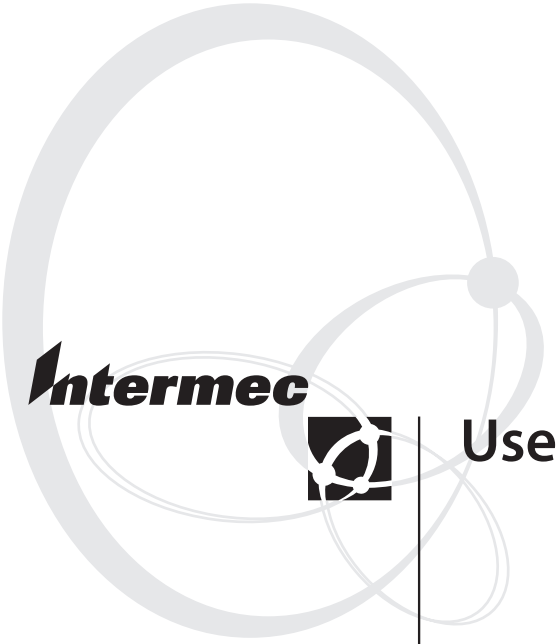
Intermec

User's Guide

EasyCoder® PX4i Bar Code Label Printer

(IPL Version)



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EasyCoder® PX4i Bar Code Label Printer

(IPL Version)

Intermec Technologies Corporation

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Document Change Record

This page records changes to this document. The document was originally released as Version -01.

Version Number	Date	Description of Change
-01	09/2004	First initial release. Supports IPL v2.30.
-02	06/2007	Revised to support new 400 dpi printhead.
-001	06/2008	Revised to incorporate new changes and brought into FrameMaker 8.

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Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

Safety Summary

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

Do not repair or adjust alone

Do not repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety.

First aid

Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.

Resuscitation

Begin resuscitation immediately if someone is injured and stops breathing. Any delay could result in death. To work on or near high voltage, you should be familiar with approved industrial first aid methods.

Energized equipment

Never work on energized equipment unless authorized by a responsible authority. Energized electrical equipment is dangerous. Electrical shock from energized equipment can cause death. If you must perform authorized emergency work on energized equipment, be sure that you comply strictly with approved safety regulations.

Safety Icons

This section explains how to identify and understand the warnings, cautions, and notes that are in this document. You may also see icons that tell you when to follow ESD procedures.

A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.

A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

This icon appears at the beginning of any procedure in this manual that could cause you to touch components (such as printed circuit boards) that are susceptible to damage from electrostatic discharge (ESD). When you see this icon, you must follow standard ESD guidelines to avoid damaging the equipment you are servicing.

Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

Global Services and Support

Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at www.intermec.com and click **Support** > **Returns and Repairs** > **Warranty**.

Disclaimer of warranties: The sample code included in this document is presented for reference only. The code does not necessarily represent complete, tested programs. The code is provided "as is with all faults." All warranties are expressly disclaimed, including the implied warranties of merchantability and fitness for a particular purpose.

Web Support

Visit the Intermec web site at **www.intermec.com** to download our current manuals (in PDF). To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at **www.intermec.com** and click **Support** > **Knowledge Central** to review technical information or to request technical support for your Intermec product.

Telephone Support

These services are available from Intermec.

Services	Description	In the USA and Canada call 1-800-755-5505 and choose this option
Order Intermec products	• Place an order. • Ask about an existing order.	1 and then choose 2
Order Intermec media	Order printer labels and ribbons.	1 and then choose 1
Order spare parts	Order spare parts.	1 or 2 and then choose 4
Technical Support	Talk to technical support about your Intermec product.	2 and then choose 2
Service	• Get a return authorization number for authorized service center repair. • Request an on-site repair technician.	2 and then choose 1
Service contracts	• Ask about an existing contract. • Renew a contract. • Inquire about repair billing or other service invoicing questions.	1 or 2 and then choose 3

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **About Us** > **Contact Us**.

Service Location Support

For the most current listing of service locations, click **Support** > **Returns and Repairs** > **Repair Locations**.

For technical support in South Korea, use the after service locations listed below:

AWOO Systems
102-1304 SK Ventium
522 Dangjung-dong
Gunpo-si, Gyeonggi-do Korea, South 435-776
Contact: Mr. Sinbum Kang
Telephone: +82-31-436-1191
E-mail: **mjyun@awoo.co.kr**

IN Information System PTD LTD
6th Floor
Daegu Venture Center Bldg 95
Shinchun 3 Dong
Donggu, Daegu City, Korea
E-mail: **jmyou@idif.co.kr** or **korlim@gw.idif.co.kr**

Who Should Read This Manual

This User's Guide provides you with information about the features of the EasyCoder PX4i printer and how to install, configure, operate, maintain, and troubleshoot it.

Related Documents

The Intermec web site at **www.intermec.com** contains our documents (as PDF files) that you can download for free.

To download documents

1. Visit the Intermec web site at **www.intermec.com**.
2. Click **Support** > **Manuals**.
3. In the **Select a Product** field, choose the product that you want to download documentation for.

To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

1 Introduction

This chapter introduces the EasyCoder PX4i printer and covers the following topics:

- Description of EasyCoder PX4i Printer
- Safety Summary
- Product Identification

Description of EasyCoder PX4i Printer

The EasyCoder PX4i printer is a high-volume thermal transfer printer with a printhead resolution of 8 dots/mm (203 dots/inch) or 16 dots/mm (406 dots/inch), depending on which printhead is installed. The maximum print width is 112 mm (4.5 in) with either printhead.

The EasyCoder PX4i printer offers a large number of useful features:

- High speed printing up to 300 mm/sec (12 in/sec)
- Flash memory SIMMs for firmware, fonts, and bar codes
- Built-in CompactFlash memory card adapter
- Built-in RS-232 and USB interfaces
- Provision for one or two extra interface boards including wired or wireless EasyLAN connections and parallel interface
- Keyboard and display with backlight
- Support for network monitoring through optional software tools

A large number of factory-installed or field-installable options are available, so the printer can be configured for a wide range of applications. See **"Options" on page 73**, for more information.

The printer is designed to work with the Intermec InterDriver and Intermec LabelShop. The InterDriver allows you to print labels from standard MS Windows applications, for example Microsoft Office. Intermec LabelShop is a series of label design programs that work under various versions of MS Windows.

The EasyCoder PX4i printer described in this manual supports the Intermec Programming Language (IPL) v2.30 or later. The EasyCoder PX4i printer that supports Intermec Fingerprint v8.30 is described in its own User's Guide.

Safety Summary

Intermec assumes no responsibility regarding the CE Directive if the printer is handled, modified, or installed in any way other than that described in Intermec's manuals.

- Read this manual carefully before connecting the printer.

- Moving parts are exposed when the side doors are open, so ensure that the doors are closed before you operate the printer.
- Do not remove the left-hand cover. Dangerous voltage!
- Do not remove the bottom plate. Dangerous voltage!
- Do not put your fingers inside the print mechanism when the power is on.
- Place the printer on an even surface which can support its weight of approximately 13 kg (28.5 lb) plus supplies.
- Do not spray the printer with water. If you are using a hose to clean the premises in an industrial environment, remove the printer or protect it carefully from spray and moisture.
- Carefully read the warning text on the envelope before using a cleaning card.

Product Identification

The machine label is attached to the printer's rear plate and contains information on type, model, and serial number as well as AC voltage. It also contains regulatory agency markings indicating compliance with specific agency regulations, if any.

2 Installation

This chapter explains how to unpack and install the EasyCoder PX4i printer and also describes the printer's various parts in detail. It covers the following topics:

- Unpacking the Printer
- Connecting the Printer
- Controls and Indicators

Unpacking the Printer

Before you install the printer, unpack and examine it for possible damage or missing parts.

To unpack the printer

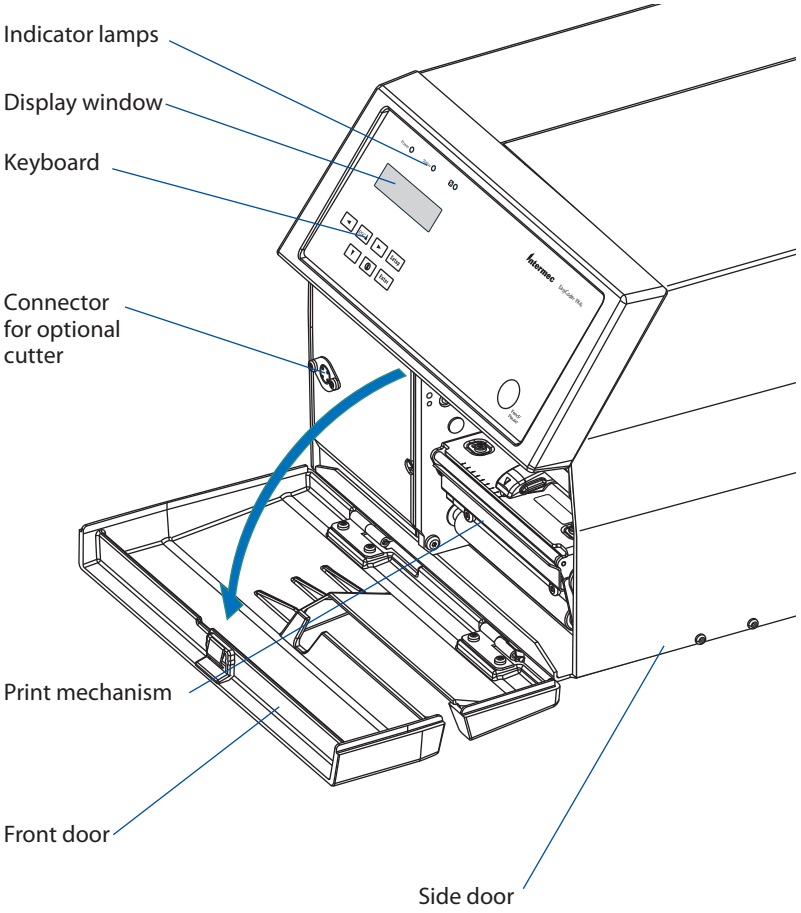
1. Open the box and lift the printer out.
2. Check that the printer has not been visibly damaged during transportation. Keep the packing materials in case you need to move or reship the printer.
3. Check the label on the printer's rear plate, which gives the voltage, the part number, and the serial number.
4. Check that any options you ordered are included.
5. Check that all the accessories are included:
   - Intermec EasyCoder PX4i printer
   - Adapter for 3 in media roll core
   - Power cord
   - Quality check card
   - Cleaning card
   - Compact disk (CD) with supporting software, additional manuals, and product information.
6. Check that the type of power cord is appropriate for the local standard. The printer works within 90 to 265 VAC, 50 to 60 Hz.
7. If the printer has been damaged in any way during transportation, report the damage to the carrier immediately.
8. If the delivery is incorrect or any parts are missing, report it immediately to the distributor.

Front View

At the front of the printer are the display window, the indicator lamps, and the keyboard. These features allow the operator to control and set up the printer manually.

The front door is held by a snap-lock. Open the front door to view the various parts on the printer's front.

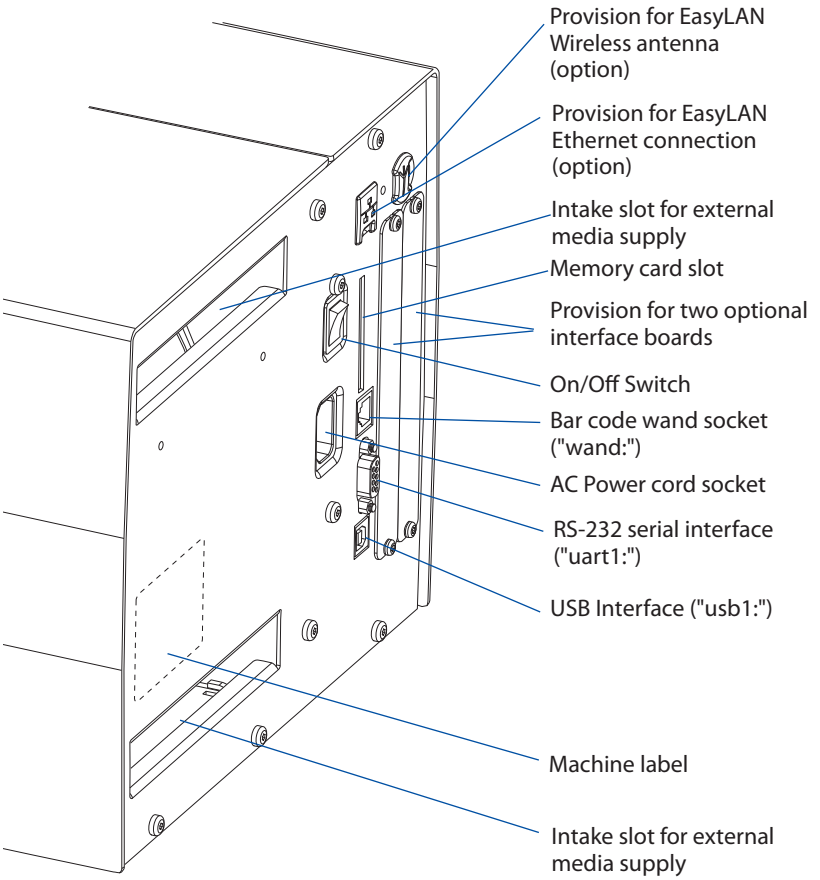
Refer to **"Options" on page 73**, for information on possible optional devices fitted on the printer's front.



Front View

Rear View

The rear plate contains the On/Off switch, the AC power cord socket, and various interface connectors and slots.

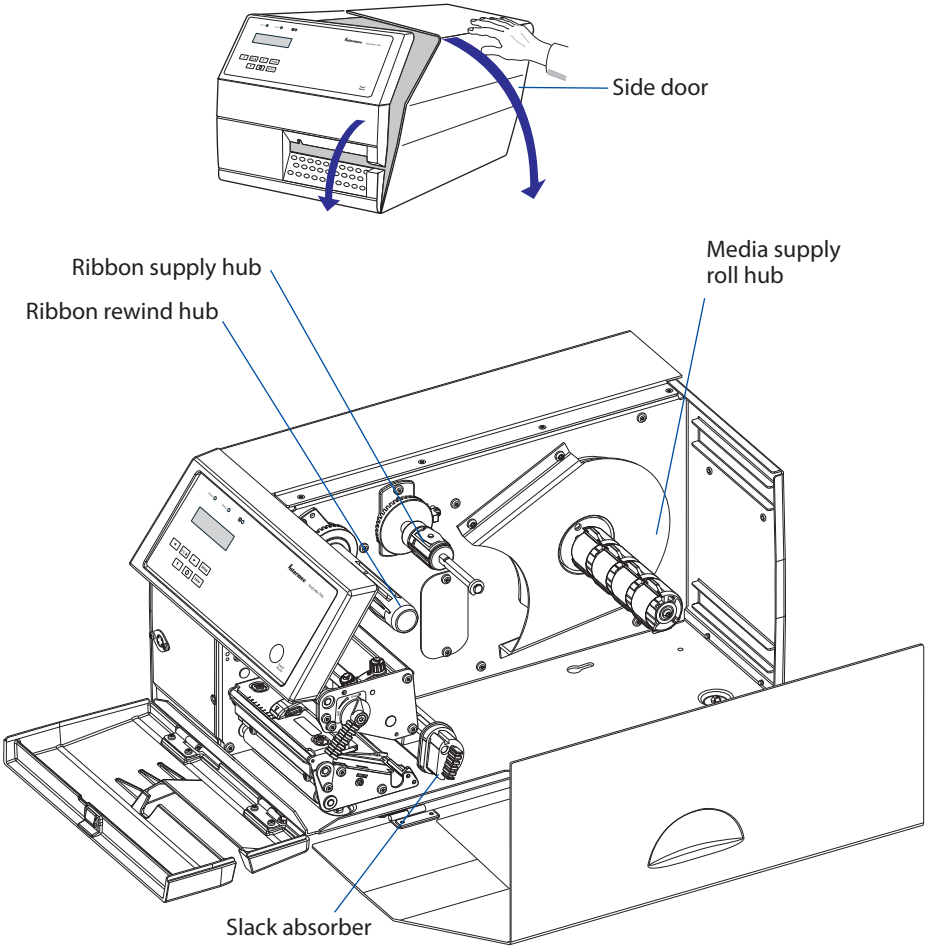


Rear View

Media Compartment

The media compartment is covered by the side door which can be opened 180° downwards to provide complete access to the media and ribbon loading area. The door is held closed by a magnetic lock. It can be completely removed by opening it and then pulling it forward.

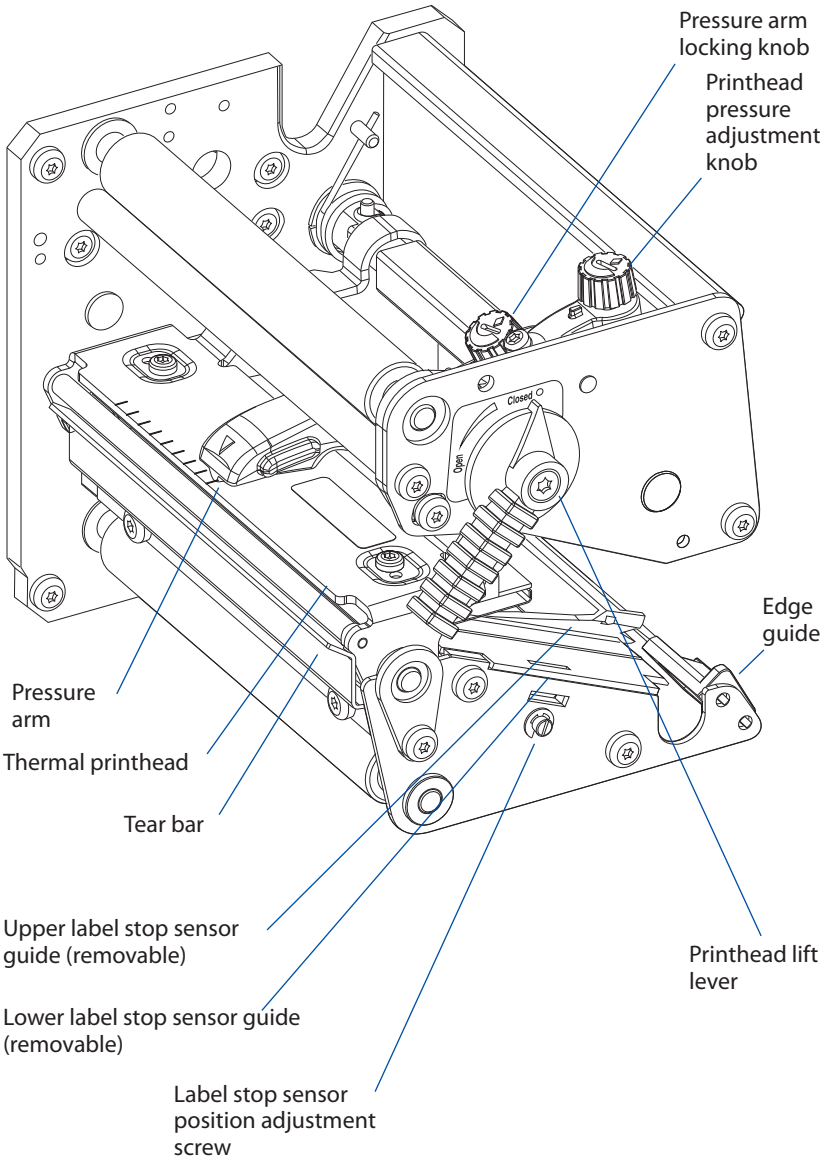
The media can be supplied from a rotating hub or from an external supply of fanfolded media behind the printer. For more information, see **"Options" on page 73**.



Media Compartment

Print Mechanism

The print mechanism features a high-performance thermal printhead with quick-mount fittings to facilitate replacement.



Print Mechanism

Connecting the Printer

To connect the printer to power

1. Place the printer on a level surface near an AC outlet. You should be able to access the back, front, and sides of the printer as necessary to load supplies and remove the printout.
2. Check that the printer is switched off.
3. Connect the power cord from the socket on the rear plate to an electrical outlet (90 to 265 VAC).

Computer

The EasyCoder PX4i printer is fitted with one 9-pin D-style subminiature (DB9) socket for the RS-232 serial interface port and one class B connector for the USB interface port. For more information about ports, see "Interfaces" on page 123.

RS-232 Serial Interface

Before you can use the serial interface, you may need to set up the communication parameters, such as baud rate, parity, etc. as described in "Setting Up the Printer" on page 53.

USB Interface

The printer supports USB v1.1. There is no communication setup for USB. For more information, refer to "Interfaces" on page 123.

Optional Interface and Network Boards

For details, see "Interface Boards" on page 77. Refer to "Setting Up the Printer" on page 53, "Navigating in Setup Mode" on page 68, and "Optional Interfaces" on page 126 for connection and setup instructions.

The printer can be set to scan all communication ports. When it detects incoming data on a port, the printer automatically switches to use that port for both input and output. Press **i** to get information on the active communication channels.

Switch off both PC and printer before connecting them together.

Controls and Indicators

The EasyCoder PX4i printer has several ways of communicating directly with its operator: three colored LEDs, a display window, a membrane-switch keyboard, and a beeper.

Display and controls

Indicator Lamps

The indicators are colored LEDs (Light Emitting Diodes) and are used for the following purposes:

Power

Power (solid green) indicates that the power is on.

Status

Status (solid green) indicates that the printer is ready for use.

Status (flashing green) indicates that the printer is communicating.

Status (solid red) indicates an error condition (see "Troubleshooting" on page 79).

Intermec Ready-to-Work indicator (blue; on, blink, or off). The indicator has three different states: On, Blinking, and Off. When the indicator is On, the printer is ready for use. When the indicator is blinking, the printer may be initializing, waiting for external resources, or in need of user attention. When the indicator is off, the printer is not ready to operate.

Display

The display window contains an LCD (Liquid Crystal Display) with background illumination and two lines of text, each with 16 characters. It shows a message when certain errors occur and guides the operator through upgrading, startup, and setup. The following errors are reported:

Error Messages and Conditions

Message Displayed	Error Condition
PAUSE	Empty/Paused
PAPER OUT	Out of media
RIBBON OUT	Out of ribbon
PRINT HEAD UP/PRESS FEED	Printhead lifted
OPEN&SHUT CUTTER	Cutter error
RIBBON FITTED	Ribbon fitted
PAPER FAULT	Paper fault
PSU ERROR	Power supply error
PSU OVER TEMP	Power supply too hot
PRINTHEAD HOT	Printhead too hot

Keyboard

The keyboard is of the membrane-switch type and has seven keys. The keyboard is supplemented by a large **Feed/Pause** button. Some keys have hard-coded functions in the startup and setup modes.

Keyboard Buttons

Button	Function
Feed/Pause button	Feeds a page or pauses a print job. Repeats last printed label.
Setup	Enter Setup Mode. For more information, see "Setup Mode" on page 67.
Feed	Feed out a blank label or the equivalent.
Feed + Shift	Perform a Testfeed (feed a blank label and adjust the media feed).
ⓘ	Display error messages and communication channel information.
F1 ◄ F3 ►	Scroll between types of information after pressing **i**. Possible error messages and information on active communications channels are shown in a loop.

Beeper

The beeper acknowledges that a key has been pressed. Optionally, an audible alarm can be enabled using an IPL command. It will start beeping at paper out and ribbon out and will continue beeping until the start of reload.

3 Starting Up

This chapter explains how to start up the printer after installation or after having been switched off.

Switching On the Printer

Before switching on the printer, make the necessary connections, and check that the printhead is engaged.

Switch on the power using the On/Off switch on the rear plate. The "Power" LED on the front panel lights up when the power is on. Wait for a few moments while the printer loads the program and runs some self-diagnostic tests. The Display Window will show the following progress indicator.

```
      Starting
■■■■■■
```

After a short time, the printer is initialized. The progress of the initialization is indicated by an increasing number of colons on the lower line in the display.

```
Initializing
:::
```

When the initialization is completed, a label is fed out. The following message, which is the IPL version number, appears in the Display Window, indicating that the printer is ready for operation.

```
IPL 2.30
```

4 Loading Media

This chapter explains how to load the printer with various kinds of continuous, gap, or mark media for the following modes of operation:

- Tear-Off (Straight-Through)
- Cut-Off (Cutter)
- Peel-Off (Self-adhesive Strip)
- Internal Batch Takeup (Roll-to-Roll)
- External Supply (Fanfold or Continuous Stock)

Tear-Off (Straight-Through)

The EasyCoder PX4i printer can print on labels, tickets, tags, and continuous stock in various forms. This section describes the case when the media is torn off manually against the printer's tear bar. This method is also known as "straight-through printing."

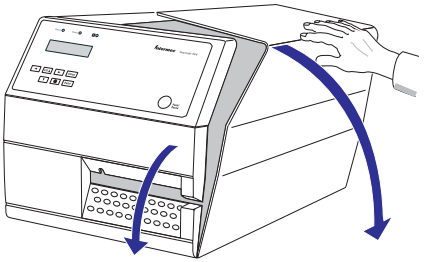
Tear-off can be used for:

- Non-adhesive continuous stock
- Self-adhesive continuous stock with liner
- Self-adhesive labels with liner (gap or continuous stock)
- Tickets with gaps (gap stock), with or without perforations
- Tickets with black marks (mark stock), with or without perforations

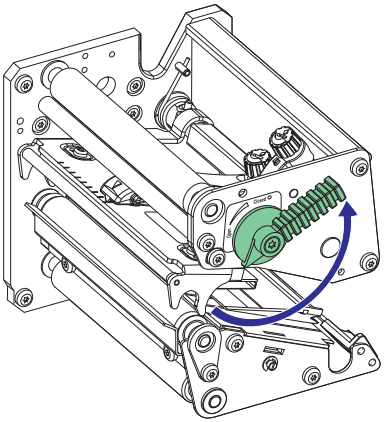
An optional label taken sensor can hold the printing of the next copy in the batch until the present copy has been removed. For more information, see **"Label Taken Sensor" on page 77**.

To load media for tear-off operation

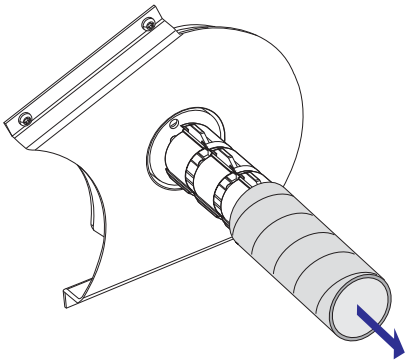
1 Open the front and side doors.



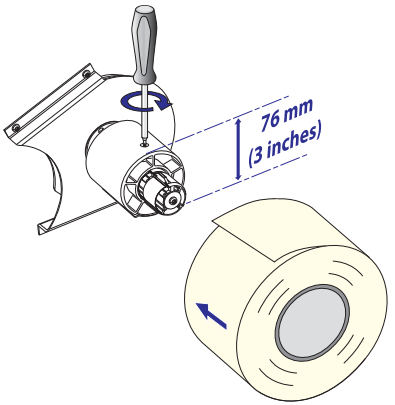
2 Turn the printhead lift lever counter-clockwise to raise the printhead.



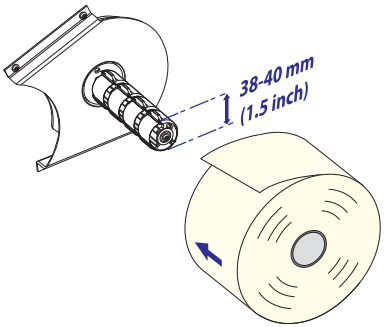
3 Remove any empty core from the media supply hub.



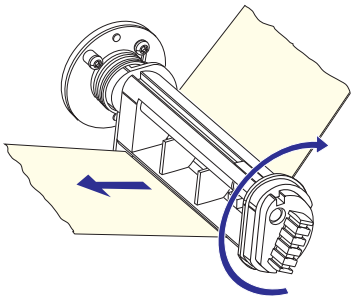
4 In the case of a media roll with a 76 mm (3 in) core, fit an adapter on the media supply hub.



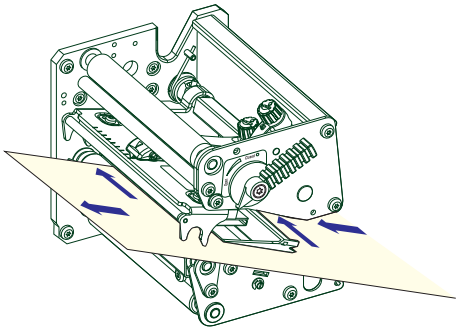
5 Fit a new roll of media onto the media supply hub and push the roll inwards as far as it will go.



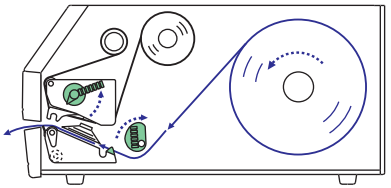
6 Route the media underneath the slack absorber and forward towards the print mechanism. The slack absorber can be rotated for better access and then snap-locked in open position.



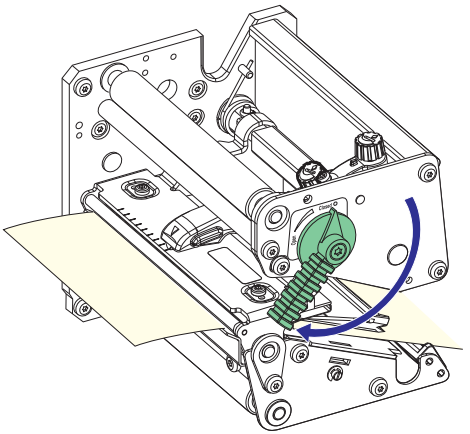
7 Route the media through the print unit and push it inwards as far as it will go.



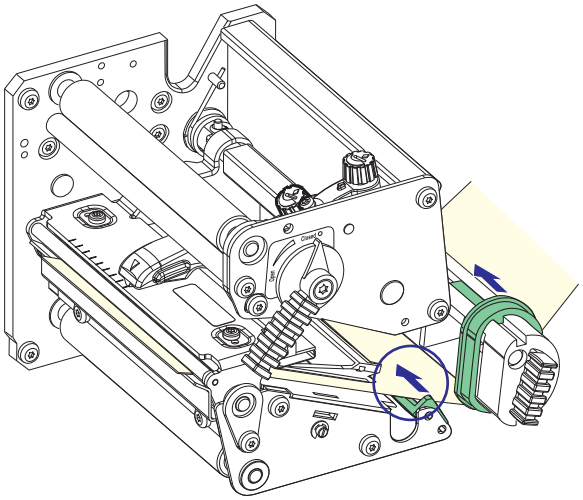
8 This diagram shows the path the media will take through the printer.



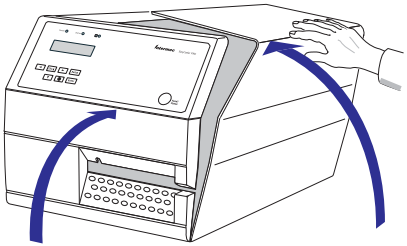
9 Turn the printhead lift lever to the “closed” position.



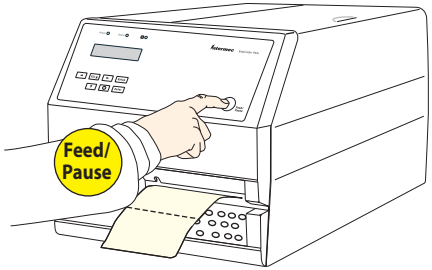
10 Adjust the position of the green edge guides so that the media is guided with a minimum of play.



11 Close the front and side doors.



12 Press **Feed/Pause** to advance the media and adjust the media feed. Tear off the media by grabbing the outer edge and pulling downwards.



Cut-Off

The EasyCoder PX4i printer can print on labels, tickets, tags, and continuous stock in various forms. This section describes the case when the media is to be cut off by an automatic paper cutter (option).

Cut-off can be used for:

- Non-adhesive continuous stock
- Self-adhesive labels with liner (cut only liner between labels)

The cutter is designed to cut through paper-based media with a thickness between 60 and 175 µm, which roughly corresponds to a paper weight of 60 to 175 grams/m^2 (basis weight 40 to 120 lb.). The cutter should not be used to cut through labels because the adhesive will stick to the shears, which can damage the cutter.

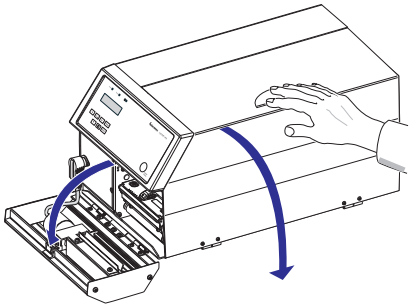
The optional label taken sensor cannot be used with the cutter.

Warning

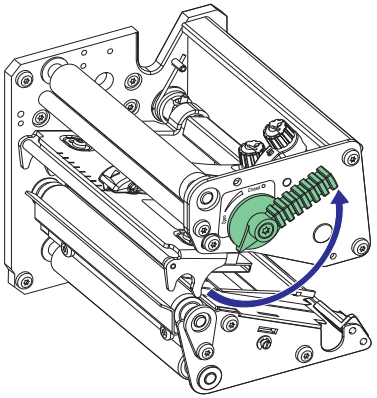
The rotating cutting blade can be accidently activated while the cutter is open. To avoid any risk of injury to fingers, always switch off the power before loading media and/or ribbon in a cutter-equipped printer.

To load media for cut-off operation

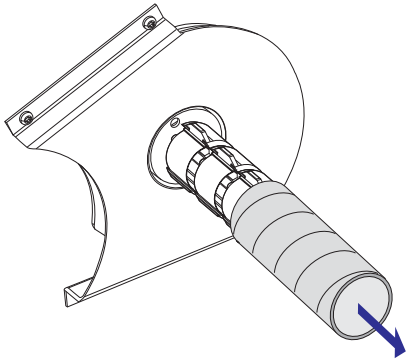
1 Switch off the power. Open the cutter and the side door.



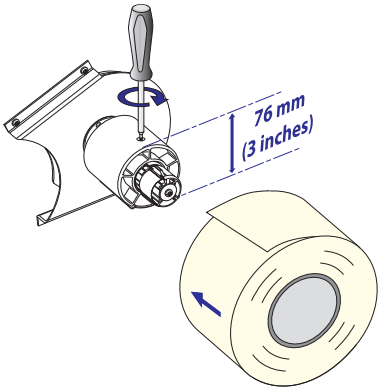
2 Turn the printhead lift lever counterclockwise to raise the printhead.



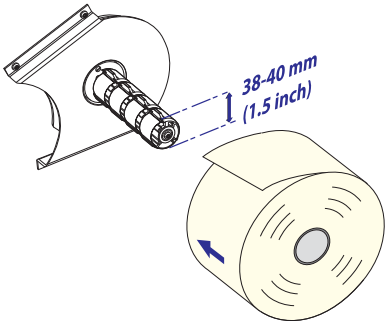
3 Remove any empty core from the media supply hub.



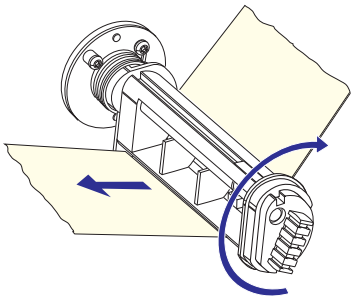
4 In the case of a media roll with a 76 mm (3 in) core, fit an adapter on the media supply hub.



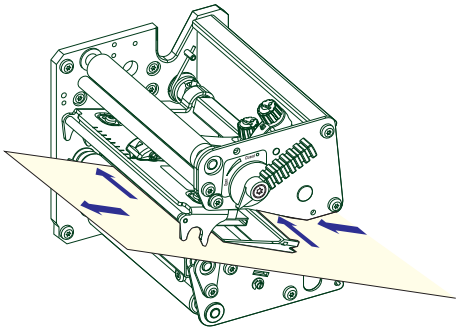
5 Fit a new roll of media onto the media supply hub and push the roll inwards as far as it will go.



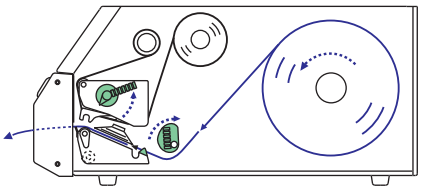
6 Route the media underneath the slack absorber and forward towards the print mechanism. The slack absorber can be rotated for better access and then snap-locked in open position.



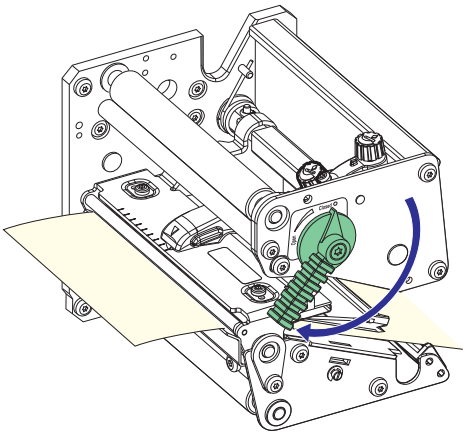
7 Route the media through the print unit and push it inwards as far as it will go.



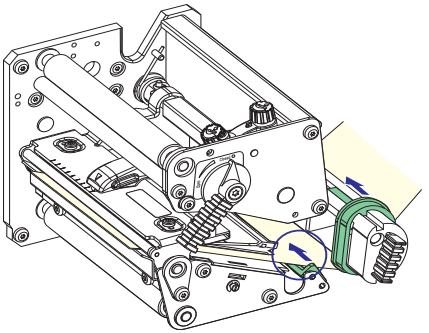
8 This diagram shows the path the media will take through the printer.



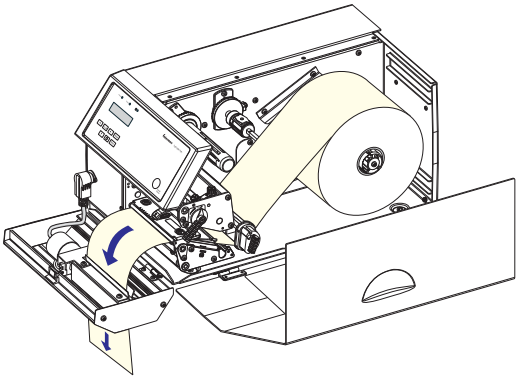
9 Turn the printhead lift lever to the “closed” position.



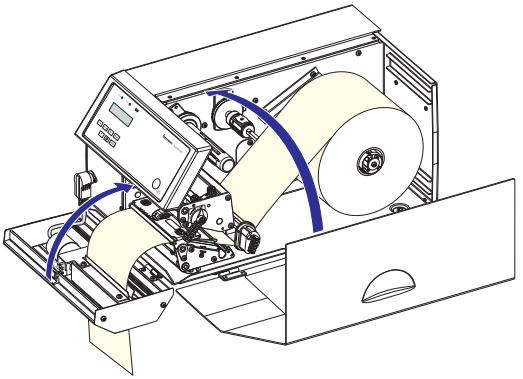
10 Adjust the position of the green edge guides so that the media is guided with a minimum of play.



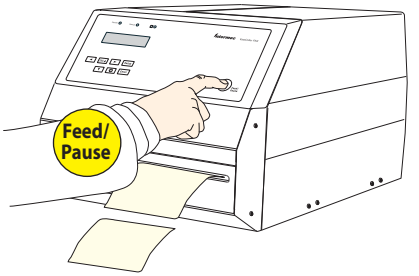
11 Route the media through the cutter between the two guide plates.



12 Close the cutter unit while pulling on the end of the media. Close the side door and then switch the power on.



13 Press **Feed/Pause** to advance the media and adjust the media feed.



Peel-Off (Self-Strip)

The EasyCoder PX4i printer can print on labels, tickets, tags, and continuous stock in various forms.

This section describes the case when self-adhesive labels are separated from the liner immediately after printing, which requires an optional internal liner/batch takeup unit. For more information, see **"Liner/Batch Takeup Kit" on page 75**. This is also known as "Self-strip" operation.

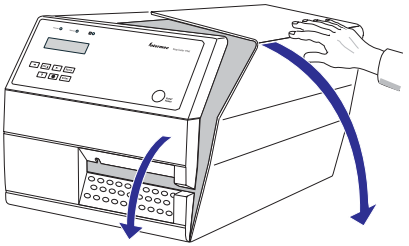
Peel-off can only be used for self-adhesive labels with liner.

An optional label-taken sensor can hold the printing of the next label in a batch until the present label has been removed. See **"Label Taken Sensor" on page 77**.

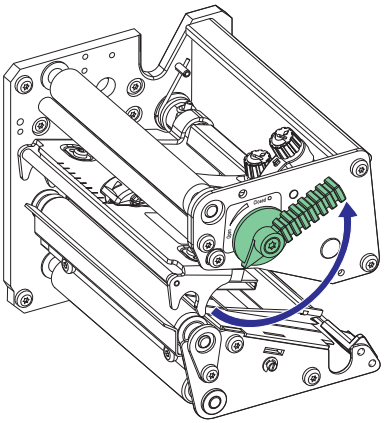
Note: Peel-off operation sets high demands on the media for proper label stiffness, release characteristics of the adhesive and liner, resistance against electrostatic charge, and so on. If these specific requirements are not met, the labels will not dispense properly. Consult your media supplier or test the media to make sure it is suitable for your application.

To load media for peel-off operation

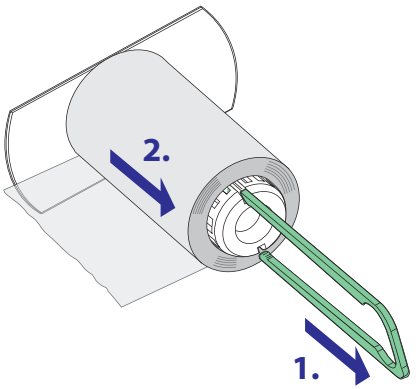
1 Open the front and side doors.



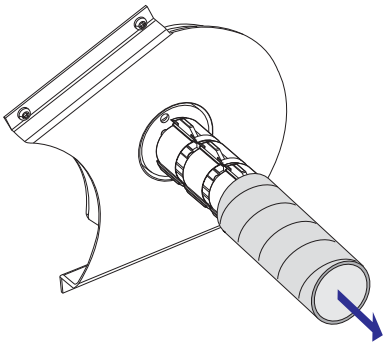
2 Turn the printhead lift lever counter-clockwise to raise the printhead.



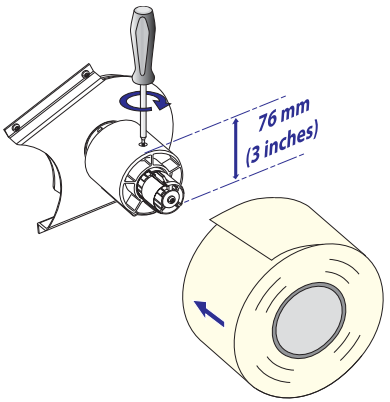
3 Pull out the green clip (1) on the liner takeup hub and dispose of any wound-up liner (2).



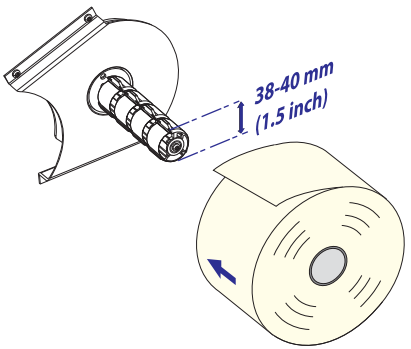
4 Remove any empty core from the media supply hub.



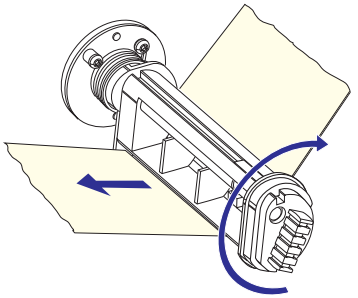
5 In the case of a media roll with a 76 mm (3 in) core, fit an adapter on the media supply hub.



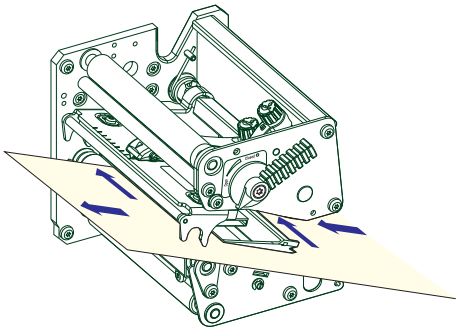
6 Fit a new roll of media onto the media supply hub and push the roll inwards as far as it will go.



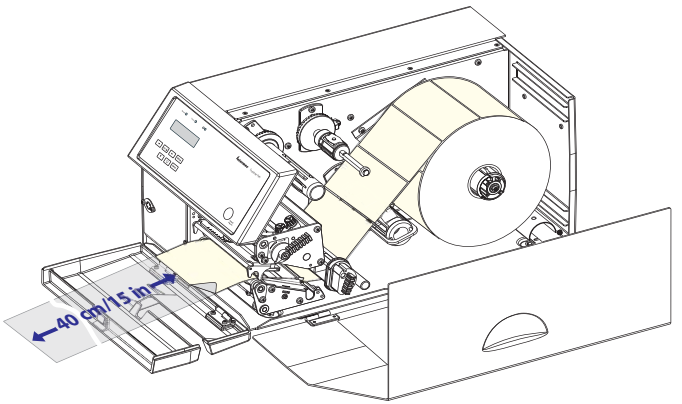
7 Route the media underneath the slack absorber and forward towards the print mechanism. The slack absorber can be rotated for better access and then snap-locked in open position.



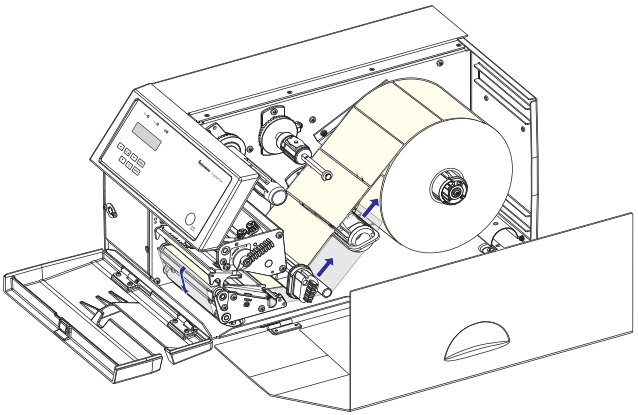
8 Route the media through the print unit and push it inwards as far as it will go.



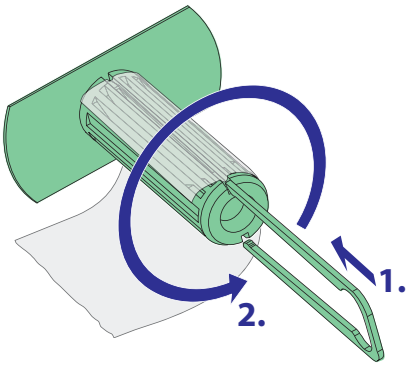
9 Pull out approximately 40 cm (15 in) of labels and remove the labels from the liner.



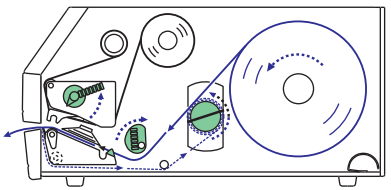
10 Route the liner around the tear bar and back under the print unit.



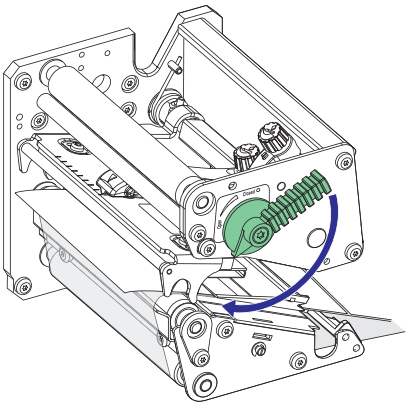
11 Secure the liner to the takeup hub with the green clip (1) and rotate the hub (2) until the media is pulled tight.



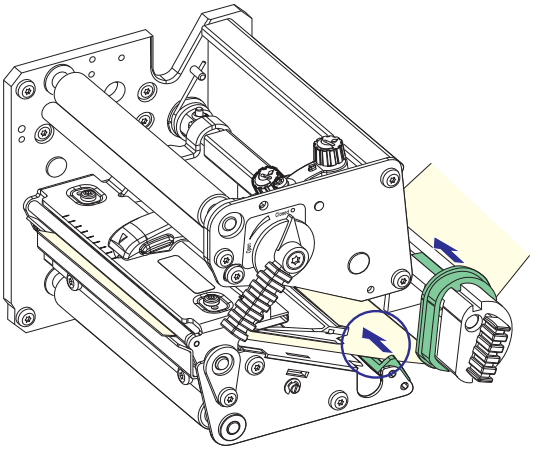
12 This diagram shows the path the media and liner will take through the printer.



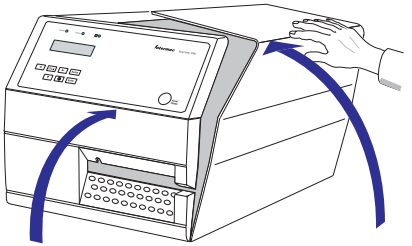
13 Turn the printhead lift lever to the “closed” position.



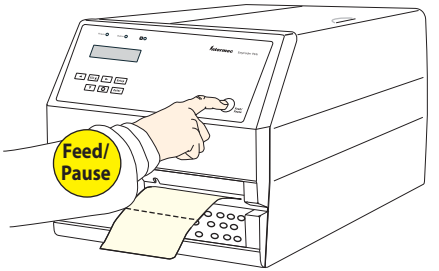
14 Adjust the position of the green edge guides so that the media is guided with a minimum of play.



15 Close the front and side doors.



16 Press **Feed/Pause** to advance the media and adjust the media feed.



Internal Batch Takeup (Roll-to-Roll)

The EasyCoder PX4i printer can print on labels, tickets, tags, and continuous stock in various forms. This section describes the case when printed labels fitted on liner (backing paper) or pre-perforated tickets and tags are wound up inside the printer. The roll of printed labels, tickets, or tags can then be removed and be handled manually. This requires an optional internal liner/batch takeup unit.

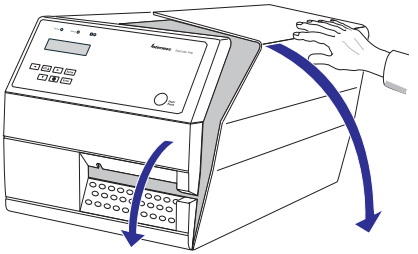
The takeup hub can accommodate 30 to 40% of a full-size media roll.

Internal batch takeup can be used for:

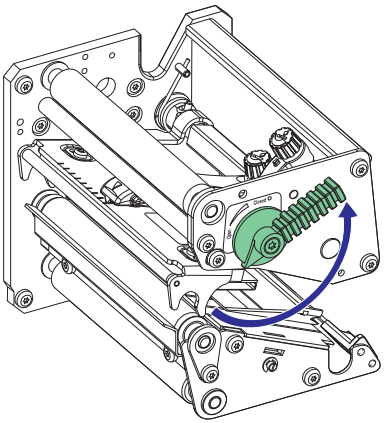
- Self-adhesive labels fitted on liner
- Pre-perforated tickets with gaps
- Pre-perforated tickets with marks

To load media for internal batch takeup operation

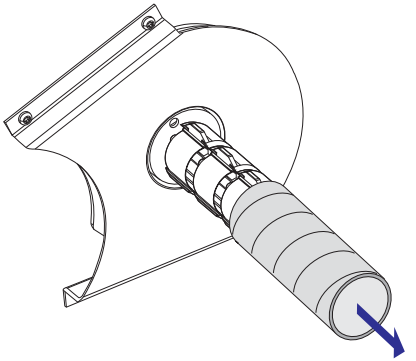
1 Open the front and side doors.



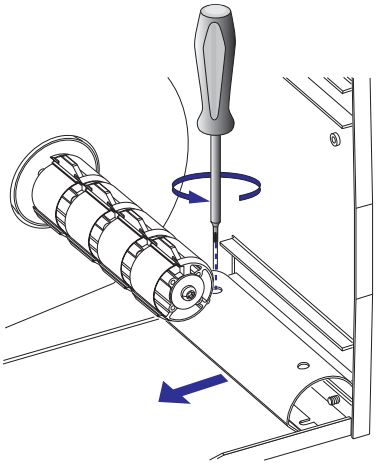
2 Turn the printhead lift lever counter-clockwise to raise the printhead.



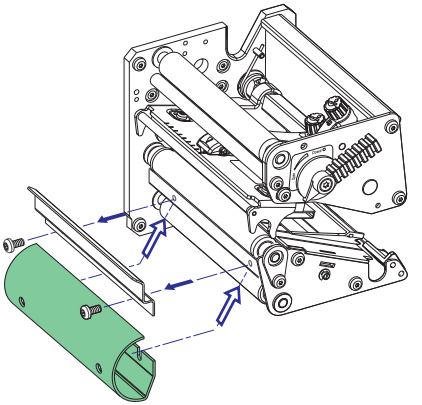
3 Remove any empty core from the media supply hub.



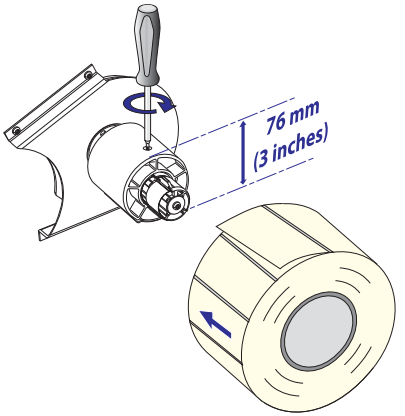
4 Loosen the single screw that holds the guide plate at the rear of the media compartment.



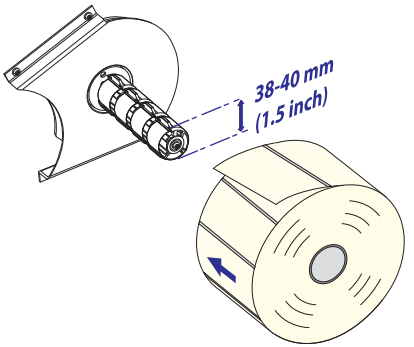
5 Remove the tear bar from the print unit and replace it with the guide plate.



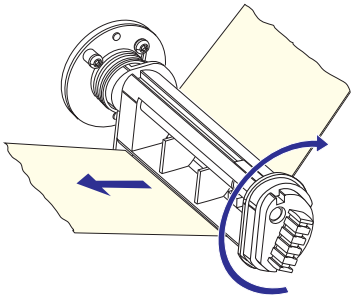
6 In the case of a media roll with a 76 mm (3 in) core, fit an adapter on the media supply hub.



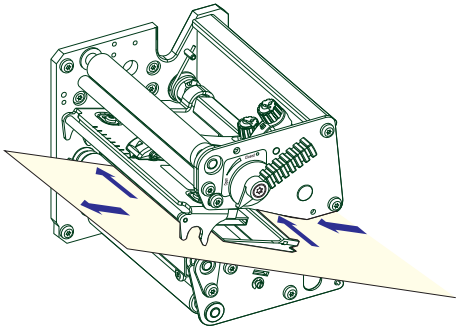
7 Fit a new roll of media onto the media supply hub and push the roll inwards as far as it will go.



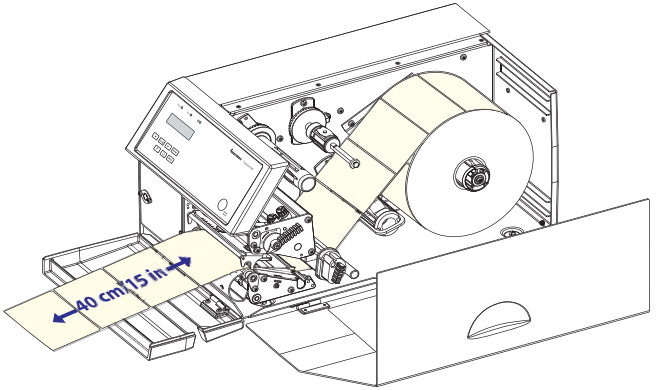
8 Route the media underneath the slack absorber and forward towards the print mechanism. The slack absorber can be rotated for better access and then snap-locked in open position.



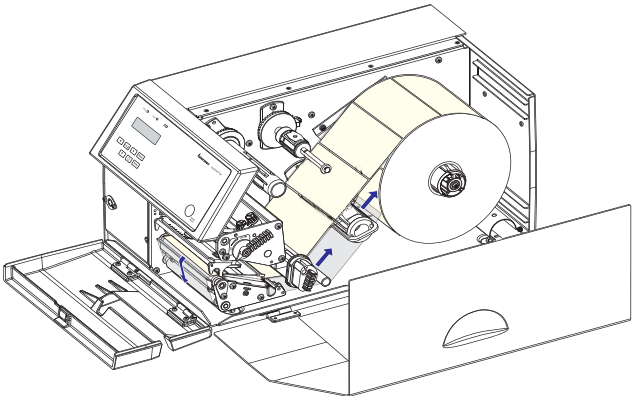
9 Route the media through the print unit and push it inwards as far as it will go.



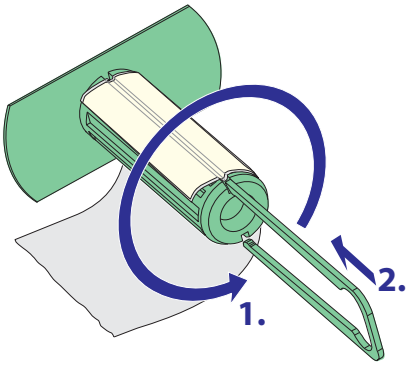
10 Pull out approximately 40 cm (15 in) of labels.



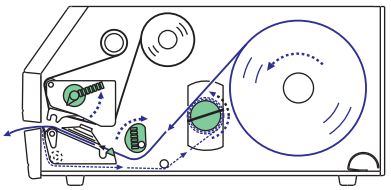
11 Route the labels around the guide plate and back under the print unit to the takeup hub



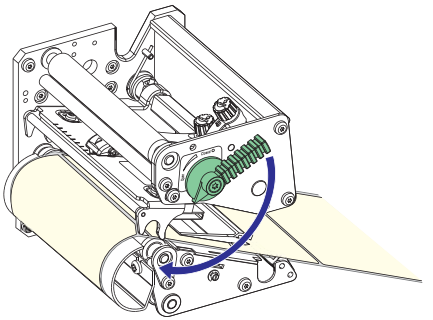
12 Wind up some of the media on the takeup hub (1) and secure it with the green clip (2).



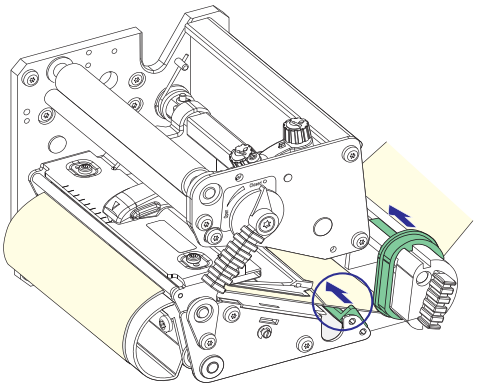
13 This diagram shows the path the media will take through the printer.



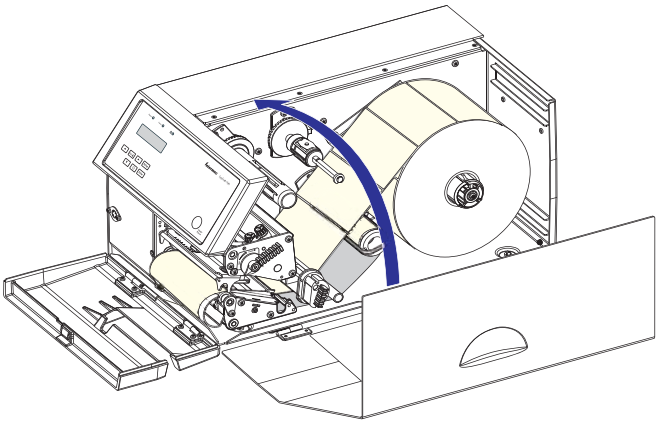
14 Turn the printhead lift lever to the “closed” position.



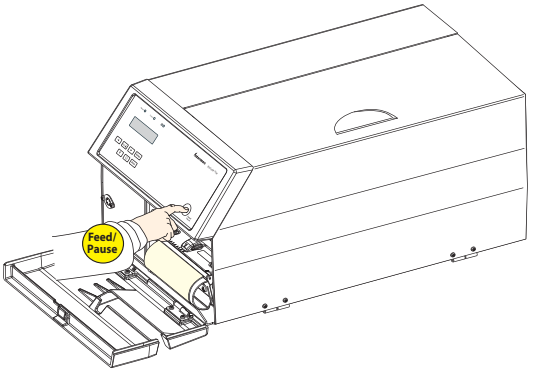
15 Adjust the position of the green edge guides so that the media is guided with a minimum of play.



16 Close the side door, but keep the front door open.



17 Press **Feed/Pause** to advance the media and adjust the media feed.



External Supply (Fanfold)

This section describes the case when an external media supply is used such as a stack of fanfold tickets or an external media roll.

It is possible to simply let the media enter the printer through either of the two slots in the rear plate. However, we recommend the optional Intermec Fanfold Kit, which provides adjustable guides to more accurately guide the media into the printer. The Fanfold Kit can be fitted to either the upper or the lower slot in the rear plate.

When using an external media supply, take care to protect the media from dust, dirt, and other foreign particles that can impair the printout quality or cause unnecessary wear to the printhead.

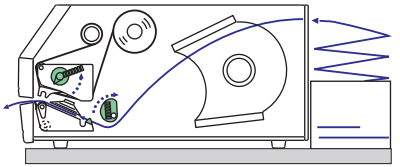
Depending on brand and quality, all direct thermal media are more or less sensitive to heat, direct sunlight, moisture, oil, plasticizers, fat, and other substances. Protect the media accordingly.

External supply can be used for:

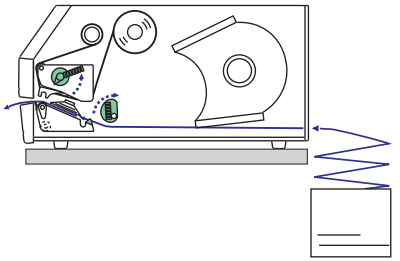
- Tear-off operation
- Cut-off operation
- Peel-off operation (upper slot only)
- Internal batch takeup operation

To load media for external supply operation

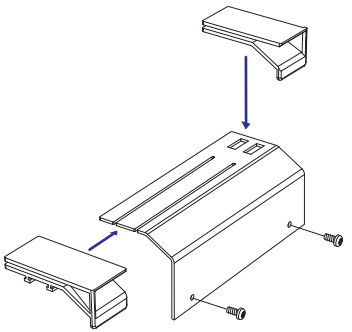
1 Use the upper slot in the rear plate when the supply is at the same level as the printer or when using peel-off operation.



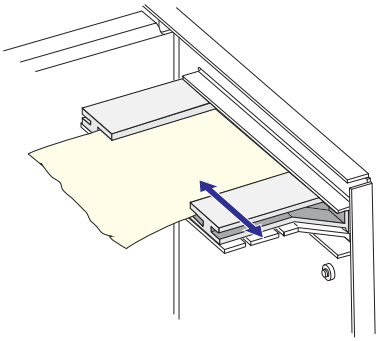
2 Use the lower slot in the rear plate when the supply is placed lower than the printer.



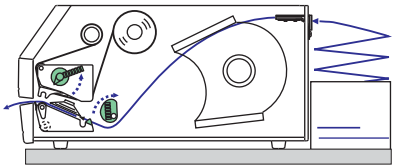
3 The printer can be fitted with an optional set of fanfold guides in either slot.



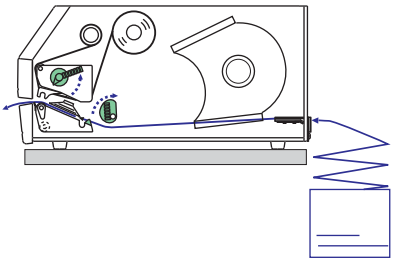
4 The outer guide is adjustable for various media widths. The minimum is 40 mm (1.58 in).



5 Fit the fanfold guide into the upper slot in the rear plate when the supply is at the same level as the printer or when using peel-off operation.



6 Fit the fanfold guide into the lower slot in the rear plate when the supply is placed lower than the printer.



5 Loading Ribbon for Thermal Transfer Printing

This chapter explains how to load the printer with ribbon for thermal transfer printing.

Loading Ribbon

The EasyCoder PX4i printer can print on labels, tickets, tags, and continuous stock using either direct thermal printing on special heat-sensitive media or thermal transfer printing using a special ink-coated ribbon.

Thermal transfer printing makes it possible to use a wide range of receiving face materials and gives a durable printout less vulnerable to fat, chemicals, heat, sunlight etc. than direct thermal printing. Make sure to select a type of ribbon that matches the type of receiving face material and to set up the printer accordingly.

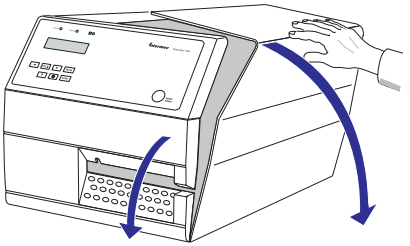
The EasyCoder PX4i printer can use transfer ribbon rolls wound with the ink-coated side facing either outward or inward. Illustrations in this manual show the ink-coated side facing inward.

Ribbon is usually loaded in connection with media replenishment, but loaded media is not shown in the illustrations in this chapter in order to give a clearer view of the ribbon path. For media load instructions, see **"Loading Media" on page 17**.

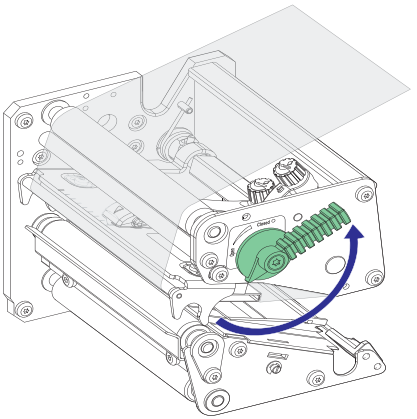
Most transfer ribbons do not smear at room temperature.

To load ribbon for thermal transfer operation

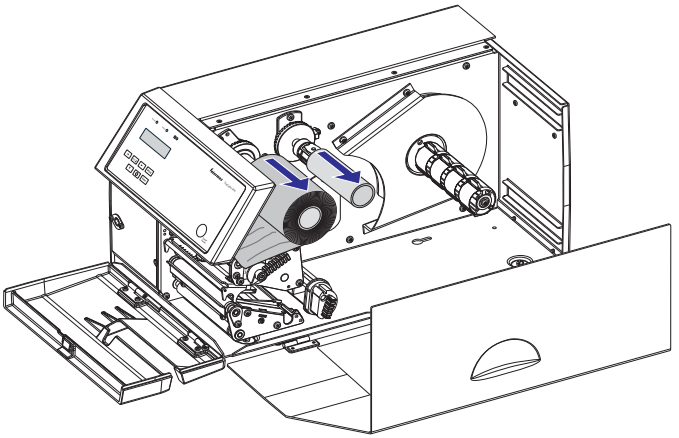
1 Open the front and side doors.



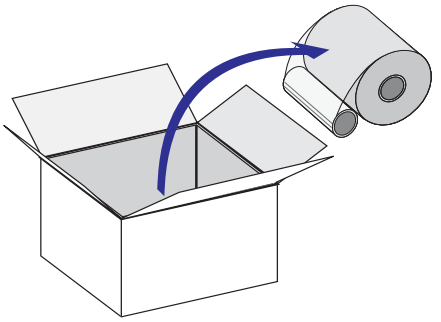
2 Turn the printhead lift lever counterclockwise to raise the printhead.



3 Remove any used ribbon and the empty ribbon core.

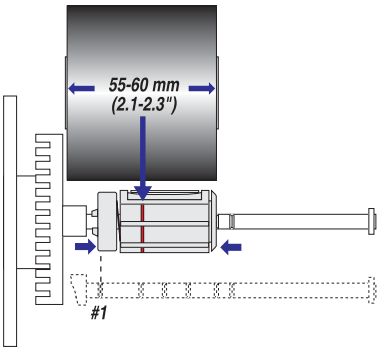


4 Unpack a roll of original Intermec thermal transfer ribbon.

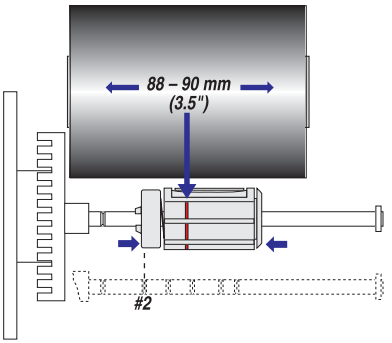


5 Adjust the ribbon supply bobbin for your ribbon:

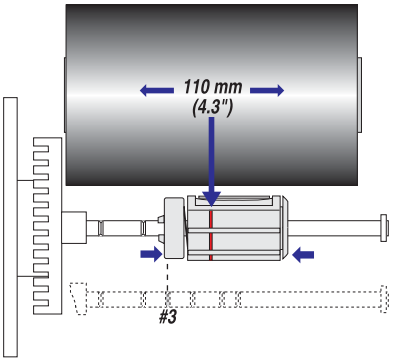
a If your ribbon is 55 to 60 mm (2.16 to 2.3 in) wide, compress the ribbon supply bobbin and move it so it snaps into the first (innermost) groove.



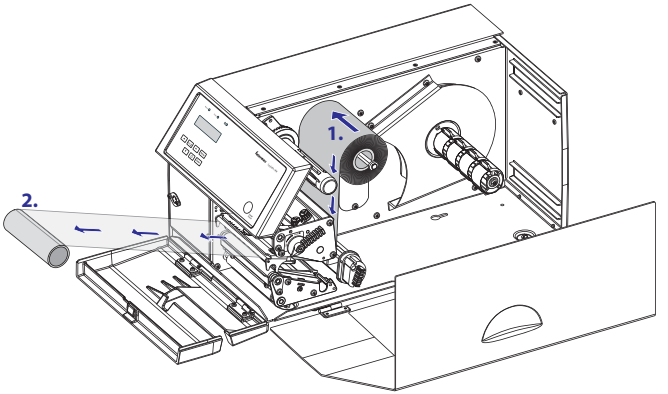
b If your ribbon is 88 to 90 mm (3.5 in) wide, compress the ribbon supply bobbin and move it so it snaps into the second groove.



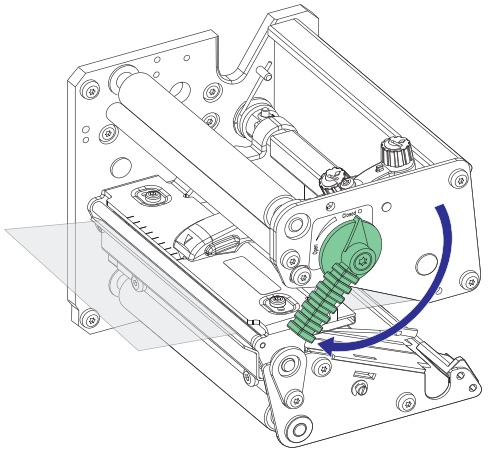
c If your ribbon is 110 mm (4.3 in) wide, compress the ribbon supply bobbin and move it so it snaps into the third (outermost) groove.



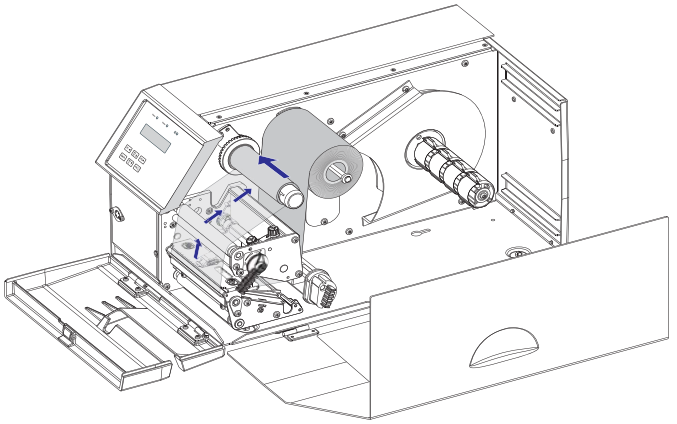
4 Press the ribbon roll onto the ribbon supply bobbin (1) and route the ribbon through the print unit. Pull out 20 cm (8 in) of ribbon.



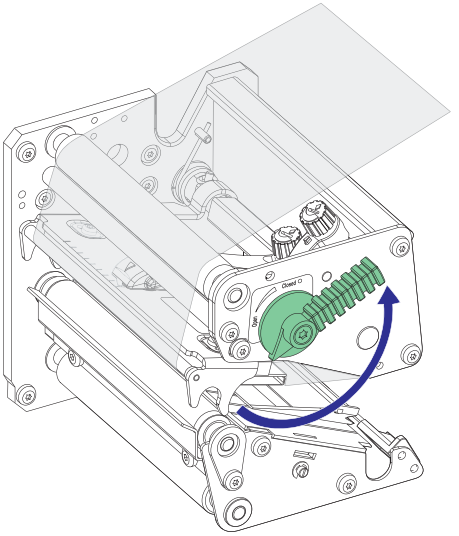
5 Without releasing the ribbon, turn the printhead lift lever to "closed" position to lock the ribbon.



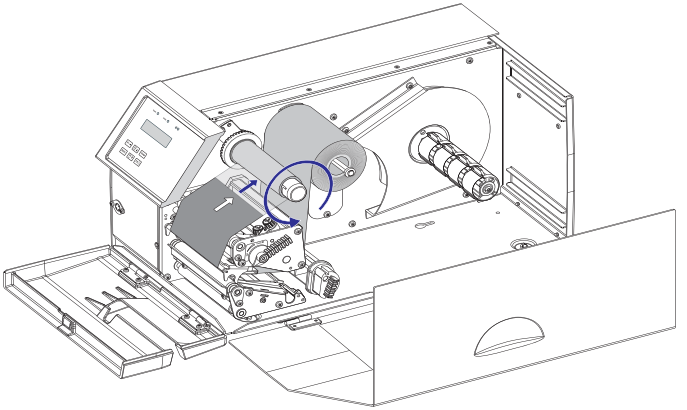
6 Press the cardboard core at the front end of the ribbon onto the rewind hub. During printing, the rewind hub will rotate counterclockwise.



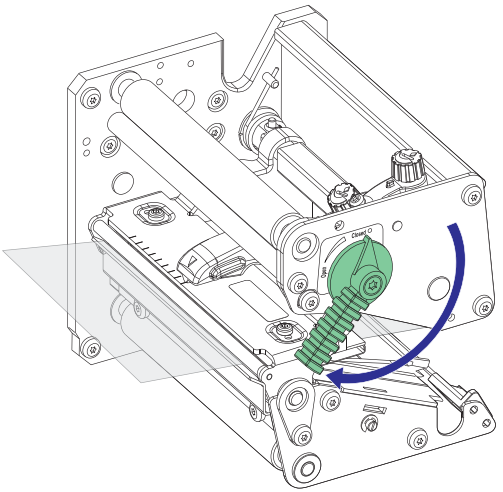
7 Turn the printhead lift lever to the “open” position.



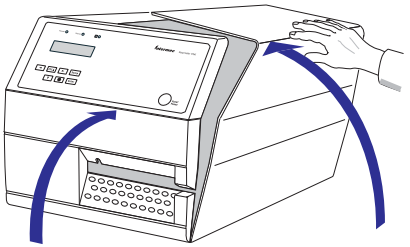
8 Wind up the ribbon until all of the transparent leader has passed the printhead and the ribbon becomes tight.



9 Turn the printhead lift lever to “closed” position.



10 Close the front and side door.



6 Setting Up the Printer

This chapter describes the various parameters that are used during Setup mode or in the various application programs to configure the printer for the user's specific requirements. It covers the following topics:

- Description
- Default Setup
- Setup parameters for communication, test/service, media, and configuration.

When measurements are specified as "dots", the actual length in millimeters or inches depends on the printhead density. Convert as follows:

8 dots/mm (203 dots/inch) printhead:

1 dot = 0.125 mm = 0.0049 in (4.9 mils)

16 dots/mm (406 dots/inch) printhead:

1 dot = 0.0625 mm = 0.00246 in (2.46 mils)

Description

The setup controls the printer in regard of serial communication, test and service operations, and specifies which types of media and ribbon are loaded in the printer.

Check the list below to see if the printer's default setup matches your requirements. If not, you will have to change the setup. To enter the Setup Mode, press **Setup** on the printer's built-in keyboard and follow the instructions in "Setup Mode" on page 67.

Default Setup

The printer's default setup is listed below, with no options included.

Ser-Com	
Baud rate	9600 bps
Data bits	8 bits
Parity	None
Stop bits	1 bit

Test/Service	
Testprint	Not applicable
Data dump	No
Memory reset	Not applicable
LSS Test	Not applicable

Media	
Label length	1200 dots
Media type	Label with Gap
Paper type	Direct Thermal
Sensitivity	420
Darkness	0%
Label rest point	0 dots
Form adj dots X	0 dots
Form adj dots Y	0 dots
Ribbon low	0 mm
Paper low	0 mm

Configuration	
Emulation	None
Cutter	Not installed

Configuration	
Label taken sensor	Not installed
Print speed	5 in/sec

Setup Parameters

Serial Communication

The serial communication parameters control the communication between the printer and the connected computer or other devices on the serial port.

Note: The serial communication parameters have no effect on parallel or EasyLAN communications.

Make sure the printer's communication parameters match the setup of the connected device or vice versa. If the setup of the printer and the setup of the host do not match, the response from the printer to host will be garbled.

Baud Rate

The baud rate is the transmission speed in bits per second. There are 8 options:

- 1200
- 2400
- 4800
- 9600 (default)
- 19200
- 38400
- 57600
- 115200

Data Bits

Data bits specifies the number of bits that will define a character.

- 7 Characters ASCII 000 to 127 decimal
- 8 Characters ASCII 000 to 255 decimal (default)

Parity

The parity decides how the firmware will check for transmission errors. There are four options:

- None (default)
- Even
- Odd
- Space

Stop Bits

The number of stop bits specifies how many bits will define the end of a character. There are two options:

- 1 (default)
- 2

Protocol

XON/XOFF (default)

In the XON/XOFF protocol, data flow control is achieved by using XON (DC1) and XOFF (DC3) characters. Message blocks are not required to be bracketed by the Start of Text (STX) and End of Text (ETX) characters. However, at power up or after a reset all characters except ENQ or VT will be ignored until an STX is detected. The message length in this protocol is unrestricted. That is, the printer processes information as it is being downloaded and stops when there is no more information.

XON/XOFF protocol conforms to generally accepted industry standards. No end-of-message response is sent to the host other than XOFF. An XON will be sent on power up.

Since DC1 and DC3 are used for data flow control, the printer status characters are different than those of the Standard Protocol. If the host ignores the printer's XOFF, the printer will resend an XOFF after receiving every 15 characters from the host.

Condition	Character
Buffer already full	GS
Printhead raised	US
Ribbon fault	US
No label stock	EM
Buffer now full	DC4
Printhead hot	SI
Label at strip pin	FS
Label skipping	SDC2
Printing	DC2

Intermec Standard Protocol

The Intermec Printer Standard Protocol is a half-duplex protocol. All data transmissions to the printer consist of status inquiry (ENQ), status dump (VT), or message blocks. Each message block starts with the Start of Text (STX) character and ends with the End of Text (ETX) character. Each message block must be 255 characters or less, including the STX and ETX characters. The printer responds to each status inquiry or message block with the printer status. The host should check the printer status before downloading a message block to the printer. ENQ causes the printer to transmit its highest priority status, while VT instructs the printer to transmit all status that applies in the order of their priority. The possible printer status, in descending priority, is:

Condition	Character
Buffer already full	GS
Printhead raised	US
Ribbon fault	US
No label stock	EM
Buffer now full	DC3
Printhead hot	SI
Label at strip pin	FS
Label skipping	DC1
Ready	DC1
Printing	DC1

Test/Service

Testprint

This part of the Setup Mode allows you to print various types of test labels. Go to the desired option and press **Enter**. The printer will start printing the test label or labels. Press **Feed/Pause** to hold the printing temporarily. To resume printing, press **Feed/Pause** again. The following options are available:

Configuration

Choose software (SW), hardware (HW), or network.

The Software Configuration Label contains:

- Current configuration parameters stored in the printer's memory
- Defined pages
- Defined formats
- Defined graphics
- Defined fonts
- Any installed printer options

The Hardware Configuration Label contains:

- Printer memory information
- Printer mileage
- Printhead settings
- Firmware checksum, program, and version number

The Network Configuration Label contains:

- WINS Name
- MAC Address
- IP Selection
- IP Address
- Netmask
- Default Router
- Name Server

- Mail Server
- Primary WINS Server
- Secondary WINS Server
- Network Statistics

Test Labels

This option has two choices, Pitch and Print Quality.

- The Pitch label contains an even pattern of small dots that reveals failing printhead dots and variations of printout darkness because of uneven printhead pressure or bad energy regulation to the printhead.
- The Print Quality label contains number of bar codes with different characteristics and useful information on printer model, program version, print speed, and media sensitivity setup.

Format

The Format Label contains a single format that you can use to evaluate the print quality of a particular format. This option prints labels for all the formats stored in the printer's memory.

Page

The Page Label tests the ability of the printer to receive and print single or multiple pages of label data that is sent from the host. This option prints labels for all the pages stored in the printer's memory.

UDC

The UDC Label tests the ability of the printer to receive and print single or multiple user-defined characters (bitmap graphics) that are sent from the host. This option prints labels for all the UDCs stored in the printer's memory.

Font

The Font Label contains all the characters in a single font. This option prints labels for all the user-defined fonts (UDF) stored in the printer's memory.

Data Dump

If data dump is enabled by selecting the "Yes" option, the printer prints all data and protocol characters received on the serial port. An ASCII and hexadecimal representation of each character is printed.

Memory Reset

There are two options. The memory will be reset to factory default as soon as an option has been selected and **Enter** is pressed. Select between "All", which resets the entire memory, and "Configuration", which just resets the configuration part of the memory.

LSS Test

For description, see **"Label Stop Sensor" on page 104**.

Media

The media parameters tell the firmware the characteristics of the media that will be used, so the printout will be positioned correctly and get the best quality possible.

Media Type

The Media Type parameters control how the label stop sensor (LSS) and the media feed work. There are three media type options:

- Gap is used for adhesive labels mounted on liner (backing paper) or continuous paper stock with detection slots. Default.
- Mark is used for labels, tickets, or strip provided with black marks at the back.
- Continuous is used for continuous stock without any detection slots or black marks.

Paper Type

The Paper Type parameters control how the transfer ribbon mechanism and the ribbon sensor work. There are two paper type options:

- DT (Direct Thermal) is used for heat-sensitive media without any need for a thermal transfer ribbon. Default.
- TTR (Thermal Transfer) is used for non heat-sensitive receiving face materials in combination with a thermal transfer ribbon.

Label Length Dots
The Label Length setup specifies the length in dots of each copy along the media feed direction (X-coordinate). This is used for "label-out" detection.

Sensitivity (Media Sensitivity Number)
This setup parameter specifies the characteristics of the direct thermal media or combination of receiving face material and thermal transfer ribbon, so the printer's firmware can optimize the heating of the printhead and the print speed. The media sensitivity number can be changed using PrintSet, third-party software, or an IPL command (<SI>gn[,m]). See "Media Sensitivity Number" on page 129 for more information regarding the media sensitivity number.

Darkness
Use this parameter to make minor adjustments of the blackness in the printout, for example to adapt the printer to variations in quality between different batches of the same media quality. The value can be set within the range -10% to +10% where -10 is the lightest and 10 is the darkest. Default value is 0%.

Label Rest Point
Specifies where labels stop for removal. Use this for peel-off (self-strip) applications. Allowed range is -30 (furthest back) to 30 (furthest forward). Default is 0. Also available as an IPL command (<SI>fn).

Form Adj Dots X
Specifies where the X-position of the origin should be placed on the label. Allowed range is -30 (closest to the leading edge) to 30 (furthest from the leading edge). Default is 0.

Form Adj Dots Y
Specifies where the Y-position of the origin should be placed on the label. Allowed range is -30 (closest to the center section) to 30 (furthest from the center section). Default is 0.

Ribbon Low
Specifies the value in millimeters of the ribbon supply roll for the ribbon sensor. When the diameter of remaining ribbon supply roll reaches the set value, an SNMP trap is sent to the printer's home page, provided the printer has an optional EasyLAN connection. Range: 0-80 with preset values at an interval of 5. A value larger than 80 sets the ribbon sensor to 0. Default value: 0.

The ribbon low sensor can also be set using an IPL command: <STX><SI>kn<ETX>

Paper Low

Specifies the diameter in millimeters of the media supply roll for the paper sensor. When the diameter of remaining media supply reaches the set value, an SNMP trap is sent to the printer's home page, provided the printer has an optional EasyLAN connection. Range: 0-150 with preset values at an interval of 10. A value larger than 150 sets the paper sensor to 0. Default value: 0.

The ribbon low sensor can also be set using an IPL command: <STX><SI>jn<ETX>

Configuration

Power Up Emulation

The emulation mode lets you print bar code labels that were originally designed on an 86XX printer in multiples of 10 or 15 mil. When the printer is working in emulation mode, not all IPL commands are supported. For a complete list of commands available during emulation mode, see the latest version of the *IPL Programming Reference Manual* (P/N 066396-xxx).

To return from emulation mode, select emulation "none" (default).

Print Speed

You can select the print speed from 4 in/sec (100 mm/sec) to 12 in/sec (300 mm/sec) with an interval of 1 in/sec. The higher the print speed, the more wear on the printhead, so do not use a higher print speed than necessary. Some direct thermal media or ribbon/media combinations may not allow the highest alternatives without the printout quality being adversely affected.

Cutter (option)

By default, "Not Installed" is displayed. If a cutter is installed, you must manually indicate that condition to the firmware by selecting either "Enable" or "Disable." Once you have done that, you can also use IPL commands to enable or disable the cutter:

<STX>R<ETX> enter print/configuration mode

<STX>c0<ETX> Disable cutter

<STX>c1<ETX> Enable cutter

Label Taken Sensor (option)

To make the printer work in self-strip mode, that is, waiting for a label to be removed before the next label is printed, the self-strip mode must be enabled. This can also be done by executing the following commands:

<STX>R<ETX> enter print/configuration mode

<STX><SI>t0<ETX>Disable self-strip

<STX><SI>t1<ETX> Enable self-strip

If the label taken sensor does not work properly, the sensitivity can be calibrated in the Setup Mode. Select "LTS Calibration" and follow the instructions in the display. Make sure that no direct sunlight or interior lighting interferes with the label taken sensor.

Returning to Factory Default Setup

There are three ways to return to the factory default setup of the printer:

- Insert a special CompactFlash memory card and restart the printer.
- Use the Memory Reset option in the Test/Service part of the Setup Mode.
- Use the printer's built-in keyboard.

To return to factory default setup using the keyboard

1. Lift the printhead.
2. Switch on the power to the printer and press **i** and wait until the printer beeps.

   Quickly press the following keys:
   ▼, **▲/Esc**, **▲/Esc**, **◄**
3. The following message will be displayed:

```
Factory Default?
Enter=Yes ESC=No
```

4 Within 10 seconds, press **Enter** to reset the printer to factory default. The parameters will be reset and the printer will continue the normal startup.

If you press ▲/Esc or wait until the 10 seconds time-out has passed, the normal startup process will continue without any reset being performed.

Note: Resetting to the factory default will reset all files used to store settings, but it does not affect settings that were already loaded before the files were removed. This means that, for example, EasyLAN Wireless settings (SSID, keys, etc.) retain their values until the next reboot. To reload all settings, simply reboot after performing a reset.

7 Setup Mode

This chapter describes how to navigate in the setup mode, and provides overviews of the Setup Mode.

Navigating in Setup Mode

Enter the Setup Mode by pressing **Setup** on the printer's front panel. Text in the display guide you through the setup procedure. Use the printer's keyboard to navigate menus, acknowledge displayed values, or select or enter new values.

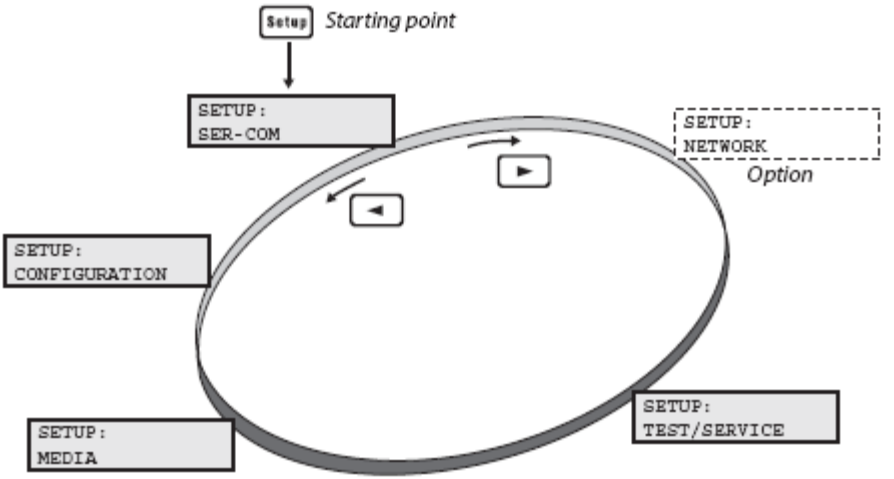
Note: An external keyboard cannot be used inside the Setup Mode.

Keyboard Buttons for Setup Mode

Button	Function
◄	Move one step back on the same level.
ESC ▲	Move up one level and escape without changing the setting.
►	Move forward on the same level.
▼	Move down one level.
Enter	Acknowledge and move to next menu.
Setup	Exit the Setup Mode. Can be used anywhere in Setup Mode.

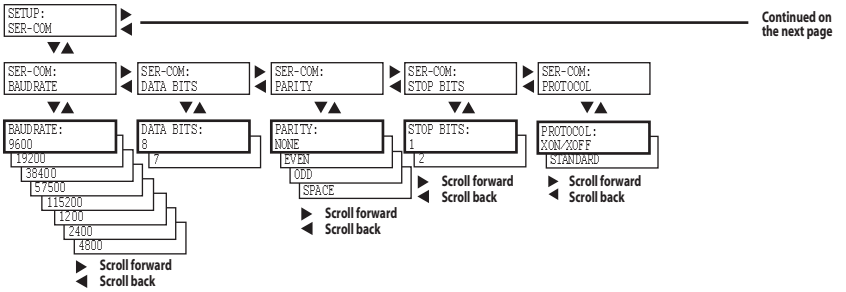
The Setup Mode is organized as an endless loop with a number of sub-categories. At startup, the firmware determines if an EasyLAN interface board is installed in the printer. If so, the Network setup menus are shown in the Setup Mode.

The diagram on the next page shows the options in the main loop. Detailed overviews are shown on the following pages.



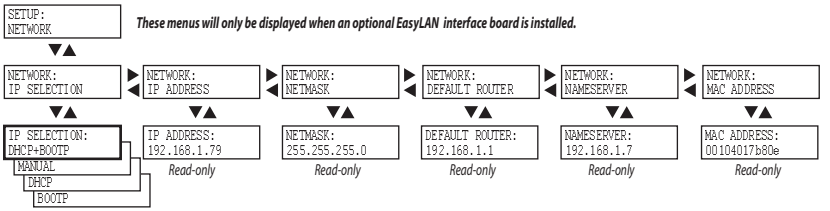
Setup Modes

Serial Communication

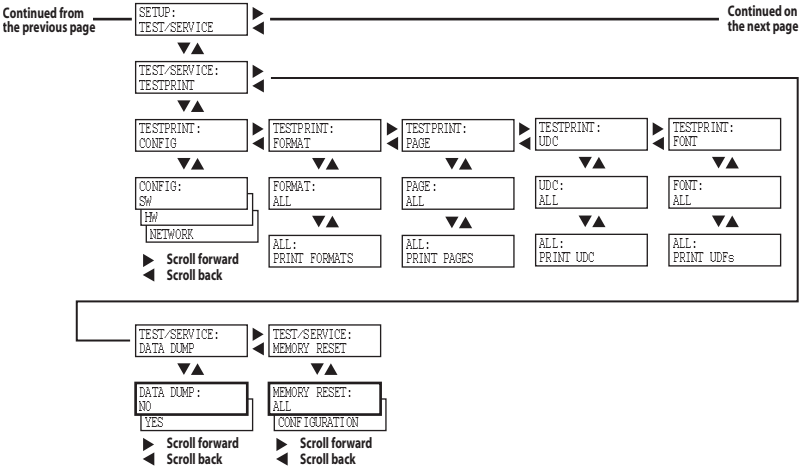


Legend:
Dotted boxes and lines indicate options.
Thick boxes indicates default options.
Values inside brackets indicate default settings.

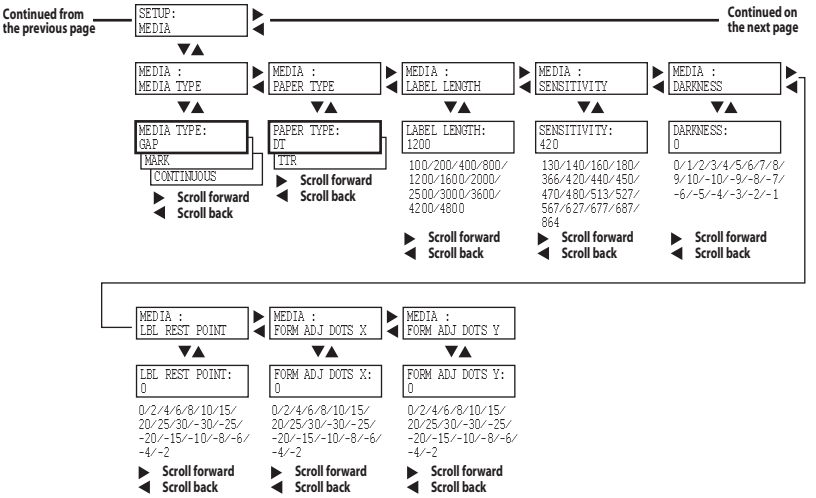
Network (Option)



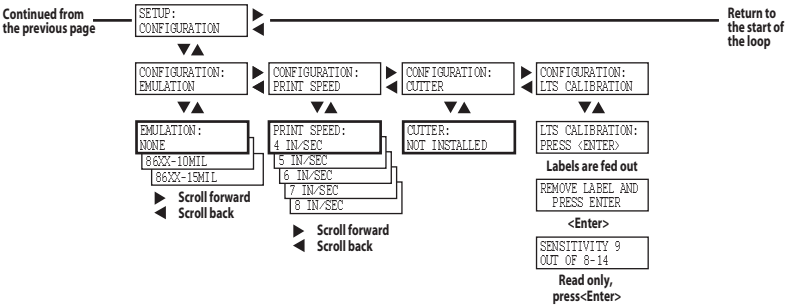
Test/Service



Media



Configuration

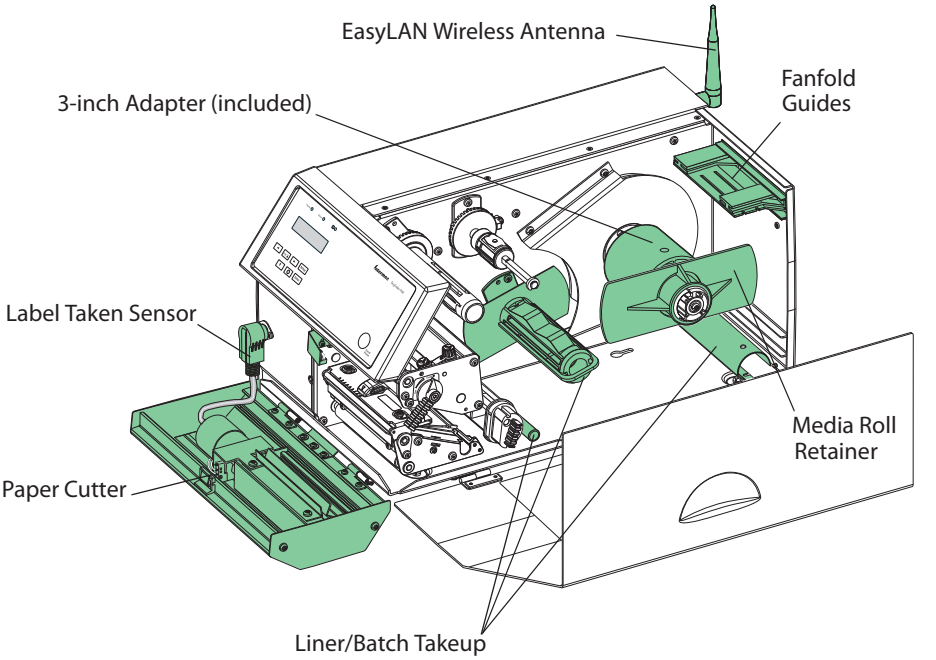


8 Options

This chapter describes the options available for the EasyCoder PX4i printer. The options can be factory installed, field-installed by an authorized service technician, or in some cases installed by the operator.

Introduction

The EasyCoder PX4i printer provides a high degree of flexibility because it has a modular design. By adding options to the basic printer, the EasyCoder PX4i printer can be adapted for a variety of applications. Some options should be installed by an authorized service technician or are only available as factory-installed options.



PX4i options

Liner/Batch Takeup Kit

This is a factory-installed option only and is used to separate labels from the liner and wind up the spent liner inside the printer's media compartment. Labels, tickets, tags, etc. can be wound up inside the media compartment after printing by fitting a special guide to the front of the print unit.

The kit consists of a stepper motor that drives the liner drive roller in the print unit (fitted as standard) and a takeup hub in the media compartment. A guide shaft is fitted to the center section immediately behind the slack absorber. A guide plate is fitted at the rear of the media compartment and can be used to replace the standard tear bar on the print unit for batch takeup operation.

Operation and media load are described in **"Peel-Off (Self-Strip)" on page 28** and **"Internal Batch Takeup (Roll-to-Roll)" on page 34**.

Paper Cutter

The EasyCoder PX4i printer can easily be fitted with an optional paper cutter. The cutter unit replaces the front door or the label taken sensor (LTS), if one is equipped. It is connected by a single cable to the DIN-connector on the printer's front. The paper cutter is available both as a factory-installed option and as a operator-installable kit.

The paper cutter increases the printer's total weight by approximately 1.0 kg (2.2 lb) and its length by 28 mm (1.1 in).

The paper cutter is intended to cut through continuous non-adhesive paper-based media or through the liner between labels. It must not cut through any adhesive, which would stick to the cutting parts and rapidly render the cutter inoperable–possibly also causing damage to the electric motor. Maximum thickness for normal paper-based materials is 175 µm (≈175 grams/m2).

The paper cutter can be tilted forward in order to facilitate cleaning and media load. For media load instructions, see **"Cut-Off" on page 23**."

Should you inadvertently cut through self-adhesive labels, you will have to clean the cutting parts. Tilt the cutter unit down and wipe it using a piece of tissue moistened with isopropyl alcohol.

The cutting edge will rotate when the power is switched on and when the printer is re-booted. Always keep the cutter in closed position during operation. Switch off the power or disconnect the cutter before cleaning. Keep your fingers away from cutting edges!

Note: The cutter must be enabled during Configuration in Setup Mode. For more information, see **"Cutter (option)" on page 63** and **"Configuration" on page 71**.

Fanfold Guides

The fanfold guides provide more exact routing of the media when the supply is placed outside the media compartment, such as a stack of fanfolded tickets. The guides come as an operator-installable kit with installation instructions. The guides can be fitted in the upper or lower slot in the rear plate.

Instructions for loading the media are included in the section **"External Supply (Fanfold)" on page 41**.

Media Roll Retainer

The media roll retainer is intended for applications where the media may become misaligned on the media supply hub. The plastic wing-shaped retainer is simply slipped onto the media supply hub outside the media roll by the operator. No tools are required.

3-inch Adapter

The 3 in/76 mm adapter is included in the package and makes it possible to use media rolls with 3 in/76 mm inner diameter cardboard cores.

The adapter is pressed onto the media supply hub and held in place by a screw. When fitting the adapters, make sure that the screw hits a rounded plastic surface, not a metal leaf spring. Illustrations of how to load the media using the adapter can be found in **"Loading Media" on page 17**.

Label Taken Sensor

The Label Taken Sensor (LTS) is a photoelectric sensor fitted to the center section inside the front door. It allows the printer's firmware to detect if the latest printed label, ticket, tag etc. has been removed before printing another copy.

The label taken sensor is usually factory-fitted, but is also available as a kit for installation by an authorized service technician. It cannot be fitted in combination with a paper cutter.

Interface Boards

A number of interface boards are available for use with the EasyCoder PX4i printer. The interface boards are either factory-fitted or can easily be fitted by an authorized service technician.

The EasyCoder PX4i printer can accommodate one EasyLAN interface board plus one other interface board.

EasyLAN boards:

- EasyLAN Ethernet interface
- EasyLAN Wireless interface

Other communication boards:

- Parallel Interface Board (IEEE 1284)

9 Troubleshooting

This chapter describes how the Intermec Ready-to-Work indicator and other indicators work. It also lists various possible cases of inferior printout quality, describes possible causes, and suggests remedies.

Intermec Ready-to-Work Indicator

The readiness of the printer, individually or as a part of a solution, is indicated by the blue Intermec Ready-to-Work indicator.

If the indicator blinks or is switched off, the printer is not ready. Further information can be obtained in the display window by pressing **i**. In case of several errors or similar conditions occurring simultaneously, only the most significant error is displayed. Once this error has been cleared, next remaining error is displayed.

Provided the printer is connected to a network, all conditions that prevents printing are reported to the EasyADC Console. The EasyADC Console is a PC-based software which allows a supervisor to monitor all connected devices that have an Intermec Ready-to-Work indicator, including handheld computers, access points, and printers.

Display Messages and LED Indications

Error/Event	Ready-To-Work	Error Message	Comment
Operational	On		Not an error.
Out of paper	Blink	PAPER OUT	
Out of transfer ribbon	Blink	RIBBON OUT	
Transfer ribbon is installed	Blink	RIBBON FITTED	
Head lifted	Blink	PRINTHEAD UP	
Cutter error1	Blink	OPEN&SHUT CUTTER	
Cutter error2	Blink	OPEN&SHUT CUTTER	
Cutter error3	Blink	OPEN&SHUT CUTTER	
Lss too high	Blink	PAPER FAULT	
Lss too low	Blink	PAPER FAULT	
Testfeed not done	Blink	PAPER FAULT	
Press feed not done	Blink	PRESS FEED	
Pause mode entered	Blink	PAUSED	
Setup mode entered	Blink		Including interactive setup.
IP link error	Blink		See notes 1, 2, and 3 on next page.
IP configuration error	Blink		See notes 1, 3, and 4 on next page.
Printhead not found	Off	NO PRINTHEAD	
Rebooted	Off		
Initializing	Off		Appears at startup until operational.
Printer crash	Off		See notes 3 and 5 on next page.
Printer turned off	Off		
Maintenance	Off		Appears when upgrading.

Display Messages and LED Indications

Error/Event	Ready-To-Work	Error Message	Comment
Power supply over temperature	Off	PSU OVER TEMP	
Printhead hot	Off	PRINTHEAD HOT	See note 6 on next page.

Note 1: This is only applicable for printers equipped with an EasyLAN interface.

Note 2: A printer that is equipped with an EasyLAN interface, but is not connected to a network, will have a blinking RTW. To avoid this, the user can set “IPSELECTION” to “MANUAL” and “IP ADDRESS” to “0.0.0.0”. This will indicate that the user does not regard the lack of network connection as an error.

Note 3: No trap can be sent when this error/event occurs.

Note 4: This error indicates that the printer has not received an IP address. It is only applicable for printers with IP SELECTION set to DHCP and/or BOOTP.

Note 5: At most, but not all, printer crashes, the console is reset. This will make the RTW go off.

Note 6: If the printhead temperature raises above 100°C (212°F), an error occurs and the printing will be paused until the printhead has cooled off. Meanwhile, the printer is able to receive commands and data until the buffer is filled. The printing is automatically resumed when the printhead temperature has reached 85°C (185°F).

Troubleshooting

Overall Weak Printout

Possible Cause	Remedy	Reference
Wrong media grade	Change parameter	"Setup Parameters" on page 56,
Contrast value too low	Change parameter	"Setup Parameters" on page 56
Printhead pressure too low	Adjust pressure	"Printhead Pressure" on page 103
Worn printhead	Replace printhead	"Replacing the Printhead" on page 95
Wrong printhead voltage	Replace CPU board	☎ Call Service

Printout Weaker On One Side

Possible Cause	Remedy	Reference
Uneven printhead pressure	Adjust arm alignment	"Printhead Pressure" on page 103

Weak Spots

Possible Cause	Remedy	Reference
Foreign particles on media	Clean or replace	"Loading Media" on page 17, "Loading Ribbon" on page 46
Media/ribbon don't match	Change to matching media	"Media" on page 61
Poor media or ribbon quality	Select a better brand of media/ribbon	"Media Sensitivity Number" on page 129
Worn printhead	Replace printhead	"Replacing the Printhead" on page 95
Worn platen roller	Replace rollers	☎ Call Service

Overall Dark Printout

Possible Cause	Remedy	Reference
Wrong media grade	Change parameter	"Setup Parameters" on page 56
Contrast value too high	Change parameter	"Setup Parameters" on page 56
Printhead pressure too high	Adjust	"Printhead Pressure" on page 103
Wrong printhead voltage	Replace CPU board	☎ Call Service

Excessive Bleeding

Possible Cause	Remedy	Reference
Wrong media grade	Change parameter	"Setup Parameters" on page 56
Contrast value too high	Change parameter	"Setup Parameters" on page 56
Printhead pressure too high	Adjust pressure	"Printhead Pressure" on page 103
Faulty energy control	Replace CPU board	☎ Call Service

Dark Lines Along Media Path

Possible Cause	Remedy	Reference
Foreign objects on printhead	Clean printhead	"Printhead Cleaning" on page 88

White Vertical Lines

Possible Cause	Remedy	Reference
Printhead dirty	Clean printhead	"Printhead Cleaning" on page 88
Missing printhead	Replace printhead	"Replacing the Printhead" on page 95

Large Part Of Dot Line Missing

Possible Cause	Remedy	Reference
Failing printhead	Replace printhead	"Replacing the Printhead" on page 95
Failing strobe signal	Check CPU-board	☎ Call Service

Printout Missing Along Inner Edge

Possible Cause	Remedy	Reference
Bad media alignment	Adjust	"Loading Media" on page 17
Using small core with supply post in upper position.	Move post to lower position	"Installation" on page 5
X-start parameter value too low	Increase value	"Setup Parameters" on page 56

Transfer Ribbon Breaks

Possible Cause	Remedy	Reference
Ribbon not fitted correctly	Reload ribbon correctly	"Loading Ribbon" on page 46
Wrong media grade	Change parameter, then clean printhead	"Setup Parameters" on page 56
Bad energy control	Adjust	☎ Call Service

Transfer Ribbon Wrinkles

Possible Cause	Remedy	Reference
Faulty ribbon break shaft adjustment	Adjust	"Narrow Media" on page 102
Incorrect edge guide adjustment	Adjust	"Loading Media" on page 17
Printhead pressure too strong	Adjust pressure	"Printhead Pressure" on page 103

No Thermal Transfer Printout

Possible Cause	Remedy	Reference
Ink-coated side of ribbon is not facing media	Reload ribbon	"Loading Ribbon" on page 46

Media Feed Not Working Properly

Possible Cause	Remedy	Reference
Changed media characteristics	Press **Print**	"Loading Media" on page 17
Wrong label rest parameter	Check/change	"Setup Parameters" on page 56
Wrong Media Type parameter	Check/change	"Setup Parameters" on page 56
Wrong LSS position	Check/change	"Label Stop Sensor" on page 104
Dirty sensors	Clean sensors	"Cleaning the Label Stop Sensor" on page 93
Loose or missing adapter	Replace and tighten set screw	"Tear-Off (Straight-Through)" on page 18
Faulty sensors	Replace sensors	☎ Call Service

Compressed Text Or Bar Code

Possible Cause	Remedy	Reference
Too high print speed for large media roll	Reduce print speed	"Setup Parameters" on page 56

10 Maintaining the Printer

This chapter describes how the operator can maintain the printer. Regular maintenance is important for the printout quality and for the life of the printhead. The chapter covers the following topics:

- Printhead Cleaning
- External Cleaning
- Cleaning the Label Stop Sensor
- Replacing the Printhead
- Media Jams

When cleaning or replacing the printhead, take precautions to avoid electrostatic discharges.

Printhead Cleaning

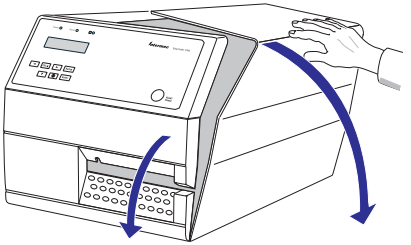
Cleaning the printhead on a regular basis is important for the life of the printhead and for the printout quality. You should clean the printhead each time you replace the media. This section describes how to clean the printhead using cleaning cards. If additional cleaning is required, for example removing adhesive residue from the platen roller or tear bar, use a cotton swab moistened with isopropyl alcohol.

Warning

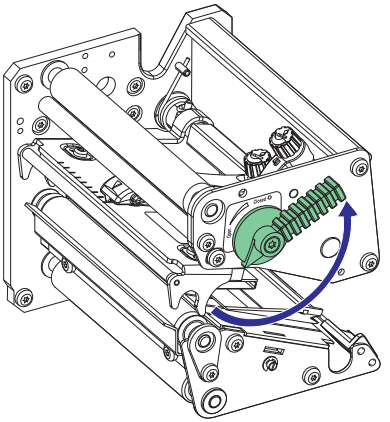
Isopropyl alcohol [(CH-3)2CHOH; CAS 67-63-0] is a highly flammable, moderately toxic, and mildly irritating substance.

To clean the printhead

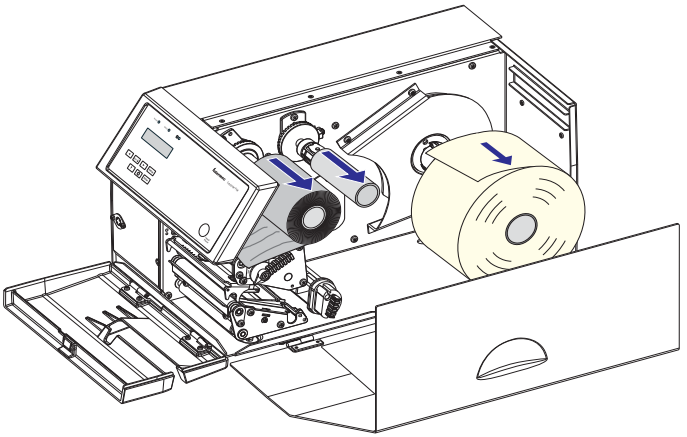
1 Open the front and side doors.



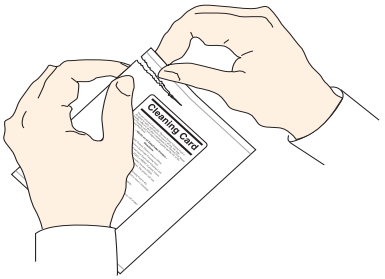
2 Turn the printhead lift lever counterclockwise to raise the printhead.



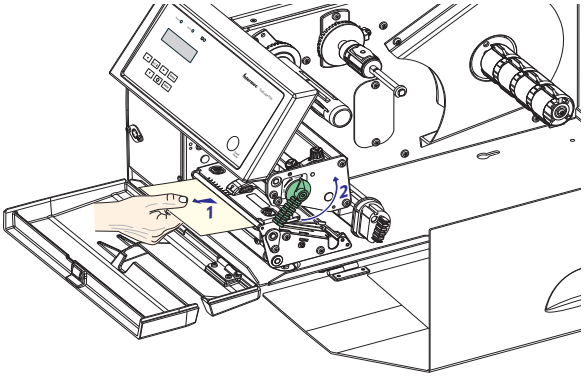
3 Remove any media and transfer ribbon.



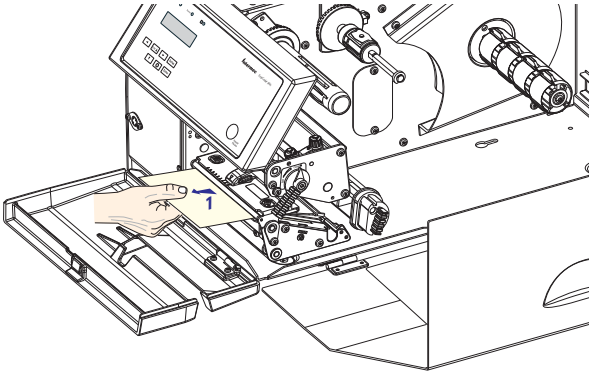
4 Open the cleaning card envelope and pull out the cleaning card. Read the warning text.



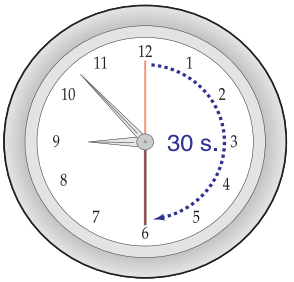
5 Insert most of the cleaning card under the printhead (1). Engage the printhead (2).



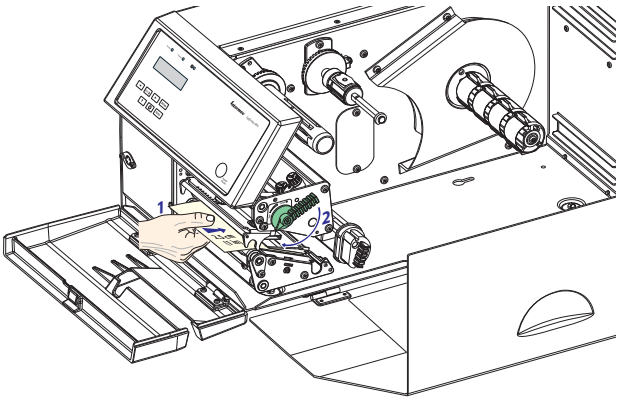
6 Pull out the cleaning card (1) and raise the printhead (2).



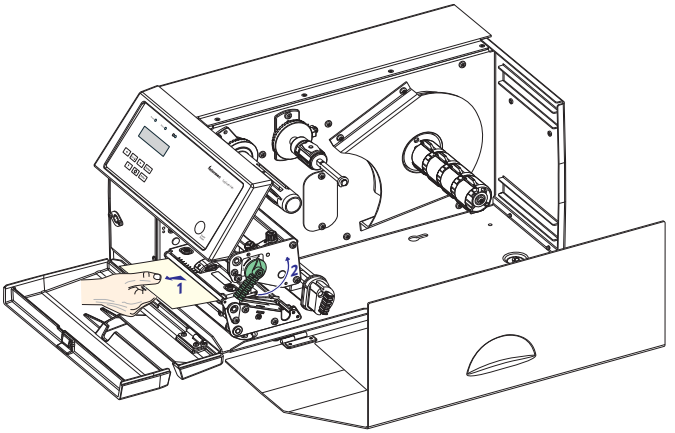
7 Wait for approximately 30 seconds to allow the cleaning fluid to dissolve the residue.



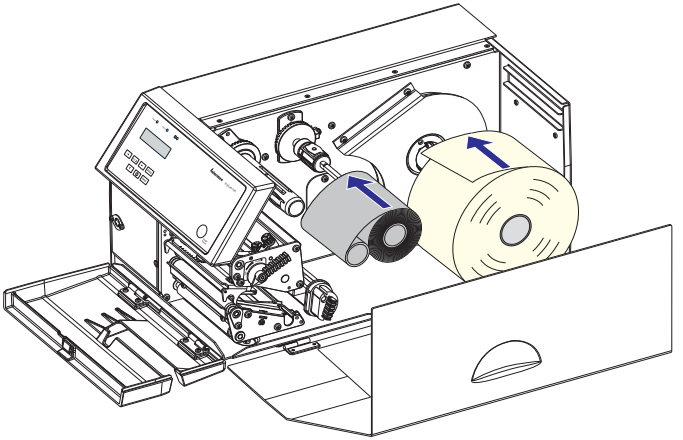
8 Insert most of the cleaning card under the printhead again (1). Engage the printhead (2).



9 Pull out the cleaning card. If necessary, repeat the process with a fresh cleaning card.



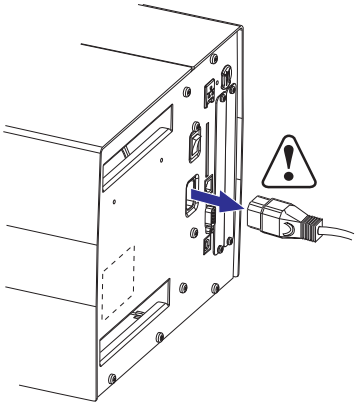
10 Allow the cleaned parts to dry completely before loading any media and ribbon.



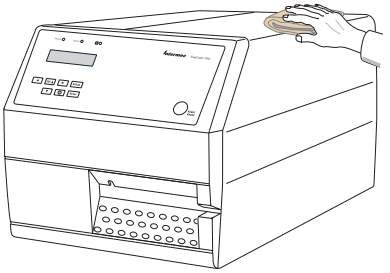
External Cleaning

To clean the exterior of the printer

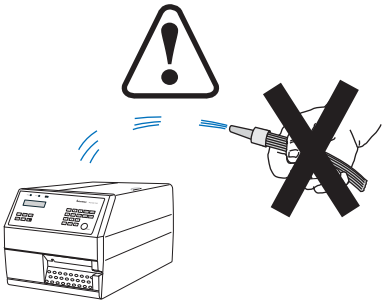
1 Always remove the power cord before cleaning!



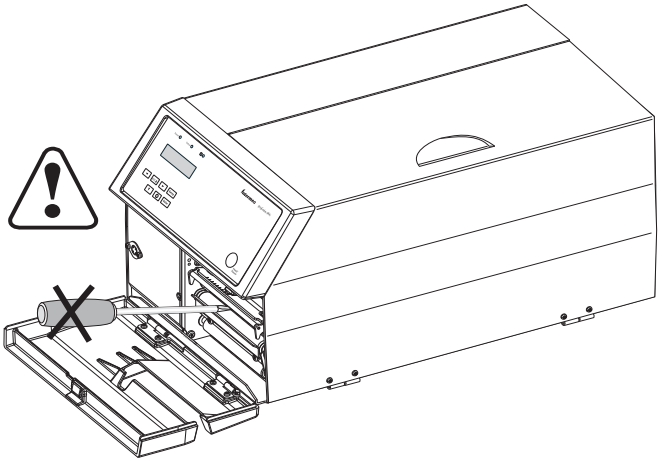
2 Wipe external surfaces with a soft cloth slightly moistened with water or a mild detergent.



Never spray the printer. Protect it from water when cleaning the premises.



Never use any sharp tools for removing stuck labels. The printhead and rollers are delicate.



Cleaning the Label Stop Sensor

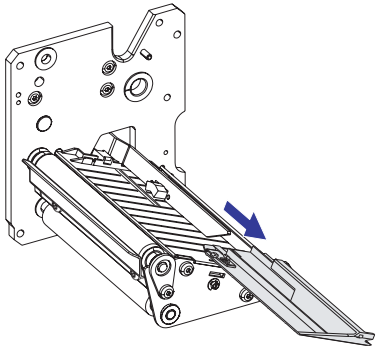
The label stop sensor, which controls the media feed, is partially enclosed by two plastic guides. Light passes through slots between the upper and lower part of the sensor. If the guides are not clean, stuck labels or other objects may block the light beam.

If the printer starts to feed out labels in an unexpected way, remove the guides as described below and check for anything blocking the beam of light. If necessary, clean the guides using a cleaning card or a soft cloth soaked with isopropyl alcohol. Do not use any other type of chemicals.

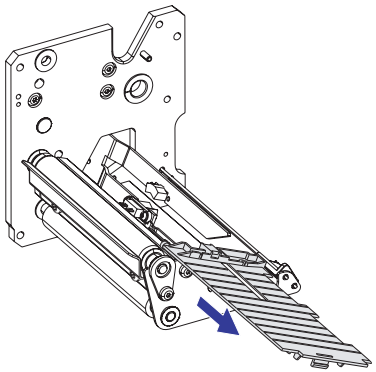
Isopropyl alcohol [(CH-3)2CHOH; CAS 67-63-0] is a highly flammable, moderately toxic, and mildly irritating substance.

To clean the Label Stop Sensor

1 Pull the upper guide straight out. (Upper part of print unit omitted for better view.)



2 Press the snap-lock, lift the outer end of the lower guide and pull it out. After cleaning, reassemble in reverse order.



Replacing the Printhead

The printhead is subject to wear both from the direct thermal media or transfer ribbon and from the rapid heating and cooling process during printing. Thus, the printhead will require periodic replacement.

Time between printhead replacements depends on the print images, the type of direct thermal media or ribbon in use, the amount of energy to the printhead, the print speed, the ambient temperature, and several other factors.

Caution

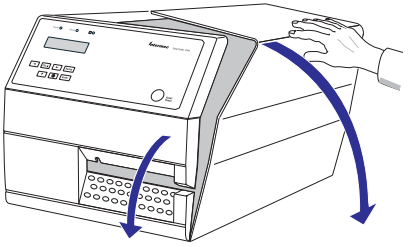
While replacing the printhead, the power must be off. The firmware will not detect the new printhead resistance and density until the printer has been restarted.

Note: Check that the density of the new printhead matches the printhead you are replacing. While you can switch between densities at will, the printout will be affected accordingly.

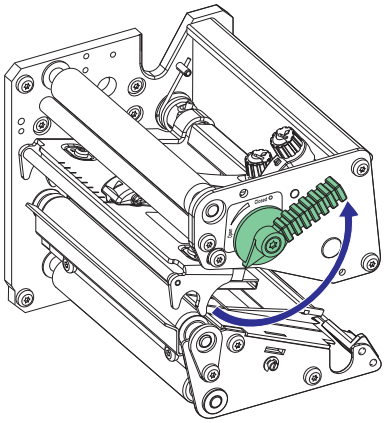
Note: Prior to installing the 406 dpi printhead on the PX4i printer the firmware must be updated to IPL Firmware version 2.74.0 or higher.

To replace the printhead

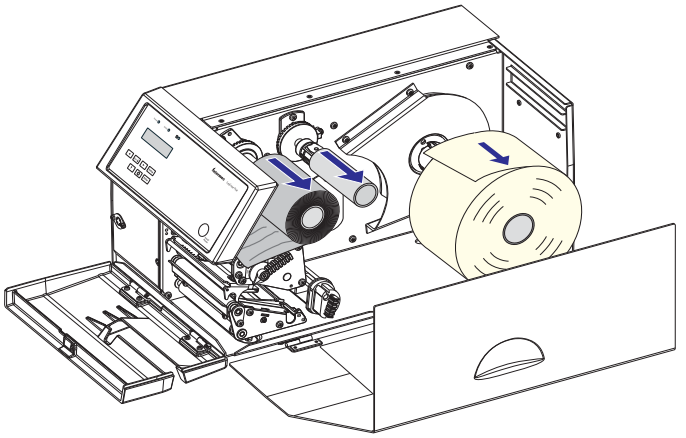
1 Open the front and side doors.



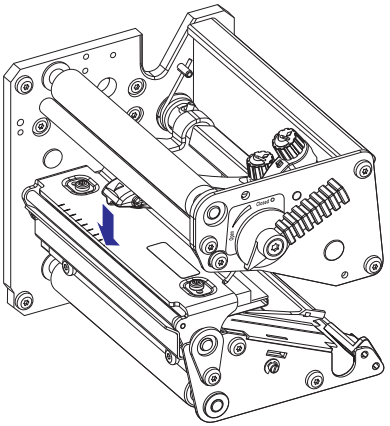
2 Turn the printhead lift lever counterclockwise to raise the printhead.



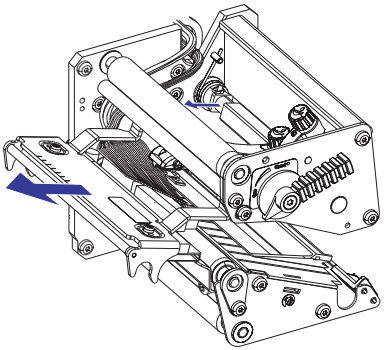
3 Remove any media and transfer ribbon.



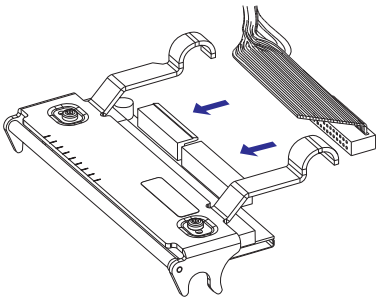
4 Pull the printhead bracket away from the magnet in the pressure arm.



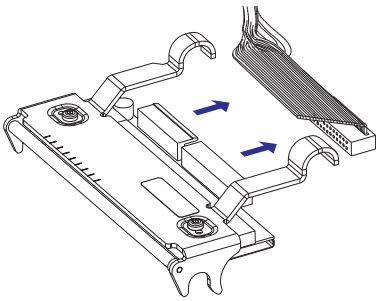
5 Disconnect the hooked printhead bracket fingers from the shaft and pull out the printhead as far as the cables allow.



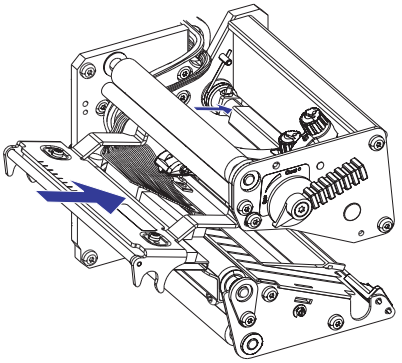
6 Disconnect the cables from the printhead. Note the snap-lock on the inner connector. Pull at the connectors—not at the cables!



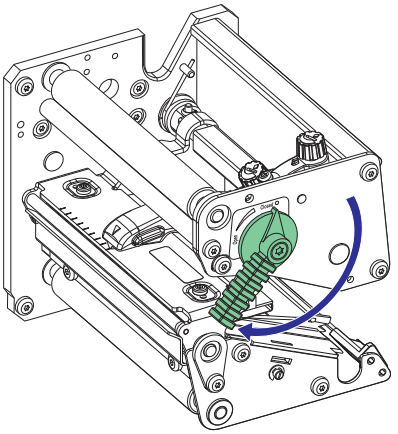
7 Connect the two cables to the replacement printhead.



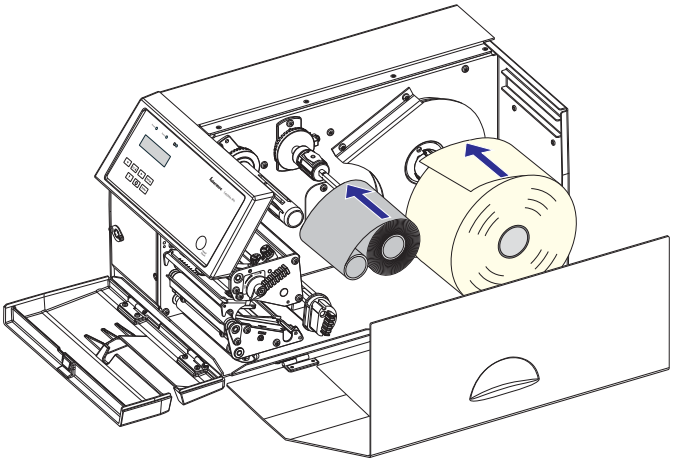
8 Fit the hooks of the printhead bracket fingers onto the headlift shaft. Make sure that the cables do not prevent the bracket fingers from being properly seated on the headlift shaft.



9 Close the printhead so the magnet engages the printhead bracket.



10 Load a new supply of media and ribbon, as described in **"Loading Media" on page 17**.



Media Jams

Should a media jam occur in the print mechanism, proceed this way to clear it.

To clear a media jam

1. Always switch off the power before starting to clear the jammed media.
2. Raise the printhead and pull out the media.
3. If the media has been wound up on or has stuck to the platen roller, carefully remove it by hand without using any sharp tools that can damage the delicate platen roller or printhead. Avoid rotating the platen roller.

If you must pull away the media by force causing the platen roller to rotate, it is very important that the power has been off for a minute or more. If not, the electronics can be damaged beyond repair.

4. Cut off any damaged or wrinkled part.
5. If there is any adhesive somewhere in the print mechanism, remove it using a cleaning card or a cotton swab soaked in isopropyl alcohol.

Isopropyl alcohol [(CH-3)2CHOH; CAS 67-63-0] is a highly flammable, moderately toxic, and mildly irritating substance.

6. Reload the media as described in "Loading Media" on page 17.
7. Switch on the power.
8. Readjust the media feed by raising and closing the printhead and then pressing **Feed/Pause**.

11 Adjustments

This chapter describes how the operator can adjust the printer. The chapter covers the following topics:

- Narrow Media Adjustment
- Printhead Pressure Adjustment
- Label Stop Sensor Adjustment

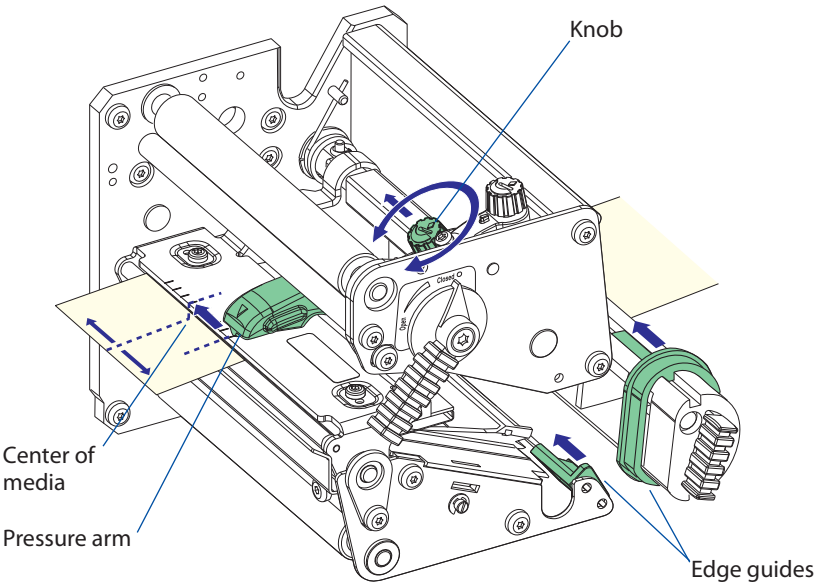
Narrow Media

The printer is factory-adjusted for full size media width. When using narrower media, adjust the pressure arm so it remains centered on the media and applies pressure evenly.

A poorly adjusted pressure arm may be detected by a weaker printout on either side of the media path.

To adjust the pressure arm

1. Remove the ribbon, if any.
2. Loosen the knob that holds the pressure arm. Move the arm inwards or outwards until the arrow on the tip of the arm becomes centered on the media stock.
   While moving the arm, push at the part where the knob is situated, not at the tip. If the arm is hard to move, lift the printhead and pull the printhead bracket free from the magnet in the arm.
3. Lock the arm in the new position by tightening the knob.
4. Re-adjust the edge guides.
5. Reload the ribbon, if any.



Pressure Arm adjustment

Printhead Pressure

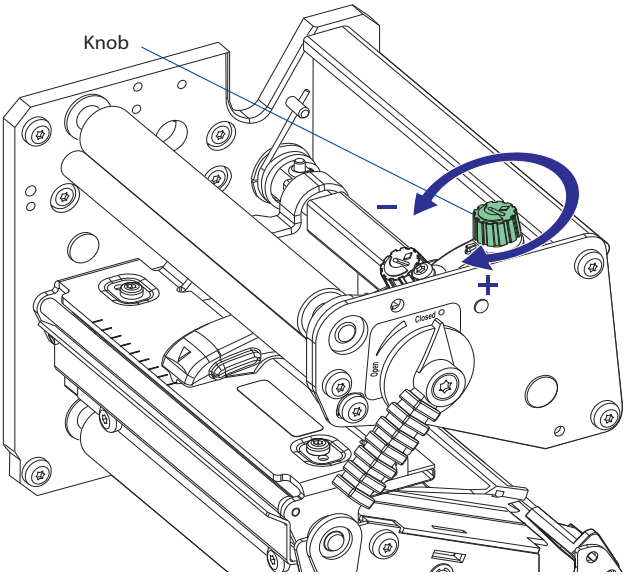
The pressure of the thermal printhead against the ribbon or direct thermal media is factory adjusted. However, the use of thicker or thinner media than normal could require the printhead pressure to be readjusted.

Turn the adjustment knob clockwise for increased pressure, or counterclockwise for less pressure. Print a few labels, preferably test labels, and check the printout. For help printing test labels, see **"Setting Up the Printer" on page 53**. Increased pressure generally gives a darker printout and vice versa. Repeat until the desired result is obtained.

To find the basic setting, turn the knob counterclockwise until there is no pressure left. Test with a piece of media under the printhead. You should be able to pull it out without more than just a little resistance. Then turn the knob four full turns clockwise. Fine-adjust using the trial-and-error method.

Caution

Do not use a higher printhead pressure than necessary. Unnecessary pressure may increase the wear of the printhead and shorten its life.



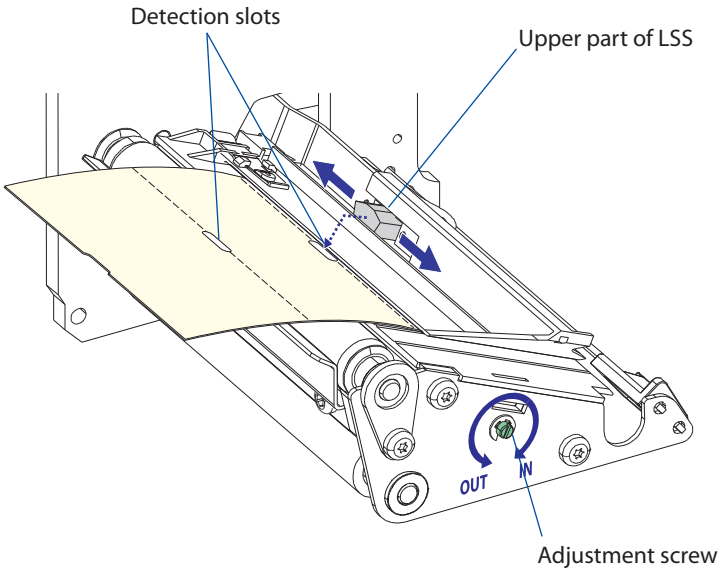
Printhead pressure adjustment

Label Stop Sensor

The label stop sensor (LSS) is a photoelectric sensor that controls the printer's media feed by detecting gaps between labels or slots or black marks in continuous stock, depending on the printer's setup in regard of media type. The LSS should be aligned with the gaps, slots, or black marks. If using irregularly shaped labels, align the LSS with the front tips of the labels.

The label stop/black mark sensor (LSS) can be moved laterally within a range of 0 to 50 mm (0 to 1.96 in) from the inner edge of the media path. There is a screw running through the outer lower gable. Turning the screw clockwise will move the LSS inwards and vice versa. The position of the LSS in relation to the media is best checked by looking head on into the print unit when the printhead is raised. Align the center point of the V-shaped upper sensor with the center of the slots or marks to be detected.

The linear markings on the lower guide plate can also be used for positioning of the LSS because they are spaced with an interval of exactly 1 cm (0.39 in). This method is especially useful for black marks (measure the lateral position of the black marks with a ruler before loading the media).



Label Stop Sensor adjustment

In the Test/Service part of the Setup Mode, you can test the label stop sensor if you have a detection problem.

The menu provides only indications from the label stop sensor unit. The testing menu can determine if the sensor unit is not physically in position, is blocked by dust or stuck labels, or is defective in some way. Furthermore, this is an aid if media has detection complications.

Note: There is no way to adjust the LSS-function. The menus only indicate values from the LSS.

- Check that the printer is set up for the type of media loaded in your printer. Navigate to **Setup Mode > Media > Media type > Gap**, **Mark**, or **Continuous**.
- Lift and lower the printhead, then press the **Feed/Pause** key.
- Make sure that there is a label—not a gap or mark—at the LSS.
- Check that the media is routed as close to the center section as the guides allow.
- Enter the Setup Mode and navigate to **Setup Mode > Test/Service > LSS Test > LSS Auto**.

LSS Auto ■	The menu should look like this, with the cursor placed in the center.
LSS Auto ■	Gap detection: Lift the printhead and pull out the media slowly. When the LSS detects a gap or a detection slot, the cursor moves to the right.
LSS Auto ■	Mark detection: Lift the printhead and pull out the media slowly. When the LSS detects a black mark, the cursor moves to the left.

Return to the centered cursor position by pressing **Down**.

If the cursor behaves as described above, the LSS is working and is properly aligned with the gaps, slots, or black marks.

If the cursor does not react to a gap, slot, or black mark, check the following:

- Is the LSS laterally aligned with the slots or black marks?
- Are both the upper and lower part of the LSS aligned with each other?
- Is the transfer ribbon properly loaded so it does not interfere with the LSS (See **"Loading Ribbon" on page 46**)?
- Are the label stop sensors free from dust and are the guides free from stuck labels or other objects that may interfere with the light that goes from one part of the LSS to the other? If necessary, clean the sensors.
- Does the media have some kind of preprint that can disturb the detection?
- Is there too little difference between the black marks and the surrounding areas?
- Does the liner have too little transparency?
- Does the LSS work with another type of media?
  To change the Media Type setup, lift and lower the printhead and then press **Feed/Pause**.

A Technical Data

This appendix lists the technical data for the printer. Please note that Intermec reserves the right to change this information without prior notice and that this information does not represent a commitment on the part of Intermec.

Printing

Print Technique	Direct Thermal and Thermal Transfer
Printhead Resolution	8 dots/mm (203 dpi) 16 dots/mm (406 dpi)
Print Speed (variable)	100 to 300 mm/sec (± 4 to 12 in/sec)
Print Width (max)	112 mm (4.41 in) - Direct Transfer 110 mm (4.33 in) - Thermal Transfer
Print Length (max)	32767 dots = 409.5 cm (161.25 in) at 203 dpi See Note 1
Media Width (min/max)	25 to 120 mm (1 to 4.72 in.)
Media Roll Diameter (max)	213 mm (8.38 in) Tear-Off 205 mm (8.07 in Peel-Off
Media Roll Core Diameter	38 to 40 mm (1.5 in) 76 mm (3 in) with adapter fitted
Ribbon Width (min/max)	55 to 110 mm (2.17 to 4.33 in)
Ribbon Roll Diameter (outer), max.	80 mm (3.15 in) ± 450 m (1476 ft) of ribbon
Ribbon Roll Core Diameter (inner)	25 mm (1 in)
Print Directions	4

Note 1: The maximum print length is also restricted by the amount of free SDRAM memory.

Modes of Operation

Tear-Off (Straight-through)	Yes	
Cut-Off	Option	With cutter
Peel-Off (Self-strip)	Option	With rewinder
Internal Batch Takeup	Option	With rewinder

Firmware

Firmware	IPL v2.30
Operating System	13 scalable + 21 simulated bitmap
Smooth Fonts	44

Physical Measurements

Dimensions (W × L × H)	275 × 482 × 238 mm (10.8 × 19.0 × 9.4 in)
Weight (excluding media)	12.85 kg (28.4 lb)
Ambient Operating Temperature	+5°C to +40°C (+41°F to +104°F)
Storage Temperature	-20°C to +70°C (-4°F to +152°F)
Humidity	10 to 90% non-condensing

Electronics

Microprocessor	32 bit RISC
On-board Flash SIMMs	2 sockets for 4 MB or 8 MB each Standard 1 x 4 MB
On-board SDRAM SIMM	1 socket for 16 MB Standard 16 MB

Power Supply

AC Voltage	90 to 265 VAC, 45 to 65 Hz
PFC Regulation	IEC 61000-3-2
Power Consumption	Minimum 20 W; Continuous printing, average 125 W; Peak 400 W

Sensors

Label Gap/Black Mark/Out of Media	Yes	Variable position
Printhead Lifted	Yes	
Ribbon End/Ribbon Low	Yes	
Paper Sensor	Yes	

Controls

LEDs	3	
Display	2 × 16 character LCD	Background light
Keyboard	7 keys membrane-switch type	
Feed/Pause button	1	
Beeper	Yes	

Data Interfaces

Serial	1 × RS-232 + 1 × USB	
Connection for Optional Interface Boards	1 + 1	1 for EasyLAN, 1 for other boards
Cutter Interface	1	
Memory Card Adapter	1	CompactFlash cards

Accessories and Options

Integral Self-strip Unit with Liner Takeup	Option 1, 2	For peel-off and batch takeup
Media Roll Retainer	Option 3	
Fanfold Guide	Option 3	
Cutter	Option 3	
Label Taken Sensor	Option 1, 2	
Parallel Interface Board	Option 1, 2	IEEE 1284
EasyLAN Ethernet Interface	Option 1, 2	
EasyLAN Wireless Interface	Option 1, 2	
CompactFlash Cards for various purposes	Option 3	8 MB-1 GB

Option 1: Factory installed option.

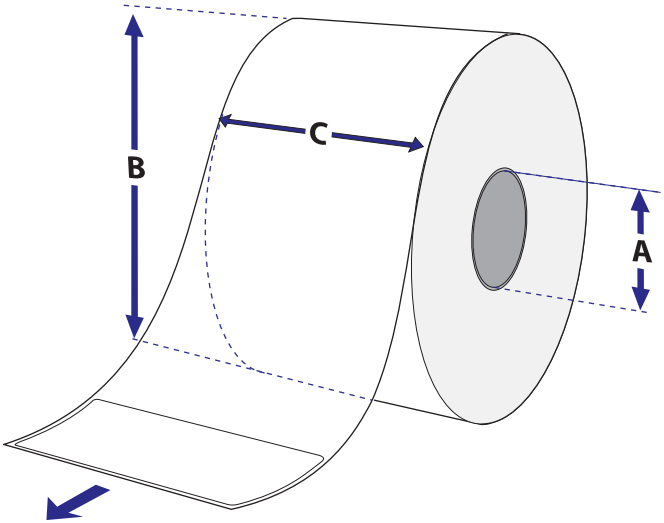
Option 2: Field-installable kit. Installation should be performed by a service technician.

Option 3: Operator-installable option.

B Media Specifications

This appendix specifies the physical measurements for various types of media.

Media Roll Size



Core diameter (A), standard: 38 to 40 mm (1.5 in), with adapter: 76.2 mm (3 in)

Core Width: Must not protrude outside the media.

Caution

The media must be wound up on the core in such a way that the printer can pull the end free.

Max. diameter (B), tear-off and cut-off	213 mm (8.38 in)
Max.diameter (B), peel-off and batch takeup	205 mm (8.07 in)
Max. width (C)	120 mm (4.72 in)
Min. width (C)	25 mm (1.00 in)

The recommended media thickness is 60 to 170 µm (2.4 to 6.7 mils). If thicker media is used, print quality may be reduced. Media stiffness must be balanced against thickness to maintain print quality. Media rolls to be loaded inside the printer should be wound with the printable side facing outwards.

The media supply must not be exposed to dust, sand, or grit. Any hard particles, however small, can damage the printhead.

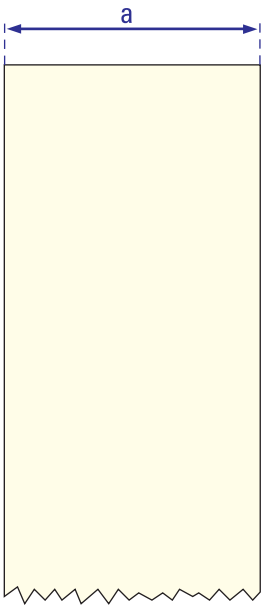
Media

Non-Adhesive Strip (Continuous Stock)

(a) Media Width

Minimum: 25 mm (1.00 in)
Maximum: 120 mm (4.72 in)

Media Type Setup: Continuous Stock



Self-Adhesive Strip (Continuous Stock)

(a) External Media Width (including liner)

Minimum: 25 mm (1.00 in)
Maximum: 120 mm (4.72 in)

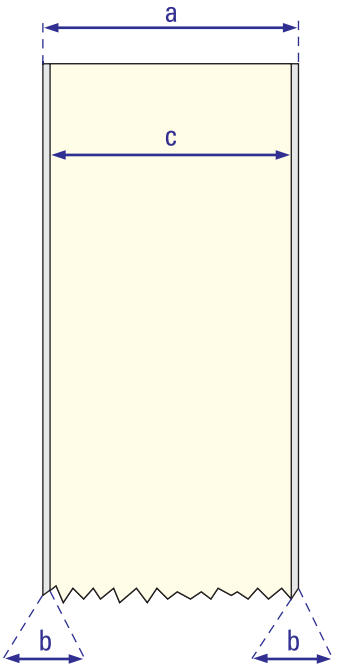
(b) Liner Width

The liner must not extend more than a total of 1.6 mm (0.06 in) past the edge of the face material and should protrude equally on both sides.

(c) Internal Media Width (excluding liner)

Minimum: 23.8 mm (0.94 in)
Maximum: 118.4 mm (4.66 in)

Media Type Setup: Continuous Stock



Self-Adhesive Labels (Gap Stock)

(a) External Media Width (including liner)

Minimum: 25 mm (1.00 in)
Maximum: 120 mm (4.72 in)

(b) Liner Width

The liner must not extend more than a total of 1.6 mm (0.06 in) past the edge of the face material and should protrude equally on both sides.

(c) Internal Media Width (excluding liner)

Minimum: 23.8 mm (0.94 in
Maximum: 118.4 mm (4.66 in)

(d) Label Length

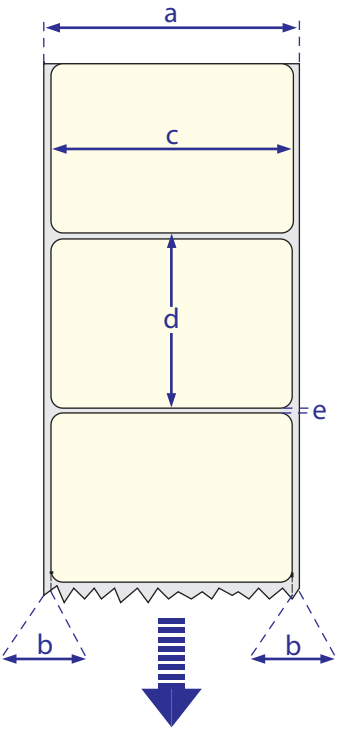
Minimum (without LTS): 8 mm (0.32 in)
Minimum (with LTS): 12 mm (0.47 in) For more information, see **"Label Taken Sensor" on page 77**.
Maximum:6,143 mm (241 in), provided that there is a sufficient amount of free SDRAM memory

(e) Label Gap

Recommended: 3.0 mm (0.12 in)
Minimum: 1.27 mm (0.05 in)
Maximum: 25.0 mm (0.98 in)

The Label Stop Sensor must be able to detect the extreme front edges of the labels. For more information, see **"Label Stop Sensor" on page 104**.

Media Type Setup: Gap Stock



Tickets With Gaps (Gap Stock)

(a) Media Width

Minimum: 25 mm (1.00 in)
Maximum: 120 mm (4.72 in)

(b) Liner Width

Minimum (without LTS): 8 mm (0.32 in)
Minimum (with LTS): 12 mm (0.47 in) For more information, see **“Label Taken Sensor” on page 77**.
Maximum: 6,143 mm (241 in), provided there is a sufficient amount of free SDRAM memory

(c) LSS Detection Position: Variable, see **“Label Stop Sensor” on page 104**.

(d) Detection Length

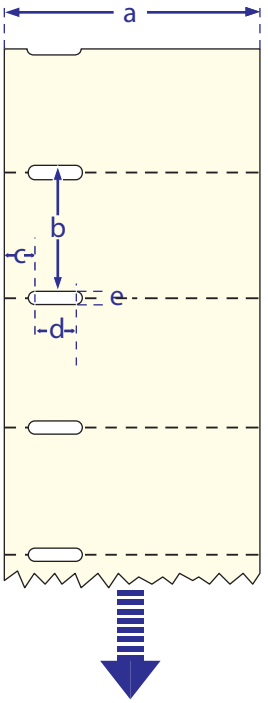
The length of the detection slit (excluding corner radii) must be a minimum of 2.5 mm (0.10 in) to either side (right or left) of the label stop sensor detection position.

(e) Detection Height

Recommended: 1.6 mm (0.06 in)
Minimum: 1.27 mm (0.05 in)
Maximum: 25.0 mm (0.98 in)

Media Type Setup: Gap Stock

Note: Handle perforated media carefully to avoid rips or breaks along the perforations. Broken or ripped perforations, particularly at the edges, may cause the media to break or misfeed during printing.



Tickets With Black Mark (Mark Stock)

(a) Media Width

Minimum: 25 mm (1.00 in)
Maximum: 120 mm (4.72 in)

(b) Copy Length

Minimum: 20.0 mm (0.8 in)
Maximum: 6,143 mm (241 in), provided there is a sufficient amount of free SDRAM memory

(c) LSS Detection Position: Variable, see**"Label Stop Sensor" on page 104**.

(d) Black Mark Width

Recommended: 10.0 mm (0.39 in)
Minimum: 5.0 mm (0.20 in)
Maximum: Full media width

(e) Black Mark Length

Recommended: 3.2 mm (0.13 in)
Minimum: 1.27 mm (0.05in)
Maximum: 25.0 mm (0.98 in)

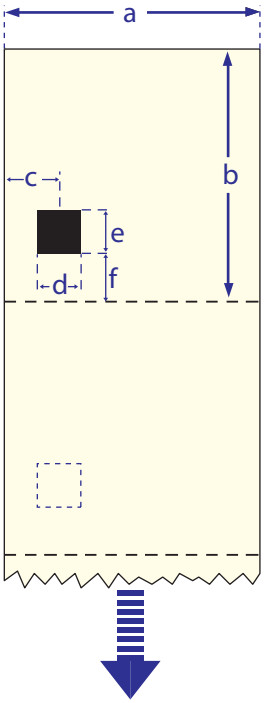
(f) Black Mark Y-Position

It is recommended that you place the black mark as close to the front edge of the ticket as possible. The black mark can be placed either on the top or at the back of the media.

Black Mark Characteristics
Maximum reflectance: 15%, 940 nm
Difference between mark and media: 55%

Media Type Setup: Mark Stock

Note: Handle perforated media carefully to avoid rips or breaks along the perforations. Broken or ripped perforations, particularly at the edges, may cause the media to break or misfeed during printing.


a
b
c
e
d
f

C Interfaces

This appendix describes the interface connectors found on the printer's rear plate. It covers the following topics:

- RS-232 Interface
- USB Interface
- Optional Interfaces

RS-232 Interface

Protocol For The Default Setup

Baud rate: 9600

Character length: 8 bits

Parity: None

Stop bits: 1

RTS/CTS: Disabled

ENQ/ACK: Disabled

XON/XOFF: Disabled (both ways)

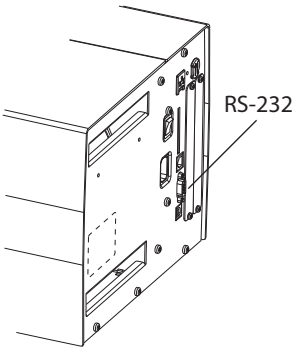
New Line: CR/LF

To change the interface settings, see **"Setting Up the Printer" on page 53**.

SIgnals On Printer's Serial Port

DB-9	Signal	Meaning
1		External +5V DC*
2	TXD	Transmit data
3	RXD	Receive data
4	DSR	Data set ready
5	GND	Ground
6	DTR	Data terminal ready
7	CTS	Clear to send
8	RTS	Request to send
9	---	Not Used

* The external +5 V is limited to 500 mA and is automatically switched off at overload.



RS-232 Interface

Interface Cable

Computer end: Depends on computer model

Printer end: DB-9 plug

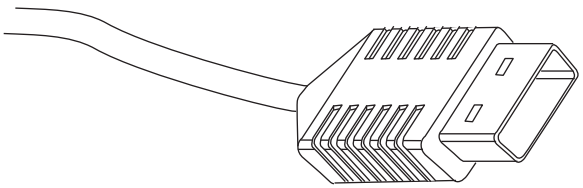
USB Interface

This printer supports USB v1.1 (also called USB 2.0 full speed). To use the USB interface for printing from a PC, you need a special Intermec USB printer driver installed in your PC.

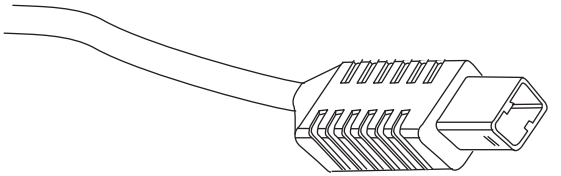
The printer is a so-called "self-powered device." We recommend that you only connect one printer to each USB port on the host, either directly or via a hub. Other devices, like a keyboard and a mouse, can be connected to the same hub. If you need to connect more than one Intermec USB printer to a host, you should use different USB ports.

Using a USB Class A/B cable, connect the Class A plug to your PC or hub and the Class B plug to your printer.

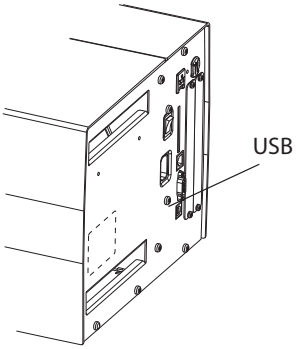
The USB interface is essentially a one-way communication interface. There is no communication setup for the USB port.



USB Class A connector



USB Class B connector



USB Interface

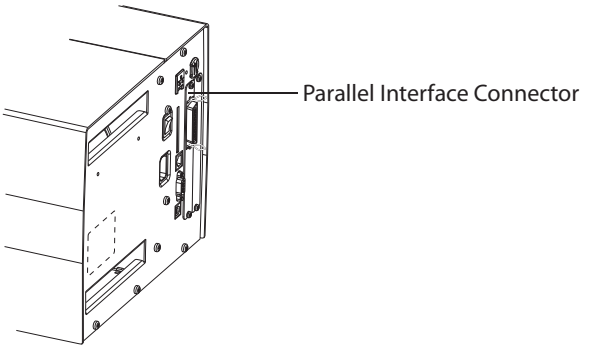
Optional Interfaces

The printer can optionally be fitted with an IEEE 1284 Parallel Interface Board at the right-hand side of the printer's rear plate.

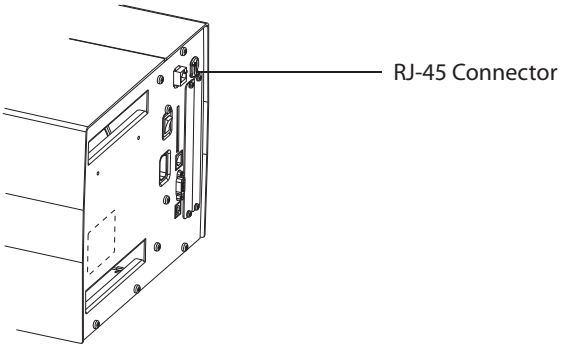
The printer can also be fitted with one of the following EasyLAN interface boards for connection to a Local Area Network (LAN).

- EasyLAN Ethernet Interface
- EasyLAN Wireless Interface

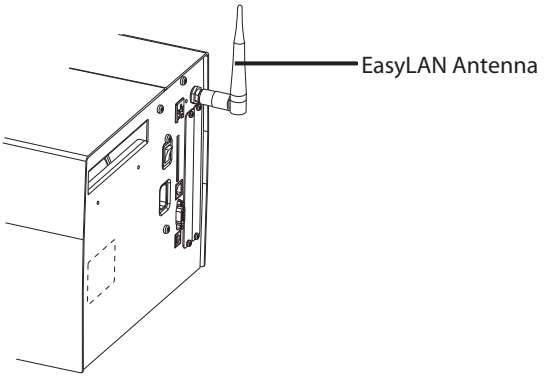
IEEE 1284 Parallel Interface Board



EasyLAN Ethernet Interface



EasyLAN Wireless Interface



For information on how to set up, operate, configure, and troubleshoot an EasyLAN interface, please refer to the following manuals included on the PrinterCompanion CD.

- *EasyLAN Interface Kit Installation Instructions*
- *EasyLAN Wireless Interface Kit Installation Instructions*
- *EasyLAN User's Guide*
- *EasyLAN Network Setup User's Guide*

D Media Sensitivity Number

This appendix describes how to determine the correct Media Sensitivity Number (MSN) for various types of direct thermal media or thermal transfer ribbon. It also includes instructions on how to determine the printer's current media sensitivity setting and how to adjust it.

The Media Sensitivity Number (MSN)

The media sensitivity number specifies the amount of heat the printhead needs to image a label. The amount of heat required is unique due to different chemistries and manufacturing processes. Setting the media sensitivity correctly optimizes both print quality and print speed

Intermec has determined MSNs that produce the highest possible print quality for Intermec media and ribbon combinations on Intermec printers.

Determining the Printer's Current Media Sensitivity Setting

You can use Setup mode to print out a configuration label that includes the printer's current media sensitivity setting. For instructions, see "Test/Service" on page 70.

By default, the printer uses these sensitivity settings.

Default Media Sensitivity Settings

Media	Type	Default Value
Direct thermal media	(2 to 10 ips)	420
Thermal transfer media	(2 to 10 ips)	567

Changing the Printer's Current Media Sensitivity Setting

Use the Setup Mode, PrintSet, third-party software, or the Intermec printer language (IPL) command set to change the printer's media sensitivity number. The following example sets the MSN to 567 using the IPL command set.

To set the sensitivity rating

1. Find the three-digit sensitivity rating.
2. At the DOS prompt, type the following command and press Enter:

   ```
   MODE COM1 96,E,7,1,N
   ```

3. Type the following command lines and press Enter:

   ```
   COPY CON COM1
   <STX><SI>g1,567<ETX>^Z
   ```

Determining the MSN for Intermec-Approved Media and Ribbons

To determine an exact media sensitivity number, obtain the part number of your media and/or ribbon and call 1-800-755-5505, press 1 and then 1. The part number may be printed on the outside of the box carton.

Both the thermal transfer media and ribbon have a sensitivity number. To determine the MSN, combine the digits. Note that "combine" does not mean "add".

Media or Ribbon	Sensitivity Number	Description
Thermal transfer media	56*	The asterisk for the third digit is reserved to identify the ribbon's sensitivity number.
Thermal transfer ribbon	5*7	The asterisk for the second digit is reserved to identify the media's sensitivity number.
	567	Optimum sensitivity number.

Determining the MSN for Other Media and Ribbons

If you are not using Intermec-approved media and ribbon, you can still achieve good print quality by setting an approximate media sensitivity number.

If your media is not listed in the table below, but a similar media is, use the approximate sensitivity level listed in the first column to achieve acceptable print quality. For example: 800, 700, 100.

If you cannot determine an approximate sensitivity level, start with the highest setting (800 for thermal transfer and 700 for direct thermal) and work your way down until you achieve acceptable print quality. You can also use PrintSet's Print Quality Wizard to help achieve acceptable print quality.

Media Sensitivity Numbers for Intermec-Approved Media and Ribbons

The following tables list exact media sensitivity numbers for popular Intermec-approved media and ribbons.

Direct Thermal Media Sensitivity Settings

Sensitivity Level	Setting	Direct Thermal Media
700 Series High Sensitivity	710	Thermal Top High Speed label
400 Series Medium Sensitivity	450	Duratherm Lightning IR
	440	Thermal Eco Label
	430	Duratherm Synthetic
100 Series Low Sensitivity	180	Duratherm II, Duratherm III, Duratherm II Tag
	170	Thermal Top Board
	140	Thermal Top Label
	120	Thermal Eco Board

Thermal Transfer Media and Ribbon Sensitivity Settings

Sensitivity Level	Setting	Media (Ribbon Stock)
800 Series High Sensitivity (Paper)	864	TTR Uncoated (GP02)
600 Series Medium Sensitivity (Synthetic)	687	8-mil Synthetic Tag (TMX2200), Duratran II Matte Polyester (TMX2200), Valeron Tag (TMX2200)
	683	8-mil Synthetic Tag (TMX1500), Duratran II Matte Polyester (TMX1500), Valeron Tag (TMX1500)
	677	Syntran (TMX2200)
	673	Syntran (TMX1500)
	657	TTR Gloss Polyethylene Label (HP66)
	653	TTR Gloss Polyethylene Label (HP05)
	637	TTR Polyethylene Label (HP66)
	633	TTR Polyethylene Label (HP05)
	627	Kimdura (TMX2200)
	623	Kimdura (TMX1500)

Thermal Transfer Media and Ribbon Sensitivity Settings (continued)

Sensitivity Level	Setting	Media (Ribbon Stock)
500 Series Medium Sensitivity (Paper)	568	TTR Premium Label (HP66)
	567	Duratran II Labels (TMX2200)
	565	TTR Premium Label (HP05)
	563	Duratran II Labels (TMX1500), Duratran I Labels (TMX1500)
	562	TTR Premium Label (GP02)
	537	TTR Premium Board (HP66)
	533	TTR Premium Board (HP05)
	527	Duratran II Tag 5 (TMX2200)
	523	Duratran II Tag (TMX1500)
	518	TTR Coated Label (HP66)
	517	TTR Coated Label (HP05)
	513	TTR Coated Label (GP02)
300 Series Low Sensitivity (Synthetic)	369	Gloss Polyester Label (HR03)
	366	Duratran II Gloss (TMX3202)

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