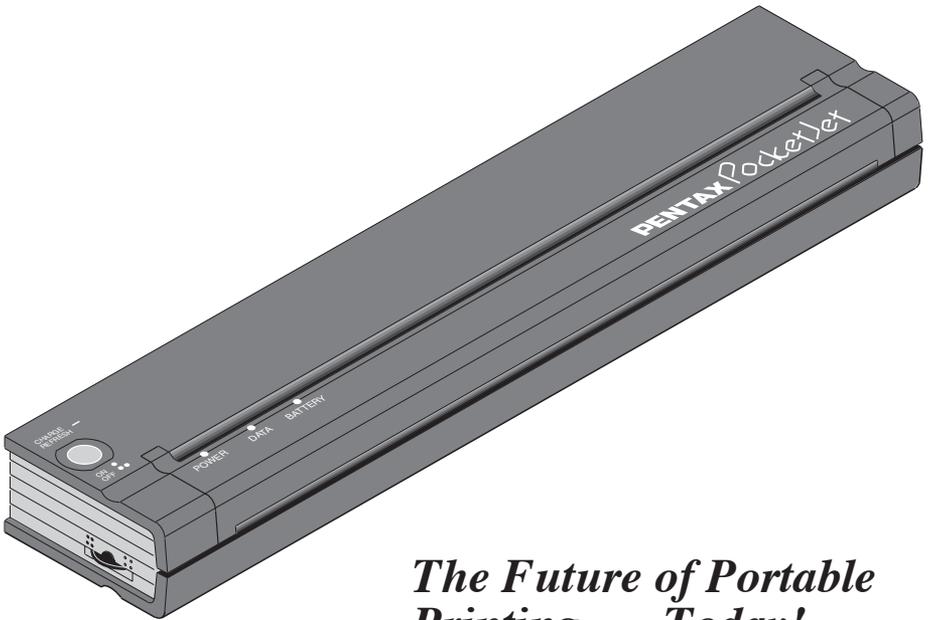


PENTAX® PocketJet™

Printer User's Guide



*The Future of Portable
Printing . . . Today!*

PENTAX[®] *PocketJet*[™]

Printer User's Guide

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P/N 201986-003
In Europe, P/N AC000801

Contents

	Safety Information	1
	Safety Precautions	1
	Battery Recycling/Disposal Information	2
	Printer Features	3
	Warranty Information	4
CHAPTER	Setting Up the Printer	5
1	Unpacking the Printer	5
	Installing the Battery	6
	Connecting to an AC Outlet	8
	Charging the Battery	9
	Removing the Battery	11
	Tips on Using the Battery	12
	Checking the DIP Switches	13
	Printing a Self-Test Sheet	14
	Checking the Self-Test Sheet	16
	Identifying Your Printer Model	18
	Connecting to Your Computer	19
	Parallel Interface	19
	Optional Serial Interface	20
	Optional Infrared Interface	22
CHAPTER	Using the Printer	23
2	Checking the Printer Driver	23
	Installing a Printer Driver	23
	Selecting a Printer	25
	Setting Default Paper Size	26
	Printing	27
	Turning the Printer Off	29
	Auto-off Timer Feature	29
	Activating and Disabling the Auto-off Timer	29
	Making Prints Lighter or Darker	30
	Tips on Printing Large Graphics	31
	Using Fonts	32
	Protecting the Printer	32

CHAPTER	Tips on Using Paper	33
3	Inserting Paper	33
	Use Recommended Paper	34
	Usage and Handling Instructions	34
	Clearing a Paper Jam	35
	Guide to Imprinting Letterhead	36
CHAPTER	Maintaining the Printer	37
4	Cleaning the Print Head	37
	Cleaning the Platen Roller	39
	Cleaning the Printer's Case	40
CHAPTER	Reference	41
5	Using the Operation Panel	41
	Indicator Lights	42
	DIP Switches	44
CHAPTER	Troubleshooting	45
6	Indicator Light Warnings	45
	Paper Problems	47
	Printed Image Problems	48
	Pages Don't Print	51
	Pages Are Partially Printed	52
CHAPTER	Technical Information	53
7	Specifications	53
	Radio & Television Interference	55
CHAPTER	Ordering Information	59
8	Supplies and Accessories	59
	Replacement Parts and Upgrades	60
APPENDIX	Printer Commands	61
A		
APPENDIX	Character Sets	67
B		
	Index	75

Safety Information

Safety Precautions

- ◆ Avoid placing the printer in direct sunlight or dusty environments. Avoid high temperatures and rapid changes in temperature or humidity.
- ◆ Avoid use in areas of high vibration.
- ◆ Because the printer uses a thermal printing method, it produces heat during operation. Be sure to place it where it will receive adequate ventilation.
- ◆ Don't allow moisture to come in contact with the printer, accessories, the AC adapter or the AC power cord.

Outdoor Use Warning

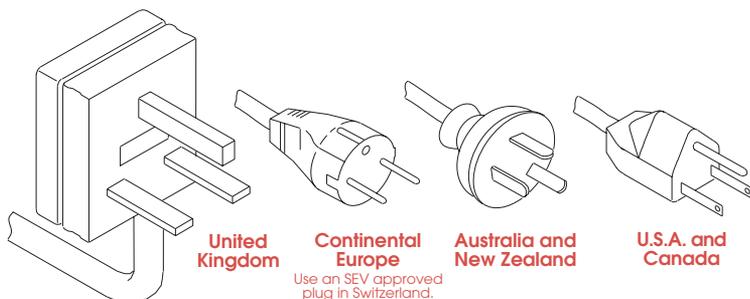
To reduce the risk of electric shock, do not expose this printer, its AC adapter or the power cord to rain or moisture.

Caution: Using AC Power

To use AC power (with or without battery installed), you must use the AC adapter supplied with the printer.

With the AC adapter, you can connect the printer to 110 - 240 volt power outlets. The adapter automatically accepts the correct voltage when connected.

Check the standard power plug configurations that are used in your country. If the appropriate power cord is not included with your printer, notify your local reseller.



Unplug AC cable when printer is not in use.

Always unplug the AC cable from the AC power outlet when you stop using the printer or charging the battery. The transformer inside the AC adapter generates heat while it is plugged in. Unplugging the AC adapter extends its life.

Battery Recycling/Disposal Information

This printer contains a rechargeable Nickel-Cadmium (Ni-Cd) battery. The battery is recyclable. At the end of its useful life, please consider recycling options (contact your local solid waste officials) or proper disposal (see paragraphs below). It may be illegal under various state and local laws to dispose of the battery in your solid waste collection.

The RBRC™ seal on the Ni-Cd battery pack contained in the PocketJet printer indicates that Pentax Technologies is voluntarily participating in an industry program to collect and recycle these battery packs at the end of their useful life, when taken out of service within the United States. The RBRC program provides a convenient alternative to putting spent Ni-Cd battery packs into the trash or municipal waste stream, which is illegal in some areas.

Pentax Technologies' payments to RBRC make it easy for you to drop off the spent battery pack at local retailers of replacement Ni-Cd batteries or at authorized Pentax product service centers. You may also contact your local recycling center for information on where to return the spent battery packs. The involvement of Pentax in this program is part of its commitment to protecting our environment and conserving natural resources.

For users outside the United States, please contact your local reseller or local solid waste official for information on recycling your used batteries.

Printer Features

The Pentax PocketJet printer is an ultra-light portable printer.

The printer's small size and light weight make it the ideal traveling companion for your PC notebook computer.

The Pentax PocketJet printer features:

- ◆ Models for letter, legal, and A4 paper sizes.
- ◆ Models with 512 KB and 2 MB of memory.
- ◆ High-quality images with a resolution of 300 by 300 dots per inch.
- ◆ Print speed of up to three pages per minute.
- ◆ Operation on battery power or via AC adapter that automatically switches between 110 and 240 volt power.
- ◆ Operation via optional car adapters.
- ◆ Parallel and serial interfaces. The complete printer kit includes a parallel interface cable. A serial cable and cables for selected laptops and PDAs are available.
- ◆ An optional infrared interface adapter for wireless communication between your printer and computer.
- ◆ Full HP-PCL4 LaserJet® IIP compatibility. The printer can be driven directly from most software applications and operating systems.
- ◆ Direct thermal technology—no toner, ribbons, or ink are ever needed.
- ◆ Connectivity options for Macintosh PowerBook and Newton computers as well as many Personal Digital Assistants (PDAs), palmtops and pen-based systems.

Warranty Information

Standard Warranty

Pentax provides, free of charge, a one-year limited warranty for your new PocketJet printer. For one year from the date of original purchase, Pentax will repair or replace a failed unit with a new or rebuilt unit when it is returned postpaid to an authorized Pentax service center. A return material authorization (RMA) number and proof of purchase are required—in the continental United States call Pentax at 1-800-543-6144 or 1-303-460-1820 and ask for Customer Support. *See the Warranty Registration Card for details.*

Outside the continental United States, see the Warranty Registration Card for contact information and warranty details or visit the Pentax Technologies Web site (www.pentaxtech.com) for the location nearest you.

If the PocketJet battery or thermal paper fails due to defects in material or workmanship within the first 90 days of ownership, it will be replaced. Contact Pentax or your local reseller for further information.

Pentax makes no other warranty, either expressed or implied, with respect to this product. Some states or provinces do not allow limitations, so the above limitation may not apply to you.

Extended Warranty

See the warranty card included with your PocketJet printer for extended warranty information, or contact your local reseller.

1 *Setting Up the Printer*

Unpacking the Printer

Follow the instructions on the *Read Me First* sheet.

The complete printer kit contains the items in Figure 1.

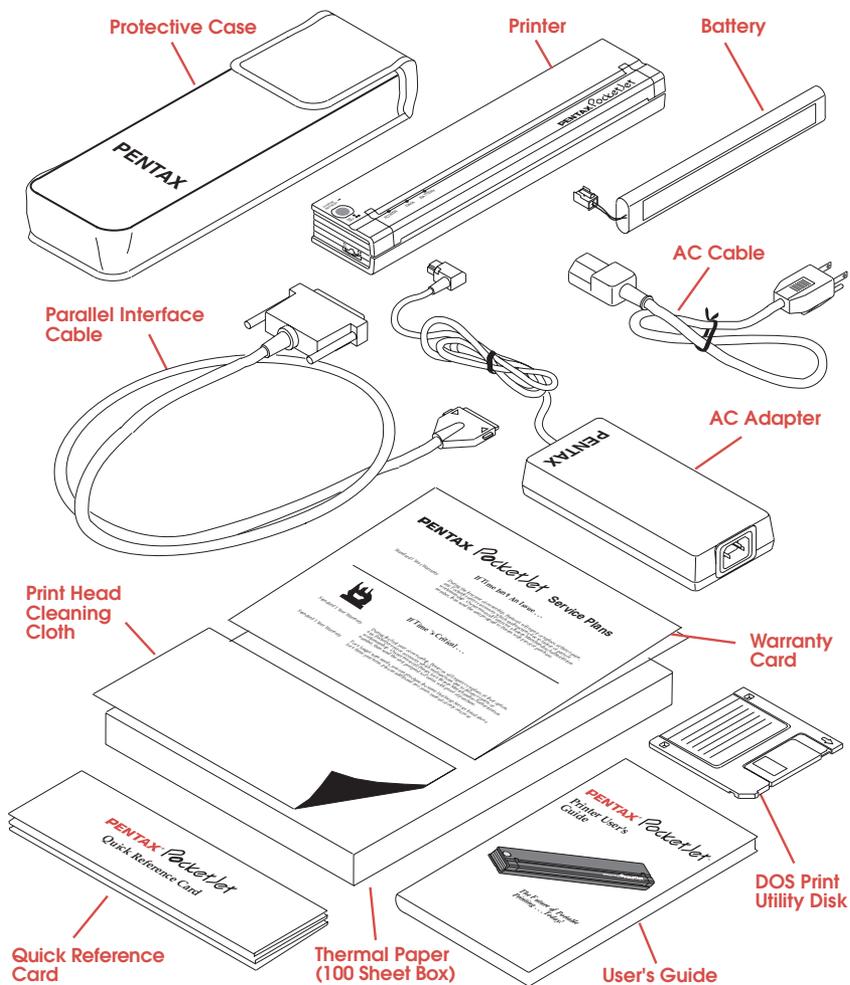


FIGURE 1. The contents of the complete printer kit.

Installing the Battery

1 Open the printer's battery cover by pressing the cover latch. Push the cover away from the AC adapter receptacle. See Figure 2.

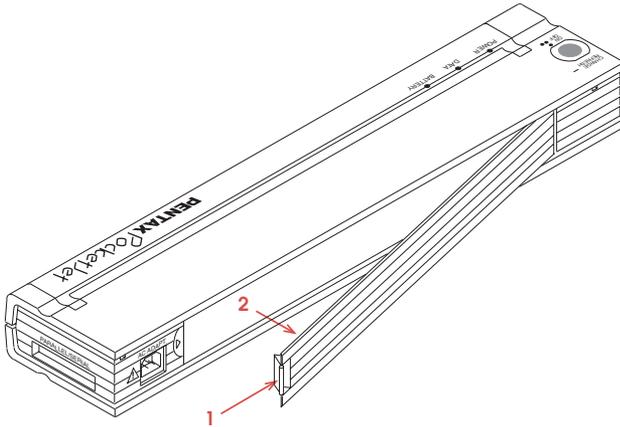


FIGURE 2. Opening the battery cover.

2 Swing the cover open and remove it.

3 Gently push the battery connector into the terminal on the inside of the printer's battery compartment next to the cover latch. See Figure 3.

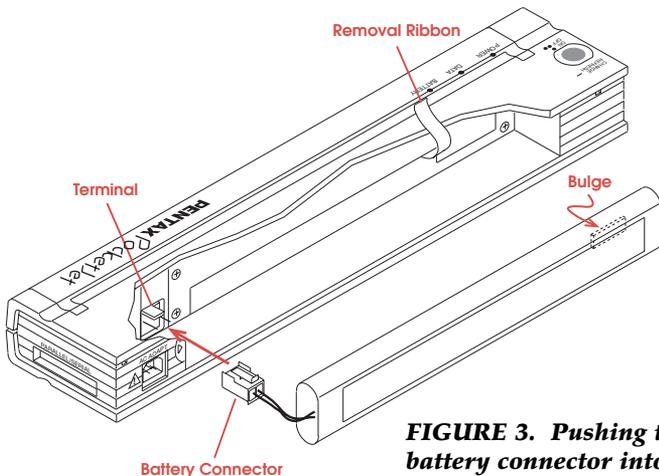


FIGURE 3. Pushing the battery connector into the terminal.

CAUTION: Do not force the battery connector into the terminal. If you are having difficulty inserting the connector, make sure the connector tab is facing the top of the printer case. See Figure 3.

4 Grasp the battery removal ribbon, which is attached to the inside of the battery compartment. See Figure 4.

NOTE: If you forget to hold on to the ribbon, you may accidentally insert the battery on top of it. Then you won't be able to remove the battery by pulling on the ribbon.

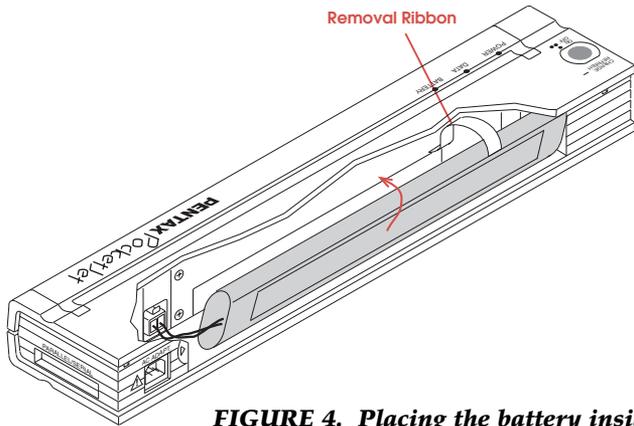


FIGURE 4. Placing the battery inside the battery compartment.

5 While holding on to the ribbon, tilt the battery and place it inside the battery compartment. Once the battery clears the outer edges of the compartment, press it securely into position.

Make sure the side of the battery with the warning label faces the outside of the battery compartment. Otherwise, the battery cover will not close properly.

NOTE: The side of the battery opposite the warning label contains a heat sensor that stops the flow of electricity if the battery overheats.

6 Attach the battery cover to the end of the battery compartment opposite the AC adapter receptacle. Close and latch the cover. If necessary, gently push the cover latch toward the AC adapter receptacle until it latches.

Connecting to an AC Outlet

Connect the printer to a nearby AC power outlet to run it on AC power or to charge the battery.

- 1 Connect the AC adapter to the printer.
- 2 Connect the AC cable to the AC adapter.
- 3 Plug the AC cable into a nearby AC power outlet.

The AC adapter works with 100 - 240 volt, 50/60 Hz power. It senses the voltage in the power outlet and automatically switches to the proper voltage.

NOTE: The plug on the AC cable shown in Figure 5 is compatible with AC power outlets in the U.S.A. and Canada. Your printer should ship with a power cord that meets your country's power requirements. If you have the wrong power cord, please contact your local dealer or order direct from Pentax. See Chapter 8, "Ordering Information," on page 59.

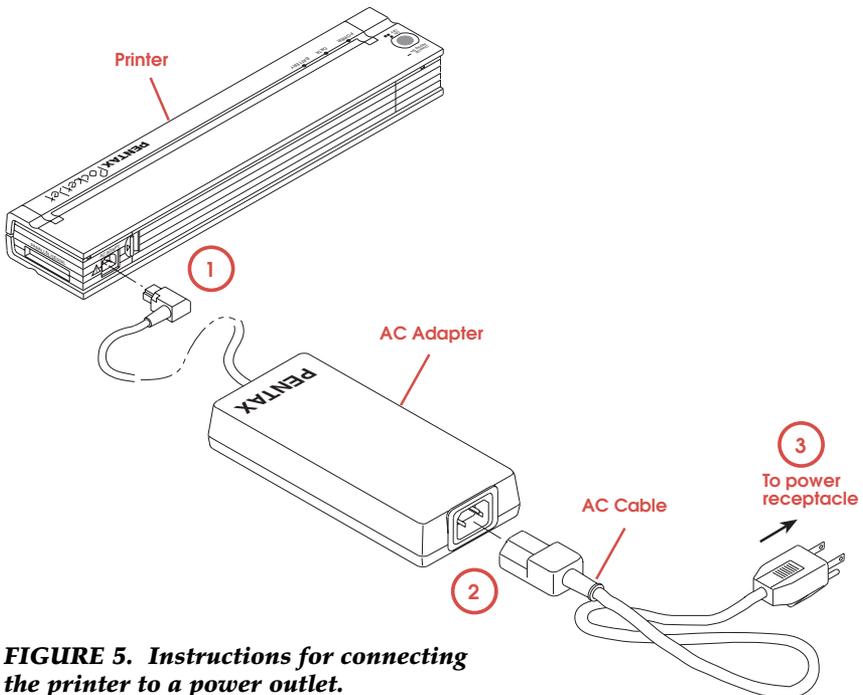


FIGURE 5. Instructions for connecting the printer to a power outlet.

Charging the Battery

The battery **MUST** be charged prior to first use.

Follow these steps to charge a new battery and to recharge a used battery.

- 1 Make sure the printer is connected to an AC power outlet with the AC adapter and power cord. See page 8.
- 2 Make sure the printer is off.
- 3 Make sure the battery is installed. See page 6.
- 4 Press the main switch and hold it down for a few seconds until the green BATTERY indicator light stays lit. See Figure 6.

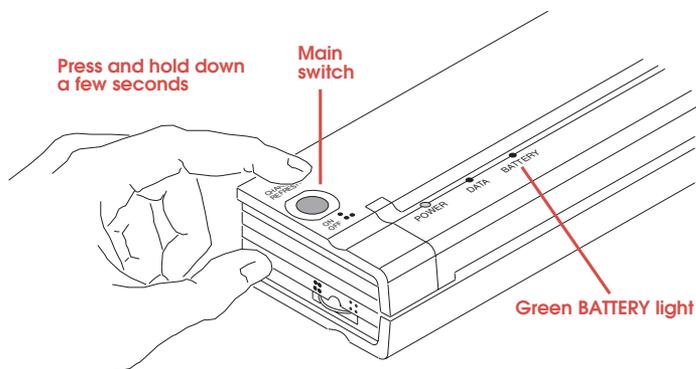


FIGURE 6. Charging the battery.

This puts the printer in Charge mode, which completely discharges the battery and then charges it.

The green BATTERY indicator light stays lit continuously until discharging is completed; then it blinks until charging is completed.

NOTE: During the charging cycle, you will not be able to print.

When the printer finishes charging the battery, it automatically turns itself off, and the green BATTERY indicator light goes off.

The entire process should take about 70 minutes.

NOTE: *Your Ni-Cd battery will last much longer and carry a greater charge if it is always completely discharged prior to charging. Steps 1-4 in "Charging the Battery" explain this procedure.*

Refreshing the Battery

Refreshing the battery "tops off" the charge without first discharging the battery. You may refresh a **seasoned** battery **occasionally** when you don't have time to completely discharge and charge it.

CAUTION: *This procedure is not recommended, particularly with a new battery, as it may reduce the battery's life and its ability to carry a charge.*

- 1** Make sure the printer is connected to an AC power outlet with the AC adapter and power cord.
- 2** Make sure the printer is off.
- 3** Press the main switch and hold it down for a few seconds until the green BATTERY indicator light stays lit. This puts the printer in Charge mode, and it starts discharging the battery.
- 4** Press the main switch and hold it down for a few seconds until the green BATTERY indicator light starts to blink. This bypasses the discharging process and puts the printer in Refresh mode, which charges the battery immediately.

The green BATTERY indicator light blinks until charging is completed.

When the printer finishes refreshing the battery, it automatically turns itself off, and the green BATTERY indicator light goes off.

Stopping the Charge or Refresh Process

If you want to stop the printer while it is in Charge or Refresh mode, press the main switch twice quickly.

Removing the Battery

- 1 Open the printer's battery cover by pressing the cover latch. Swing the cover open and remove it.
- 2 Pull out on the battery removal ribbon as shown in Figure 7 until the battery starts to tilt out of its compartment.

NOTE: If the battery removal ribbon is caught behind the battery, insert a thin metal object such as a flat-blade screwdriver between the battery and the case at the end away from the AC adapter receptacle. Gently push the battery toward the AC adapter receptacle and tilt it out of its compartment.

- 3 Remove the battery from the compartment.
- 4 Squeeze the connector tab on the battery connector down.
- 5 Gently pull the battery connector from the terminal inside the printer.

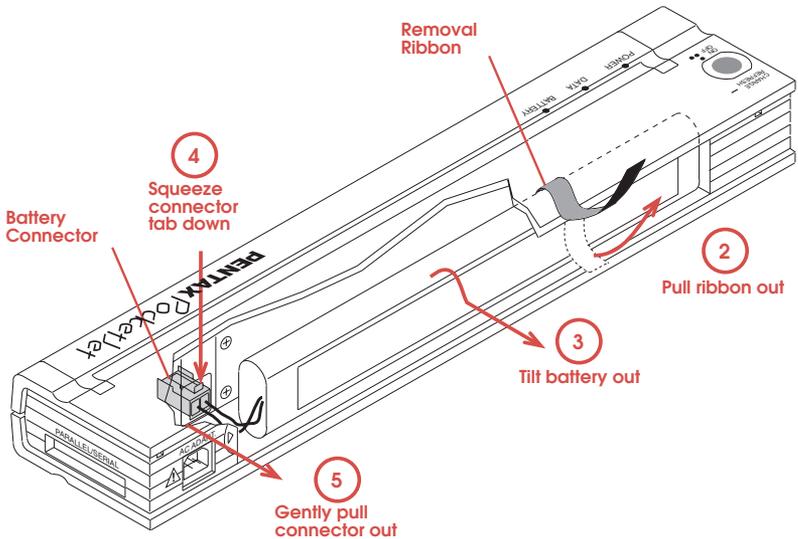


FIGURE 7. Instructions for removing the battery.

Tips on Using the Battery

- ◆ Charging the battery after it has been completely discharged takes about 70 minutes. For instructions, see page 9.
- ◆ When you use the printer with a battery, it can print approximately 30-35 pages on a full charge.
- ◆ Darker prints discharge the battery faster than lighter prints do. Use the density dial to adjust lightness and darkness.
- ◆ The printer's protective vinyl carrying case has a sleeve on the inside for an extra battery. With two batteries, you can print twice as many pages before you have to charge the batteries. (The sleeve on the back of the case is for the quick reference card.) To order a spare battery, see page 59.
- ◆ If the battery is not used for an extended period and becomes discharged, it is best to recharge it without using Refresh mode. Follow the instructions for "Charging the Battery" on page 9.
- ◆ Use of the optional infrared adapter may decrease the number of pages that can be printed with a fully charged battery.
- ◆ Activating the auto-off timer (see page 29) **extends the battery's life** and is recommended when using the optional infrared adapter.

Checking the DIP Switches

The PocketJet printer has eight DIP switches that control how the printer works. Follow these steps to make sure the switches are set correctly.

- 1 Set the printer face down so that the battery compartment is toward you.
- 2 Find the set of eight DIP switches marked SW1 on the bottom of the printer. See Figure 8.

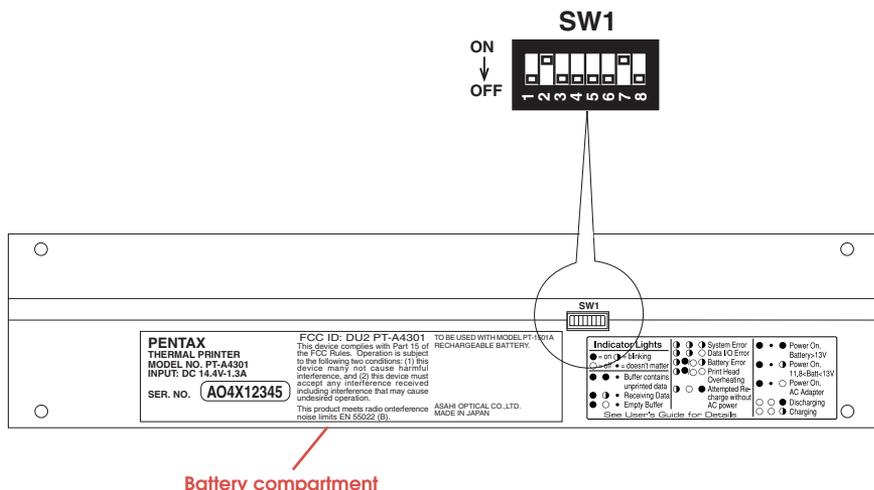


FIGURE 8. Checking the printer's DIP switches.

- 3 Check the settings of the DIP switches.

At the factory, DIP switches 1, 3-6, and 8 are set in the OFF position. Switches 2 and 7 are set in the ON position. Figure 8 shows the factory settings.

For a table listing the function of each DIP switch, see "DIP Switches" on page 44.

Printing a Self-Test Sheet

- 1 Make sure the printer is turned off.
- 2 Set the printer face down so that the battery compartment is toward you.
- 3 Using a pointed object such as a push pin or paper clip, gently move DIP switch 3 away from you to the ON position.
- 4 Turn the printer face up and press the main switch once quickly to turn the printer on. The red POWER indicator lights up. (If you are using the battery, the green BATTERY indicator also lights up.) See Figure 9.

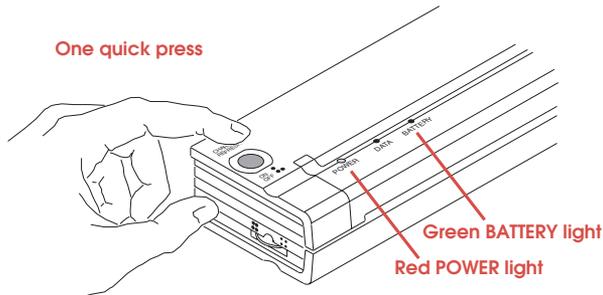
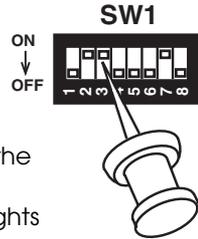


FIGURE 9. Turning on the printer.

- 5 Insert a sheet of the recommended thermal paper into the paper input slot. Place the print side of the paper away from you, so that it faces the rear of the printer. See Figure 10.

NOTE: You can print on only one side of thermal paper. This is the smooth, coated side. For more information, see "Tips on Using Paper" on page 33.

- 6 After you insert the paper, the printer pulls it through and prints the self-test image. See Figure 11.

The green DATA indicator light comes on and stays lit.

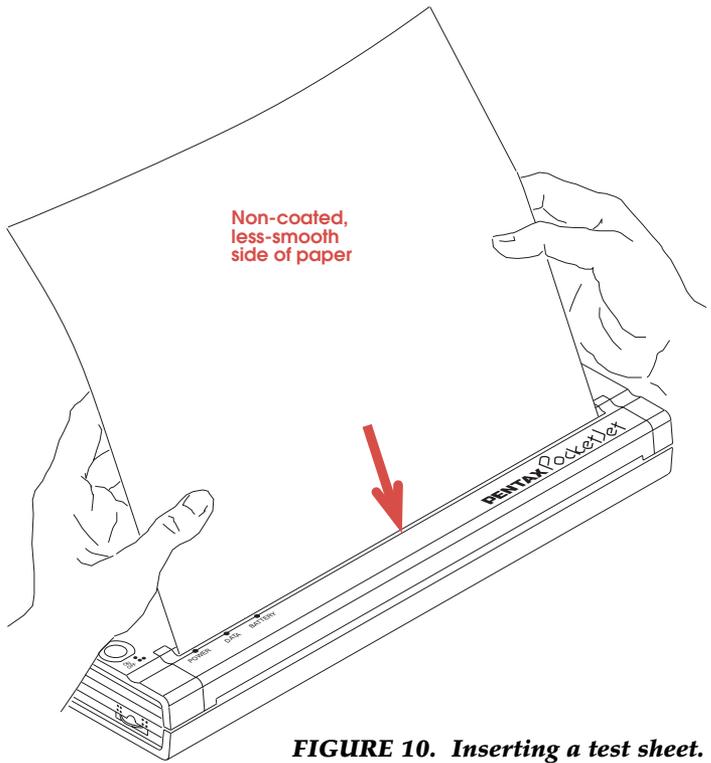
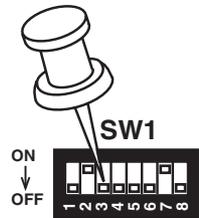


FIGURE 10. Inserting a test sheet.

NOTE: If the printer doesn't print the self-test image, see "Troubleshooting" on page 45.

- 7** Turn the printer off by pressing the main switch twice quickly. All the indicator lights turn off.
- 8** Using a pointed object, gently move DIP switch 3 toward you to the OFF position.
- 9** Turn the printer face up again. It is now ready for use.



NOTE: If you do not return DIP switch 3 to the OFF position, the printer will print a self-test sheet every time you power up the printer.

Printer Status

The information in this section varies by printer model.

For a model that supports legal-size paper, the Printer Status section shows:

- ◆ Paper Size—the default paper size and character set. The current setting appears in bold type. The “Letter” and “Legal” paper sizes common in the United States use the PC-8 character set. If the model supports A4-size paper common in Europe, the “A4” paper size uses the PC-850 character set. To change the default setting, see “Setting Default Paper Size” on page 26.
- ◆ The serial speed and other serial settings (data bit, serial parity, stop bit, and Xon/Xoff) used with a serial interface. The current serial speed appears in bold type. To change these settings, see “Optional Serial Interface” on page 20.
- ◆ The firmware version number.
- ◆ The memory size, for example, 512 KB or 2 MB.
- ◆ The setting of the auto-off timer. To change the setting, see “Auto-off Timer Feature” on page 29.

For the Letter/A4 512 KB model, the Printer Status section shows “Country” instead of “Paper Size.” It does not show the Memory Size and the settings for Xon/Xoff and the auto-off timer.

Printer Status
(for Letter/A4
512 KB model)

Printer Status			
Country	: <i>Europe, USA</i>	Data bit	: 8
Serial Speed	: <i>38400, 19200, 9600, 2400bps</i>	Serial Parity	: None
Firmware	: 1.00	Stop bit	: 1

“Country” shows the default paper size and character set. The current setting appears in bold type: “USA” for letter-size paper and PC-8 character set, or “Europe” for A4-size paper and PC-850 character set. To change the default setting, see “Setting Default Paper Size” on page 26.

Font/Symbol Set Options

This section shows samples of the printer's seven internal fonts and its character sets.

Print Quality

The lower part of the sheet contains a black line, shaded bars, and lines of characters. Examine this section of the self-test sheet to check the quality of the printed image.

Identifying Your Printer Model

You can identify your printer model by looking at the Printer Status section of the self-test sheet.

- ◆ Letter/A4 512 KB Model: Look for the word "Country." There is no indication of memory size.
- ◆ Letter/Legal 512 KB Model: Look for the words "Paper Size" followed by two options: "Letter" and Legal." "Memory Size" is 512 KB.
- ◆ Letter/Legal/A4 512 KB Model: Look for the words "Paper Size" followed by three options: "Letter," Legal," and "A4." "Memory Size" is 512 KB.
- ◆ Letter/Legal/A4 2 MB Model: Look for the words "Paper Size" followed by three options: "Letter," Legal," and "A4." "Memory Size" is 2 MB.

NOTE: *Unless your printer has been upgraded, you can identify your model by looking at the serial number on the bottom of the printer's case. If the serial number is in the format T1LGxxxxx, you have one of the Letter/Legal models. If the serial number is in the format T1xxxxxxx or A1xxxxxxx, you have a Letter/A4 512 KB model. If your printer has been upgraded, the self-test sheet indicates which model and how much memory is installed, as listed above.*

Connecting to Your Computer

You can connect the printer to your computer by using:

- ◆ The parallel interface cable supplied with the complete printer kit. See “Parallel Interface” below.
- ◆ The optional RS-232C serial interface cable. See “Optional Serial Interface” on page 20.
- ◆ The optional infrared adapter. See “Optional Infrared Interface” on page 22.
- ◆ The optional interface cables for Macintosh PowerBook and Newton computers and for many Personal Digital Assistants (PDAs), palmtops and pen-based systems. See pages 59 and 60.

For information about what type of printer connection your computer has and about connecting your computer to a printer, see the documentation that came with your computer.

Parallel Interface

- 1** Make sure your printer is off before installing the interface cable.
- 2** Take the printer end of the cable and hold it so the notched metal surface is facing up.
- 3** Insert the printer end of the cable into the interface connector on the side of the printer. *See Figure 12 on page 20.*

CAUTION: *Always insert and remove the interface cable gently. Press the latching devices on each side of the interface connector when removing the cable.*

- 4** Insert the other end of the cable into the appropriate connector on your computer.

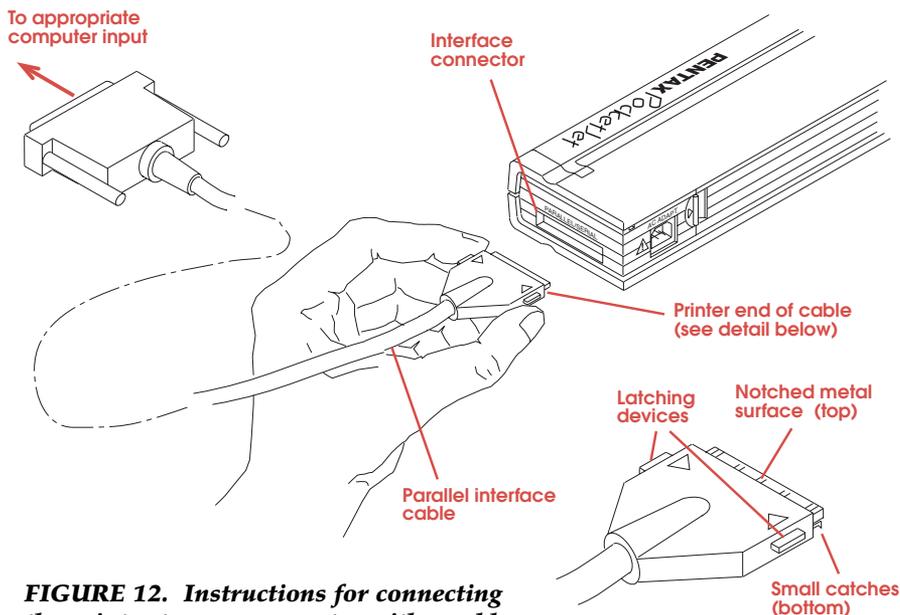


FIGURE 12. Instructions for connecting the printer to your computer with a cable.

Optional Serial Interface

The RS-232C serial interface cable is available from your dealer or direct from Pentax. See Chapter 8, "Ordering Information," on page 59.

Set DIP switches 1, 2 and 7 (and 6 on some models) to control the printer's serial interface by following these instructions.

NOTE: The printer automatically senses whether it is connected to the computer with a parallel or serial interface. It does not use a DIP switch for this purpose. Switches 1, 2 and 7 have no effect when the printer is connected with a parallel interface.

- 1 Make sure the printer is turned off.
- 2 Set the printer face down so that the battery compartment is toward you.
- 3 Use a pointed object such as a push pin or paper clip to change the setting of a DIP switch. Gently move the DIP switch away from you to turn it ON. Move it toward you to turn it OFF.

4 Set switches 1 and 2 to the baud rate that you have specified for the serial interface using your computer's operating system.

- ◆ For 38,400 bits per second (bps), set switches 1 and 2 to the OFF position.
- ◆ For 19,200 bps, set switch 1 to the ON position and switch 2 to the OFF position.
- ◆ For 9,600 bps, set switch 1 to the OFF position and switch 2 to the ON position.
- ◆ For 2,400 bps, set switches 1 and 2 to the ON position.

5 Set the DIP switches to the handshaking method your computer is using to communicate with the printer.

- ◆ For Xon / Xoff handshaking, set switch 7 to the OFF position (Activate). When Xon / Xoff handshaking is active, DTR hardware handshaking is disabled.
- ◆ For DTR hardware handshaking, set switch 7 to the ON position to disable Xon / Xoff handshaking.

If you have a Letter/A4 or Letter/Legal printer model, switch 6 controls the DTR polarity. Set switch 6 to the OFF position (Active High) in most situations.

If you have a Letter/Legal/A4 printer model, switch 6 (together with switch 5) controls the default paper size and character set. For these models, DTR hardware handshaking is permanently set to "Active High."

To identify your printer model, see page 18.

NOTE: *Your computer controls the DTR polarity for DTR hardware handshaking. Most computers use high polarity. If your computer is using low polarity and if you have a Letter/A4 or Letter/Legal printer model, set switch 6 to the ON (Active Low) position.*

Connect the RS-232C serial interface cable to the printer and computer by following the instructions for "Parallel Interface" on page 19.

Optional Infrared Interface

The PocketJet printer can communicate with your computer through a wireless infrared adapter.

The infrared adapter is available from your dealer or direct from Pentax. See Chapter 8, "Ordering Information," on page 59.

To connect the infrared adapter to your printer, see the instructions supplied with the infrared adapter.

NOTE: *The infrared adapter requires a special, modified version of the PocketJet printer. The modified printer can connect to your computer with the parallel interface cable or the infrared interface adapter but not with the serial interface cable. The settings of the DIP switches that control the serial interface have no effect on the modified printer. For more information about PocketJet printers that support the infrared interface adapter, contact your dealer or Pentax.*

2 *Using the Printer*

Checking the Printer Driver

The PocketJet printer uses the LaserJet IIP printer driver. It can also use the LaserJet II printer driver in many instances where a IIP driver is not available. Make sure that one of these drivers is installed and selected on your computer or available within your DOS application.

CAUTION: Do *not* use the LaserJet IIP Plus driver. It is not compatible with this printer in all situations.

Installing a Printer Driver

If you are using the Microsoft Windows, Windows NT or OS/2 operating environment, follow the instructions in your Windows, Windows NT or OS/2 user's guide for installing a LaserJet IIP or LaserJet Series II printer driver. This section gives brief instructions for installing a printer driver using Windows 3.1 (see below) or Windows 95 (see page 24).

If you are using DOS, see "Selecting a Printer" on page 25.

Windows 3.1

Follow these instructions to install a printer driver using Windows 3.1.

You may need your Windows installation disks or CD-ROM to install a printer driver. Have them ready to use.

NOTE: *The DOS print utility disk included with the complete printer kit does not contain any drivers.*

1 At the Windows Program Manager, double-click the Main icon. Double-click the Control Panel icon. Double-click the Printers icon.

2 At the Printers window, click the Add button.

A List of Printers appears in the lower part of the window.

3 Scroll through the List of Printers until you find the HP LaserJet IIP (or HP LaserJet Series II) printer. Click the HP LaserJet IIP and then click the Install button.

- 4 You may be prompted to insert your Windows installation disks or CD-ROM. Follow the instructions on the screen, and then click the OK button.
- 5 To make the printer the default printer, click it on the list of Installed Printers and then click the Set As Default Printer button.
- 6 Click the Connect button to specify which port the printer is connected to.
- 7 When you are done installing printers, click Close.

Windows 95

Follow these instructions to install a printer driver using Windows 95.

You may need your Windows installation disks or CD-ROM to install a printer driver. Have them ready to use.

NOTE: *The DOS print utility disk included with the complete printer kit does not contain any drivers.*

- 1 Start Windows 95. Select the Settings option. Select the Control Panel option. Double-click the Printers icon. Double-click the Add Printer icon.
- 2 In the Printer Wizard window, click the Next button until lists of manufacturers and printers appear. Scroll through the Manufacturers list until you find HP. Click HP. Scroll through the Printers list until you find the HP LaserJet IIP (or HP LaserJet Series II) printer. Click the HP LaserJet IIP and then click the Next button.
- 3 Answer each of the Printer Wizard's questions and click the Next button. For example, select a port for the printer, give the printer a name, and decide whether to print a test page. Click the Finish button.
- 4 You may be prompted to insert your Windows 95 installation disks or CD-ROM. Follow the instructions on the screen, and then click the OK button.
- 5 To make the printer the default printer, click the Yes radio button when the Printer Wizard asks "Default printer?"

Selecting a Printer

This section gives brief instructions for selecting a printer using Windows, Windows NT, OS/2 or DOS.

Windows, Windows NT and OS/2

Once the printer driver is installed, follow the instructions in your Windows, Windows NT or OS/2 user's guide to select the printer driver as your printer.

If the HP LaserJet IIP or HP LaserJet Series II printer is the default printer, you can print from a Windows application without selecting a printer.

Under Windows 3.1, select a printer by choosing Printer Setup on the File menu. Click the Specific Printer radio button and then click the HP LaserJet IIP (or HP LaserJet Series II) printer. If neither printer appears on the list, you must install a printer driver. See page 23.

DOS

If you are using DOS applications, your application may include support for LaserJet IIP (or LaserJet II) printers. If so, select this option.

When using a DOS application (including the DOS "PRINT" command) that offers no printer selection options, you may still control the features of the printer, including internal font selection, character set, portrait or landscape orientation, lines per inch, etc. To do this, run the POCKETJT.EXE program, found on the DOS print utility disk included with your printer, before running your DOS program. Alternatively, it may be possible to embed PCL4 command codes directly into your document. For a list of these commands and character sets, see Appendices A and B.

Printer Emulation

The printer emulates a LaserJet IIP using Hewlett-Packard's printer control language PCL4 (PhoenixPage™ PCL4 licensed from XIONICS™).

This emulation supports all LaserJet IIP capabilities except those that clearly do not apply, such as support for paper trays, envelope feeding, etc.

Setting Default Paper Size

Windows and many DOS-based applications send paper-size and character-set information to the printer.

The default paper size and character set are important only for situations like using the DOS "PRINT" and "COPY" commands and for certain DOS applications that do not send PCL printer setup information prior to the print job.

- 1 Make sure the printer is turned off.
- 2 Set the printer face down so that the battery compartment is toward you.
- 3 Using a pointed object, set the DIP switches for your model printer. Gently move the DIP switch away from you to turn it ON. Move it toward you to turn it OFF. To check which model printer you have, see "Identifying Your Printer Model" on page 18.

Letter/A4 Model

- ◆ Letter-size paper and PC-8 character set: switch 5 OFF.
- ◆ A4-size paper and PC-850 character set: switch 5 ON.

Letter/Legal Model

- ◆ Letter-size paper and PC-8 character set: switch 5 OFF.
- ◆ Legal-size paper and PC-8 character set: switch 5 ON.

Letter/Legal/A4 Model

- ◆ Letter-size paper and PC-8 character set: switches 5 and 6 OFF.
- ◆ Legal-size paper and PC-8 character set: switches 5 and 6 ON.
- ◆ A4-size paper and PC-850 character set: switch 5 ON and switch 6 OFF. (Or switch 5 OFF and switch 6 ON.)

NOTES: You can use different settings (such as a non-standard paper size or letter-size paper with the PC-850 character set) for an individual print job by specifying the character set, paper size, or both in your printer driver or software application.

For character set tables, see Appendix B.

Printing

You **MUST** charge the battery before using the printer the first time. For instructions, see page 9.

- 1** Make sure that you have installed a charged battery or have connected the printer to an AC power outlet.
- 2** Turn the printer on by pressing the main switch once quickly. The red POWER indicator lights up. (If you are using the battery, the green BATTERY indicator also lights up.) See *Figure 13*.

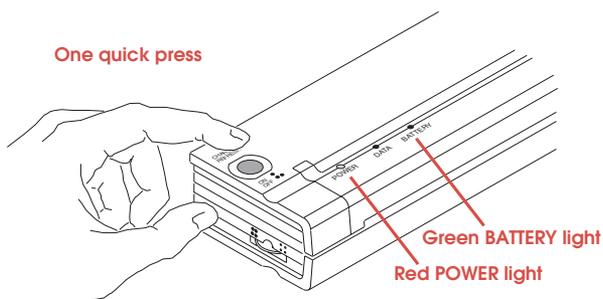


FIGURE 13. Turning on the printer.

- 3** Print one or more pages from a software application on your computer.

The green DATA indicator light blinks to indicate that the printer is receiving data from your computer.

- 4** Insert a sheet of thermal paper into the paper input slot. Place the print side of the paper away from you, so that it faces the rear of the printer. See *Figure 14*.

NOTE: You can print on only one side of thermal paper. This is the smooth, coated side. For more information, see "Tips on Using Paper" on page 33.

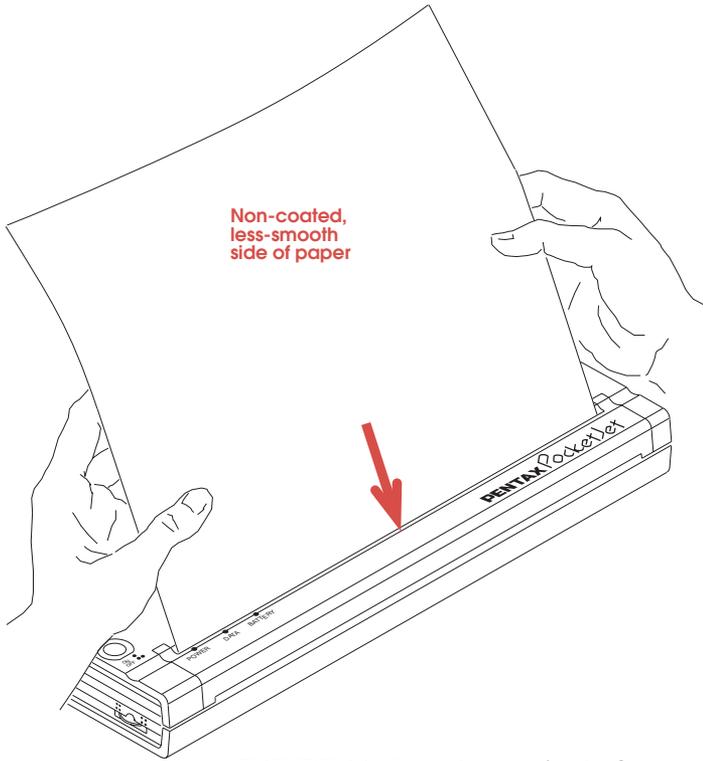


FIGURE 14. Inserting a sheet of paper.

NOTE: If you have inserted paper into the input slot and the green DATA indicator light stays on (without blinking), the printer has received an insufficient amount of data to print an entire page. This situation occurs normally in some software applications when a partial page remains to be printed at the end of a print job.

You can print the partial page by pushing the main switch once quickly after you have loaded the paper.

Turning the Printer Off

Press the main switch twice quickly to turn the printer off.

Auto-off Timer Feature

The auto-off timer conserves battery power when the printer is being powered from its battery. When the timer is active, the printer turns itself off after 60 seconds if it is not receiving data (unless there is data in the printer buffer).

When the printer is being powered from the AC adapter or a car adapter, the auto-off timer is automatically disabled.

NOTE: *Once the auto-off timer has turned the printer off, you must turn it back on by pressing the main switch once quickly. The printer does not turn itself back on automatically when the computer is attempting to send data to it.*

Activating and Disabling the Auto-off Timer

- 1 Make sure the printer is turned off.
- 2 Set the printer face down so that the battery compartment is toward you.
- 3 Using a pointed object such as a push pin or paper clip, set DIP switch 8 as follows:
 - ◆ To activate the auto-off timer, gently move switch 8 toward you to the OFF position.
 - ◆ To disable the auto-off timer, gently move switch 8 away from you to the ON position.

Making Prints Lighter or Darker

You can make prints lighter or darker with the density dial on the side of the printer near the main switch. The larger the number you select, the darker the print becomes. See *Figure 15*.

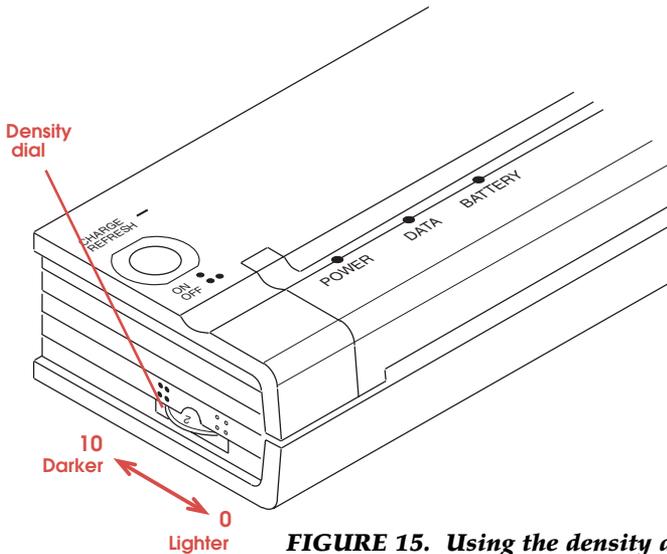


FIGURE 15. Using the density dial.

Try setting the density to 5; then adjust it to suit your taste.

You can change the density setting while printing. Watch the print turn lighter or darker as you turn the density dial.

NOTE: Changing the density setting results in changes to the printer's speed and the number of pages that can be printed on a battery charge.

Tips on Printing Large Graphics

When the PocketJet printer doesn't have enough memory to print a large graphics file, it prints as much of the page as it can and then ejects the partially printed page. If this happens, insert the page again. The printer will finish printing it.

If you always insert the page into the printer in the same way (all the way to the right or left), you should be able to achieve near perfect alignment if you have to reinsert a partially printed page.

To avoid having to feed a page through the printer twice:

- ◆ Print in portrait mode rather than in landscape mode.
- ◆ Remove shading and grids; use underlined borders instead.
- ◆ Use as few fonts as possible.

In addition, you may be able to speed or improve printing by:

- ◆ Making sure both HP LaserJet Series II and HP LaserJet Series IIP printer drivers are installed.
- ◆ Setting the HP LaserJet Series II as the default printer.
- ◆ Enabling the "Print TrueType as Graphics" option. See the instructions below.
- ◆ Changing the printer port from LPT1 to LPT1.DOS—if the printer is connected to the computer with a parallel interface cable.

If you are using a PocketJet printer with 512 KB of memory, you can upgrade it to 2 megabytes. See chapter 8, "Ordering Information," on page 59.

Enabling "Print TrueType as Graphics"

These instructions apply to Windows 3.1.

- 1** At the Windows Program Manager, double-click the Main icon. Double-click the Control Panel icon. Double-click the Printers icon.
- 2** Click the Setup button. Click the Options button.

3 Make sure the box in the lower left corner of the window is checked.

4 Click OK, then click OK again, then click Close.

Using Fonts

The PocketJet printer contains seven internal fonts, which can be printed in portrait or landscape orientation. The fonts are:

Courier 12 pt.
Courier 12 bold
Courier 12 ital
Courier 10 pt.
Courier 10 bold
Courier 10 ital
LinePrinter 8.5

The printer also supports downloadable fonts, including TrueType fonts. The PocketJet printer can print any downloaded font supported by an HP LaserJet IIP printer.

NOTE: *Your computer transfers downloadable fonts to your printer, and the printer stores the downloaded fonts in its memory while it's printing. Using many downloaded fonts increases printing time and may require you to feed a page through the printer twice. See "Tips on Printing Large Graphics" on page 31.*

Protecting the Printer

When you are not using the printer for an extended time or are not regularly charging its battery, always take the following precautions:

- ◆ Unplug the AC cable from the power outlet
- ◆ Remove the battery from the printer
- ◆ Store the printer in its protective vinyl carrying case

NOTE: *The transformer inside the AC adapter generates heat while it is plugged in. Unplugging the adapter extends its life.*

3 *Tips on Using Paper*

Inserting Paper

Inserting paper is easy. Just to make sure you don't have any problems, here are some helpful tips.

- 1** Use both hands to hold the paper straight while you insert it into the printer's paper input slot. Make sure the bottom edge of the paper is parallel to the feed roller.
- 2** Insert the paper by pressing it gently and evenly on both the left and right sides until it can't be inserted any farther. After a short pause, the roller pulls the paper into the starting position. Let go of the paper when the roller starts to pull it.

If the paper is skewed after the printer pulls it into the starting position, you can correct the situation as follows.

- ◆ If the printer *does not* start to print immediately, open the release cover as far back as it will go. See *Figure 16 on page 35*. Pull the paper out and reinsert it. Close the cover.
- ◆ If the printer *does* start to print, wait for the page to be printed and then reprint that page if necessary.

NOTE: *If you insert the paper into the printer before you start the print job, you will have time to adjust the paper if it is skewed after the printer pulls it into the starting position.*

Use Recommended Paper

The printer never needs toner, ribbons, or ink because it uses thermal paper specifically designed for it. To order paper, see your dealer or order direct from Pentax. Refer to Chapter 8, "Ordering Information," on page 59.

Usage and Handling Instructions

- ◆ When loading paper, make sure the smooth, coated side faces the back of the printer.
- ◆ To avoid wrinkling and tearing, keep paper in its box until ready to use.
- ◆ Do not fold, crease or wrinkle paper prior to loading it into the printer.
- ◆ When storing paper, avoid high temperatures and humidity.
- ◆ Avoid prolonged exposure to intense ultraviolet light.
- ◆ Avoid contact with Diazo (blueprint), carbonless or castcoated papers.
- ◆ Avoid contact with vinyl or acetate materials, such as many notebook or report covers.
- ◆ Avoid contact with organic solvents, oils and ammonia.

Clearing a Paper Jam

Remove the paper as follows when a jam occurs.

- 1 Open the release cover as far back as it will go. See Figure 16.

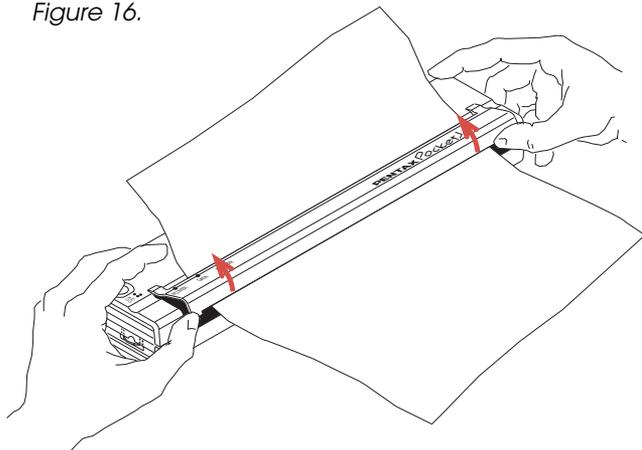


FIGURE 16. Opening the release cover.

- 2 Gently pull the paper out of the printer. See Figure 17.

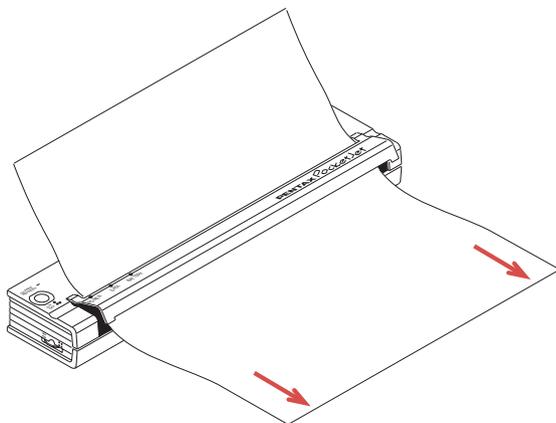


FIGURE 17. Pulling jammed paper out of the printer.

- 3 Close the release cover.
- 4 Reinsert a new sheet of paper in the printer and restart the print job.

Guide to Imprinting Letterhead

PocketJet thermal paper can be imprinted with colored logos or graphics prior to being printed in a PocketJet.

Here are some guidelines for commercial printers.

- ◆ Use only water-based inks.
- ◆ Use low-tack ink to avoid pick and backside offset.
- ◆ Backside printing is possible with a few limitations. Light blues or blacks with a 25% screen or less should work without causing the printer to hesitate or stop.
- ◆ Avoid exposure to solvents, either in printing or in storage.
- ◆ Flexo presses are recommended. When thermal paper is printed on offset presses, sticking and offsetting problems may occur.

Contact Pentax for more details about imprinting letterhead or backside printing.

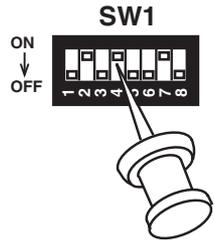
4 Maintaining the Printer

Cleaning the Print Head

Clean the print head to maintain high print quality after 200 to 300 prints or whenever you detect broken or light characters in a vertical line on the page.

NOTE: Defective paper can also cause broken or light characters. If the problem does not go away after you clean the print head, try a different sheet of paper or a higher density setting.

- 1 Make sure the printer is turned off.
- 2 Set the printer face down so that the battery compartment is toward you.
- 3 Using a pointed object such as a push pin, mechanical pencil or paper clip, gently move DIP switch 4 away from you to the ON position.
- 4 Turn the printer face up and press the main switch once quickly to turn the printer on.
- 5 To start the printer platen roller turning, press the main switch once quickly.



- 6 Insert the cleaning cloth into the printer's paper input slot with the rough black side, which contains the cleaning material, toward the rear of the printer. See Figure 18.

The printer pulls the cleaning cloth through. The platen roller continues to turn until you turn off the printer.

Repeat step 6 several times for thorough cleaning.

CAUTION: Do not attempt to clean the print head with any material other than the cleaning cloth.

The cleaning cloth is for head cleaning only. Do not use it to clean any other part of the printer.

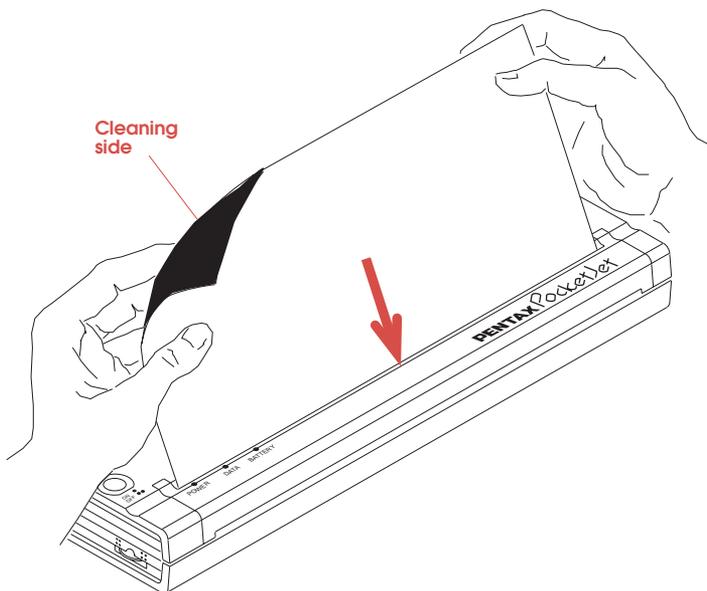
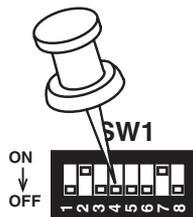


FIGURE 18. Inserting the cleaning cloth.

7 Turn off the printer by pressing the main switch twice quickly.

8 Set the printer face down so that the paper outlet slot is away from you.

9 Using a pointed object, gently move DIP switch 4 toward you to the OFF position.



10 Turn the printer face up again. It is now ready for use.

NOTE: Don't throw the cleaning cloth away after you clean the print head. It should last for the life of the printer. Keep the cleaning cloth with your printer supplies and use it whenever you need to clean the print head.

Cleaning the Platen Roller

Dirt and debris on the platen roller can make the roller feed paper into the printer at an angle, degrade the quality of the printed image, or both.

- 1 Open the release cover. See Figure 19.

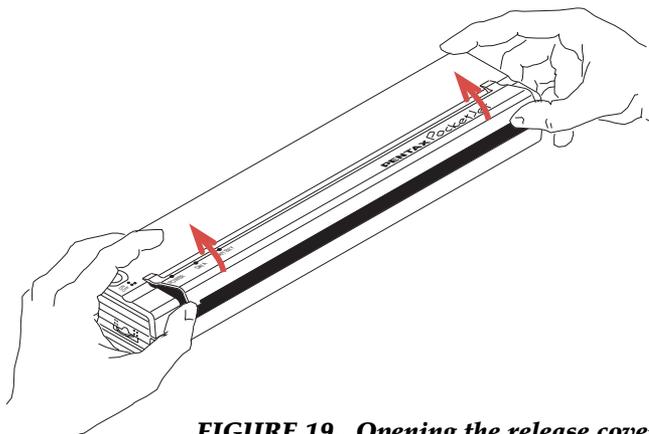


FIGURE 19. *Opening the release cover.*

- 2 Clean the platen roller with a soft, dry, lint-free cloth to gently remove any dirt or debris on the roller. See Figure 20.

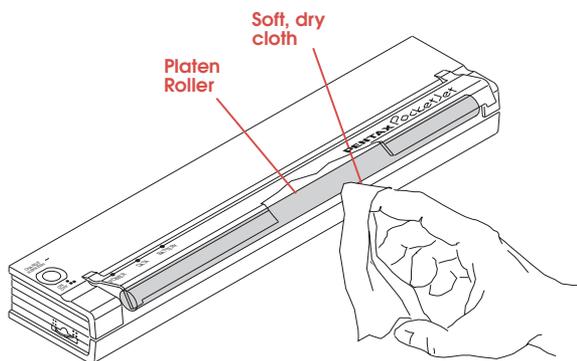


FIGURE 20. *Cleaning the platen roller.*

Cleaning the Printer's Case

Should the outside of the printer become dirty, clean it using a soft cloth moistened with water. If necessary, add a very small amount of a mild soap such as a liquid dishwashing detergent.

CAUTION: Avoid saturating the cloth. Do **not** allow water to get inside the printer.

Avoid the use of benzene, alcohol, paint thinner or cleaners that are abrasive, alkaline or acidic. Such cleaners may damage the printer's case.

Using the Operation Panel

The operation panel consists of the main switch and three indicator lights. See Figure 21.

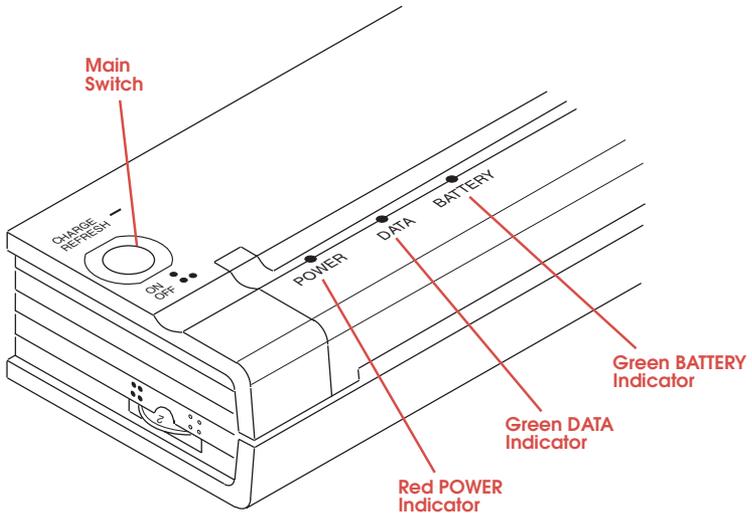


FIGURE 21. Operation panel.

Main Switch Functions

Power On: Push once quickly while the printer is off.

Form Feed: Push once quickly while the printer is on and a partial page has been sent to the printer.

Power Off: Push twice quickly.

NOTE: The printer automatically powers off when it is running under battery power and it has not received any data for 60 seconds (if the auto-off timer is active). See page 29.

Charge battery: Push once and hold for several seconds until the green BATTERY indicator stays lit. When the printer finishes discharging the battery, it starts to charge the battery, and the green BATTERY indicator starts to blink.

Refresh battery: While in Charge mode, push once and hold for several seconds until the green BATTERY indicator starts to blink.

To power off during Charge or Refresh mode: Push twice quickly.

Indicator Lights

The three indicator lights—POWER, DATA, and BATTERY—tell you about the current status of the printer. When an error occurs, they show the type of error.

- ◆ Red POWER Light Steady: Power is on.
- ◆ Red POWER Light Blinking: An error has occurred.
- ◆ Green DATA Light Steady: Unprinted data in printer buffer.
- ◆ Green DATA Light Blinking: Receiving data from computer.
- ◆ Green BATTERY Light Steady: Charge is high or battery is being discharged.
- ◆ Green BATTERY Light Blinking: Charge is low or battery is being charged.

The Indicator Light Table on page 43 shows all combinations of indicator lights.

Indicator Light Table

Power	Data	Battery	Indication
			System error
			Data I/O error
			Battery error
			Print head overheating
			Attempted recharge without AC power
			Discharging battery
			Charging battery
			Power on, battery greater than 13V
			Power on, battery between 11.8V - 13V
			Power on, AC adapter
			Empty data buffer
			Receiving data from computer
			Buffer contains unprinted data

On
 Off
 Blinking
 Either on or off
 Doesn't matter

DIP Switches

The DIP Switch Table lists the feature that each switch controls and the effect of the ON and OFF settings.

DIP Switch Table

No.	Control	On	Off	Page
1	Serial speed	See below	See below	20
2	Serial speed	See below	See below	20
3	Self test	On	Off	14
4	Cleaning	On	Off	37
5	Paper size and character set	See below	See below	26
6	DTR polarity*	Active low	Active high	20
	or			
	paper size and character set	See below	See below	26
7	Xon / Xoff	Disable	Activate	20
8	Auto-off timer	Disable	Activate	29

*For Letter/A4 and Letter/Legal model printers.

Serial Speed

- ◆ 2,400 bps: switches 1 and 2 on
- ◆ 9,600 bps: switch 1 off and 2 on
- ◆ 19,200 bps: switch 1 on and 2 off
- ◆ 38,400 bps: switches 1 and 2 off

NOTE: *If you are using the parallel interface cable, the settings of switches 1 and 2 don't matter.*

Paper Size and Character Set

Letter/A4 Model:

- ◆ Letter-size paper and PC-8 character set: switch 5 off
- ◆ A4-size paper and PC-850 character set: switch 5 on

Letter/Legal Model:

- ◆ Letter-size paper and PC-8 character set: switch 5 off
- ◆ Legal-size paper and PC-8 character set: switch 5 on

Letter/Legal/A4 Models:

- ◆ Letter paper, PC-8 character set: switches 5 and 6 off
- ◆ Legal paper, PC-8 character set: switches 5 and 6 on
- ◆ A4 paper, PC-850 character set: switch 5 on and switch 6 off (or switch 5 off and switch 6 on)

6 Troubleshooting

If you have difficulty getting your printer to work properly, first check to make sure you have done the following tasks in Chapter 1, “Setting Up the Printer,” correctly:

- ◆ Installing the battery or connecting the printer to an AC outlet
- ◆ Connecting the printer to your computer
- ◆ Printing a self-test sheet

Make sure you have installed and selected the proper printer driver as explained in Chapter 2, “Using the Printer.”

Look through the troubleshooting tips in this chapter for help correcting the problem.

If none of these suggestions works:

- ◆ If you are in the U.S., call Pentax at **1-303-460-1820** or **1-800-543-6144** from 8AM to 5PM Mountain Time, Monday through Friday, and ask for Technical Support.
- ◆ If you are outside the U.S., contact your local reseller or any Authorized Service Center.

Indicator Light Warnings

Chapter 5, “Reference,” contains a table listing all combinations of indicator lights. See page 43.

The POWER indicator light does not light.

If you are using the AC adapter, make sure it is connected properly. See page 8. Also make sure the AC power outlet is “live.”

If you are using the battery, make sure it is installed properly. See page 6. If it is installed properly, follow the procedure for charging the battery. See page 9.

The POWER and BATTERY indicator lights are blinking.



A battery error has occurred. Make sure the battery has been installed and connected properly. See page 6.

If the battery is connected properly, you may have attempted to charge the battery when it has become overheated during a discharge or charge cycle. Allow the battery to cool before continuing to discharge or charge it.

If the indicator lights still show that a battery error has occurred, the battery may be defective or the printer may need service. Call Pentax or your local Authorized Service Center and ask for Technical Support.

The POWER, DATA and BATTERY indicator lights are blinking.



A system error has occurred. Turn the printer off and on again to clear the system error. If you cannot clear it, call Technical Support.

The POWER and DATA indicator lights are blinking.



A data I/O error has occurred. If you are using the parallel interface cable, the parallel connection may be defective, and the data is overflowing the print buffer. Replace the defective part—most likely the interface cable.

If you are using an optional RS-232C serial interface cable, make sure the serial port speed and handshaking method on the printer and the computer match. DIP switches 1 and 2 control the speed of the serial port. DIP switch 7 controls the handshaking method. See page 20. If the serial port speed and handshaking method are correct, the serial connection may be defective. Replace the defective part—most likely the serial interface cable.

The POWER indicator light is blinking and the BATTERY indicator light is off.



The thermal print head has overheated. Turn the printer off or wait until the POWER indicator light stops blinking before you continue printing.

The POWER indicator light is blinking and the BATTERY indicator light is on.



Power



Data



Battery

The printer is attempting to charge the battery, but it is not receiving any AC power. Make sure you have connected the printer to an AC power outlet. See page 8.

Paper Problems

The paper is jammed in the printer.

See "Clearing a Paper Jam" on page 35.

Paper moves through the printer, but nothing appears on the paper.

Make sure you are using recommended paper and that you are loading it properly with the print side away from you. See page 33.

The software application may have sent a form feed command on a blank sheet. Try printing another print job such as a one-page memo.

The printer may be in cleaning mode. Check to make sure DIP switch 4 is in the OFF position. Follow steps 7-10 for "Cleaning the Print Head" on page 38.

Paper does not move through the printer even though the motor is running.

If the release cover has been left open, close it completely.

Use recommended paper only. Heavy paper may not feed through the printer.

If the release cover is closed and you are using recommended paper, the printer may have a damaged drive system. Call Technical Support.

Printed Image Problems

The printed image is out of alignment.

Make sure you are using the recommended paper.

Make sure you are inserting the paper correctly. See page 33.

Check whether the platen roller is dirty. If it is, clean it. Follow the instructions for "Cleaning the Platen Roller" on page 39.

The print quality is poor, and the image is too light or dark.

Raise or lower the setting on the density dial to produce a better image. See page 30.

Make sure you are using recommended paper.

The image is squashed and stretched in many places.

Make sure the release cover was not left open during printing. If it is open, close it completely.

Make sure the paper is not slipping in the printer. If it is, make sure the print head and platen roller are clean. See Chapter 4, "Maintaining the Printer," on page 37.

Make sure you are using recommended paper.

The image has light or white vertical lines.

Make sure the release cover was not left open during printing. If it is open, close it completely.

Clean the print head. Follow the instructions on page 37.

If cleaning the print head does not correct the problem, the print head may need maintenance. Call Technical Support.

All pages have a white vertical line.

The print head may need maintenance. Call Technical Support.

All pages have a black vertical line.

The print head may need maintenance. Call Technical Support.

Light patches of print appear on the image.

Make sure the paper does not have any dents or wrinkles. It should lie flat, and it should not have a defective or uneven surface coating. Use recommended paper, and make sure it does not have any obvious deformities. The printer requires smooth paper to work properly.

Check the setting of the density dial. If the setting is too low, raise it. See page 30.

Clean the print head. Follow the instructions on page 37.

The top margin is incorrect.

Make sure the correct margins have been set in the software application. If not, set the margins for the top and bottom of the page.

Make sure you are not inserting the paper into the paper input slot with excessive force. Always insert the paper gently.

NOTE: *PCL4 automatically assumes top and bottom margins of approximately 0.25 inch. Although the PocketJet printer is not limited to 0.25 inch margins, the margins are necessary to maintain compatibility with the PCL4 printer emulation.*

The image for one page requires more or fewer sheets than you expected.

Make sure the software application or printer driver has been set to print the same size paper that you are loading into the printer. If the application or printer driver has been set to print legal-size paper and you insert letter-size paper, the image will require two sheets. Adjust the application or printer driver settings as needed, or reduce the print image within your application to fit on a letter-size page.

If you are using DOS "PRINT" or "COPY" commands or a DOS application that does not send PCL printer setup information prior to the print job, check the settings of the DIP switches that control the default paper size. See page 26.

NOTE: *In its default mode (six lines per inch), the printer expects 60 lines per letter-size page, 64 lines per A4-size page, and 78 lines per legal-size page. Other lines-per-page totals are possible if you adjust the lines per inch by sending the appropriate commands to the printer.*

See also “The Printer Ejects a Partially Printed Page...” on page 52.

The side margins are incorrect.

Check to make sure the correct margins have been set in the application. Adjust the left margin as needed.

Make sure the software application or printer driver has been set to print the same size paper that you are loading into the printer. If the application or printer driver has been set to print a different width paper, the image will not print in the proper horizontal position. Adjust the application or printer driver as needed.

If you are using DOS “PRINT” or “COPY” commands or a DOS application that does not send PCL printer setup information prior to the print job, check the settings of the DIP switches that control the default paper size. See page 26.

The print doesn't show the proper characters.

Make sure you have defined the proper character set in the application or other software. If incorrect, change it.

If you are using DOS “PRINT” or “COPY” commands or a DOS application that does not send PCL printer setup information prior to the print job, check the settings of the DIP switches that control the default character set. See page 26.

If you are using a downloaded font, try another font to see if the original font is in error.

The print shows random characters.

Check the printer driver you are using. Select the LaserJet IIP printer driver, or if necessary, the LaserJet II driver. Do **not** select the LaserJet IIP Plus driver.

If you are using the parallel interface cable, the parallel connection may be defective. Replace the defective part—most likely the interface cable.

If you are using an optional RS-232C serial interface cable, make sure the serial port speed on the printer and the computer match. DIP switches 1 and 2 control the speed of the serial port. See page 20. If the serial port speed is correct, the serial connection may be defective. Replace the defective part—most likely the serial interface cable.

Some characters print normally, but others print incorrectly.

Check the printer driver you are using. Select the LaserJet IIP printer driver, or if necessary, the LaserJet II driver. Do **not** select the LaserJet IIP Plus driver.

If you are using DOS "PRINT" or "COPY" commands or a DOS application that does not send PCL printer setup information prior to the print job, check the settings of the DIP switches that control the default character set. See page 26.

Pages Don't Print

The green DATA indicator remains lit but does not blink.

The print buffer contains unprinted data from the software application. If you have already inserted paper in the printer, press the main switch to "form feed" the incomplete page. If paper is not inserted, insert another sheet of paper to continue printing.

The application should be sending data to the printer, but the green DATA indicator is not lit.

Make sure the interface cable matches the port to which the computer is sending the data. Use the parallel interface cable with a parallel port and a serial interface cable with a serial port. See page 19.

Make sure the interface cable is connected to the port to which the computer is sending data.

If you are using a serial cable, make sure the serial port speed on the printer and the computer match. DIP switches 1 and 2 control the speed of the serial port. See page 20.

Pages Are Partially Printed

The green DATA indicator light goes out while a page remains in the printer.

The software application did not send a full page of data. Remove the paper from the printer by pressing the main switch once quickly to "form feed" the incomplete page.

This problem is usually caused by giving the printer the wrong information about paper size or by using a sheet longer than the page that the operating system or application told the printer to expect.

If you are using DOS "PRINT" or "COPY" commands or a DOS application that does not send PCL printer setup information prior to the print job, check the settings of the DIP switches that control the default character set. The printer ejects the first 11 inches of A4 or legal paper when the default setting for paper size is "letter." See page 26.

The printer ejects a partially printed page, and the green DATA indicator light remains lit or blinking.

If you are sending many fonts or a large bit-mapped graphic image to the printer, it may not have sufficient memory to print the entire page. Insert the page again, and the printer will print the rest of the image starting where the previous portion of the image ended.

See "Tips on Printing Large Graphics" on page 31.

The printer stops printing. The POWER indicator light is blinking and the BATTERY indicator light is off.

The print head has overheated. Turn the printer off and allow it to cool before continuing to print. The printer may overheat if you use it over an extended period at a very high print density.

Specifications**Physical**

Height:	1.18 in. (30 mm)
Width:	10.04 in. (255 mm)
Depth:	2.17 in. (55 mm)
Weight:	1.10 lb. (497 g) with battery

Printing

Method	Direct thermal printing
Resolution	300 by 300 dots per inch
Density	Adjustable via dial setting on printer
Speed	Three pages per minute at normal (5%) page coverage
Language	LaserJet IIP (PCL4) emulation
Fonts	Seven HP® internal fonts and downloadable fonts
Paper Sizes	<i>Letter</i> 8.5 in. by 11 in. (216 mm by 279 mm) <i>A4</i> 210 mm by 297 mm (8.27 by 11.69 in.) <i>Legal</i> 8.5 in. by 14 in. (216 mm by 355 mm)
Print Area	<i>Width</i> Letter: 8.17 in. (207 mm) A4: 201 mm (7.93 in.) Legal: 8.17 in. (207 mm) <i>Height</i> Letter: 10.67 in. (271 mm) A4: 289 mm (11.36 in.) Legal: 13.67 in. (347 mm)
Paper Type	Thermal—cut sheet
Paper Loading	Manual—single sheet
Memory	512 Kilobytes or 2 Megabytes

Interfaces

Standard	Centronics parallel and RS-232C serial (auto-sensing). Complete printer kit includes parallel cable. Serial cable is optional. Cables for selected laptops and PDAs are optional.
Wireless	Infrared adapter is optional.

Environmental

Temperature	Operating: 41° to 95° F (5° to 35° C) Storage: 5° to 122° F (-15° to 50° C)
Humidity	30-80% relative humidity (non-condensing)

Electrical

Power Supply	DC: 14.4 volts from internal Ni-Cd battery DC: 12 volts from car battery, with optional car adapter AC: 100 - 120 or 220 - 240 volts, 50 or 60 Hz, with AC adapter
Power Usage	Operating: 106 watts (maximum) at 120 volts Stand-by: 13 watts
Battery Type	Rechargeable nickel-cadmium (Ni-Cd)
Battery Yield	30 to 35 pages per charge (depending on page coverage)

Regulatory

Compliance	CSA C22.2. No.950 UL 1950, IEC950 FCC Part 15 Class B Declarations of Conformity, see pages 57 and 58
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Radio & Television Interference

United States 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 to 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.

The use of a shielded cable is required to comply with Class B limits of FCC Rules.

Any changes or modifications not expressly approved by Pentax Technologies could void the user's authority to operate this equipment.

You may purchase a booklet prepared by the FCC entitled "Interference Handbook," stock number ISBN 0-16-041736-8, from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.

Canadian Regulations

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der

..... PENTAX Thermodrucker PT-A4301 ('PocketJet')

in Übereinstimmung mit den Bestimmungen der BMPT-AmtsblVfg 243/1991 funkentstört ist. Der vorschriftsmäßige Betrieb mancher Geräte (z.B. Meßsender) kann allerdings gewissen Einschränkungen unterliegen. Beachten Sie deshalb die Hinweise in der Bedienungsanleitung.

Dem Bundesamt für Zulassungen in der Telekommunikation wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf die Einhaltung der Bestimmungen eingeräumt.

..... PENTAX TECHNOLOGIES EUROPE N.V. - Zaventem, Belgium

For PocketJet units sold in Europe, the following documents apply.

Declaration of Conformity

Product Identification

Product Type: Thermal Printer
Product Name: PocketJet PT-A4301

Means of Conformity

The above product has been tested to be in conformity with the Electromagnetic Compatibility Directives, 89/336/EEC, 92/31/EEC based on test results using harmonised standards in accordance with Article 10-1 of the Directive.

Standards Used: EN50082-1:1994
IEC-1000-4-2:1994
EN50082-1:1992
IEC801-3:1984, IEC801-4:1988

Standard Used: EN50081-1:1992
EN55022:1994 Class B

EC Representative: **Pentax Technologies Europe**
Weiveldlaan 3-5
1930 Zaventem, Belgium

Title: Sales & Marketing Manager

Signature:  28 January 1997
Martin Mogendorff

Declaration of Conformity

Product Identification Product Type: Power Supply
Product Name: PT-1102A

Means of Conformity

The above product has been tested to be in conformity with the Electromagnetic Compatibility Directives, 89/336/EEC, 92/31/EEC based on test results using harmonised standards in accordance with Article 10-1 of the Directive.

Standards Used: EN50082-1:1994
IEC-1000-4-2:1994
EN50082-1:1992
IEC801-3:1984, IEC801-4:1988

Standard Used: EN50081-1:1992
EN55022:1994 Class B

The above product has been tested to be in conformity with the Low Voltage Directive, 73/23/EEC, Amended by 93/68/EEC Directive.

Standard Used: EN60950:1992+A1+A2:1993
IEC950:1992+A1+A2:1993 modified

The last two digits of the year in which the CE marking was affixed for Low Voltage Directive, 73/23/EEC, is 97

EC Representative: **Pentax Technologies Europe**
Weveldlaan 3-5
1930 Zaventem, Belgium

Title: Sales & Marketing Manager

Signature:  28 January 1997
/Martin Mogendorff

Declaration of Conformity

Product Identification Product Type: Power Supply
Product Name: PT-1102B

Means of Conformity

The above product has been tested to be in conformity with the Electromagnetic Compatibility Directives, 89/336/EEC, 92/31/EEC based on test results using harmonised standards in accordance with Article 10-1 of the Directive.

Standards Used: EN50082-1:1994
IEC-1000-4-2:1994
EN50082-1:1992
IEC801-3:1984, IEC801-4:1988

Standard Used: EN50081-1:1992
EN55022:1994 Class B

The above product has been tested to be in conformity with the Low Voltage Directive, 73/23/EEC, Amended by 93/68/EEC Directive.

Standard Used: EN60950:1992+A1+A2:1993
IEC950:1992+A1+A2:1993 modified

The last two digits of the year in which the CE marking was affixed for Low Voltage Directive, 73/23/EEC, is 97

EC Representative: **Pentax Technologies Europe**
Weveldlaan 3-5
1930 Zaventem, Belgium

Title: Sales & Marketing Manager

Signature:  28 January 1997
/Martin Mogendorff

Ordering Information

For the name of the dealer closest to you or to order the following items:

- ◆ If you are in the U.S., call Pentax at **1-800-543-6144** from 8AM to 5PM Mountain Time, Monday through Friday, and ask for Sales.
- ◆ If you are outside the U.S., contact the dealer where you purchased your printer for information about ordering supplies, accessories and replacement parts.

Supplies

- ◆ Letter-size paper (100-sheet boxes)
- ◆ Legal-size paper (100-sheet boxes)
- ◆ A4-size paper (100-sheet boxes)
- ◆ Paper in 8.5-inch width rolls (100 feet)
- ◆ Paper in A4-width rolls (100 feet)

Accessories

- ◆ Interface cable
 - ❖ Parallel
 - ❖ RS-232C serial
 - ❖ HP 200LX
 - ❖ Psion
 - ❖ Macintosh
 - ❖ Newton
- ◆ Infrared interface adapter (requires special, modified version of printer)
- ◆ Extra Ni-Cd battery
- ◆ Car adapter (with battery recharging feature)
- ◆ Car adapter (without battery recharging feature)
- ◆ Connectivity package for Macintosh and Newton computers (interface cable and printer driver)
- ◆ Connectivity packages for many Personal Digital Assistants (PDAs) and pen-based systems
- ◆ Roll paper holder
- ◆ Carrying case for roll of paper and roll paper holder
- ◆ 220-volt power cable

Replacement Parts

- ◆ Interface cable
 - ❖ Parallel
 - ❖ RS-232C serial
 - ❖ HP 200LX
 - ❖ Psion
 - ❖ Macintosh
 - ❖ Newton*
- ◆ AC adapter (universal)
- ◆ AC cable (115 or 230 volts)
- ◆ Protective vinyl carrying case
- ◆ Cleaning cloth
- ◆ Documentation sets in various languages

*For Newton connections, call GDT at 1-800-663-6222.

Upgrades

- ◆ You can upgrade any PocketJet printer to a model that supports letter-, legal- and A4-size paper and has two megabytes of memory.
- ◆ You can upgrade a Letter/A4 512 KB model to a Letter/Legal 512 KB model.
- ◆ You can upgrade to a special, modified version of the printer with an infrared adapter.

Contact Pentax at **1-800-543-6144** or **1-303-460-1820** for complete information and prices.

A *Printer Commands*

This appendix contains a table of printer commands grouped under these topics:

- ◆ Reset
- ◆ Page control
- ◆ Orientation
- ◆ Margins and length
- ◆ Vertical spacing
- ◆ Horizontal spacing
- ◆ Cursor positioning
- ◆ Symbol set selection
- ◆ Font selection and management
- ◆ End of line handling
- ◆ Push/pop position
- ◆ Raster graphics
- ◆ Macros
- ◆ Miscellaneous

The Printer command codes listed in this appendix are not used for normal printing from a Windows application or from many DOS-based applications.

When you are printing from a DOS application that does not offer any printer selection options, you may be able to control the features of the printer by embedding the PCL4 printer command codes directly into your document.

FUNCTION	PARAMETER(s)	COMMAND	DECIMAL VALUE(s)
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RESET

Reset	-	EscE	027 069
Number of Copies	# of Copies (1-99)	Esc&1#X	027 038 108 [#] 088
Long Edge Offset Registration	# Decipoints (1/720")	Esc&1#U	027 038 108 [#] 085
Short Edge Offset Registration	# Decipoints (1/720")	Esc&1#Z	027 038 108 [#] 090

PAGE CONTROL

Paper Size (see note)	Letter	Esc&12A	027 038 108 050 065
	A4	Esc&126A	027 038 108 050 054 065
	Legal	Esc&13A	027 038 108 051 065
Page Length	# of Lines (5-128)	Esc&1#P	027 038 108 [#] 080

Note: The A4 and legal paper sizes are available only on selected models.

ORIENTATION

Orientation	Portrait	Esc&10O	027 038 108 048 079
	Landscape	Esc&11O	027 038 108 049 079

MARGINS AND LENGTH

Text Lines per Page	# of Lines	Esc&1#F	027 038 108 [#] 070
Top Margin	# of Lines	Esc&1#E	027 038 108 [#] 069
Left Margin	# of Columns	Esc&a#L	027 038 097 [#] 076
Right Margin	# of Columns	Esc&a#M	027 038 097 [#] 077
Clear Horiz Margins	-	Esc9	027 057

VERTICAL SPACING

Vertical Motion Index	# of 1/48"	Esc&1C	027 038 108 [#] 067
Lines per Inch	1 line / inch	Esc&11D	027 038 108 049 058
	2 lines / inch	Esc&12D	027 038 108 050 058
	3 lines / inch	Esc&13D	027 038 108 051 058
	4 lines / inch	Esc&14D	027 038 108 052 058
	6 lines / inch	Esc&16D	027 038 108 054 058
	8 lines / inch	Esc&18D	027 038 108 056 058
	12 lines / inch	Esc&112D	027 038 108 049 050 058
	16 lines / inch	Esc&116D	027 038 108 049 054 058
	24 lines / inch	Esc&124D	027 038 108 050 052 058
48 lines / inch	Esc&148D	027 038 108 052 056 058	

FUNCTION	PARAMETER(s)	COMMAND	DECIMAL VALUE(s)
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HORIZONTAL SPACING

Horiz Motion Index	# of 1/120"	Esc&k#H	027 038 107 [#] 072
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CURSOR POSITIONING

Vertical Position	Row #	Esc&a#R	027 038 097 [#] 082
	# of Dots	Esc*p#Y	027 042 112 [#] 089
	# of Decipoints	Esc&a#V	027 038 097 [#] 086
Horizontal Position	Column #	Esc&a#C	027 038 097 [#] 067
	# of Dots	Esc*p#X	027 042 112 [#] 088
	# of Decipoints	Esc&a#H	027 038 097 [#] 072
Half Line Feed	-	Esc=	027 061

SYMBOL SET SELECTION

Primary Symbol Set			
	Roman 8	Esc(8U	027 040 056 085
	PC-8	Esc(1ØU	027 040 049 048 085
	PC-850	Esc(12U	027 040 049 050 085
	PC-8 (Danish/Norwegian)	Esc(11U	027 040 049 049 085
	ISO 2: I.R.V.	Esc(2U	027 040 050 085
	ISO 4: U.K.	Esc(1E	027 040 049 069
	ISO 6: ASCII	Esc(ØU	027 040 048 085
	ISO 10: Swedish	Esc(3S	027 040 051 083
	ISO 11: Swedish	Esc(ØS	027 040 048 083
	ISO 14: JIS ASCII	Esc(ØK	027 040 048 075
	ISO 15: Italian	Esc(ØI	027 040 048 073
	ISO 16: Portuguese	Esc(4S	027 040 052 083
	ISO 17: Spanish	Esc(2S	027 040 050 083
	ISO 21: German	Esc(1G	027 040 049 071
	ISO 25: French	Esc(ØF	027 040 048 070
	ISO 57: Chinese	Esc(2K	027 040 050 075
	ISO 60: Norwegian I	Esc(ØD	027 040 048 068
	ISO 61: Norwegian II	Esc(1D	027 040 049 068
	ISO 69: French	Esc(1F	027 040 049 070
	ISO 84: Portuguese	Esc(5S	027 040 053 083
	ISO 85: Spanish	Esc(6S	027 040 054 083
	ECMA-94: Latin I	Esc(ØN	027 040 048 078
	HP German	Esc(ØG	027 040 048 071
	HP Spanish	Esc(1S	027 040 049 083

Note: The primary font printer commands can be specified as secondary commands by replacing the left parenthesis "(" with a right parenthesis ")".

FUNCTION	PARAMETER(s)	COMMAND	DECIMAL VALUE(s)
FONT SELECTION AND MANAGEMENT			
Primary Spacing	Proportional	Esc(s1P	027 040 115 049 080
	Fixed	Esc(sØP	027 040 115 048 080
Primary Pitch	# Characters / inch	Esc(s#H	027 040 115 [#] 072
Primary Point Size	# Points	Esc(s#V	027 040 115 [#] 086
Primary Style	Upright	Esc(sØS	027 040 115 048 083
	Italic	Esc(s1S	027 040 115 049 083
Primary Stroke Weight (see note below)	Medium	Esc(sØB	027 040 115 048 066
	Bold	Esc(s3B	027 040 115 051 066
	Light	Esc(s-3B	027 040 115 045 051 066
Typeface	Courier	Esc(s3T	027 040 115 051 084
	LinePrinter	Esc(sØT	027 040 115 048 084
Font Default	Primary Font	Esc(3@	027 040 051 064
	Secondary Font	Esc)3@	027 041 051 064
Underscore	Enable Fixed	Esc&dØD	027 038 100 048 068
	Enable Floating	Esc&d3D	027 038 100 051 068
	Disable	Esc&d@	027 038 100 064
Transparent Print	# of Bytes	Esc&p#X(data)	027 038 112 [#] 088 +++
Assign Font I.D.	Font ID #	Esc*c#D	027 042 099 [#] 068
Font/Char. Control	Delete All Fonts	Esc*cØF	027 042 099 048 070
	Delete All Temp. Fonts	Esc*c1F	027 042 099 049 070
	Delete Last Font ID Ref'd	Esc*c2F	027 042 099 050 070
	Make Font Temporary	Esc*c4F	027 042 099 052 070
	Make Font Permanent	Esc*c5F	027 042 099 053 070
Select Font w/ID#	ID # of Primary Font	Esc(#X	027 040 [#] 088
	ID # of Secondary Font	Esc)#X	027 041 [#] 088
Create Font Descriptor	# Bytes	Esc)s#W(data)	027 041 115 [#] 087 +++
Download Character	# Bytes	Esc(s#W(data)	027 040 115 [#] 087 +++
Character Code	ASCII Code # (decimal)	Esc*c#E	027 042 099 [#] 069

Note: Full functionality for downloaded fonts; limited functionality for resident fonts.

FUNCTION	PARAMETER(s)	COMMAND	DECIMAL VALUE(s)
END OF LINE HANDLING			
Line Termination	CR=CR, LF=LF, FF=FF	Esc&k0G	027 038 107 048 071
	CR=CR+LF, LF=LF, FF=FF	Esc&k1G	027 038 107 049 071
	CR=CR, LF=CR+LF, FF=CR+FF	Esc&k2G	027 038 107 050 071
	CR=CR+LF, LF=CR+LF, FF=CR+FF	Esc&k3G	027 038 107 051 071
PUSH/POP POSITION			
Push/Pop Position	Push (Save)	Esc&l0S	027 038 102 048 083
	Pop (Restore)	Esc&l1S	027 038 102 049 083
RASTER GRAPHICS			
Resolution	75 DPI	Esc*t75R	027 042 116 055 053 082
	100 DPI	Esc*t100R	027 042 116 049 048 048 082
	150 DPI	Esc*t150R	027 042 116 049 053 048 082
	300 DPI	Esc*t300R	027 042 116 051 048 048 082
Graphics Orientation	Rotate Image	Esc*r0F	027 042 114 048 070
	LaserJet Landscape	Esc*r3F	027 042 114 051 070
Start Graphics Mode	Using Left Graphics Margin	Esc*r0A	027 042 114 048 065
	Using Current Cursor Position	Esc*r1A	027 042 114 049 065
Set Compression	Uncoded	Esc*b0M	027 042 098 048 077
	Run-Length Encoded	Esc*b1M	027 042 098 049 077
	Tagged Image File	Esc*b2M	027 042 098 050 077
Transfer Graphics	# of Bytes	Esc*b#W +++	027 042 098 [#] 087 +++
End Graphics Mode	-	Esc*rB	027 042 114 066
Draw Rectangle (size)	Width, # Dots	Esc*c#A	027 042 099 [#] 065
	Width, # Decipoints	Esc*c#H	027 042 099 [#] 072
	Height, # Dots	Esc*c#B	027 042 099 [#] 066
	Height, # Decipoints	Esc*c#V	027 042 099 [#] 086
Fill Rectangle With	Solid (Black) Fill	Esc*c0P	027 042 099 048 080
	Solid (White) Fill	Esc*c1P	027 042 099 049 080
	Gray Scale (below)	Esc*c2P	027 042 099 050 080
	HP Pattern (below)	Esc*c3P	027 042 099 051 080

FUNCTION	PARAMETER(s)	COMMAND	DECIMAL VALUE(s)
Fill Rectangle With (continued)	Horizontal Line Pattern	Esc*c1G	027 042 099 049 071
	Vertical Line Pattern	Esc*c2G	027 042 099 050 071
	Diagonal Lines I	Esc*c3G	027 042 099 051 071
	Diagonal Lines II	Esc*c4G	027 042 099 052 071
	Square Grid	Esc*c5G	027 042 099 053 071
	Diagonal Grid	Esc*c6G	027 042 099 054 071
	Gray, 2%	Esc*c2G	027 042 099 050 071
	Gray, 10%	Esc*c1ØG	027 042 099 049 048 071
	Gray, 15%	Esc*c15G	027 042 099 049 053 071
	Gray, 30%	Esc*c3ØG	027 042 099 051 048 071
	Gray, 45%	Esc*c45G	027 042 099 052 053 071
	Gray, 70%	Esc*c7ØG	027 042 099 055 048 071
	Gray, 90%	Esc*c9ØG	027 042 099 057 048 071
	Gray, 100% (black)	Esc*c1ØØG	027 042 099 049 048 048 071

MACROS

Macro ID Assign	Macro ID #	Esc&f#Y	027 038 102 [#] 089
Macro Control	Start Macro Definition	Esc&fØX	027 038 102 048 088
	Stop Macro Definition	Esc&f1X	027 038 102 049 088
	Execute Macro	Esc&f2X	027 038 102 050 088
	Call Macro	Esc&f3X	027 038 102 051 088
	Enable Overlay	Esc&f4X	027 038 102 052 088
	Disable Overlay	Esc&f5X	027 038 102 053 088
	Delete Macros	Esc&f6X	027 038 102 054 088
	Delete Temp. Macros	Esc&f7X	027 038 102 055 088
	Delete Macro ID	Esc&f8X	027 038 102 056 088
	Make Temporary	Esc&f9X	027 038 102 057 088
Make Permanent	Esc&f1ØX	027 038 102 049 048 088	

MISCELLANEOUS

Show PCL4 Codes	Enabled	EscY	027 089
	Disabled	EscZ	027 090
End-of-Line Handling	Wrap Long Lines	Esc&sØC	027 038 115 048 067
	Don't Wrap Long Lines	Esc&s1C	027 038 115 049 067

- Ø = Zero (used in commands to distinguish the number zero from the letter O)
- Esc = The "Escape" code. 27 Decimal, or 1B hex.
- # and [#] = In many commands, a series of one or more ASCII digits representing the values required by this command
- +++ = Raw data required by this command

Note: When multiple commands are sent in a single stream, all commands except the last one must—if they end in a letter—end in the **lower case** version of the letter, not the upper case version shown in this table.

B *Character Sets*

This appendix contains tables showing the following character sets:

- ◆ PC-8
- ◆ Roman 8
- ◆ PC-850
- ◆ PC-8 (N/D)
- ◆ ECMA-94 (Latin I)
- ◆ ISO 6 (ISO ASCII)
- ◆ ISO Substitutions

Windows and many DOS applications send character-set information to the printer. Some of these applications may offer options for selecting the character set.

For situations like using the DOS "PRINT" and "COPY" commands and printing from certain DOS applications that do not send PCL printer setup information prior to the print job, the PocketJet printer lets you set the default character set and paper size. For more information, see "Setting the Default Paper Size" on page 26.

You can also specify the character set by using the Symbol Set Commands on page 63 of Appendix A.

PC-8

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		▶		0	@	P	˘	p	Ç	É	á	⋮	⊥	⊥	α	≡
1	☺	◀	!	1	A	Q	a	q	ü	æ	í	⋮	⊥	⊥	β	±
2	☹	↕	"	2	B	R	b	r	é	Æ	ó	⋮	⊥	⊥	Γ	≥
3	♥	!!	#	3	C	S	c	s	â	ô	ú	|	⊥	⊥	π	≤
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⊥	-	⊥	Σ	∫
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	⊥	⊥	⊥	σ	∫
6	♠	-	&	6	F	V	f	v	å	û	a	⊥	⊥	⊥	μ	÷
7		±	'	7	G	W	g	w	ç	ù	ø	⊥	⊥	⊥	τ	≈
8		↑	(	8	H	X	h	x	ê	ÿ	¿	⊥	⊥	⊥	Φ	°
9		↓	)	9	I	Y	i	y	ë	Ö	¬	⊥	⊥	⊥	Θ	•
A			*	:	J	Z	j	z	è	Ü	¬	⊥	⊥	⊥	Ω	•
B			+	;	K	[k	{	ï	ç	½	⊥	⊥	■	δ	√
C		⌊	,	<	L	\	l		î	£	¼	⊥	⊥	■	∞	n
D		↔	-	=	M]	m	}	ì	¥	¡	⊥	=	■	φ	2
E		▲	.	>	N	^	n	˘	Ä	Pt	«	⊥	⊥	■	ε	▪
F		▼	/	?	O	_	o	△	Å	f	»	⊥	⊥	■	∩	

Roman 8

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
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1			!	1	A	Q	a	q			À	Ý	ê	î	Ā	ƀ
2			"	2	B	R	b	r			Â	ý	ô	ø	ā	•
3			#	3	C	S	c	s			È	°	û	Æ	Ð	μ
4			\$	4	D	T	d	t			Ê	Ç	á	å	ö	¶
5			%	5	E	U	e	u			Ë	ç	é	í	í	¾
6			&	6	F	V	f	v			Î	Ñ	ó	ø	Ï	-
7			'	7	G	W	g	w			Ï	ñ	ú	æ	Ó	¼
8			(8	H	X	h	x			ˆ	ı	â	Ă	Ò	½
9)	9	I	Y	i	y			˘	ı	è	ì	Õ	¾
A			*	:	J	Z	j	z			ˆ	ı	ò	Ö	ó	º
B			+	;	K	[k	{			ˆ	ı	û	Ü	Š	«
C			,	<	L	\	l				˘	ı	ä	É	š	▪
D			-	=	M]	m	}			Ù	š	ë	ï	Ú	»
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F			/	?	O	_	o	⌘			£	¢	ü	Ô	ÿ	

PC-850

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		▶		0	@	P	˘	p	Ç	É	á	⋮	ℓ	ø	Ó	-
1	☺	◀	!	1	A	Q	a	q	ü	æ	í	⋮	⊥	Ð	ß	±
2	☹	↕	"	2	B	R	b	r	é	Æ	ó	⋮	⊥	Ê	Ô	=
3	♥	!!	#	3	C	S	c	s	â	ô	ú		⊥	Ë	Ò	¾
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⊥	-	È	õ	¶
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	Á	⊥	ı	Õ	§
6	♠	-	&	6	F	V	f	v	å	û	a	Â	ã	Í	μ	÷
7		±	'	7	G	W	g	w	ç	ù	º	À	Ã	î	þ	¸
8		↑	(	8	H	X	h	x	ê	ÿ	¿	©	ℓ	ï	ƒ	°
9		↓	)	9	I	Y	i	y	ë	Ö	®	‡	ℓ	ı	Ú	¨
A			*	:	J	Z	j	z	è	Ü	¬	‖	⊥	ı	Û	•
B			+	;	K	[	k	{	ï	ø	½	¶	⊥	■	Ü	1
C		⌞	,	<	L	\	l	|	î	£	¼	¶	⊥	■	Ý	3
D		↔	-	=	M	]	m	}	ì	∅	ı	¢	=	ı	Ý	2
E		▲	.	>	N	^	n	˘	Ä	×	«	¥	‡	ï	-	■
F		▼	/	?	O	_	o	△	Å	f	»	∟	¤	■	´	

PC-8 (N/D)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		▶		0	@	P	˘	p	Ç	É	á	⋮	ℓ	⊥	α	≡
1	☺	◀	!	1	A	Q	a	q	ü	æ	í	⋮	⊥	⊥	β	±
2	☹	↕	"	2	B	R	b	r	é	Æ	ó	⋮	⊥	⊥	Γ	≥
3	♥	!!	#	3	C	S	c	s	â	ô	ú	|	|	ℓ	π	≤
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⊥	-	ℓ	Σ	∫
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	⊥	⊥	ℓ	σ	∫
6	♠	-	&	6	F	V	f	v	å	û	õ	⊥	⊥	ℓ	μ	÷
7		±	'	7	G	W	g	w	ç	ù	Õ	⊥	⊥	⊥	τ	≈
8		↑	(	8	H	X	h	x	ê	ÿ	ı	⊥	ℓ	⊥	Φ	°
9		↓	)	9	I	Y	i	y	ë	Ö	ā	⊥	⊥	⊥	⊙	•
A			*	:	J	Z	j	z	è	Ü	Ã	⊥	⊥	ℓ	Ω	•
B			+	;	K	[	k	{	ï	ø	ℓ	⊥	⊥	⊥	δ	√
C		⌊	,	<	L	\	l	|	î	é	ñ	⊥	⊥	■	∞	n
D		↔	-	=	M	]	m	}	ì	ø	ı	⊥	=	⊥	φ	²
E		▲	.	>	N	^	n	˘	Ä	Ł	³	⊥	⊥	⊥	ε	▪
F		▼	/	?	O	_	o	△	Å	ł	¼	⊥	⊥	■	∩	

ECMA-94 (Latin I)

	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	@	P	˘	p				°	À	Ð	à	ð	
1	!	1	A	Q	a	q			ı	±	Á	Ñ	á	ñ
2	"	2	B	R	b	r			ç	²	Â	Ë	â	ë
3	#	3	C	S	c	s			£	³	Ã	Ó	ã	ó
4	\$	4	D	T	d	t			¤	´	Ä	Ô	ä	ô
5	%	5	E	U	e	u			¥	µ	Å	Õ	å	õ
6	&	6	F	V	f	v			¦	¶	Æ	Ö	æ	ö
7	'	7	G	W	g	w			§	·	Ç	×	ç	÷
8	(	8	H	X	h	x			¨	¸	È	Ø	è	ø
9	)	9	I	Y	i	y			©	¹	É	Ù	é	ù
A	*	:	J	Z	j	z			ª	º	Ê	Ú	ê	ú
B	+	;	K	[	k	{			«	»	Ë	Û	ë	û
C	,	<	L	\	l	|			¬	¼	Ï	Ü	ï	ü
D	-	=	M	]	m	}			–	½	Í	Ý	í	ý
E	.	>	N	^	n	~			®	¾	Î	Þ	î	þ
F	/	?	O	_	o	⌘			¯	¿	Ï	ß	ï	ÿ

ISO 6 (ISO ASCII)

	2	3	4	5	6	7
0		0	@	P	`	p
1	!	1	A	Q	a	q
2	"	2	B	R	b	r
3	#	3	C	S	c	s
4	\$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	'	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
A	*	:	J	Z	j	z
B	+	;	K	[	k	{
C	,	<	L	\	l	|
D	-	=	M	]	m	}
E	.	>	N	^	n	~
F	/	?	O	_	o	☒

ISO Substitutions

Character Value (Hexidecimal)

ISO	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
6	#	\$	@	[	\	\]	^	~	{	|	}	-
2	#	¤	@	[	\	\]	^	~	{	|	}	-
4	£	\$	@	[	\	\]	^	~	{	|	}	-
25	£	\$	à	°	ç	§	^	~	é	ü	ù	¨
69	£	\$	à	°	ç	§	^	μ	é	ü	ù	¨
HPG	£	\$	§	Ä	Ö	Ü	^	~	ä	ö	ö	ß
21	#	\$	§	Ä	Ö	Ü	^	~	ä	ö	ö	ß
15	£	\$	§	°	ç	é	^	ù	à	ò	ò	ì
14	#	\$	@	[	¥	]	^	~	{	|	}	-
57	#	¥	@	[	\	\]	^	~	{	|	}	-
10	#	¤	@	Ä	Ö	Å	^	~	ä	ö	å	-
11	#	¤	É	Ä	Ö	Å	Ü	~	ä	ö	å	ü
HPS	#	\$	@	ı	Ñ	ı	°	~	{	ñ	}	~
17	£	\$	§	ı	Ñ	ı	^	~	°	ñ	ç	-
85	#	\$	•	ı	Ñ	Ç	ı	~	~	ñ	ç	¨
16	#	\$	§	Ä	Ç	ö	^	~	ä	ç	ö	°
84	#	\$	~	Ä	Ç	ö	^	~	ä	ç	ö	-
60	#	\$	@	Æ	ø	Å	^	~	æ	ø	å	-
61	\$	\$	@	Æ	ø	Å	~	~	æ	ø	å	|

Index

A

- A4 PAPER
 - used in Europe 17
- AC ADAPTER
 - automatic power switching 3
 - caution about use 1, 2
 - connecting 8
 - extending life of 32
- ACCESSORIES
 - ordering 59
- ADAPTER. *SEE* AC ADAPTER; CAR ADAPTER
- AUTO-OFF TIMER
 - activating 29
 - checking setting 17
 - disabling 29
 - extending battery life 12
 - feature 29, 41

B

- BATTERY
 - auto-off timer 12, 29
 - carrying a spare 12
 - charge time 12
 - charging 9, 41
 - conserving power 29
 - discharging 9
 - disposal 2
 - extending its life 12
 - infrared adapter use 12
 - installing 6
 - new 9
 - ordering 59
 - pages per
 - charge 12, 54
 - reason for
 - discharging 10
 - recharging 9, 12, 41
 - recycling 2
 - refreshing 10, 12, 42
 - removing 11
 - type 54
 - usage tips 12

BATTERY LIGHT. *SEE* INDICATOR LIGHTS

BAUD RATE

- serial interface 21

BORDERS

- printing 31

BUFFER. *SEE* PRINT BUFFER

BUTTON. *SEE* MAIN SWITCH

C

- CABLE
 - caution about use 2
 - connecting to AC
 - outlet 8
 - connecting to computer 19
 - connecting to printer 8
 - ordering 59, 60

CANADA

- regulations 56

CAR ADAPTER

- option 3
- ordering 59

CARRYING CASE

- sleeve for quick reference card 12
- sleeve for spare battery 12

CASE

- cleaning 40

CHARACTER SET

- checking default setting 17
- ECMA-94 (Latin I) 72
- ISO 6 (ISO ASCII) 73
- ISO Substitutions 74
- PC-8 68
- PC-8 (N/D) 71
- PC-850 70
- Roman 8 69
- samples 18
- selecting default set 26
- specifying 26

- tables 67
 - with DOS applications 25
- CHARGE
 - battery 9
- CLEANING. *SEE* MAINTENANCE
- CLEANING CLOTH
 - cleaning print head 37
 - ordering 60
- COMMANDS. *SEE* PRINTER COMMANDS
- COMPUTER
 - connecting to printer 19
- COPY
 - DOS command 26
- COUNTRY
 - checking default setting 17
- COURIER. *SEE* FONTS

D

- DARKER PRINTS
 - specifying 30
- DATA
 - unprinted 51
- DATA LIGHT. *SEE* INDICATOR LIGHTS
- DC ADAPTER. *SEE* CAR ADAPTER
- DENSITY
 - setting 12, 30
- DENSITY DIAL
 - instructions 30
- DIP SWITCHES
 - auto-off timer 29
 - checking 13
 - cleaning print head 37
 - default character set 26
 - default paper size 26
 - factory settings 13
 - self-test sheet 14
 - serial interface 20
 - table 44
- DISK
 - print utility 25

- DOS
 - print utility 23, 24, 25
 - printer selection 25
 - printer setup 26
- DRIVER. *SEE* PRINTER DRIVER
- DTR. *SEE* HANDSHAKING
- DTR POLARITY
 - setting 21

E

- EMULATION. *SEE* PRINTER EMULATION
- ENVIRONMENT
 - printer use 1
 - specification 54
- EUROPE
 - regulations 57, 58

F

- FCC
 - regulations 55
- FEATURES
 - printer 3
- FIRMWARE VERSION
 - checking 17
- FONT/SYMBOL SET OPTIONS
 - information 18
- FONTS
 - Courier 32
 - downloadable 32
 - line printer 32
 - printing 31
 - samples 18
 - specification 53
 - TrueType 31
 - using 32
- FORM FEED
 - instructions 41, 51

G

- GRAPHICS
 - printing tips 31
- GRIDS
 - printing 31

H

- HANDSHAKING
 - DTR 21
 - hardware 21
 - Xon / Xoff 21

I

- IMAGE QUALITY
 - checking 18
- INDICATOR LIGHTS
 - illustration 41
 - summary 42
 - table 43
 - warnings 45
- INFRARED ADAPTER
 - battery use 12
 - interface 22
 - option 3
 - ordering 59, 60
- INK
 - never needed 3, 34
- INTERFACE CABLE. *SEE* CABLE
- INTERFACES
 - infrared adapter 22, 54
 - parallel 19, 54
 - serial 20, 21, 54
 - supported 3
 - wireless 54
- INTERFERENCE
 - radio and television 55

L

- LASERJET II
 - default printer 31
 - DOS printer 25
 - printer driver 23, 31
 - Windows printer 25
- LASERJET IIP
 - DOS printer 25
 - printer driver 3, 23, 31
 - Windows printer 25
- LASERJET IIP PLUS
 - printer driver 23

- LETTERHEAD
 - imprinting 36

- LIGHTER PRINTS
 - specifying 30

LIGHTS. *SEE* INDICATOR LIGHTS

LINE PRINTER. *SEE* FONTS

- LOGO
 - imprinting 36

- LPT1
 - printer port 31

M

- MACINTOSH
 - connectivity 3, 59

- MAIN SWITCH
 - functions 41

- MAINTENANCE
 - cleaning platen roller 39
 - cleaning print head 37
 - cleaning printer case 40

- MARGINS
 - incorrect 49, 50
 - side 50
 - top and bottom 49

- MEMORY
 - checking 17
 - needed for large graphics 31
 - sizes 3
 - specification 53
 - upgrading 60

- MODEL
 - identifying 18
 - Letter/A4 17, 18, 26
 - Letter/Legal 17, 18, 26
 - Letter/Legal/A4 17, 18, 26
 - options 3
 - printer 26
 - self-test sheet 16
 - serial number 18

N

- NEWTON
 - connectivity 3, 59

O

ON/OFF SWITCH. *SEE* MAIN SWITCH

OPERATION PANEL
using 41

OS/2
installing printer driver 23
selecting printer 25

P

PALMTOP. *SEE* PERSONAL DIGITAL ASSISTANT

PANEL. *SEE* OPERATION PANEL

PAPER
A4-size 17
clearing a jam 35
defective 37
inserting 27, 33
ordering 59
print area 53
problems 47
recommended 34
sizes 3, 53
specification 53
storing 34
upgrading to support
legal size 60
usage and handling 34

PAPER HOLDER
carrying case 59
ordering 59

PAPER SIZE
checking default
setting 17
selecting default size 26
specifying 26

PCL4
command codes 25, 61
printer control
language 3, 25, 26

PDA. *SEE* PERSONAL DIGITAL ASSISTANT

PERSONAL DIGITAL ASSISTANT
connectivity 3, 59

PLATEN ROLLER
cleaning 39

PLUG
connecting to AC
outlet 8
standard configurations 1

POCKETJT.EXE
print utility program 25

POWER
AC adapter 1, 8
off 41, 42
on 41
specifications 54
usage 54

POWER LIGHT. *SEE* INDICATOR LIGHTS

PRINT
DOS command 25, 26

PRINT AREA
A4-size paper 53
legal-size paper 53
letter-size paper 53

PRINT BUFFER
data 29, 51

PRINT HEAD
cleaning 37

PRINT UTILITY. *SEE* DOS

PRINTER
auto-off timer 29
components 5
connecting to AC
outlet 8
connecting to
computer 19
data 29
default 24, 25, 31
emulation 25, 53
features 3
feed roller 33
identifying model 18
input slot 33
kit 5, 23, 24
model 3, 16, 26
outdoor use 1
platen roller 37, 39
port 31
print head 37
protecting 32

- release cover 33, 35, 39
- resolution 3, 53
- selecting 25
- setting up 5
- size 53
- specifications 53
- speed 3, 30, 31, 53
- turning off 29, 41, 42
- turning on 27, 41
- unpacking 5

PRINTER COMMANDS

- tables 61
- with DOS
 - applications 25, 26

PRINTER DRIVER

- checking 23
- installing 23, 24
- LaserJet II 31
- LaserJet IIP 31
- loading 23, 24
- selecting 25

PRINTER STATUS

- information 17

PRINTING

- borders 31
- fonts 31
- grids 31
- instructions 27
- landscape mode 31
- large graphics 31
- lines per page 50
- method 3, 53
- portrait mode 31
- shading 31

PROBLEMS. *SEE*
TROUBLESHOOTING

R

REFRESH

- battery 10

REGULATIONS

- Canadian 56
- European 57, 58
- FCC 55

REGULATORY COMPLIANCE

- CSA 54
- FCC 54
- UL 54

RELEASE COVER

- opening 35, 39

REPLACEMENT PARTS

- ordering 60

RESOLUTION

- dots per inch 3, 53

RIBBON

- battery removal 7, 11

S

SAFETY

- information 1

SELF-TEST SHEET

- checking 16
- Font/Symbol Set
 - Options 18
- image quality 18
- Printer Status 17
- printing 14

SERIAL INTERFACE

- checking settings 17
- setting DIP switches 20

SERIAL NUMBER

- model 18

SHADING

- printing 31

SPECIFICATIONS

- printer 53

SPEED. *SEE* PRINTER
SPEED; SERIAL INTERFACE

STATIONERY. *SEE* LETTERHEAD

SUPPLIES

- ordering 59

SWITCHES. *SEE* DIP SWITCHES

SYMBOL SET. *SEE* CHARACTER
SET

T

TECHNICAL INFORMATION

- interference 55
- specifications 53

TECHNICAL SUPPORT

- calling 45

TEMPERATURE

- operating 54
- storage 54

TEST SHEET. *SEE* SELF-TEST SHEET

THERMAL PAPER. *SEE* PAPER

TIME

- charging battery 12

TIMER. *SEE* AUTO-OFF TIMER

TONER

- never needed 3, 34

TROUBLESHOOTING

- battery removal 11
- clearing a paper jam 35
- general instructions 45
- indicator light
 - warnings 45
- pages don't print 51
- pages partially print 52
- paper problems 47
- printed image
 - problems 48

TRUETYPE

- print as graphics 31

U

UPGRADE

- ordering 60

W

WARRANTY

- extended 4
- standard 4

WINDOWS 3.1

- installing printer driver 23
- selecting printer 25

WINDOWS 95

- installing printer driver 24
- selecting printer 25

WINDOWS NT

- installing printer driver 23
- selecting printer 25

X

- XON/XOFF. *SEE* HANDSHAKING

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