your hands are wet or dirty.

3

Set up the
Printer Driver.

- In the Main tab, select **Fabric Sheet** for the Media Type.
- In the Paper tab, select **Letter** or **A4** for the Paper Size.
- Change other settings as required.
- Start the print operation from your Windows application.

4

Dry and
then wash the
fabric sheet.

- Let the printed fabric sheet set for about one hour to allow the ink to completely dry.
- When dry, peel the film backing from the printed fabric sheet. Do not remove the film backing before printing.
- Wash the printed fabric sheet for about three minutes under lukewarm running water to remove extra ink.
- Hang the fabric sheet up to dry it again.
- Iron the dried fabric sheet with a clothes iron.
- See the booklet that comes with the Fabric Sheets for details on drying and washing.

Printing on Banner Paper

For best results, use Canon Banner Paper.



To set up a print job on banner paper, you must decide on the number of sheets you need. You can print banners from 2 to 6 sheets in length.



Note

Always leave an extra sheet at the end of the banner—just in case the type runs over.

- Printing on banner paper requires quite a bit of ink. If you think your BJ cartridge may run out of ink, use a new BJ cartridge.
 - For best print results on banner paper, use light design patterns.
 - To prevent ink from running over the edges of the sheet, print within the margins shown in the previous illustration.
 - To prevent the ink from smearing, do not allow the printed sheets to fold and stack on one another after they are ejected from the printer.
 - See Appendix A, *Specifications*, for the recommended printing area of banner paper.
-

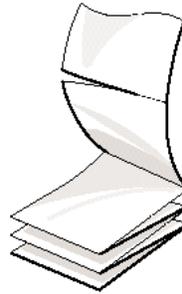
- Make sure the printer is plugged in.
- Make sure the paper support is attached to the printer.
- Open the front cover and make sure the blue paper thickness lever is set to the left. Close the front cover.
-



2

Cut the banner at a crease according to the length you need.

- The minimum length is two sheets.
- The maximum length you can use is six sheets (66 inches or 1676 mm).

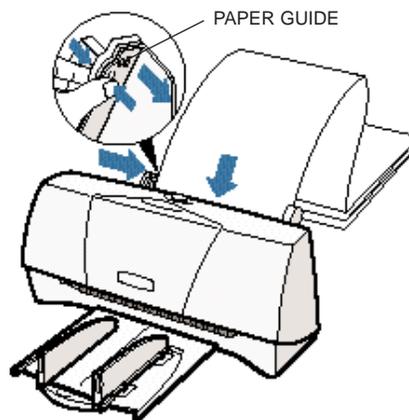


- Always leave an extra sheet at the end of the banner—just in case the type runs over.

3

Load the first sheet.

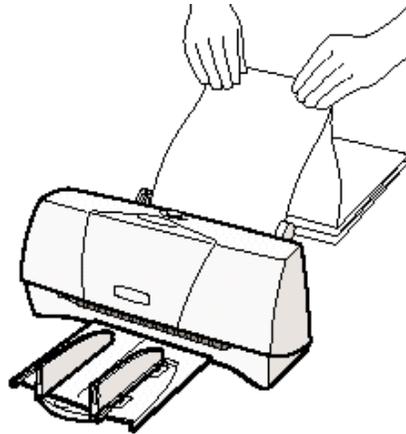
- Align the first sheet of the paper with the right edge of the sheet feeder and slide it into the printer until it stops.
- Pinch the paper guide so it will move smoothly and slide the paper guide to the left side of the sheet. Leave a gap of about 0.04 in. (1 mm) between the paper guide and the edge of the paper.



4

Fold the banner paper.

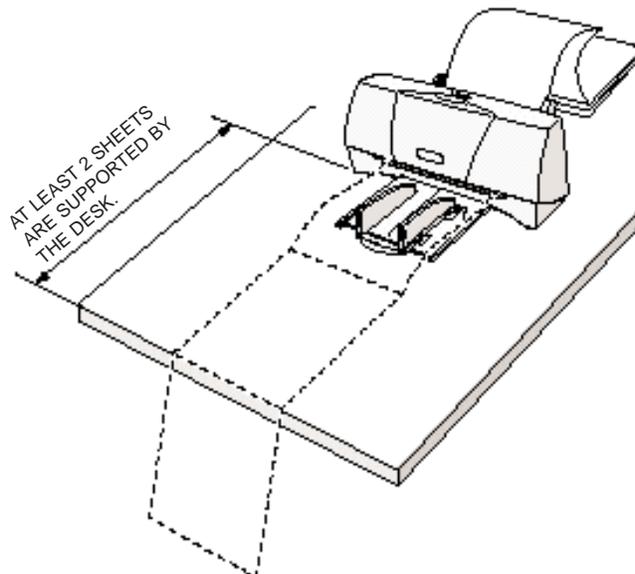
- Gently fold the paper at the perforations between the first and second sheet.



5

Adjust the printer location.

- Place the printer at the edge of the desk so at least two sheets are supported by the desk.



6

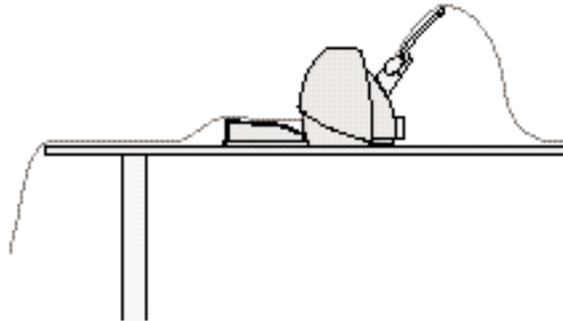
Set up the
Printer Driver.

- Open the Windows application you are going to use to print. From the File menu, select **Print**. Then select your print options using the BJC-2000 Series Printer Driver for Windows.
 - For Media Type, select **Plain Paper**.
 - For the Paper size, select **Letter** or **A4**.
 - On the Paper tab, select **Banner Printing**.
 - See your application software instructions for other options.

7

Start printing.

- Click **OK** or **Print** to start the print job.
- Clear enough space in front of the printer for at least two sheets of paper to rest after printing.
- As the sheets print, allow the printed sheets to hang over the edge of the desk or work table.



Loading Glossy Photo Paper and Glossy Photo Cards

When you load Glossy Photo Paper or Glossy Photo Cards in the printer, always use the Loading Support Sheet provided with the package.

1

Prepare the sheets.

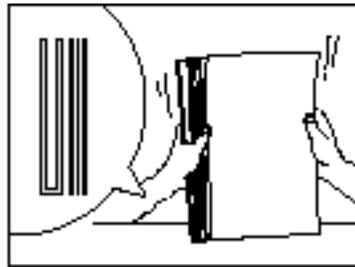
- Hold the sheets of Glossy Photo Paper with the whiter sides (print sides) up and place them on top of the Loading Support Sheet.
- You can load up to 10 sheets of Glossy Photo Paper in the sheet feeder.



2

Stack the sheets.

- Tap the stack against a flat surface to align the edges of the Glossy Photo Paper and the Loading Support Sheet.



Load the Glossy Photo Paper.

- Insert the stack into the sheet feeder.

**Note**

Before loading Glossy Photo Cards in the printer, read the instructions provided with the package of Glossy Photo Cards.

Maintaining the Printer 4



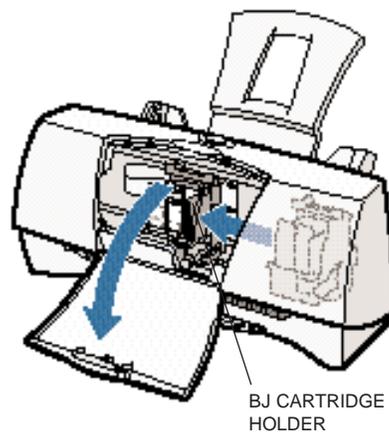
This chapter covers the care required for your printer. It includes:

- Printer guidelines
- Cleaning the printer
- Printing the test pages
- Cleaning the print head
- BJ cartridge guidelines
- Replacing the BJ cartridge
- Replacing a BJ tank in the BC-21e Color BJ Cartridge
- Storing a BJ cartridge
- Transporting the printer

Printer Guidelines

Follow these guidelines to avoid damage to your printer and harm to you or others:

- Set the printer on a stable surface. Do not use an angled printer stand. Avoid setting the printer in direct sunlight.
- Keep the front cover closed when printing.
- Do not set anything on top of the printer.
- Do not unplug the printer unnecessarily. If you will not be using the printer for an extended period, unplug the power cord from the power outlet.
- When you unplug the power cord, grasp the plug itself. Do not pull on the cord.
- Do not unplug the printer when it is printing. This may prevent the print head unit from returning to the *home position* on the right and being capped, which may cause the print head to dry out. This is critical. If left uncapped, the print head unit may clog and may need to be replaced.
- Do not move the mechanism that holds the BJ cartridge. Attempting to move the BJ cartridge holder may damage delicate mechanical parts. (When you open the front cover, the cartridge holder automatically moves to the center of the printer.)



- Do not place the printer too close to a fluorescent lamp. Allow at least six inches (15 cm) clearance between the printer and any fluorescent lamp. Fluorescent lamps generate electrical noise that may cause printer malfunctions.

Cleaning the Printer

Your printer requires little routine maintenance. Perform the following maintenance, as necessary, to keep your printer in good operating condition.

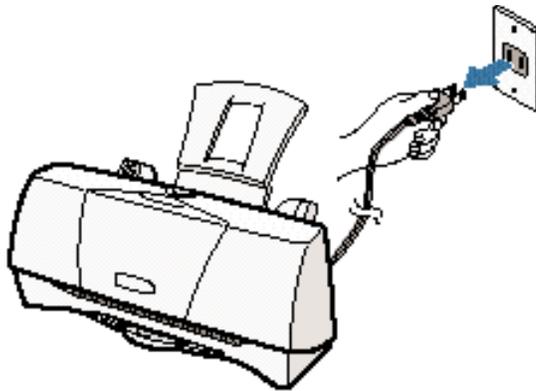


- Do not clean the exterior of the printer with volatile liquids such as thinners, benzine, or any spray-type or chemical cleaners; doing so will damage the surface of the printer.
- When cleaning the printer, avoid the area near the print head on the BJ cartridge. Do not touch the print head. Ink may leak out and cause stains.

1

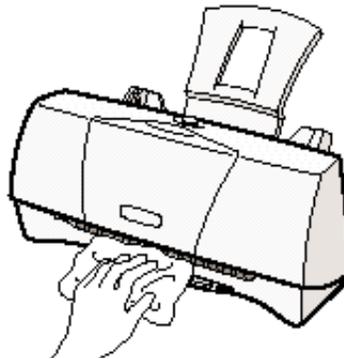
Unplug the printer.

- To avoid personal injury, always unplug the printer before cleaning it.



Maintaining
the Printer

- Clean the printer.
- Clean the exterior of the printer with a soft cloth moistened with water.
 - Clean away smudges and dust.
 - Do not use paper products (such as paper towels or tissues) to clean the printer.

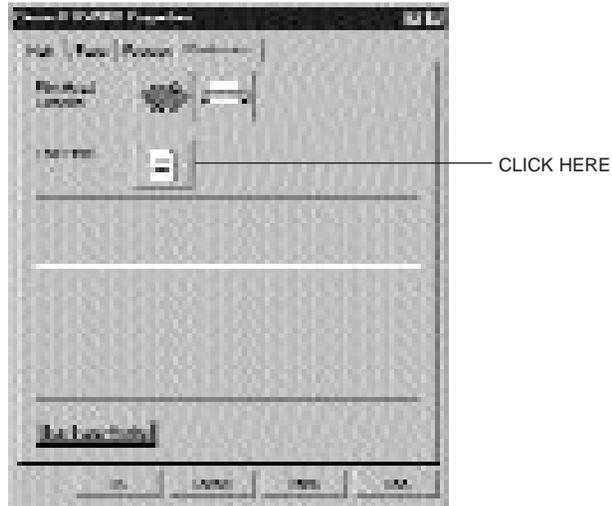


Printing a Test Page

You can print a Nozzle Check Pattern to check the operation of your printer and your print quality. If the Nozzle Check Pattern indicates poor print quality, try cleaning the print head (see page 4-6). If necessary, replace the BJ cartridge.

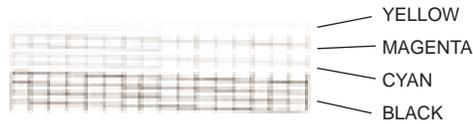
Before starting, make sure paper is properly loaded in the sheet feeder (see *Automatically Feeding Paper* starting on page 3-7).

You use the Test Prints option on the Maintenance tab in your BJC-2000 Series Printer Driver for Windows to print a Nozzle Check Pattern.



Click on the Test Prints option and then click **OK**.

When the BC-21e Color BJ Cartridge is installed, the pattern includes all four colors: yellow, magenta, cyan, and black. In the color pattern, you'll notice that lines are missing between the colors. This is normal.



The following sample shows the Nozzle Check Pattern when the optional BC-20 Black BJ Cartridge is installed.



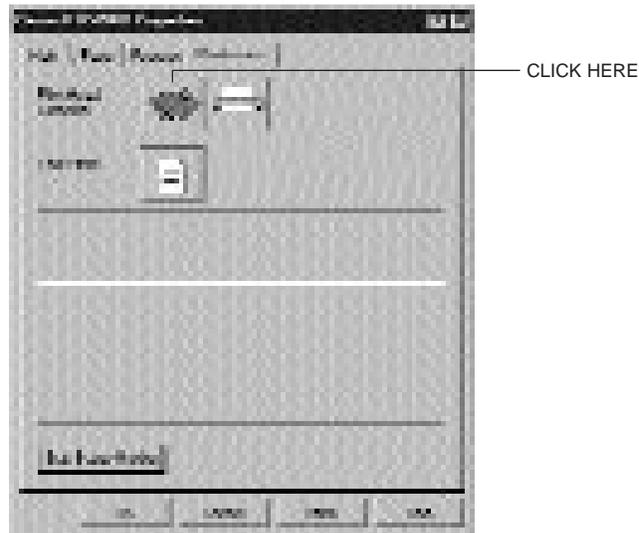
You can also print the Nozzle Check Pattern by pressing the **RESUME** button on the printer. Quickly press it twice to start printing.



Cleaning the Print Head

Your printer is equipped with a print head cleaning function to ensure constant high quality printing.

You start print head cleaning from the Maintenance tab in the printer driver. Simply click the print head cleaning icon, and then click **OK**.



Print head cleaning takes approximately one minute.



Note

- Perform the print head cleaning only when you encounter a print quality problem. Unnecessary and repetitious cleaning will waste ink.
- If you execute the print head cleaning while paper is manually loaded, the printer will eject the paper and then perform the cleaning.

After print head cleaning, be sure to print another Nozzle Check Pattern. If three successive print head cleanings do not solve the problem, try replacing a BJ tank or BJ cartridge.

BJ Cartridge Guidelines

You can use these cartridges with the printer:

- **BC-21e Color BJ Cartridge**
Contains the print head unit and two replaceable BJ tanks—the BCI-21 Color BJ Tank contains color ink (cyan, magenta, yellow) and the BCI-21 Black BJ Tank contains black ink. You can replace the BJ tanks without replacing the print head unit when you run out of ink. Use this cartridge for high quality color printing.
- **BC-20 Black BJ Cartridge**
Contains the print head unit and black ink only. Use this cartridge for high speed, black ink only printing. When you run out of ink, you replace the complete cartridge.
- **BC-22e Photo BJ Cartridge**
Contains the print head unit and color and black inks. Use this cartridge when you want to produce photo-quality color printing. When used with Canon's High Resolution Paper or Glossy Photo Paper, this ink produces images comparable to your favorite photographs. When you run out of ink, you replace the complete cartridge. When you install this cartridge, you must set up the printer driver for a Print Mode of Photo, SuperPhoto, or Camera; see page 2-12.



The actual amount of ink that you use will vary depending on the print density of a page. If the majority of your output is graphics, you may need to change cartridges or tanks more often than when you are printing text only. See Appendix A, *Specifications*, for details on the life expectancy of the BJ cartridges.

You may need to replace the BJ cartridge or a BJ tank when your printed output is not crisp and clear and there are gaps in the characters (missing dots)—even after you have cleaned the print head at least three to five times.

If you are using the BC-21e Color BJ Cartridge and your output is blank, one of the BJ tanks is probably out of ink. See the instructions starting on page 4-14 for replacing a BJ tank.



Canon has more engineers dedicated to creating quality ink for providing the best results for output on Bubble Jet printers than any other organization. Canon does not prohibit the use of third-party inks and the use of third-party inks does not invalidate the product's limited warranty. However, Canon cannot guarantee the quality or performance of your printer when you are using inks from other suppliers.

Canon's limited warranty does not cover damage caused to Canon's Bubble Jet products that is attributable to the use of third party parts or supplies, including inks. The limited warranty remains in effect for its life once that particular damage has been properly repaired.

For optimum printing results, Canon recommends that you use only Canon BJ cartridges and Canon BJ tanks.

BJ Cartridge and BJ Tank Maintenance

The most important thing you can do to extend the life of your printer and to ensure optimum print quality is take care of the BJ cartridges.



Spilled ink can stain any surface. Open BJ cartridges and BJ tanks carefully, and follow the guidelines presented here to protect against spilled ink.

- Do not unpack a BJ cartridge until you are ready to use it.

Replacing the BJ Cartridge

The following procedure describes how to replace the BC-21e Color BJ Cartridge with the BC-20 Black BJ Cartridge. Follow the instructions in this section to replace an old BJ cartridge or to change BJ cartridges when you are switching between any of the BJ cartridges.

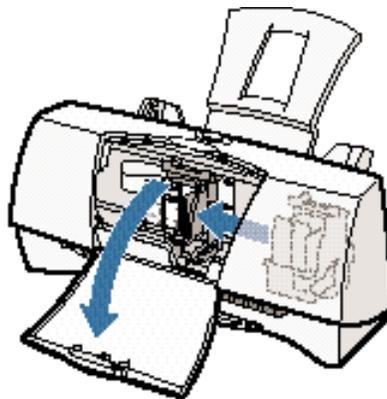
You only need to replace the BC-21e Color BJ Cartridge when the print head is damaged (or after printing approximately 2000 pages). If one of the BJ tanks (either color or black) in your BC-21e Color BJ Cartridge is out of ink, see the next section (page 4-14) for instructions on how to replace a BJ tank.

Before starting, make sure the printer is plugged in.

1

Open the front cover.

- Grasp the top of the cover in the center and pull it toward you.



- The cartridge holder moves to the center of the printer.



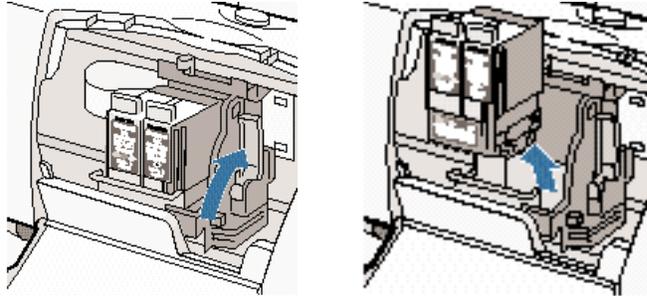
Note

Do not attempt to move the cartridge holder manually. This may damage the printer.

2

Remove the BJ cartridge.

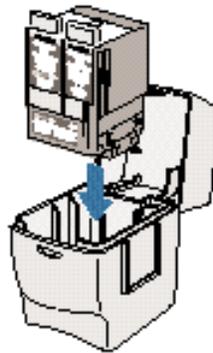
- Lift the blue lock lever on the cartridge holder.
- Slide the BJ cartridge out of the holder.



3

Store or dispose of the BJ cartridge.

- If you are replacing an old BJ cartridge, dispose of the old cartridge properly.
- If you are switching cartridges, you must store the cartridge you are removing in the Ink Cartridge Storage Box.

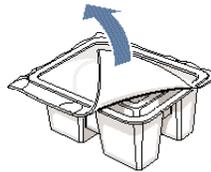


Maintaining
the Printer

4

Take the new BJ cartridge out of its protective packaging.

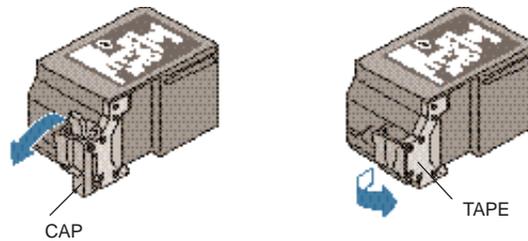
- Peel off the protective foil.



5

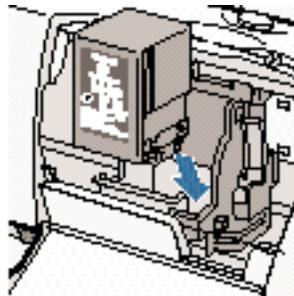
Remove the protective material from the BJ cartridge.

- Lift off the orange cap from the print head and then remove the orange tape.



6

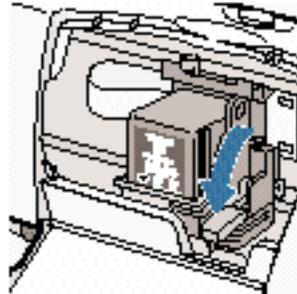
Set the BJ cartridge into the cartridge holder.



7

Lower the lock lever.

- Press the blue lock lever down completely; do not use excessive force.



- The BJ cartridge is now positioned and locked.



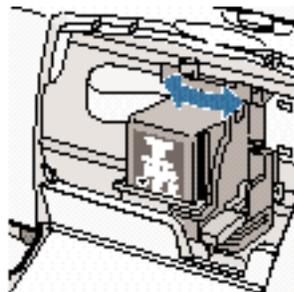
Caution

Do not manually move the mechanism that houses the BJ cartridge. Attempting to move the BJ cartridge holder will damage the printer.

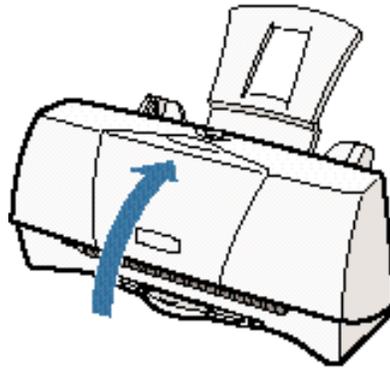
8

Set the paper thickness lever.

- If you plan to load envelopes, fabric sheets, or thick paper, set the lever to the right.
- For all other print media, set the lever to the left.



Close the front cover.



Caution

Whenever the printer stops printing, the BJ cartridge moves to the *home position* on the right and caps itself. If you unplug the printer while it is printing (or if you turn off a power strip to which the printer is connected), or if you manually move the cartridge holder from the home position, the BJ cartridge will not be capped and it may dry out.

If you installed a new BJ cartridge, the printer automatically cleans the print head. If you need to initiate the print head cleaning, see page 4-6.

Replacing a BJ Tank in the BC-21e Color BJ Cartridge

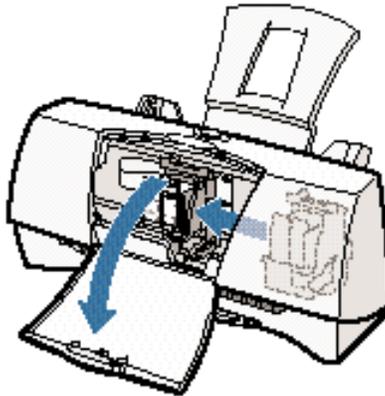
If you perform a print operation correctly but the output is blank, a BJ tank may be out of ink. Perform the print head cleaning at least three times and then print a Nozzle Check Pattern. If the Nozzle Check Pattern indicates an empty BJ tank, replace the empty BJ tank in the BC-21e Color BJ Cartridge.

Leave the BJ cartridge in the printer when replacing a BJ tank. Make sure the printer is plugged in.

1

Open the front cover.

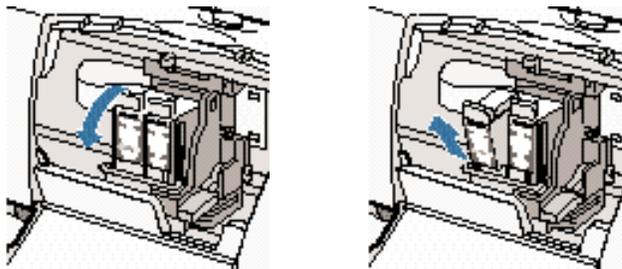
- Grasp the top of the cover in the center and pull it forward.
- The cartridge holder moves to the center of the printer.



2

Remove the empty BJ tank.

- The color BJ tank is on the left; the black BJ tank is on the right.
- Grasp the tab on the top of the tank and pull forward to release the BJ tank.
- Then lift the BJ tank up and out of the BJ cartridge unit.

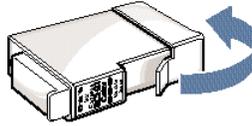


- Dispose of the BJ tank properly. You may want to place it in a plastic bag to keep from spilling any residual ink.

3

Take the new BJ tank out of its packaging.

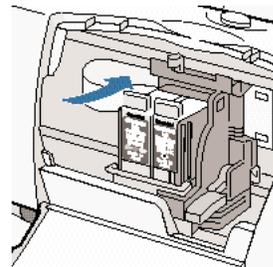
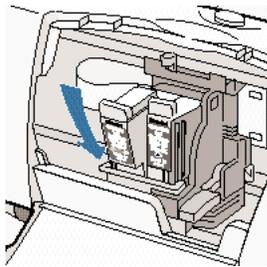
- Then remove the protective cap.



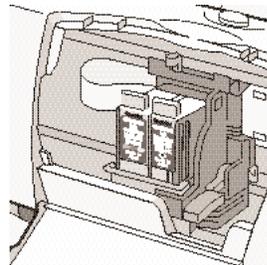
4

Insert the new BJ tank.

- Slide the new BJ tank into the empty slot on the BJ cartridge.
- Press firmly on the tab on the top of the BJ tank until it locks into place.



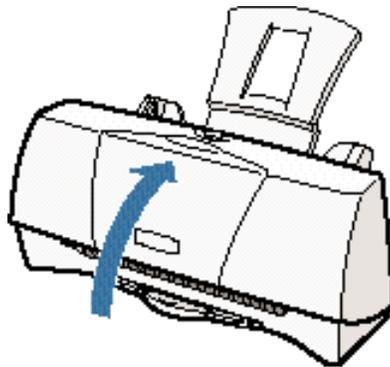
- Make sure each BJ tank is correctly seated in its respective slot.
- If you are replacing both tanks, repeat steps 2 through 4 for the other BJ tank.



5

Close the printer's front cover.

- Press firmly to close the cover.
- The printer moves the cartridge holder to the home position on the right of the printer.
- The printer automatically cleans the print head unit.



Storing a BJ Cartridge

Whenever you unwrap a BJ cartridge, you must either install it in the printer or store it in the Ink Cartridge Storage Box to prevent the print head from drying and clogging.

1

Open the Ink Cartridge Storage Box.

- When opening the Ink Cartridge Storage Box, press in on the release tab that locks the cover in place.

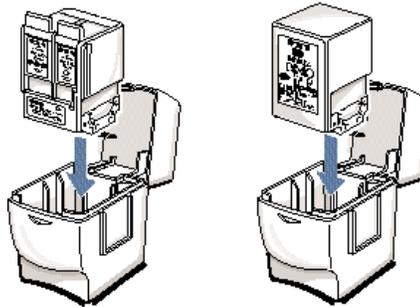


Maintaining
the Printer

2

Carefully set the cartridge in the storage box.

- You must insert the cartridge correctly or the storage box will not close.
- The protective cap must be removed from the cartridge before you set it in the storage box.



3

Close the storage box.

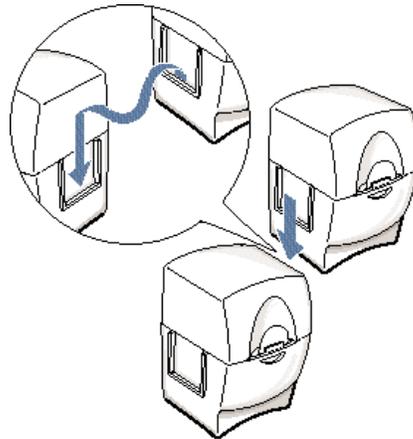
- Be sure the lid snaps closed.



Note

Whenever you remove a BJ cartridge from the printer, store the cartridge in the storage box (unless you are disposing it).

If you have more than one Ink Cartridge Storage Box, you can hook them together. Simply connect them by the slides and grooves on the sides of the containers.



Transporting the Printer



Note

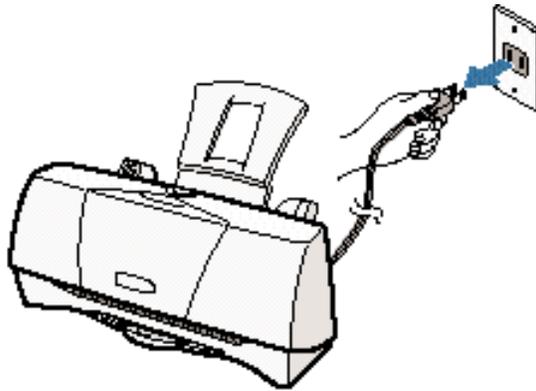
While your printer is small and compact, it is not a portable printer and you need to take care when transporting it. The printer's components, such as the sheet feeder, may become damaged if subjected to severe vibration during transportation. Also, your print head may dry out during travel (and become unusable) if it is not capped and taped correctly.

If you plan to move the printer from one location to another, or if you want to store it, follow these steps.

1

Turn off the printer's power.

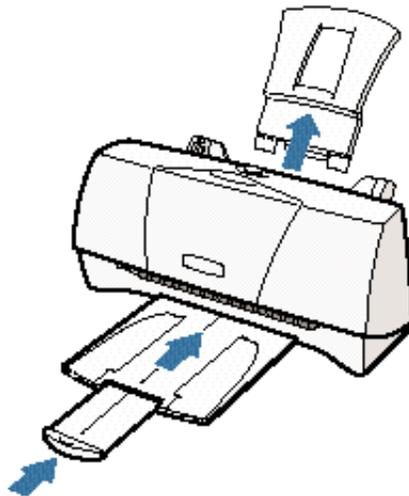
- Make sure the print head is in the home position.
- Remove any paper from the sheet feeder.
- Detach the interface cable.
- Unplug the printer and detach the power cord.



2

Remove the trays.

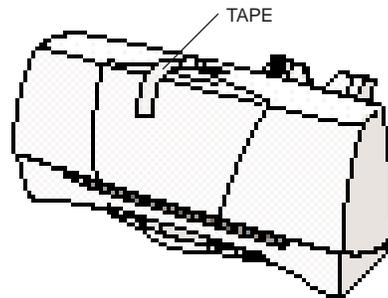
- Remove the paper support and paper output tray.



3

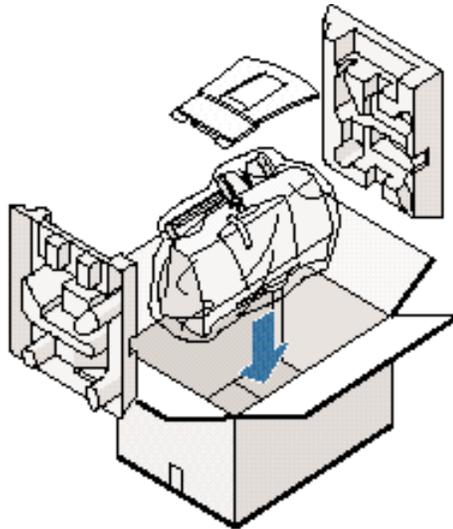
Tape and cover the printer.

- Tape the cover to the printer body.
- Cover the printer with its shipping bag.



4

Repack the printer in its original packing materials.



Maintaining
the Printer



Note

Do not remove the BJ cartridge from the printer or ship a BJ cartridge or an ink tank from which you have removed the protective cap. An opened BJ cartridge or BJ tank that is not installed in the printer may leak, and the print head may dry out.

If you are shipping the printer through a shipping agent, make sure the top of the box is clearly marked FRAGILE or HANDLE WITH CARE.



Due to today's rapidly changing computer environment, we have placed troubleshooting information in a variety of places to ensure that the most accurate information possible is available. The best way to find current information is through our online support services and through our Fax Retrieval System. Online services include the World Wide Web and our BBS (see page 1-5).

This chapter contains very basic information to help you solve printer problems. It covers a few basic problems and describes how to clear a paper jam. For complete problem solving information, be sure to use our support services.

See *Canon Customer Care Center* in Chapter 1 (page 1-5) for details on Canon's customer technical support options.

Identifying Your Printer Problem

Before contacting Canon, identify your printer problem and make sure you have the following information:

- Product name
- Serial number
- Place of purchase
- Nature of problem
- Steps you have taken to solve the problem and the results

The serial number is located on the label on the back of the printer:

CANON INC.(DA1) R35-9698
MADE IN JAPAN

NO. X X X X X X X X SERIAL
NUMBER



Attempting to repair the printer yourself may void the limited warranty as to that repair. See the limited warranty information that came with your printer for details.

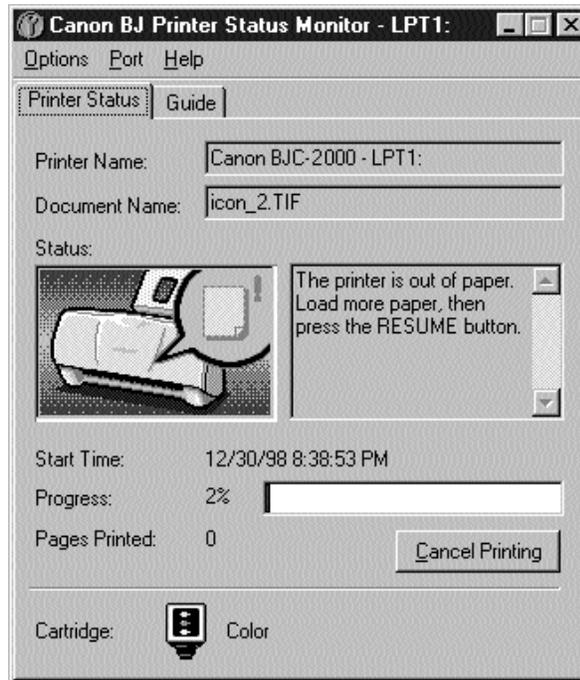
Basic Problems

This section describes these basic problems:

- Cannot install the printer driver
- Paper does not feed from the sheet feeder
- An error message appears
- Print job will not start
- Printing halts
- Printout is unsatisfactory

For all other problems, be sure to use Canon's support services described on page 1-5.

The BJ Printer Status Monitor uses messages and pictures to display the printing progress and the status of the printer while it is printing. When the ink or paper runs out or a paper jam occurs, the BJ Printer Status Monitor automatically appears.



- Look at the messages and pictures to determine what type of error has occurred.
- Click the Guide tab and proceed as directed by the messages shown. Printing resumes once you resolve the error.

Cannot Install the Printer Driver

Cause	Solution
Installation was interrupted	Install the printer driver Refer to the <i>Quick Start Guide</i> and install the printer driver using the correct procedure. If you are reinstalling

Cause	Solution
Problem with the CD ROM (continued)	<p>Check that the Windows 98, Windows 95, or Windows NT Explorer or the Windows 3.1 File Manager can successfully read the CD.</p> <p>If the CD is unreadable, call the Canon Customer Care Center (see page 1-5).</p>

Paper Does Not Feed From Sheet Feeder

Cause	Solution
Paper is too thick	<p>Use recommended paper</p> <p>Paper within the range of 17 to 24 lb (64 to 105 g/m²) can be loaded in the sheet feeder. Thicker paper cannot be used.</p>
Sheet feeder overloaded	<p>Check sheet feeder capacity</p> <p>Check that you do not exceed the sheet feeder capacity. Paper will not feed correctly if you exceed the specified number of sheets. (See page 3-7.)</p>
Paper support not attached	<p>Attach the paper support</p> <p>Always attach the paper support. If the paper support is not attached, the media will not slide fully into the paper feed slot and will not feed into the printer correctly.</p>
Paper wrinkled or curled	<p>Check that you are using appropriate media</p> <p>Paper that is folded, curled, or crumpled will not feed into the printer correctly, and may also cause paper jams.</p>



See page 5-12 for details on clearing a paper jam.

An Error Message Appears

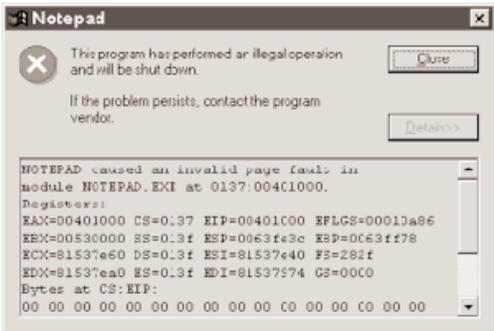
Printing does not start due to an error writing to LPT1.



Cause	Solution
Printer is not on	Check the power cord Make sure the printer is plugged in to a power outlet.
Printer cable not connected correctly	Check the parallel cable Make sure the parallel cable is securely fastened to the computer and the printer. See the <i>Quick Start Guide</i> for details.
Printer cable fault	Try to use another printer cable Make sure the cable is an IEEE 1284-compatible parallel interface cable.
Another device is connected to LPT1	Check the LPT1 port Make sure the printer is connected to LPT1.
Switching device or external buffer fault	Check the switching device or external buffer Disconnect the switching device or external buffer and print with the printer connected directly to the computer. If you can then print normally, the fault is probably in the switching device or external buffer. Consult the switching device or external buffer supplier.
Print spool is not operating correctly	Change the spool setting Open the printer Properties dialog box. On the Details tab, click Spool Settings and then select "Print directly to the printer."

Cause	Solution
Printer port LPT1: fault	<p>Check the status of the printer port LPT1</p> <p>Click on Start, Settings, and Control Panel. Double-click on the System icon. On the Device Manager tab, double-click Ports (COM & LPT). Double-click Canon BJ LPT Printer Port (LPT1). The Device status should read “This device is working properly.”</p>
Installed printer driver not operating correctly	<p>Remove the installed BJ printer driver and then install the printer driver again</p> <p>To uninstall the printer driver, click Start and select Programs. Then select BJ Printer and click Uninstall. Follow the on-screen instructions. For details about installing the printer driver, see the <i>Quick Start Guide</i>.</p>
A Windows Printing System (WPS) driver is installed on the computer	<p>Change the WPS driver port setting to FILE or delete the WPS driver</p> <p>To change the port setting, open the WPS Driver Properties window. In the Details tab, select FILE in the “Print to Port” setting.</p> <p>To delete the WPS driver, click Start and select Programs. Then select Windows Printing System and click Uninstaller. Follow the on-screen instructions.</p> <p>To continue using the WPS printer, install a second parallel port.</p>

Printing does not start due to an application error or General Protection Fault.



Cause	Solution
Printing from a Windows 3.1 application	<p>Change applications A Windows 3.1 application installed on a Windows 98 or Windows 95 system may cause this problem. Print from a Windows 98 or Windows 95 software application.</p>
Multiple software applications running	<p>Quit other programs Quit any other application programs you are running and try printing again.</p>
Sufficient memory not available for the software application	<p>Check your memory Refer to the manual for your software application and check that the required amount of memory is allocated to the application.</p> <p>If there is not enough memory installed, install more memory. Refer to the documentation for your computer for information on installing additional memory.</p>
Sufficient space not available on hard disk	<p>Delete files Delete any unnecessary files to make more space available</p>
Internal file or application software problem	<p>Rebuild the document and print it again If there is no problem with the new document, the original file was probably faulty. If the same problem occurs with the new file, call the Canon Customer Care Center for help.</p>

Cause	Solution
Installed printer driver not operating correctly	<p>Reinstall the printer driver</p> <p>Remove the installed BJ printer driver and then install the printer driver again.</p> <p>To uninstall the printer driver, click Start and select Programs. Then select BJ Printer and click Uninstall. Follow the on-screen instructions.</p>

Print Job Will Not Start

Cause	Solution
The power cord is disconnected from the power outlet	<p>Check your power cord</p> <p>Check that the power cord is securely connected to the power outlet.</p>
No power is coming from the power outlet	<p>Check the outlet</p> <p>Check that power is coming from the power outlet.</p>
The printer and the computer are not properly connected with the printer cable	<p>Check your cables</p> <p>Connect the power cord and the printer cable securely. For details, see the <i>Quick Start Guide</i>.</p>
A large-sized document, such as a photograph or graphics, is being printed	<p>Wait awhile until printing starts</p> <p>Data transfer takes longer with large-sized documents.</p>
The printer driver being used is not the BJC-2000 printer driver	<p>Make sure the BJC-2000 driver is selected</p> <p>Check the printer name in the Print dialog box of the application software, and select BJC-2000.</p>
The printer port is not set correctly	<p>Check the port setting</p> <p>If the printer and the computer are connected directly with a cable, set the "Print to following port:" setting in the printer driver setup screen to LPT1.</p>
The computer printer port is set to ECP	<p>Check the ECP setting</p> <p>Delete the computer ECP mode and try printing again.</p>

Printing Halts

Cause	Solution
The print job may be a	Check the printer operation

Cause	Solution
Printer cable fault	Try to use another printer cable Make sure the cable is an IEEE 1284-compatible parallel interface cable.
Switching device or external buffer fault	Disconnect the switching device or external buffer Print with the printer directly connected to the computer. If you can then print normally, the fault is probably in the switching device or external buffer. Consult the switching device or external buffer supplier.
Windows Printing System (WPS) driver is installed on the computer. You may not be able to print correctly with a WPS printer driver installed on your computer.	Change the WPS driver port setting to FILE or delete the WPS driver To change the port setting, open the WPS Driver Properties window. In the Details tab, select FILE in the "Print to Port" setting. To delete the WPS driver, select Programs from the Windows Start menu. Then select Windows Printing System and click Uninstaller . Follow the on-screen instructions.

Printed and on-screen colors do not match

The color reproduction methods used by monitors differ from those used by printers. In addition, the printed color tones may not perfectly match those on the monitor because the colors vary depending on the circumstances in which the monitor is viewed and the monitor's color calibration settings. For example, objects that appear blue on the screen are printed purple, and objects that appear pale green on the screen are printed dark green. However, if the differences are extreme, check the items below.

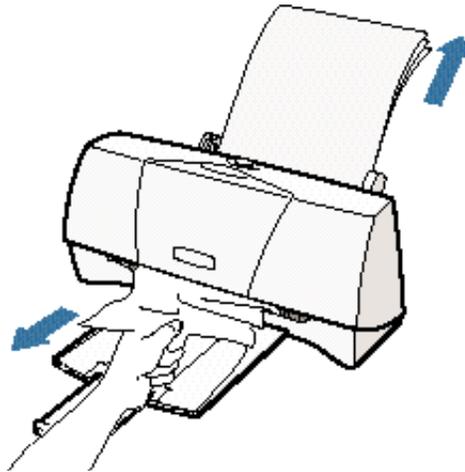
Cause	Solution
Print head nozzles in the BJ cartridge are clogged or the ink has run out	Print a Nozzle Check Pattern Check the status of the print heads (see page 4-4). Clean the print head (see page 4-6). Replace the BJ cartridge if necessary (see page 4-10).
Printer driver settings are not correct	Check the printer driver settings To print a photo, select the correct print media icon for the document you are printing (such as SuperPhoto). Check also that the BJ cartridge and Media Type settings match the BJ cartridge and media you are actually using.

Printed pages curled/warped/wrinkled

Cause	Solution
Excess ink is being absorbed by the paper	Check your media type If you are printing on very thin paper, try a different paper type. Print on special print media such as High Resolution Paper or Glossy Photo Paper.
Print density is set too high	Reduce the print intensity in the printer driver To change this setting, open the Printer Properties dialog box. On the Main tab, click the Advanced button and then click the Color tab. Move the intensity slider to the left to lower the print intensity.

Clearing Paper Jams

Gently pull the paper out with one hand while holding down the printer with the other hand.



If the paper tears off inside the printer, unplug the printer. Then open the front cover and remove the paper left inside the printer.



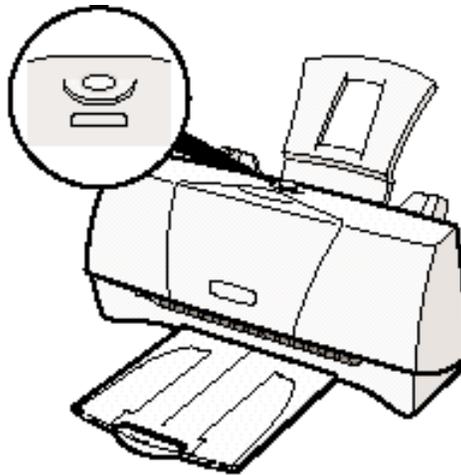
Note

If you are printing high density graphics when a paper jam occurs, feed at least two sheets of paper through the printer to clean the rollers.

Using the Resume Button

You use the **RESUME** button to perform two functions:

- Press and hold the **RESUME** button to reset the printer and resume printing.
- Double-click the **RESUME** button to print a Nozzle Check Pattern. (You can also print a Nozzle Check Pattern with the printer driver. See the information starting on page 4-4.)



Printing Specifications

Printing Method
Bubble Jet ink on-demand

Printing Resolution
720 (vertical) × 360 (horizontal) dpi (maximum)

Print Speed
BC-21e Color BJ Cartridge Draft mode—up to 4.5 ppm
Standard mode—up to 3.8 ppm
Fine mode—up to 0.9 ppm

BC-20 Black BJ Cartridge Draft mode—up to 5 ppm
High quality mode—up to 3.6 ppm

Print Direction
Bi-directional

Print Width
Maximum 9.5 inches (241 mm) maximum

Line Feed Speed
Approximately 150 ms/line at 2/6-inch line feeds

Paper Handling
Automatic feed

Paper Weight
17 to 30 lb (64 to 105 g/m²)

Sheet Feeder Capacity – Auto Feed Only

Maximum thickness of stacked paper: 0.2 inches (5 mm)

Plain paper (20 lb or 75 g/m ²)	Approx. 50 sheets
Glossy photo paper	10 sheets
Banner paper	1 sheet (2 to 6 sheets long)
Brilliant white paper	Approx. 50 sheets
High resolution paper	Approx. 40 sheets
T-shirt transfers	1 sheet
Greeting cards	1 card
Glossy photo cards	1 card
Bubble Jet paper	Approx. 50 sheets
Fabric sheets	1 sheet
Transparencies	20 sheets
Back print film	10 sheets
High Gloss Film	1 sheet
Envelopes	5 envelopes (U.S. Commercial number 10, Canon envelopes, or European DL)

Paper Size

Letter	8.5 in × 11 in
Legal	8.5 in × 14 in
A4	210 mm × 297 mm
A5	148 mm × 210 mm
B5	182 mm × 257 mm
Banner	8.5 in × 11 in sheets; maximum length 66 in (1676 mm)
U.S. Commercial number 10 envelope	9.5 in × 4.12 in
European DL envelope	220 mm × 110 mm
Canon envelope	9 in × 6 in
Custom	
Width	3.94 in to 9.50 in (100 mm to 241 mm)
Height	3.94 in to 23 in (100 mm to 584 mm)

Media Type	Recommended
Glossy photo paper	Canon Glossy Photo Paper
Banner paper	Canon Banner Paper
Brilliant white paper	Canon Brilliant White Paper
High resolution paper	Canon High Resolution Paper
T-shirt transfers	Canon T-Shirt Transfers
Greeting cards	Canon Greeting Cards
Glossy photo cards	Canon Glossy Photo Cards
Bubble Jet paper	Canon Bubble Jet Paper (water-resistant)
Fabric sheets	Fabric Sheets for Canon Bubble Jet printers
Transparencies	Canon Transparencies
Back print film	Canon Back Print Film
High gloss film	Canon High Gloss Film
Envelopes	U.S. Commercial number 10, Canon envelopes, or European DL

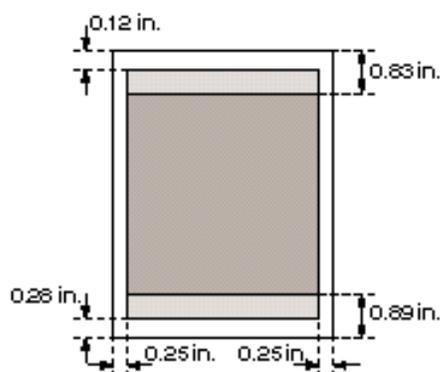
Printable Area

The printable area includes the recommended printing area and the actual printable area.

Recommended Printing Area 
Canon recommends that you print within this area.

Printable Area 
The area in which it is possible to print. However, printing in this area can adversely affect the print quality or the paper feed precision.

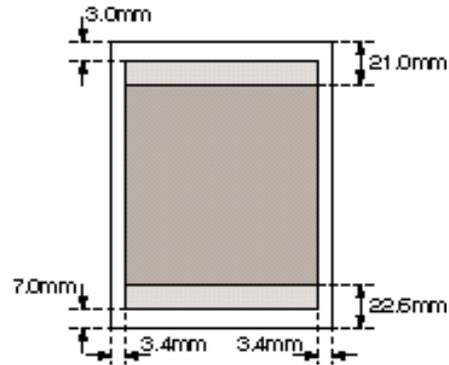
Letter and Legal



Printable Area (width x length)

Letter	8 in × 10.6 in
Legal	8 in × 13.6 in

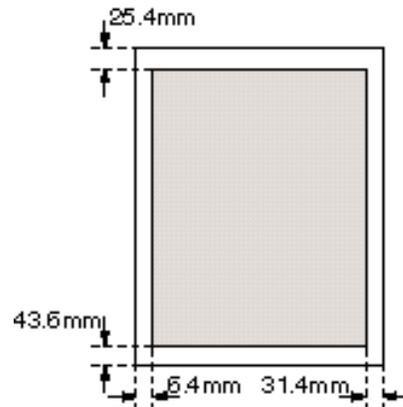
A5, A4, B5



Printable Area (width x length)

A5	141.2 mm × 200 mm
A4	203.2 × 287 mm
B5	75.2 × 247 mm

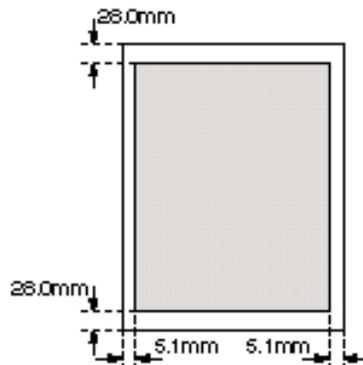
Fabric Sheets



Printable Area (width x length)

Fabric Sheet	203.2 mm × 287 mm
--------------	-------------------

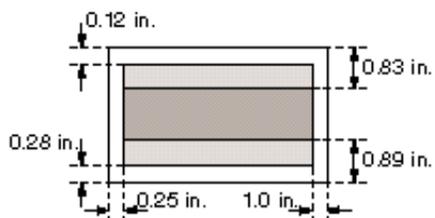
Glossy Photo Card



Printable Area (width x length)

Glossy Photo Card	109.4 mm × 159.9 mm
-------------------	---------------------

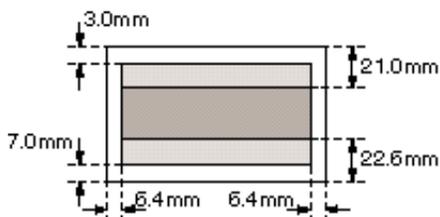
U.S. Commercial No. 10 Envelope



Printable Area (width x length)

U.S. Commercial #10
8.25 in × 3.72 in

European DL Envelope

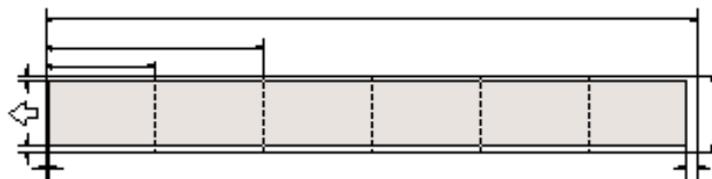


Printable Area (width x length)

European DL
207.2 mm × 100 mm

Banner Paper

The shaded portions of the drawing below illustrate the maximum recommended printing area of Banner Paper.



BJ Cartridges

BC-21e Color BJ Cartridge

Print head	64 nozzles for black 24 nozzles for each color (cyan, magenta, yellow)
Print head life	Approximately 2,000 color pages at 30% coverage
BJ tanks	BCI-21 Color (cyan, yellow, magenta) BCI-21 Black
Ink color	Black, cyan, yellow, magenta
BJ tank yield	
BCI-21 Color	Approx. 100 pages at 7.5% coverage
BCI-21 Black	Approx. 225 pages at 5% coverage

BC-20 Black BJ Cartridge

Print head	128 nozzles
Ink color	Black
Cartridge yield	Approx. 900 text pages at 5% coverage

BC-22e Photo BJ Cartridge

Print head	64 nozzles for black 24 nozzles for color
Ink color	Black, cyan, magenta, yellow
Cartridge yield	Approximately 50 pages at 7.5% coverage for each color

General

Interface

IEEE 1284 compatible parallel interface

Acoustic Noise Level

Approx. 49 dB(A) per ISO 9296

Operating Environment

Temperature 41° F to 95° F (5° C to 35° C)

Humidity 10% to 90% RH (no condensation)

Storing Environment

Temperature 32° F to 95° F (0° C to 35° C)

Humidity 5% to 90% RH (no condensation)

Power Source

USA/Canada AC 120V, 60 Hz

Power Consumption

2 watts maximum nonprinting

30 watts maximum printing

Dimensions

14.6 in (370 mm) W × 7.5 in (191 mm) D × 6.3 in (161 mm) H
(without paper support and paper output tray attached)

Weight

Installing the Printer Driver for Windows 3.1

B



This appendix describes how you install the BJC-2000 Series Printer Driver for Windows 3.1. If you are using Windows 98 or Windows 95, see the *Quick Start Guide*.

1

Start up your system.

- Turn on your printer, and then turn on your computer.

2

Make sure Windows 3.1 starts.

- Insert the Canon Creative CD into your CD drive.
- From Program Manager, select **R**un in the File menu.

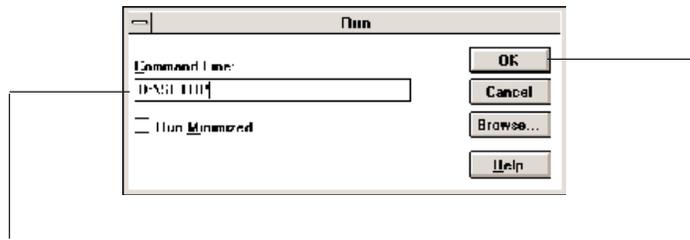


Installing Printer Driver Windows 3.1

3

Specify the Setup program.

- When you see this screen:



Type `D:\SETUP` (where `D:` is your CD drive... most CD drives are `D:` or `E:`). Then click **OK**.

4

Follow the on-screen instructions.

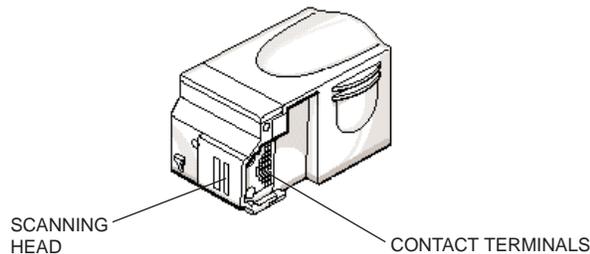
- Select *BJC-2000 Series* from the list of printers.
- Be sure to wait for Windows to complete each operation.
- When complete, restart Windows.

Installing the Optional Color Image Scanner

C



You can easily convert your printer into a color scanner by installing the optional IS-22 Color Image Scanner Cartridge. This section describes how to install and remove the Color Image Scanner Cartridge. For details on operating the printer as a scanner, see the *IS-22 Color Image Scanner Cartridge User's Manual* that comes with the scanner cartridge package.



Caution

Do not touch the contact terminals or the scanning head.

Installing the Scanner Cartridge

1

Remove the BJ Cartridge.

- Open the front cover. The cartridge holder moves to the center of the printer.
- Lift the blue lock lever.
- Slide the BJ cartridge out of the cartridge holder.
- Store the BJ cartridge in an Ink Cartridge Storage Box (see page 4-17 for details).

2

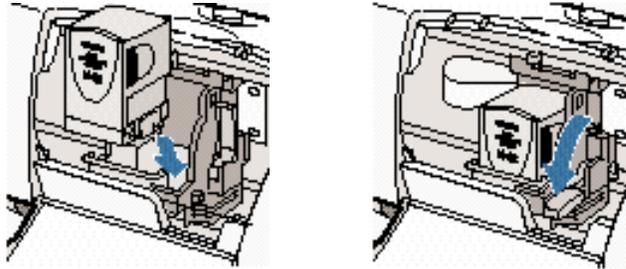
Remove the scanner cartridge from its packaging.

- Handle the scanner cartridge carefully.
- Do not touch the scanning head area.

3

Insert the scanner cartridge.

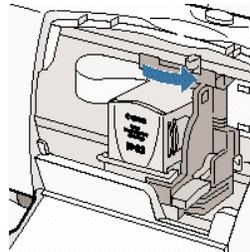
- Hold the scanner cartridge by the ridges on either side of the cartridge.
- Set the scanner cartridge into the holder, and lower the blue lock lever.



4

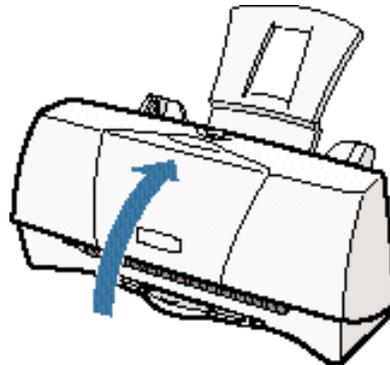
Set the paper thickness lever to the right.

- The thickness lever must be set to the right (for thick paper, envelopes) so you can feed the carrier sheet provided with the Scanner Cartridge.



Close the front cover.

- The cartridge holder moves to the home position on the right.



- For details about installing the IS Scan scanner driver, refer to the *IS-22 Color Image Scanner Cartridge User's Manual*.

Removing the Scanner Cartridge

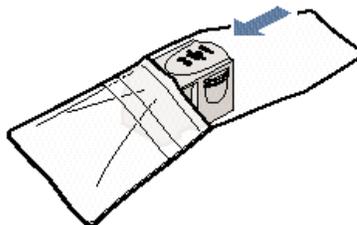


Caution

Always remove the Color Image Scanner Cartridge as soon as you are finished scanning and replace it with a BJ cartridge. Do not leave the Color Image Scanner Cartridge in the printer.

Remove the scanner cartridge just as you would a BJ cartridge. (See steps 1 and 2 starting on page 4-10 for details.)

Store the scanner cartridge in the soft plastic case provided with the cartridge. Only store the Color Image Scanner Cartridge in this case.





Never store the IS-22 Color Image Scanner Cartridge in an Ink Cartridge Storage Box that has been used for a BJ cartridge. The pad in the storage box where the head of a BJ cartridge rests is covered with ink that will damage the scanning head of the IS-22 Color Image Scanner Cartridge.

Be sure to replace the BJ cartridge in the printer after you remove the scanner cartridge. Also, be sure to set the paper thickness lever for the type of media you will be using.



Automatic feed

Refers to one way in which paper can be fed into the printer when the sheet feeder is used.

BJ cartridge

The printing mechanism that contains the print head unit and BJ tanks.

BJ tank

The special type of ink container housed by the BJ cartridge. The BC-21e Color BJ Cartridge contains two BJ tanks: one color (which includes cyan, yellow, magenta) and one black.

Bubble Jet printer

An ink-jet type printer that heats the ink to a boiling point in a nozzle to form a bubble. When the bubble expands, there is no room left in the nozzle for the ink and the ink is projected onto paper.

CMYK

Acronym for cyan, magenta, yellow, and black; the four colors used in the standard color model of the printing industry. Refers to a method of specifying color using CMYK color values. (K is used for black because B is used to represent blue in RGB.)

Composite black

The black color formed by mixing cyan, magenta, and yellow ink so that they appear almost black on a printout.

cpi

Characters per inch. A unit of measurement relevant to a fixed-space font. Because all characters have the same width, you can calculate the number of characters printed per inch.

cpl

Characters per line. A unit of measurement that indicates the number of characters printed per line.

cps

Characters per second. A unit of measurement that indicates the printer's speed.

dB(A)

Stands for decibel level (a decibel being a unit of measurement for the intensity of the sound coming from the printer), adjusted for background noise.

dpi

Dots per inch. A unit of measurement for indicating a printer's resolution. Your printer can produce a resolution up to 720×360 dpi.

Font

A complete set of characters of the same size and style; a particular implementation of a typeface. For example, 12-point, Courier bold.

Form feed

A printer function that automatically ejects the current page and advances the printer to the top of the next page.

Grayscale

Representing color in black and white as a result of different intensities of color. Different colors and intensities of colors appear as different shades of gray.

Halftone

Using this method, the printer produces shades of gray or of colors by mapping dots to be printed. For color printing, different colored dots of ink are placed closely together to create illusions of other colors.

Hue

A color in the color spectrum. Examples are red, green, and violet.

Ink Cartridge Storage Box

A box for storing a BJ cartridge. A BJ cartridge removed from the printer must be stored inside this storage box to prevent the print head of the cartridge from drying and clogging.

Intensity

The amount of color. More intense or more saturated colors are more pure. Less intense or less saturated colors are less vivid.

Interface

The connection between two devices that makes it possible for them to communicate with each other. This printer features a parallel interface, which makes it compatible with IBM and similar personal computers.

Landscape orientation

Refers to printing across the length of the page (as opposed to portrait orientation printing across the width of the page). The term landscape is derived from pictures of the landscape, which are usually horizontal in format.

lpi

Lines per inch. The measurement used in describing the number of lines that will print within one vertical inch. Most printing is done in 6 or 8 lpi.

Manual feed

A method of feeding paper to the printer one sheet at a time.

Noise level

See dB(A).

Page orientation

Refers to the direction of print on the page. Printing across the width of a page is called portrait orientation. Printing across the length of a page is called landscape orientation.

Paper thickness lever

The green lever located inside the printer, which you adjust as necessary to accommodate different BJ Cartridges, paper thicknesses, and graphics densities.

Parallel interface

An interface that transmits multiple bits simultaneously (usually in one-byte segments). Your printer has a built-in, Centronics-type parallel interface with bidirectional capability. *See also* Interface.

Pitch

Refers to the number of characters per inch that can be composed using a fixed space font.

Platen

Printer component that holds the paper in position during ink transfer.

Point size

Character height is defined in points; one point is 1/72 inch. For instance, this text is printed using a 10-point font.

Portrait orientation

Refers to printing across the width of the page (letter style). This is the opposite of landscape orientation, which is printing across the length of the page.

Print head

The printing mechanism that contains print nozzles and ejects the ink for printing.

Print head capping

An automatic protection function that prevents the print head unit and ink cartridges from drying out or becoming clogged with dust.

Printable area

The area of a sheet of paper on which a printer can reproduce text or graphics (the printing area is smaller than the paper). On this printer, the printing area varies depending on the type of paper being used.

Printer driver

Software that sends printing instructions to a printer. The printer driver keeps track of the attributes of a printer and the codes the program must send to access those attributes.

RAM

Random Access Memory. Printer memory that is used for temporary storage of information you want to print and downloaded fonts.

Resolution

The density of dots for any given output device. Expressed in terms of dots per inch (dpi). Low resolution causes font characters and graphics to have a jagged appearance. Higher resolution means smoother curves and angles as well as a better match to traditional typeface designs. Resolution values are represented by horizontal data and vertical data, for example, 360×360 dpi. This printer can produce output with resolutions up to 720×360 dpi precision.

RGB

An acronym for Red, Green, and Blue; the three primary colors used in the additive process to form a wide spectrum of colors.

Smoothing mode

A printer mode that refines your printout by polishing away jagged edges and ragged stair-stepping curves of characters and graphics.

Subtractive colors

The three primary colors (cyan, yellow, and magenta); when combined through a subtractive process give a spectrum of colors.

True black

Contrary to composite black, true black color on a printout is obtained with the use of black ink.

TrueType font

The scalable font technology built into Microsoft Windows 3.1. It offers you the same font images both on computer displays and printer outputs.

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FCC Regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Use of shielded cable is required to comply with Class B limits in Subpart B of Part 15 of FCC Rules.

Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par l'Industrie et Sciences Canada.

