

The Intermec logo is displayed in a bold, blue, sans-serif font. It is positioned to the left of a square icon and is partially overlaid by a large, light blue circular graphic element that consists of several overlapping rings and a central dot, resembling a stylized atom or a network diagram.

Intermec



User's Guide



**EasyCoder PC4
Bar Code Label
Printer**

Intermec Technologies Corporation
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U.S.A.
www.intermec.com

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Windows is a trademark of Microsoft Corporation.

FCC Notice (United States of America)

WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

DOC Notice (Canada)

Canadian Dept. of Communication

REGULATIONS COMPLIANCE (DOC-A)

This digital apparatus does not exceed the class A limits for radio noise emissions from a digital apparatus as set out in the radio interference regulations of the Canadian Department of Communication.

Ministère des Communications du Canada

CONFORMITE DE REGLEMENTS (DOC-A)

Le présent appareil numérique n'émet pas de bruits radio-électriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le règlement sur brouillage radioélectrique édicté par le Ministère des Communications du Canada.

EU Standard EN 55022 (The European Union)

WARNING

This is a Class A ITE product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Wichtige Sicherheitshinweise

- 1 Bitte lesen Sie diese Hinweis sorgfältig durch.
- 2 Heben Sie diese Anleitung für den späteren Gebrauch auf.
- 3 Das Gerät ist vor Feuchtigkeit zu schützen.
- 4 Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.
- 5 Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
- 6 Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. elektrischen Schlag auslösen.
- 7 Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.
- 8 Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu Überprüfung.
 - a. Flüssigkeit ist in das Gerät eingedrungen.
 - b. Das Gerät war Feuchtigkeit ausgesetzt.
 - c. Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
 - d. Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
 - e. Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
- 9 Nur mit dem Schaltnetzteil Intermec/SPN-470-24 benutzen.

Safety Instructions

- 1 Please read these safety instructions carefully.
- 2 Please keep this User's Guide for later reference.
- 3 Please protect this equipment from humidity.
- 4 Check the voltage of the power source before connecting the equipment to the power outlet.
- 5 If the equipment is not used for long time, disconnect the equipment from the AC voltage to avoid damage by transient over voltage.
- 6 Never pour any liquid into any openings, this could cause fire or electrical shock.
- 7 Never open the equipment. For safety reason, the equipment should only be opened by qualified service personnel.
- 8 If one of the following situations arises, get the equipment checked by a service personnel:
 - a. Liquid has penetrated into the equipment.
 - b. The equipment has been exposed to moisture.
 - c. The equipment does not work well or you can not get it work according to the User's Guide.
 - d. The equipment has dropped and been damaged.
 - e. If the equipment has obvious signs of breakage.
- 9 For use only with power supply Intermec/SPN-470-24.

Declaration of Conformity (CE)

We,

**Intermec Printer AB
Flöjelbergsgatan 1C
Box 123
S-431 22 Mölndal
Sweden**

declare under our sole responsibility¹ that the product

EasyCoder PC4

to which this declaration relates
is in conformity with the following standards

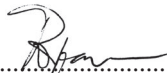
**Safety:
EN 60 950**

**EMC:
Based upon EN 50081-2 Generic Emissions Standard**

Based upon EN 50 082-1 Generic Immunity Standard
following the provisions of Directives

89/336/EEC and **73/23/EEC**

Mölndal 2004-10-08



.....
Per-Ove Jacobsson
Site Manager

¹ /. Intermec assumes no responsibility regarding the CE Directive if the printer is handled, modified, or installed in other manners than those described in the manuals.

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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 dangers, warnings, cautions, and notes that are in this document. You may also see icons that tell you when to follow ESD procedures.



Warning

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.



Caution

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.



Follow ESD
Procedures

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 <http://www.intermec.com> and click Service & Support. The Intermec Global Sales & Service page appears. From the Service & Support menu, move your pointer over Support, and then click Warranty.

Web Support

Visit the Intermec web site at <http://www.intermec.com> to download our current documents in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at <http://intermec.custhelp.com> to review technical information or to request technical support for your Intermec product.

Telephone Support

Contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **Contact**.

Who Should Read This Document?

This User's Guide provides you with information about the features of the EasyCoder PC4 printer and how to install, configure, operate, maintain, and troubleshoot it.

Related Documents

The Intermec web site at <http://www.intermec.com> contains our current documents that you can download in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

A decorative graphic consisting of two overlapping circles. The larger circle is light gray and partially encloses the smaller circle. The smaller circle is also light gray and has a small dark gray dot at its top-right edge.

1 Introduction

This chapter introduces the EasyCoder PC4 printer. The chapter covers the following topics:

- Description of EasyCoder PC4
- Safety summary
- Product identification

Description of EasyCoder PC4

Intermec EasyCoder PC4 is a series of dedicated direct thermal and combined thermal transfer/direct thermal printers with a printhead density of 203.2 dots per inch (8 dots per mm) or 300 dots per inch (11.81 dot per mm).

The EasyCoder PC4 printers are fitted with parallel Centronics, serial RS-232 and USB ports as standard.

As an option, the EasyCoder PC4 can be fitted with a paper cutter that cuts continuous strip or liner between labels or a battery pack.

All EasyCoder PC4 printers are delivered with the Intermec InterDriver for Microsoft Windows 98/Me, and Windows NT 4.0/W2000/XP. The InterDriver makes it possible to produce printouts from most standard programs run under the various versions of MS Windows.

Label design becomes an easy task with Intermec LabelShop, a series of “what-you-see-is-what-you-get” PC label-editing programs and compatible with the full range of Intermec EasyCoder printers. Intermec LabelShop START is included in the delivery.

EasyCoder PC4 can also be run using ESim control commands described in the *EasyCoder ESim v6.XX, Programmer's Reference Manual*. These control commands use short lines of ASCII characters to format the labels, enter text and bar codes and control the printing, making it possible to use a terminal or personal computer, that does not operate under MS Windows.

For comprehensive technical data, refer to Appendix 1.

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.
- 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.
- 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 bottom of the printer and contains information on type, model, and serial number as well as AC voltage. It also contains various signs of approval.



2 Installation

This chapter how an EasyCoder PC4 is unpacked, connected to a power source, and connected to a computer. It also explains how to install the software and how to expand the memory using a memory cartridge.

Unpacking

Before starting the installation, carefully examine the delivery for possible damage or missing parts:

- 1 Open the box and lift up the power supply unit, cables, and other parts.
- 2 Remove the upper foam-plastic shock absorber and lift up the printer. Check that no visible damage has occurred during the transportation. Keep the packing material in case you need to move or reship the printer.
- 3 Check to make sure any options ordered are included.
- 4 Check the accessories included in the delivery. In addition to possible options, the box should contain:
 - Intermec EasyCoder PC4 printer
 - Power supply adapter with either one power cord for 115V U.S. wall sockets or two different power cords for 230V European and 240V U.K. wall sockets
 - Communication cable
 - Empty ribbon core (thermal transfer printers only)
 - Sample roll of labels
 - Media roll spindle
 - Quick-Start Guide
 - Manuals and an assortment of application software on CD-ROM.

Should any kind of damage have occurred during transportation, immediately make a complaint to the carrier.

Any incorrect delivery or missing parts should be reported to the distributor.



The discharge of electrostatic energy accumulated on the human body, the clothing, or other surfaces can damage or destroy the printhead or electronic components used in this printer. Avoid touching the electrical connectors while unpacking and setting up the printer.

Power Connection

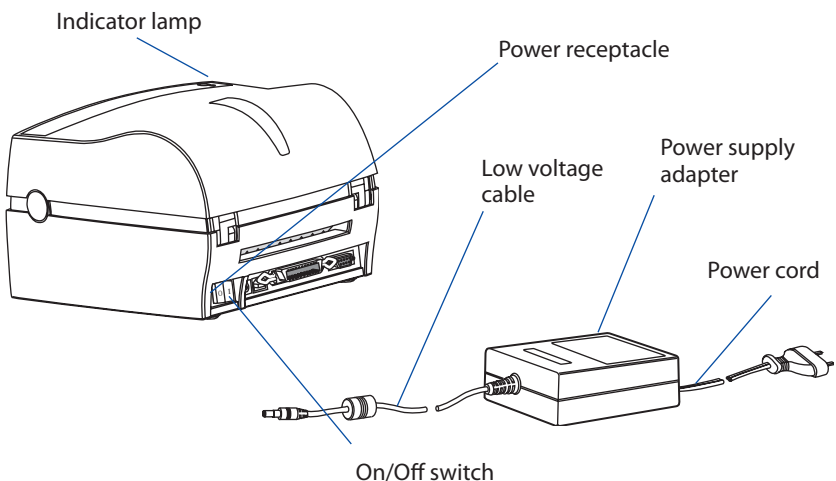
- 1 Place the printer in a suitable location that allows easy access to printed labels and preferably also easy reload of media and transfer ribbon. The printer should only be operated while resting on a horizontal surface, like a table or similar.



Warning

The printer and power supply unit must never be operated in a location where they can get wet. Personal injury could result! Only use with power supply adapter Intermec SPN-470-24 P/N 1-092515-XX.

- 2 Place the power supply adapter in a suitable location between the printer and an electrical outlet, for example on the floor. The power supply adapter can be used for 100 to 240 VAC, 50 to 60 Hz. The configuration of the power cord plug differs according to national standards.
- 3 Check that the printer's On/Off switch at the back is off (O).
- 4 First, fit the round connector into the power receptacle on the printer's rear plate. Then connect the power cord between the power supply adapter and an AC wall socket.
- 5 The power can be switched on/off by means of the On/Off switch situated at the back of the printer. The indicator lamp on the printer lights green, red, or orange to indicate that the power is on. (It also indicates various conditions, see Chapter 3.)



Memory Cartridge

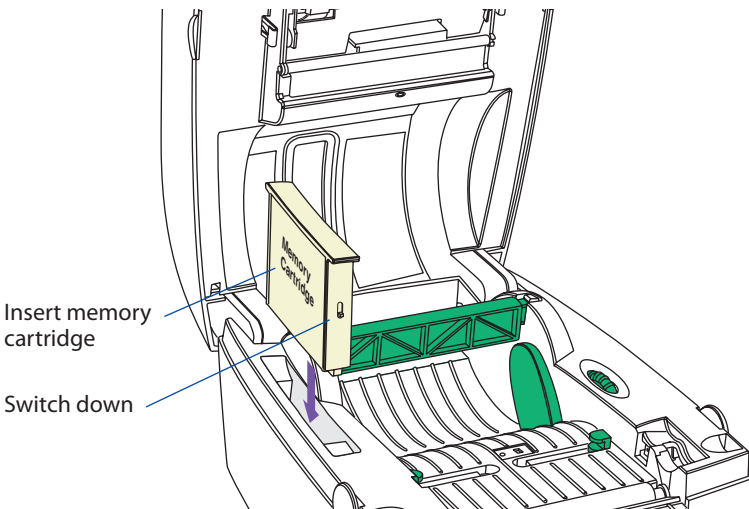
The EasyCoder PC4 is fitted with 1 MB built-in flash memory and 2 MB DRAM. The built-in memory can be expanded using an exchangeable memory cartridge with 1MB of Flash memory.



When fitting or removing a memory cartridge, the power to the printer must be off!

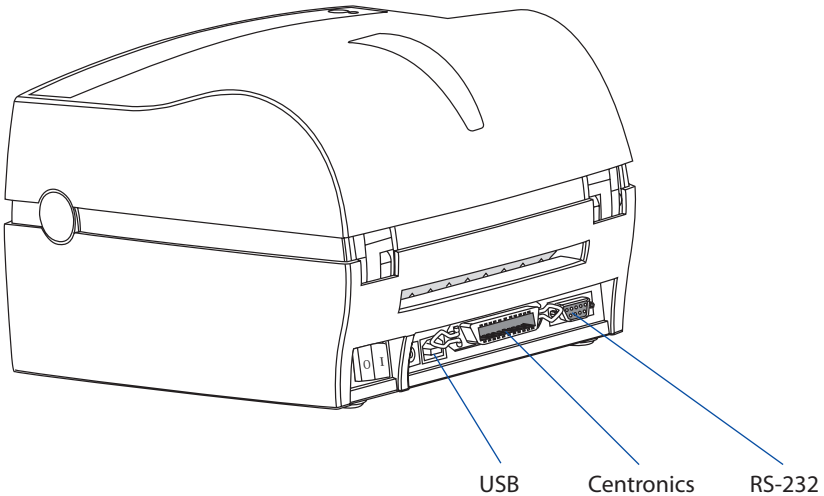
Installation of Memory Cartridge

- 1 Ensure that the On/Off switch on the printer is off (0).
- 2 Open the top cover by pressing the two locks on either side.
- 3 Remove the cartridge slot cover located to the left of the media roll. Be careful not to drop it inside the printer.
- 4 Ensure that the switch at the front short side of the cartridge is in its lower position.
- 5 Insert the memory cartridge into the cartridge slot. Its slightly curved shape ensures that the cartridge can only be fitted correctly. Push firmly to seat the cartridge.
- 6 Firmly close the top cover and switch on the power.



Computer Connection

All EasyCoder PC4 models are fitted with a 36pin female Centronics connector for the parallel interface port, a DB-9pin female connector for the RS-232 serial interface port, and a USB connector. Though all ports can be connected simultaneously, only one should be used at a time.



Centronics Parallel Interface

If you intend to use the Intermec InterDriver or any version of Intermec LabelShop, connect the parallel communication cable delivered between the printer's Centronics interface connector and the parallel port of your PC (LPT1).

The parallel interface can also be used for programming the printer using the ESim protocol described in the *Intermec ESim v6.XX, Programmer's Reference Manual*. However, prompts and other information from printer to host cannot be transmitted, since the parallel interface is one-way (host-to-printer) only.

Serial RS-232 Interface

The serial RS-232 channel is intended for running the ESim protocol described in the *Intermec ESim v6.XX, Programmer's Reference Manual*. It is not suited for the Intermec InterDriver driver.

The RS-232 communication setup is variable by means of the **Y** command (see *Intermec ESim v6.XX, Programmer's Reference Manual*).

Use the Test Mode to check the printer's present setup (bold characters indicate default setup).

Baud rate:	1200, 2400, 9600 , or 19200
Parity:	None, Odd, or None
Data bits:	7 or 8
Stop bits:	1 or 2
Flow control:	XON/XOFF and DSR/CTS



Note: No serial communication cable is included in the delivery unless specifically ordered. For pinout specifications, please refer to Appendix C.

USB Interface

The EasyCoder PC4 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 standard 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 similar to the serial RS-232 channel, intended for running the ESim protocol.



Note: No USB communication cable is included in the delivery.

Software Installation

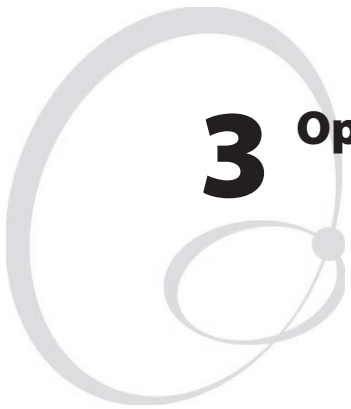
If you intend to use the USB interface, you must start by installing the Intermec USB printer driver, which is included on the CD-ROM that comes with the printer.

If you run your EasyCoder PC4 from a PC under Windows 98/Me, or Windows NT 4.0/W2000/XP, you may want to install the Intermec InterDriver and the Intermec LabelShop START found on the CD-ROM that comes with the printer.

If you use any other operating system than Windows, you will need to use the ESim protocol described in the *Intermec ESim v6.XX, Programmer's Reference Manual*. (Intermec ESim also supports Windows.) Updates and installation instructions are available at the Intermec home page <http://www.intermec.com>.



Note: There are different firmware for the 203.2 dpi (8 dots/mm) and the 300 dpi (11.81 dots/mm) versions.

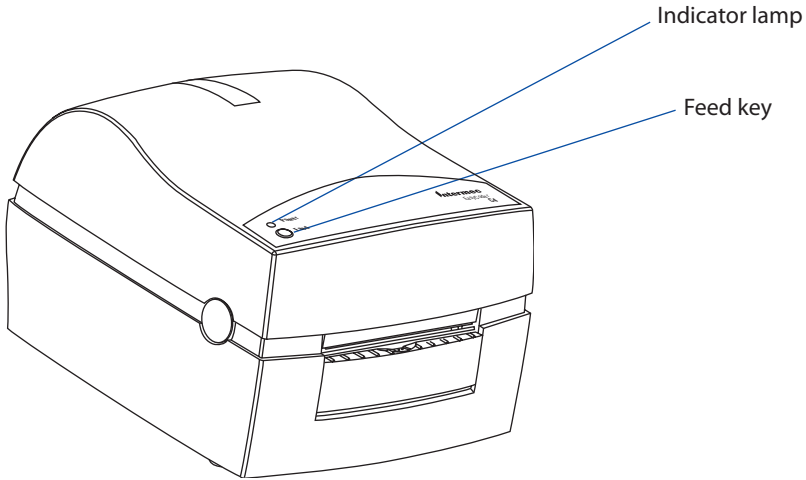
A decorative graphic consisting of two overlapping circles. The larger circle is on the left and the smaller one is on the right, partially overlapping the larger one. The circles are light gray and have a thin, slightly irregular border.

3 Operation

This chapter describes how to control the printer, how to load it with media and ribbon, how to adjust the label gap sensor, and how to use the test mode.

Controls and Indicators

The EasyCoder PC4 is controlled by the operator by means of an On/Off switch, a “Feed” key, and a multi-color indicator lamp.



On/Off Switch

The On/Off switch is located at the back of the printer.

Feed Key

The Feed key can be used in two ways:

- Tapping
- Holding

When power is first applied and the printer is loaded with media (and possibly ribbon), tapping the Feed key will initiate a formfeed, that is, media will be fed out to the top of next label or tag.

When power is first applied with no labels loaded, holding the Feed key will cause the media to be continuously fed out until the key is released. This mode is useful when replenishing the media supply.

After the media has been threaded through the printer, tapping the Feed key 3 more times (for a total of 4 taps) will cause a formfeed.








Indicator Lamp

When the power to the printer is switched on, the indicator lamp will glow green if the printer is loaded with media and—in case of thermal transfer printing—ribbon.

If the printer is out of media and/or ribbon, the indicator lamp will glow red.

Any error condition, such as label stop sensor problems, media jams, or software errors, will be indicated by the lamp changing to orange, except for media jams in the optional cutter, which are indicated by long red flashes.

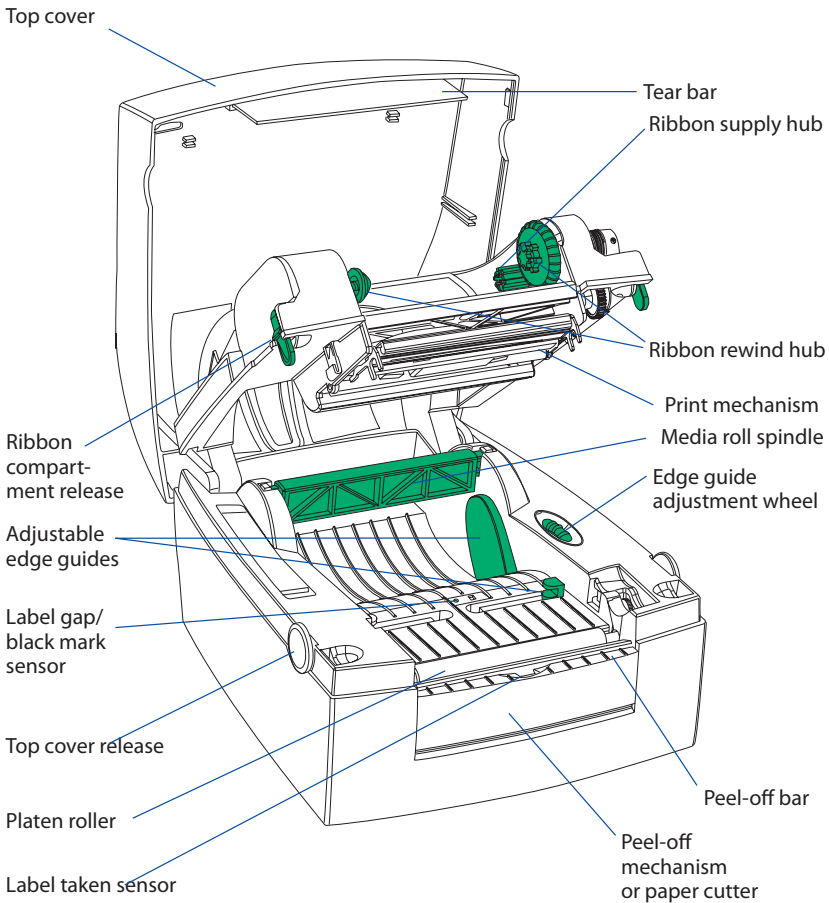
If the indicator lamp fails to work as described above, please refer to Chapter 5 “Troubleshooting”.

Color	Meaning
 Green (solid)	Media loaded Ribbon loaded (TTR only)
 Green (flashing)	Receiving data (Test Mode only)
 Red (solid)	Out of media Out of ribbon (TTR only) Printer reset
 Red (short flashes)	Upgrading firmware
 Red (long flashes)	Media jam in cutter Overheated printhead or stepper motor
 Orange	Error condition detected or Bootloader active
 Dark	Power off

Media Compartment

The media compartment accommodates the media supply and, in case of thermal transfer capable printers, also the transfer ribbon supply (see illustration below).

In dedicated direct thermal printers, the top cover and the print mechanism are combined into a single unit.



Media Load

Introduction

The EasyCoder PC4 can print on heat-sensitive direct thermal paper, and in case of the thermal transfer model also on non heat-sensitive receiving face materials, in the form of self-adhesive labels, non-adhesive tags, or continuous stock. In case of non heat-sensitive face materials, a suitable thermal transfer ribbon must be used.

The media stock can be accommodated inside the printer in the form of a roll, or be placed behind the printer and inserted through a slot in the cover (for example fan-folded tickets or tags).

Three types of operation are available, Tear-Off (Straight-through), Peel-Off (Self-Strip), and Cut-Off:

Tear-Off

Tear-off (Straight-through) means that the media is fed straight out from the front of the printer and can be torn-off manually by pulling it upwards against the edge on the top cover. Tear-off mode can, for example, be used for tearing off tags at the perforation, or tearing off the liner (backing paper) between labels.

Peel-Off

Peel-off (Self-strip) means that self-adhesive labels are automatically separated from the liner (backing paper) after printing. It cannot be used in connection with a paper cutter. The labels are fed straight out from the printer, whereas the liner is fed out separately from a slot further down on the printer's front, from where it can be lead to for example a waste basket. Be careful when loading self-adhesive labels. If labels are not flat on the liner, the exposed edges can stick to your printer and cause problems.

Cut-Off

Cut-off requires an optional paper cutter fitted in place of a peel-off device and means that the liner of self-adhesive labels is automatically cut between labels or non-adhesive continuous strip is cut into tickets and tags. The cutter is not designed to cut through any adhesive, which would stick to the cutting shears and prevent the cutter from operating.

Label Taken Sensor

The built-in Label Taken Sensor (LTS) can be enabled to hold the printing until the previous label (or similar) has been removed from the printer's outfeed slot. As long as the sensor detects a label, the printer will be BUSY and cannot receive data from host.

If using the ESim protocol described in the *ESim v6.XX, Programmer's Reference Manual*, note the following:

- The LTS can be enabled/disabled manually using the switch next to the sensor (see below) or in the ESim protocol by an **O** command.
- When switching between peel-off, tear-off operation and cut-off operation, the media feed must be readjusted by means of a **j** command.

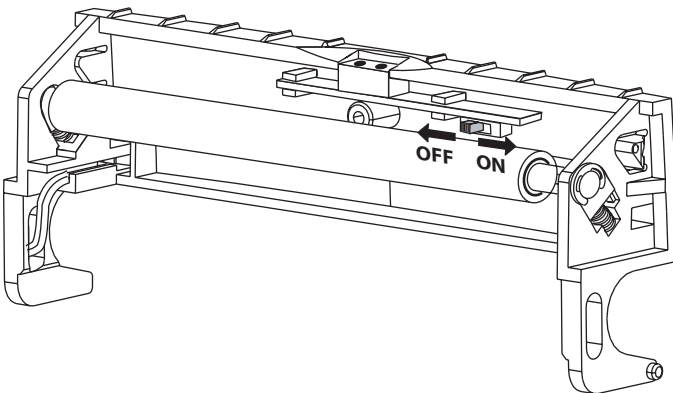
The Intermec InterDriver provides options for selecting the following modes of operation without any **j** or **O** commands having to be entered by the operator:

- Tear-off
- Peel-off with LTS enabled
- Peel-off with LTS disabled



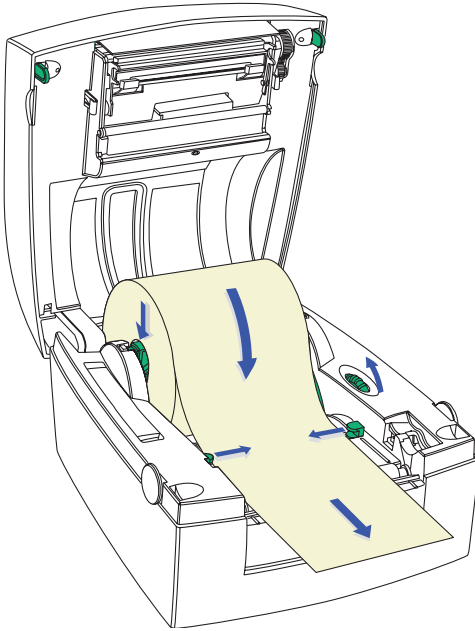
Warning

If the printer runs out of media while printing, do not switch off the power during reload, or data will be lost!



The Label Taken Sensor can be enabled (on) or disabled (off) using a manual switch inside the peel-off mechanism.

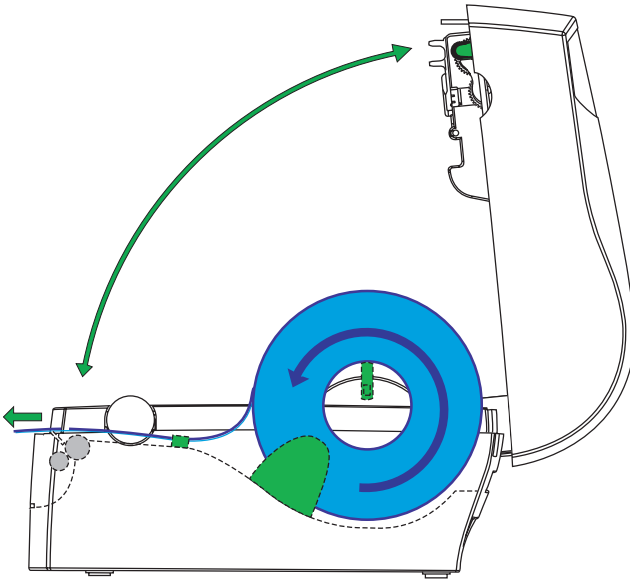
Tear-Off Operation



- 1 Open the printer's top cover by pressing the release buttons on both sides and folding the cover upwards/rearwards.
- 2 Pull up the spindle and remove possible remaining media or empty label roll core.
- 3 Place the spindle into the core of a fresh media roll. Rotate the spindle according to the inner diameter of the media roll core (see markings on the spindle).
- 4 Wind the green edge guide wheel towards the front of the printer so you can fit the media roll between the guides.
- 5 Place the media roll and spindle in the media compartment and snap the spindle into the slots on either side.
- 6 Wind the green edge guide wheel towards the rear of the printer so the rear edge guides just touch the roll without actually breaking its rotation.

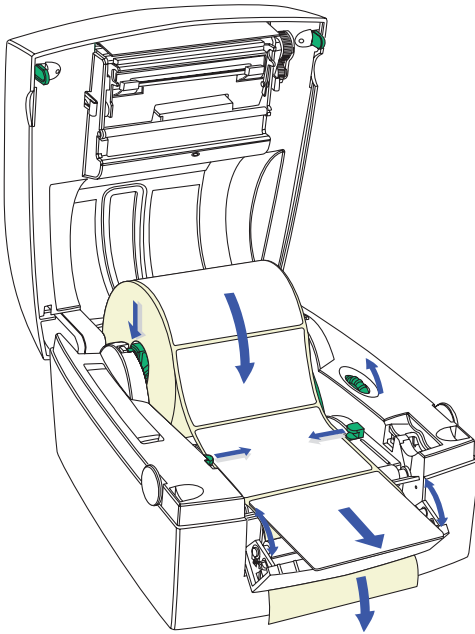
Chapter 3 — Operation

- 7 Route the media through the slits in the front edge guides
- 8 Firmly close the top cover.
- 9 If loading media for the first time or if changing from another type or size of media, perform a Label Gap Sensor Adjustment as described on page 28. Else, tap the Feed key either 4 times or until the indicator lamp glows green.
- 10 If the printer did run out of media while printing, the printing will automatically be resumed. Else, tear off excessive media by pulling it upwards against the tear bar.



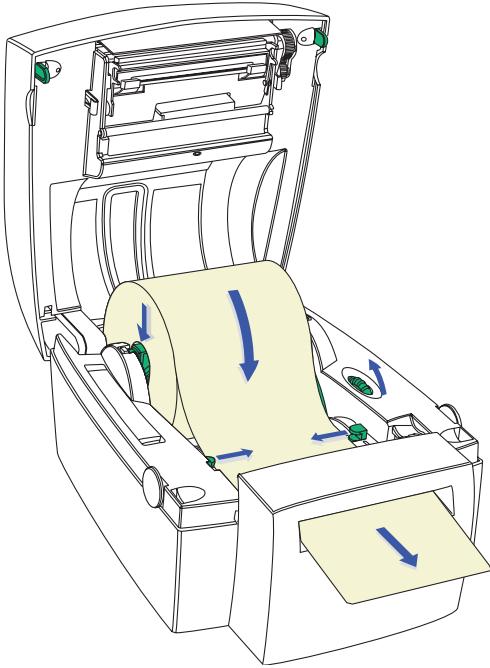
Tear off the media upwards against the tear bar.

Peel-Off Operation



- 1 Open the printer's top cover by pressing the release buttons on both sides and folding the cover upwards/rearwards.
- 2 Open the peel-off mechanism at the printer's front.
- 3 Pull up the spindle and remove possible remaining labels or empty label roll core.
- 4 Place the spindle into the core of a fresh label roll. Rotate the spindle according to the inner diameter of the label roll core (see markings on the spindle).
- 5 Wind the green edge guide wheel towards the front of the printer so you can fit the label roll between the guides.
- 6 Place the label roll and spindle in the media compartment and snap the spindle into the slots on either side.

Cut-Off Operation

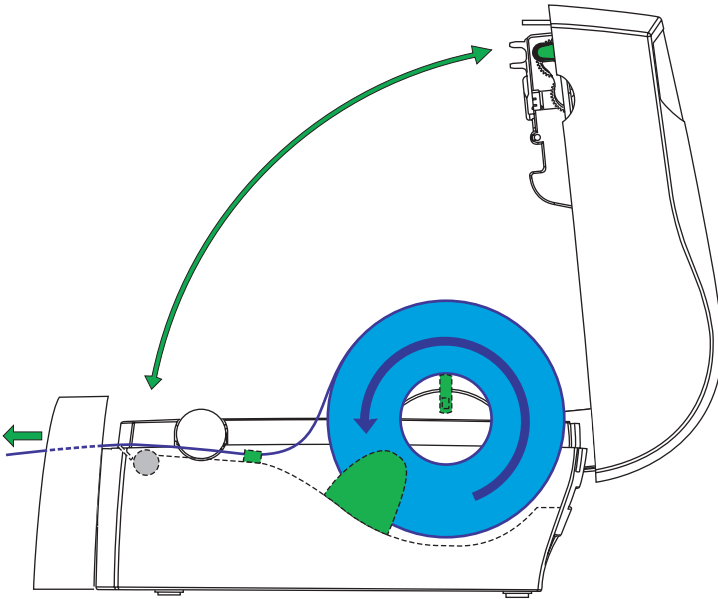


Note: The cutter cannot be used to cut through labels—only through the liner between labels—or the adhesive will stick to the cutting parts and prevent the cutter from operating properly. Media rolls must be wound with the printable side facing outward to prevent jamming the cutter.

- 1 Open the printer's top cover by pressing the release buttons on both sides and folding the cover upwards/rearwards.
- 2 Pull up the spindle and remove possible remaining media or empty media roll core.
- 3 Place the spindle into the core of a fresh media roll. Rotate the spindle according to the inner diameter of the media roll core (see markings on the spindle).
- 4 Wind the green edge guide wheel towards the front of the printer so you can fit the roll between the guides.

Chapter 3 — Operation

- 5 Place the roll and spindle in the media compartment and snap the spindle into the slots on either side.
- 6 Wind the green edge guide wheel towards the rear of the printer so the rear edge guides just touch the media roll without actually breaking its rotation.
- 7 Thread the labels through the slits in the front edge guides.
- 8 Route the media through the slot in the optional cutter mechanism just in front of the tear bar.
- 9 Firmly close the top cover.
- 10 If loading media for the first time or if changing from another type or size of media, perform a Label Gap Sensor Adjustment as described on page 28. Else, tap the Feed key either 4 times or until the indicator lamp glows green.
- 11 If the printer did run out of media while printing, the printing will automatically be resumed.

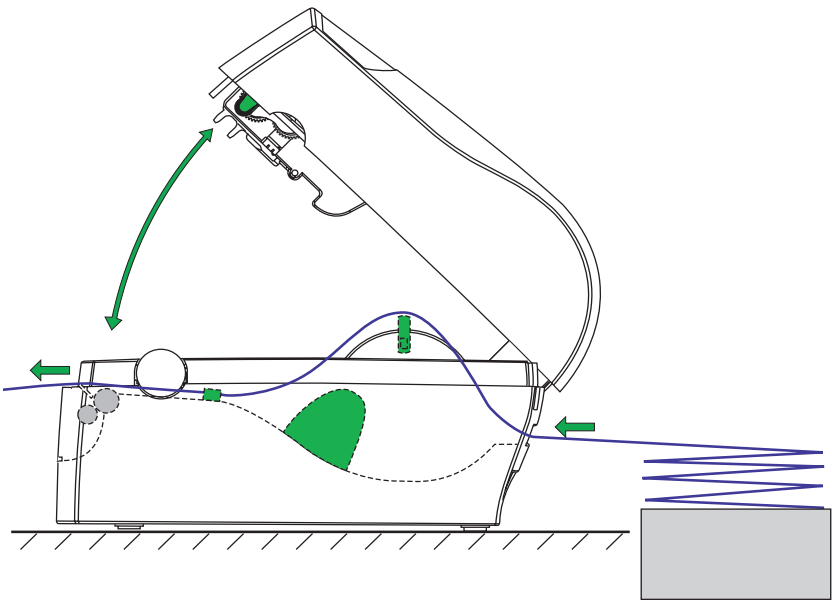


External Supply

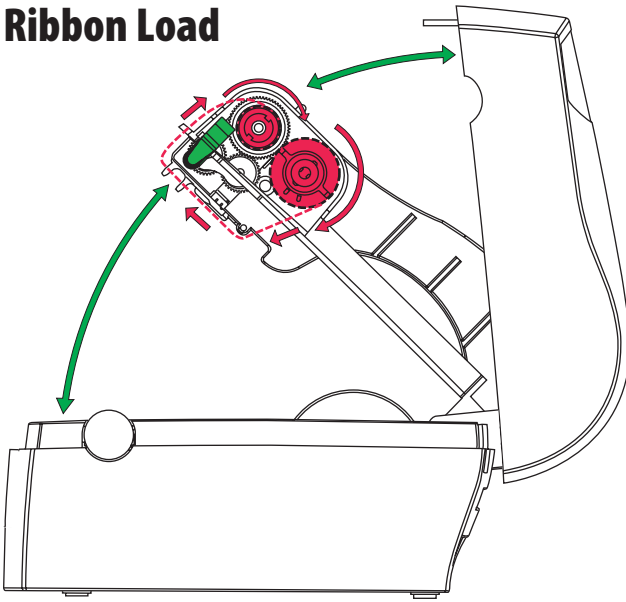
Regardless of model and type of operation, direct thermal media or receiving face material (in the form of tags or labels) can be provided from an external supply, for example a stack of fan-folded tags.

Follow the loading instructions for the type of operation in question, but ignore all paragraphs concerning the internal spindle. Instead, insert the media through the slot at the back of the printer (see illustrations).

Be careful to protect any external media supply from dirt, grit, dust, water, and direct sunlight.



Ribbon Load



Thermal transfer ribbons are required when printing on non heat-sensitive media. The type of transfer ribbon should match the face materials, so as to obtain the best durability and printout quality.

Loading a Fresh Ribbon Roll

- 1 Open the printer's top cover by pressing the release buttons on both sides and folding the cover upwards/rearwards.
- 2 Press the green release tabs at the bottom of the top cover on both sides of the printhead and fold down the print carriage halfway (45° angle) while keeping the top cover fully opened.
- 3 Remove front core with the used-up ribbon and the empty core at the rear. Keep the empty core!
- 4 Unpack a fresh roll of transfer ribbon and route the ribbon leader down in front of the wall, that separates the print carriage from the media compartment, so the ribbon will feed from the top of the roll with the ink-covered side facing rearwards.
- 5 Install the ribbon roll in the rear position by placing one end over the left-side hub and pushing to the left. Then align the right end with the right-side hub and engage.

- 6** Similarly, install an empty core in the rewind (front) position.
- 7** Route the end of the transfer ribbon forward under the printhead and up in front of it. Using the tape fitted at the front of the ribbon leader, affix the leader to the top of the rewind core. Be careful to center-align the leader with the core.
- 8** Wind the green wheel on the right side of the rewind hub clockwise to wind up the leader onto the rewind core until the black ink-coated ribbon becomes visible. Remove any slack.
- 9** If so required, also load a fresh supply of receiving face material, for example labels, according to instructions earlier in this chapter.
- 10** Close the print carriage by pressing it firmly down simultaneously on both sides. A loud click indicates locked position.
- 11** Firmly close the printer's top cover.
- 12** Tap the Feed key until the indicator lamp becomes green.

Removing a Partially Used Ribbon

When switching between direct thermal and thermal transfer printing, or when switching between different types of transfer ribbon, a partially used transfer ribbon can be removed and saved for later use.

- 1** Open the printer's top cover by pressing the release buttons on both sides and folding the cover upwards/rearwards.
- 2** Press the green release tabs at the bottom of the top cover on both sides of the printhead and fold down the print carriage halfway (45° angle) while keeping the top cover fully opened.
- 3** Using a pair of scissors, cut the transfer ribbon just below the rewind roll.
- 4** Rewind the unused ribbon onto the supply spool. Remove the roll by pushing it to the left until the right end disengages and then lifting the roll up. Fasten the loose end with a piece of tape or label to prevent the roll from unwrapping.
- 5** Remove the rewind roll by pushing to the left and lifting up. Unwind the used ribbon into a waste basket or similar until you can dispose of it according to local environmental regulations. Keep the core! You will need it next time you load a ribbon.

Label Gap Sensor

Adjustment

The EasyCoder PC4 printer is fitted with a label gap sensor that detects slots between tickets and tags, or gaps between labels, as the media is fed past the sensor during printing. Thus the firmware can determine the length of the tags or labels and control the media/ribbon feed accordingly.

The label gap sensor is a center-aligned photoelectric sensor that measures the light that passes through the media path. The transparency of the liner of a label supply may differ between batches, making it difficult for the sensor to discriminate between labels and liner. When this occurs, the indicator lamp will switch from green to orange, indicating that sensor should be adjusted by entering the Test Mode, as described below.

Test Mode

The Test Mode can be used for four main purposes:

- To adjust the Label Gap Sensor.
- To print a Test Label with a test pattern and a list of the printer's current setup.
- To enter the Dump Mode.
- To reset the printer to its default settings.



Caution

Do not use continuous stock in the Test Mode. The printer will not be able to detect any gaps and an error will occur.

Use the Test Mode this way:

- 1 After having loaded the printer with full width labels, tickets, or tags, switch off the power to the printer.
- 2 Press and hold the Feed key while switching on the power.
- 3 Release the Feed key when the green indicator lamp flashes.
- 4 The printer will automatically adjust the label gap sensor and media feed according to the characteristics of the media. The printer may feed out 3-4 forms before the adjustment is completed. In case of peel-off operation, remove the labels as they are fed out.
- 5 After a delay, a Test Label will be printed and the printer will be placed in the Dump Mode (see *Intermec ESim v6.XX, Programmer's Reference Manual*).
- 6a Tap the Feed key once to switch back to normal operation, or...
- 6b ...reset the printer to default setup values by pressing and holding the Feed key for at least three seconds after the test label was printed. The indicator lamp will switch to red to indicate that the printer was reset to default setup. Restart the printer by switching off the power and then switching it on again.

Refer to the *Intermec ESim v6.XX, Programmer's Reference Manual* for illustration and explanation of the test label.

A decorative graphic consisting of two overlapping circles. The larger circle is on the left and is light gray. The smaller circle is on the right and is a slightly darker shade of gray. They overlap in the center, creating a lens-like shape.

4 Maintenance

This chapter explains how to clean the printer externally and how to clean the printhead.

The Intermec EasyCoder PC4 printers are manufactured and tested under a strict quality management program. Only high quality components and materials are used in the printers. Although only minimal maintenance is required, following these simple maintenance procedures will ensure longer life with quality printing performance.

External Cleaning

Keep your EasyCoder PC4 clean by periodically wiping it with a soft cloth dampened with water. Do not use abrasive cleaners or solvents as they will scratch the surface.

Printhead Cleaning

We recommend using the special Cleaning Card (part number 1-110501-00) and the procedures below to clean the printhead before loading each new roll of labels or tags.



Warning

Cleaning Cards contain isopropyl alcohol ($\text{CH}_3)_2\text{CHOH}$ CAS 67-63-0 which is highly flammable, moderately toxic, and mildly irritating.

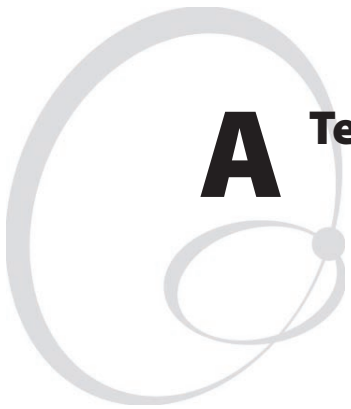
- 1 Switch off the power to the printer.
- 2 Open the top cover/print carriage.
- 3 Unload the media stock.
- 4 In case of thermal transfer printing, also remove the transfer ribbon.
- 5 Open the pouch and pull out the cleaning card. Be careful not to tear the card inside!
- 6 Insert the cleaning card under the print carriage the same way as when loading the media. Allow approximately 2 to 3 cm (1 inch) of the cleaning card to extend in front of the printhead.
- 7 Fold down the print carriage to locked position.
- 8 Use one hand to hold the printer and the other hand to pull the cleaning card forward, until the entire card has been pulled free.
- 9 Repeat steps 6, 7, and 8 a second time, then proceed at step 10.
- 10 Dispose properly of the used cleaning card and reload the media and ribbon supplies.

A decorative graphic consisting of two overlapping circles. The larger circle is on the left and is light gray. The smaller circle is on the right and is a slightly darker shade of gray. The number '5' is positioned in the center where the two circles overlap.

5 Troubleshooting

This chapter contains instructions for solving the most common problems that may occur when using an EasyCoder PC4. The troubleshooting is restricted to the operator level. If the problem cannot be solved using this list, please contact the distributor.

Problem	Solution or Reason
Control lamp does not light green when power is on.	Make sure connectors on power supply are securely plugged into the receptacle on the printer and to an AC outlet.
Control lamp lights green but printer will not feed.	Label taken sensor active, label not removed. Make sure correct type of interface cable is securely plugged into both printer and computer.
Printer seems to be working but nothing is printed.	Direct Thermal Printing: Verify that the media is intended for direct thermal printing by testing if the paper is blackened by the heat from a hot object (+ 70°C/160°F or more). Check that the heat-sensitive side faces the printhead. Thermal Transfer Printing: Verify that the printer is loaded with thermal transfer ribbon and that the ink-coated side faces the receiving face material.
Printing is faded.	Clean the printhead with the cleaning card. If printing is still faded, increase the density setup.
Prints only partial label.	Print carriage not completely locked. Label caught on printhead. Remove and clean.
Printer keeps printing or feeding when it should not.	Label caught on label gap sensor. Open top cover. Remove the label and clean using cleaning card or isopropyl alcohol. Possible firmware problem.
Printing stops and indicator lamp lights orange.	Possible problem with label gap sensor. Perform an autoadjust in the Test Mode. Possible media jam. Possible firmware problem.
Label stuck on roller.	Open the peel-off mechanism and use fingers to peel away stuck label while manually rotating the roller. Do not use any sharp tools! Clean using a cleaning card or a cotton swab moistened with isopropyl alcohol.
Label taken sensor does not hold printing until label/tag has been removed.	Label/tag bent down due to excessive length and/or too thin or soft media. Label/tag too short (less than 16 mm/.63 inches). Label taken sensor or cable defective.
Indicator lamp flashes red, printing is interrupted	Overtemperature. Wait for the printer to cool down until the indicator lamp switches to green and the printing (if halted) is automatically resumed.

A decorative graphic consisting of two overlapping circles. The larger circle is light gray and positioned on the left. A smaller, darker gray circle overlaps it from the right, with a small white dot at their intersection.

A **Technical Data**

This appendix lists the technical data for the EasyCoder PC4.

Appendix A — Technical Data

General

Direct thermal and/or direct thermal/thermal transfer printing on self-adhesive labels, non-adhesive tags, or continuous stock. Internal media roll or external fan-fold supply. Tear-off /peel-off or cut-off operation

Dimensions

Length:	259 mm	(10.20 inches)
Length with cutter:	290 mm	(11.4 inches)
Width:	230 mm	(9.06 inches)
Height:	166 mm	(6.54 inches)

Net Weight

Thermal transfer printer, excl. power supply, media, cable, cutter, battery pack, and memory cartridge: 2.30 kg (5.07 lbs)

Power

Separate power supply unit;

Input: 100 to 240 VAC/50 to 60 Hz, 1.9 A

Output: 24 VDC, 3.0A

Interfaces

1 × RS-232 serial (DB-9pin)

1 × Centronics parallel

1 × USB (v1.1)

Serial Communication

Variable; XON/XOFF and DSR/CTS protocols.

Ambient Temperature

Operation: +5°C to +40°C (+40°F to +104°F)

Storage: -20°C to +50°C (-4°F to +122°F)

Humidity

10 to 90% RH, non-condensing.

Ventilation

Free air.

Printhead

Standard: 203.2 dots/inch (8 dots/mm)
with 864 dots

Option: 300 dpi (11.81 dots/mm)
with 1208 dots

Printable Area

Width, max at 203.2 dpi	108.0 mm	(4.25 inches)
Width, max at 300 dpi	102.2 mm	(4.02 inches)
Length, max. (203.2 dpi):	1,140 mm	(45 inches)
Length, max. (300 dpi):	760 mm	(30 inches)

Media

Roll Diameter, max:	125 mm	(5 inches)
Core Diameter, min/max:	25.4/38.1 mm	(1.0/1.5 inches)
Media Width, max:	116.0 mm	(4.57 inches)
Media Width, min:	25.4 mm	(1.0 inches)
Label Length, min:	6.35 mm	(.25 inches)
Max. Thickness, rolls:	0.15 mm	(.0006 inches)
Max. Thickness, fan-folds:	0.17 mm	(0.006 inches)
Min. Thickness, all:	0.06 mm	(.003 inches)

Thermal Transfer Ribbons

Intermec transfer ribbons only (wax, hybrid, and resin) in widths of 33, 60, 63.5, 83.5, 89, and 110 mm (1.33, 2.36, 2.5, 3.29, 3.5, and 4.33 inches) centered on 110 mm (4.33 inches) wide cardboard cores.

Core inner diameter:	13 mm	(0.5 inches)
Max. ribbon roll diameter:	41 mm	(1.6 inches).

Ink coated side facing outwards, cores with notches

Printing Speed

8 dots/mm	30, 40, 50, 75, or 100 mm/sec. (1.2, 1.6, 2, 3, or 4 inches/sec.)
11.81 dots/mm	30, 40, or 50 mm/sec. (1.2, 1.6, or 2 inches/sec.)

Sensors

Label gap, label mark, label taken, out-of-media, ribbon end, print frame open/closed.

Print Directions

Text, bar codes, and graphics can be printed in four directions.

Fonts

5 resident alphanumeric fonts (can be magnified up to 8 times horizontally and 9 times vertically)

Appendix A — Technical Data

Bar Codes

Code 39 std. or extended
Code 39 w. check digit
Code 93
Code 128 UCC case code
Code 128 A, B, C
Codabar
EAN 8 std, 2 digit add-on, or 5 digit add-on
EAN 13 std, 2 digit add-on, or 5 digit add-on
Interleaved 2 of 5
Interleaved 2 of 5 w. check digit
Interleaved 2 of 5 w. human readable check digit
Postnet
Planet
UCC/EAN 128
UPC A std, 2 digit add-on, or 5 digit add-on
UPC E std, 2 digit add-on, or 5 digit add-on
UPC Interleaved 2 of 5
PDF417
MaxiCode
Data Matrix
QR Code
EAN.UCC Composit

Formatting

Print formats can be preprogrammed in flash memory

Memory

Flash Memory:	1 MB
DRAM Memory:	2 MB

User Interface

Keyboard:

One “Feed” button

Display:

1 multi-color LED indicator.

Accessories and Options

Memory Cartridge (1MB Flash)

Serial Communication Cable (RS-232)

Parallel Communication Cable (Centronics)

Paper Cutter

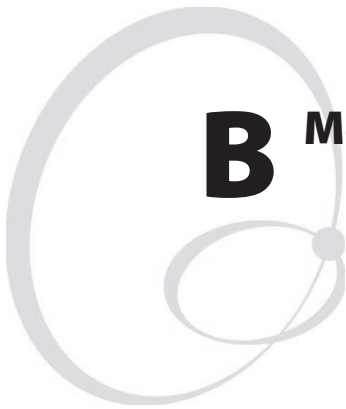
Printhead V-spring for stiff/thick media

Keyboard/Display Unit

Mobile Battery Unit

Battery Pack

Battery Charger



B Media Specifications

This appendix specifies the physical characteristics and sizes for the direct thermal media, receiving face materials, and thermal transfer ribbons that can be used in an EasyCoder PC4 printer.

Direct Thermal Media

Intermec offers two quality grades of **direct thermal** media for the Easy-Coder range of printers:

Premium Quality

Top-coated media with high demands on printout quality and resistance against moisture, plasticizers and vegetable oils. Examples...

Europe

Thermal Top Board

Thermal Top

Thermal Top High Speed

North America

Duratherm II,

Duratherm II Tag

Duratherm Ltg.

Duratherm IR

Economy Quality:

Non top-coated media with less resistance to moisture, plasticizers and vegetable oils. In all other respects, it is equal to Premium Quality. Examples...

Europe

Thermal Eco

Thermal Eco Board

North America

—

Thermal Transfer Media

Intermec offers **stock** media for thermal transfer printing in a wide range of quality grades.

Uncoated Papers

Used for economical high-volume printing in combinations with GP/TMX 1100/TMX 1500 ribbons. Examples...

Europe

TTR Uncoated

North America

—

Coated Papers

Coated papers have various coat-weight, smoothness, and gloss. To be used with HP/TMX 2500 and GP/TMX 100/TMX 1500 ribbons. Examples...

Europe

TTR Matte

TTR Premium

TTR Premium Board

North America

Duratron II

Duratron II Tag

Duratron II

Polyethylene Plastics

Good resistance to water and many common chemicals. Can be used outdoors and offer good tear resistance. Most often used in combination with HP/TMX 2500 ribbons. Examples...

Europe

TTR Polyethylene

TTR Gloss Polyethylene

North America

Kimdura

Kimdura Tag

Syntran

Polyesters

The materials of choice in combination with HR/TMX 3200 ribbons. Give high resistance to chemicals, heat, and mechanical abrasion. Examples...

Europe

TTR High Gloss Polyester

North America

Polyester

Transfer Ribbons

Intermec offer three types of thermal transfer ribbons optimized for different purposes:

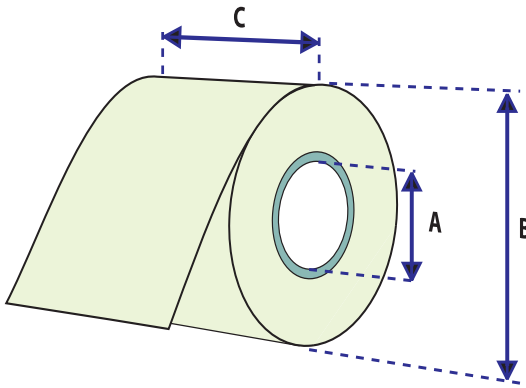
- **General Purpose (GP/TMX 1100, TMX 1500)** transfer ribbons allow high speed printing and give a good printout, but are somewhat sensitive to smearing. They may be the best choice for uncoated and coated papers.
- **High Performance (HP/TMX 2500)** transfer ribbons allow high speed printing and gives a highly readable and defined printout on most face materials with smooth surfaces. They have good “smear resistance” and are most suitable for intricate logotypes and images on matte coated papers and synthetic face materials.
- **High Resistance (HR/TMX 3200)** transfer ribbons give an extremely durable printout, which is resistant to most chemical agents and high temperatures. However, such transfer ribbons set high demands on the receiving face material, which must be very smooth, such as polyesters.

The use of HR/TMX 3200 ribbons requires the print speed and the energy supplied by the printhead to be controlled with great accuracy according to the receiving face material. Consult your Intermec distributor.



Note: Intermec thermal transfer ribbons are engineered specifically for the EasyCoder printheads.

Media Roll Size



Core

Diameter (A):	25.4 or 38.1 mm	(1.0 or 1.5 inches)
Max. width:	118 mm	(4.65 inches)

Roll

Max. diameter (B):	125 mm	(5 inches)
Max. media width (C):	116 mm	(4.57 inches)
Min. media width (C):	25 mm	(1 inches)
Max. media thickness:	0.15 mm	(0.006 inches)
Min. media thickness:	0.06 mm	(0.003 inches)

All types of media should normally be wound with the printable side facing outwards and unroll from the top of the roll. However tags and continuous strip can optionally be wound with the printable sidefacing inwards and unroll from the bottom of the roll as long as they are not used for cut-off operation.



Protect the media against sand, grit, and other hard particles during printing and storage. Keep the cover closed. Even very small foreign particles may cause severe harm to the delicate printhead.

Labels

← **a** → **Media width (incl. liner):**

Maximum: 116.0 mm (4.57 inches)

Minimum: 25.0 mm (1 inches)

← **b** → **Label length:**

Minimum: 6.35 mm (.25 inches)

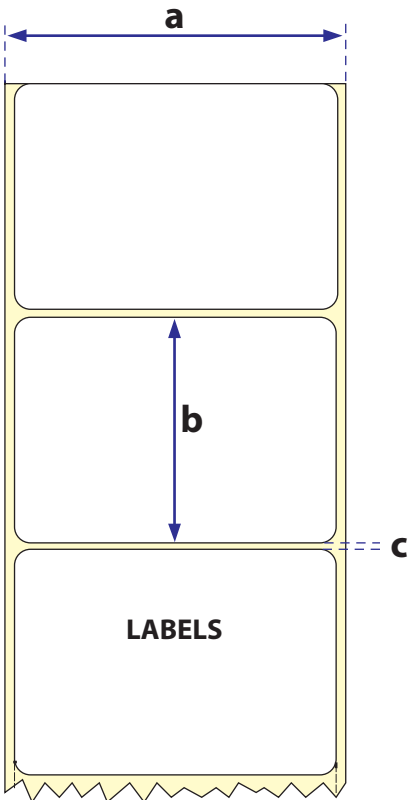
← **c** → **Label gap height:**

Maximum: 10 mm (.39 inches)

Minimum: 2 mm (.08 inches)

Liner:

Opacity: 75%



Tags and Strip with Slots

← **a** → **Tag or strip width:**

Maximum: 116.0 mm (4.57 inches)

Minimum: 25.0 mm (1.00 inches)

← **b** → **Tag length:**

Minimum: 6.35 mm (0.25 inches)

← **c** → **Detection slot width:**

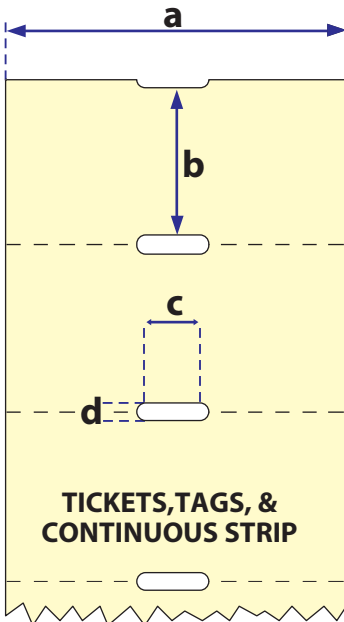
Minimum: 14 mm (0.55 inches)

← **d** → **Detection slot height:**

Maximum: 10 mm (0.39 inches)

Minimum: 1 mm (0.08 inches)

The label gap sensor is offset 4.5 mm (0.177 inches) to the right of the center of the media path.



Tags and Strip with Black Marks

← a → **Tag or strip width:**

Maximum: 116.0 mm (4.57 inches)

Minimum: 25.0 mm (1.00 inches)

← b → **Tag length:**

Minimum: 6.35 mm (0.25 inches)

← c → **Detection slot width:**

← c → **Black mark width:**

Minimum: 28 mm (1.10 inches)

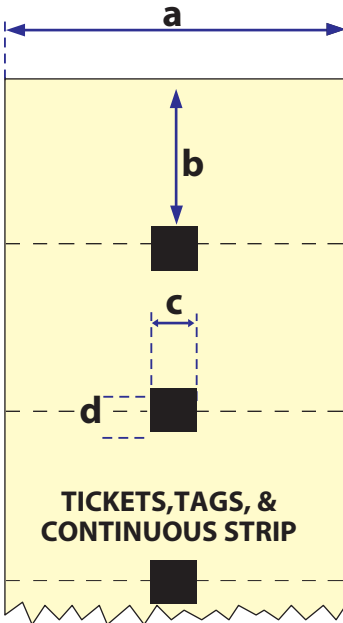
← d → **Black mark height:**

Maximum: 10 mm (0.39 inches)

Minimum: 3 mm 0.12 inches)

The black mark sensor is offset 10 mm (0.394 inches) to the right of the center of the media path.

Max. reflectance 5% at 940 nanometer. Carbon black.



Plain Continuous Stock

The EasyCoder PC4 can use continuous stock without any detection slots or black marks. The printer must be set for continuous stock by the **Q** command (see *Intermec ESim v6.XX, Programmer's Reference Manual*).

The length of each copy is decided by the size of the print image and any additional media feed is decided by the **Q** command.

Continuous stock cannot be used in the Test (Dump) Mode.

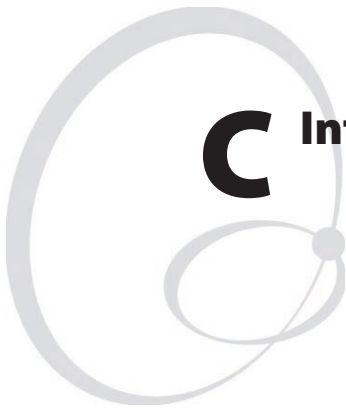
← **a** → **Tag or strip width:**

Maximum: 116.0 mm (4.57 inches)

Minimum: 25.0 mm (1.00 inches)



Appendix B — Media Specifications



C Interfaces

This appendix describes the signals on the serial RS-232 port and the parallel IEEE 1284 port. The USB port has a standard USB socket.

Parallel Interface

Handshake: DSTB to printer and BUSY to host.

Printer connector: 36-pin female Centronics connector.

Pin	Signal Name	Transmitter
1	-Strobe	Host
2–9	Data 0–7	Host
10–11	Busy	Printer
12	Paper empty	Printer
13	Select	Printer
14–15	Not connected	
16	Signal ground	
17		Chassis ground
18	+ 5V DC	Max. 500 mA ¹
19–30	Signal ground	
31	-Init	
32	-Fault	Printer
33	Signal ground	
34–36	Selectin	

¹/. The combined load on the external +5V on both the parallel and the serial port must not exceed a total of 500 mA.

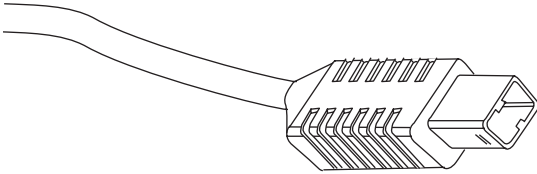
RS-232 Serial Interface

Printer connector: DB-9pin female RS-232 connector.

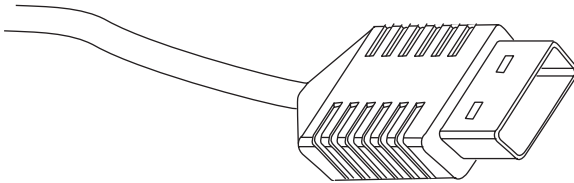
Printer		EasyCoder PC4		Host	
Signal	DB-9	Signal	DB-9	DB-25	Signal
	1	+5V 500 mA ¹	1		
RXD	2	TXD	2	3	RXD
TXD	3	RXD	3	2	TXD
DTR	4	–	4	20	DTR
GND	5	GND	5	7	GND
DSR	6	RDY	6	6	DSR
RTS	7	–	7	4	RTS
CTS	8	RDY	8	5	CTS
	9	–	9		

¹/. The combined load on the external +5V on both the parallel and the serial port must not exceed a total of 500 mA.

USB Interface



Printer end of USB cable



Computer end of USB cable

A decorative graphic consisting of two overlapping circles. The larger circle is light gray and positioned on the left. The smaller circle is also light gray and positioned to the right and slightly below the center of the larger circle. A small gray dot is located at the point where the two circles intersect.

D Firmware Upgrading

This appendix describes how to upgrade the printer's firmware.

Requirements

There are two methods to upgrade the printer's firmware:

Using a PC

To upgrade the printer's firmware via a cable connection from a PC running MS Windows, you will need the following:

- The Intermec EasyCoder PC4 Config Tool. This is a free software running under Microsoft Windows¹. It makes it possible to download various firmware version either directly to the printer or to a memory cartridge. It also supports font downloading and memory partitioning. The Config Tool supports seven languages and comes with a comprehensive on-line help in English.
- An upgrading file (.ufz). The Intermec EasyCoder PC4 Config Tool comes with a collection of firmware upgrading files. New files can be downloaded from the Intermec Web site (<http://www.intermec.com>) and should be located in the subfolder "Firmware."
- A host computer running Microsoft Windows with a parallel, USB, or RS-232 connection to the EasyCoder PC4. (Parallel or USB connections are recommended.)
- Optionally a memory cartridge with 1 MB of Flash memory.

Using a Memory Cartridge

To upgrade the printer's firmware using a memory cartridge, you will need the following:

- A factory-programmed upgrading memory cartridge from Intermec (recommended if you cannot use MS Windows) or a upgrading memory cartridge created using the Intermec EasyCoder PC4 Config Tool.

¹/ . Supported versions of MS Windows: Windows 98, Windows Me, Windows 2000, and Windows XP.

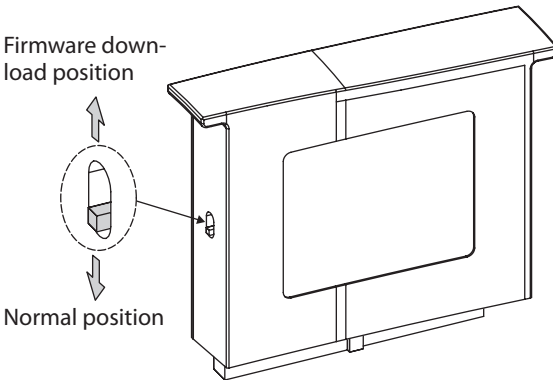
Instructions

Using a PC

- 1 Install the Intermec EasyCoder PC4 Config Tool in your PC.
- 2 Run the `PC4Conf.exe` program.
- 3 Set up the parameters for the firmware download. Use the on-line help for instructions.
- 4 Start the Firmware download wizard and follow the instructions on the screen.

Using a Memory Cartridge

- 1 Switch off the printer.
- 2 Move the switch on the side of the cartridge to the upper position.



- 3 Insert the cartridge.
- 4 Switch on the printer. The indicator lamp will start blinking during the upgrading. Wait until the blinking stops, which takes about 40 seconds.
- 5 Switch off the printer and remove the memory cartridge. Put back the cover over the memory cartridge slot.



Caution

If the cartridge is removed at an angle, the connector pins may be bent.

Appendix D — Firmware Upgrading

- 6** Press the Feed key and keep it pressed and at the same time switch on the power to the printer (also see “Test Mode” on page 29). A test label will be printed. Check the version number on the test label to verify that the upgrading has been successful.
- 7** Tap the Feed key once to leave the Dump Mode and return to normal operation.
- 8** You can use the same memory cartridge to upgrade several printers by moving the cartridge from printer to printer and repeat this procedure for each printer. Be careful not to change the position of the memory cartridge switch until all printers have been upgraded.
- 9** The cartridge can be used as a normal memory expansion cartridge after the upgrading is completed. Move the switch back to normal position, insert the cartridge in a printer, and switch on the printer. The memory cartridge will then be formatted automatically.



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EasyCoder PC4 User's Guide



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