Installation & Operation

EasyCoder E4
Bar Code Label Printer

Intermec
Technologies Corporation

A **UNOVA** Company

Contents

Contents, cont.

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.

Declaration of Conformity

We,

Intermec Printer AB
Idrottsvägen 10
Box 123
S-431 22 Mölndal
Sweden

declare under our sole responsibility[1] that the product

EasyCoder E4

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

Electrical Safety: EN 60950
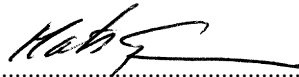
EMC Emissions: EN 50081-1:92
(EN 55022:94, class A, EN 61000-3-2:95)

EMC Susceptibility: EN 50082-1:92
(IEC 801-2:84, IEC 801-3:84, IEC 801-4:88)

following the provisions of Directives

89/336/EEC and 73/23/EEC

Mölndal 1999-10-17

........................../.....................................

Mats Gunnarsson
President

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

Introduction
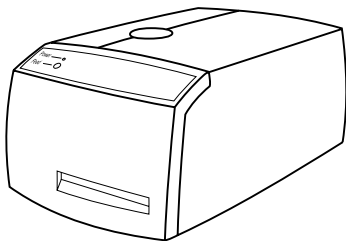
The EasyCoder E4 printer is a combined thermal transfer and direct thermal printer. It is simple to operate, and is designed to work with any computing device capable of ASCII output.

The EasyCoder E4 can print labels, tickets, or tags in three ways:
• Tear-off (Straight-through), where the media must be torn off manually against the tear bar. Self-adhesive labels will remain attached to the liner (backing paper) and must be removed by hand.
• Peel-Off (Self-strip), where each self-adhesive label is printed, automatically removed from its liner (backing paper), and presented to the operator. Each subsequent label is held until the Label Taken Sensor shows the previous label has been removed. The liner is wound up on a hub inside the media compartment.
• Cut-off, where continuous stock is automatically cut into tickets or tags by means of an optional paper cutter. The cutter can also cut through the liner between labels.

The EasyCoder E4 printer is fitted with an 8 dots/mm (203.2 dots-per-inch) printhead, which can use two printing technologies:
• Thermal transfer, printing by transferring ink from a special transfer ribbon onto various types of receiving face materials, such as paper, polyethylene, or polyester.
• Direct transfer, printing directly onto heat-sensitive media.

The EasyCoder E4 is provided with its own version of the Intermec Direct Protocol (see Appendix 4 and the *Intermec Direct Protocol, Programmer's Guide.*) It is also supported by a series a standard application software packages from Intermec:
• Intermec InterDriver with ActiveX controls allows printing from most programs that are run under various versions of Microsoft Windows and NT.
• Intermec LabelShop is a label-formatting program available in a number of versions and supports various versions of Microsoft Windows and NT.
• Intermec PrintSet is a software for setting up EasyCoder printers and printing test labels. It runs under various versions of Microsoft Windows and NT.

You can connect the host computer to the EasyCoder E4 via the serial RS-232 port or the parallel Centronics port. A PCMCIA port is also provided so that you can fit an extra memory card or a font card.
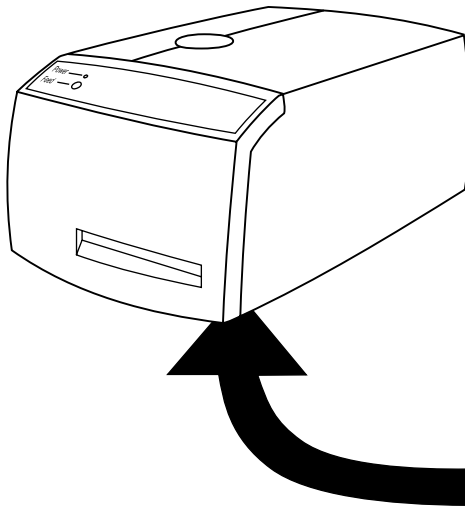
Safety Requirements

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.

Caution
- Read this manual carefully before connecting the printer.
- Moving parts are exposed when the side door is open, so ensure that the door is closed before you operate 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 of approximately 4.7 kg (10.3 pounds) plus supplies.
- Do not spray the printer with water. If 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.
- Do not transport the printer without first removing any supplies.

Product Labeling

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.

EasyCoder E4

Model #
1-301020-11

Serial #
00021

110-120/220-240V 4/2A 60/50Hz

CSA
NRTL/C
LR-109644-1

CE

N309

This equipment complies with the requirements for a Class A computing device in FCC Rules Part 15 Subpart J. Operation of this device in a residential area may cause harmful interference requiring the user to take whatever steps may be necessary to correct the interference.

INTERMEC PRINTER AB, SWEDEN   MADE IN SWEDEN

Installation

Unpacking

Before you install the printer, examine the package for possible damage or missing parts:

- Open the box and lift the printer out.
- 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.
- The label at the bottom of the printer gives the voltage, the part number, and the serial number. The part number indicates build options.
- Check that any options you ordered are included.
- Check that all the accessories are included. As standard, the box contains:
  - Intermec EasyCoder E4 printer
  - Power cord
  - Quality check card
  - Cleaning card
  - Starter pack of labels
  - Starter pack of thermal transfer ribbon
  - Set of manuals
  - Supporting software and product information on CD
  - Parallel interface cable.
- Check that the power cord and the preset voltage are appropriate for the local standard.
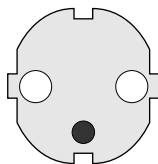
European-type 230 VAC plug   *US/Canadian-type 115 VAC plug*   *GB-type 230 VAC plug*
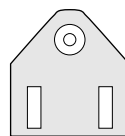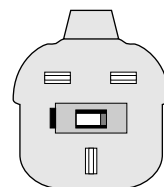
If the printer has been damaged in any way during transportation, complain to the carrier immediately.

If the delivery is incorrect or any parts are missing, report it immediately to the distributor.

Main Parts

Side Cover Release

Transfer Ribbon
Supply Hub

Media Supply Roll Post

Front Cover Release

Transfer Ribbon
Rewind Hub

Label Taken Sensor

Cutter Interface

Bar Code Wand Socket

Thermal Printhead

Tear Bar

Printhead Lift Lever

Liner Takeup Hub

Guide Shafts
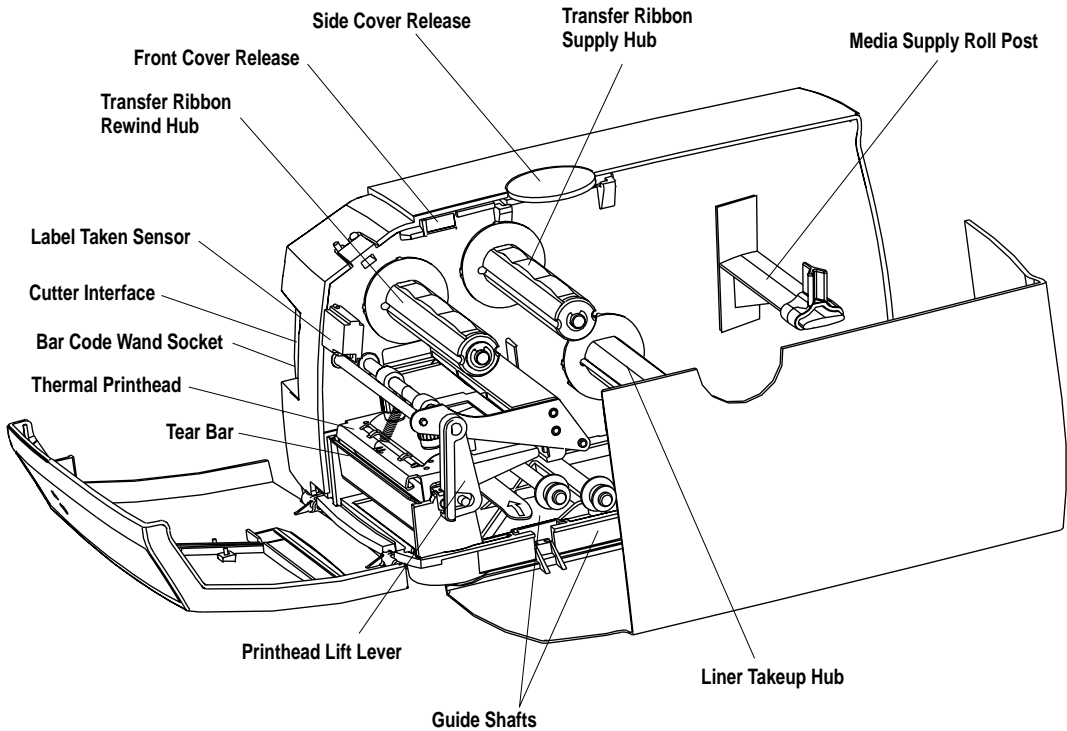
*The left side of the case is
not designed to be opened
by the operator.*

Connections

Power

1 Place the printer on a level surface, near an AC outlet. You should be able to easily access the printer to load media, to load ribbon, and to remove the printout.
2 Check that the printer is switched off.
3 Connect the power cord to the receptacle on the rear plate and to an electrical outlet (110-120 or 220-240 VAC.)

Computer

The EasyCoder E4 is fitted with a 36pin female Centronics connector for the parallel interface port and a DB-9pin female connector for the RS-232 serial interface port.

- *Centronics Parallel Interface:* Use the parallel interface with the Intermec InterDriver (for Windows) because it is faster than the serial interface.
- *RS-232 Serial Interface:* Use the serial interface with the Direct Protocol because you can receive error messages from your printer. This is not available using the parallel interface.

Switch off both the PC and the EasyCoder E4 before connecting them together.

The EasyCoder E4 is also fitted with a Type 3 PCMCIA slot, which can hold up to two Type 1 or Type 2 PCMCIA cards (5V.) These can be Memory cards or Font cards and are optional.

PCMCIA card ejection buttons
PCMCIA card slot
RS-232 serial interface connector
ON/OFF switch
AC receptacle
Centronics parallel interface connector
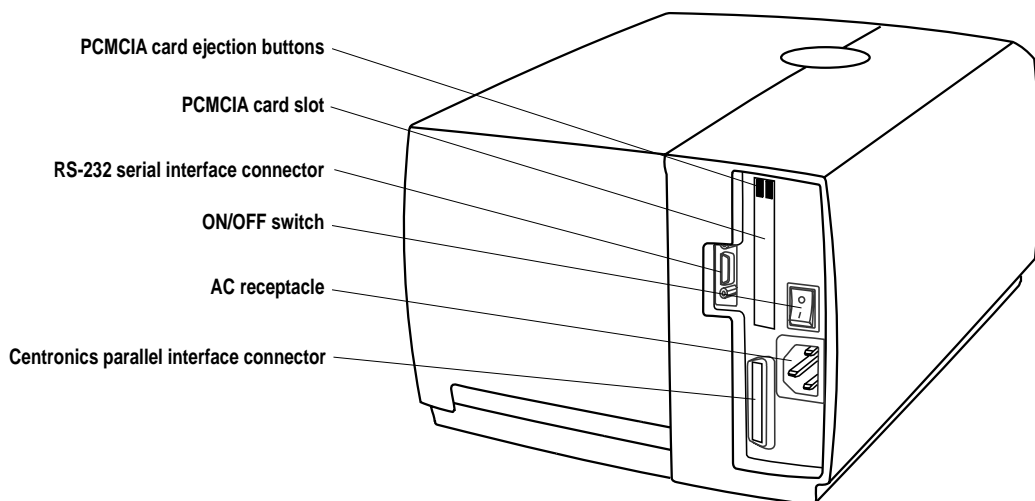
Controls and Indicators

The EasyCoder E4 has one control (the **Feed** button) and one indicator (the **Power** LED.) The **Power** LED is tri-colored and indicates the status of the printer.

Power LED

LED shows	Meaning
No light:	Power off
Green: • Steady • Flashing • Single Flash	 Power on Busy (executing or receiving data) Bar code successfully read
Amber: • Steady • Momentarily	 Bar code wand active (lasts max. 10 sec:s) During power on
Red: • Steady • Single flash	 Bar code wand inactive Error condition, for example... - Printhead lifted - Out of media - Out of ribbon - Media jam in cutter Bar code reading failed

Power LED
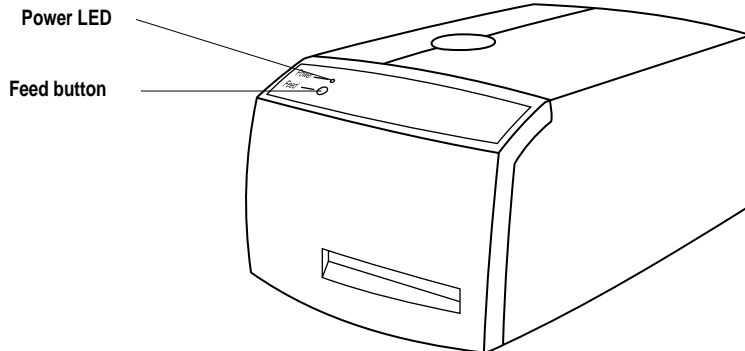
Feed button

Feed Button

Press **Feed** to dispense a blank label, if no label design has been downloaded to the printer.

Press **Feed** to print a label after a label design has been downloaded to the printer <u>and</u> the **Feed** button has been set up to work as a **Print** button (see Chapter 3, "Operation/Printing a Label.)" You can also use **Feed** to print a test label (see Chapter 3, "Operation/Printing Test Labels.)"

Operation

Media Load – Tear-Off
(Straight-through)

The same loading principles apply to thermal transfer receiving media as well as direct thermal media. Linerless media requires an EasyCoder E4 LinerLess printer.

To tear off the media after feeding or printing it, pull it downwards against the tear bar.

> *Caution!*
> *Before shipping the printer, always remove any roll from the media supply roll post.*

HINT!
To facilitate media and ribbon load, you can remove the side cover by opening it halfway (45°) and lift the hinges out of their pockets in the bottom moulding.

1	2
Open the side and front covers.	*Raise the printhead.*
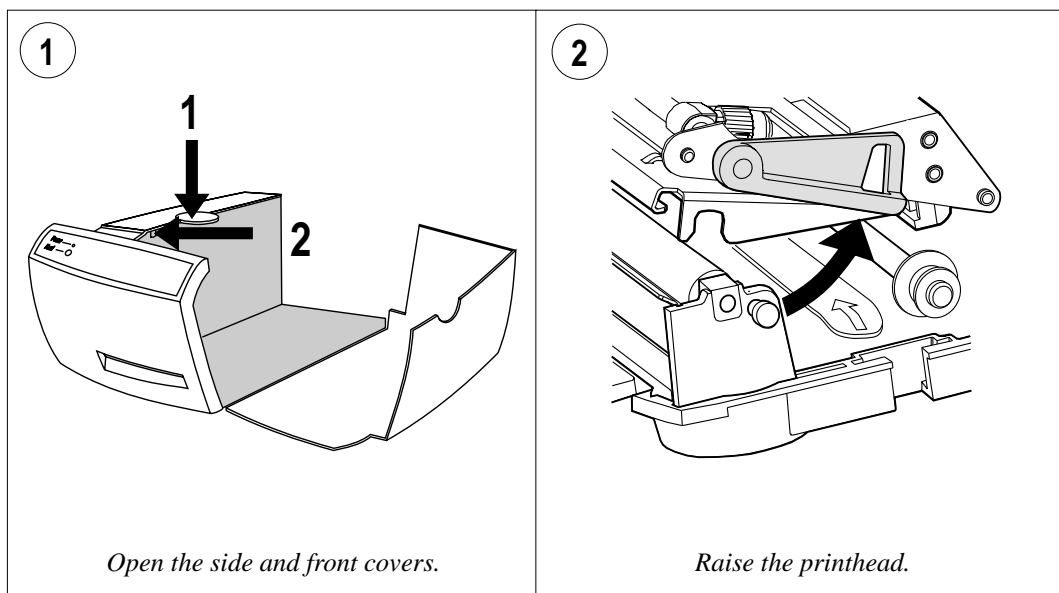
Media Load – Tear-Off, cont.

③
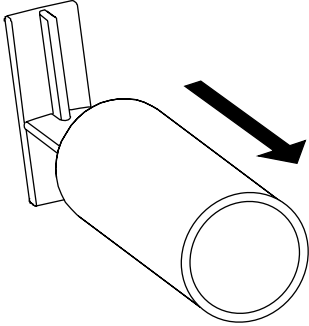
Remove any empty cardboard core from the post. It is not necessary to remove the edge guide.

④
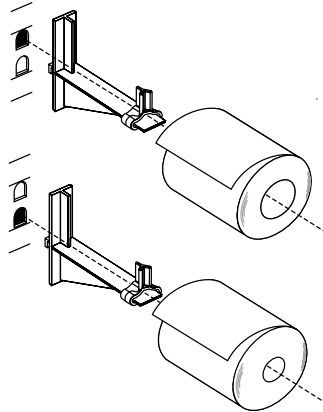
Check that the media supply roll post is in the correct position for the size of the media roll. The post is easier to move if first rotated $^1/_4$ of a turn. Push the new roll as far in as it will go and adjust the edge guide.

⑤
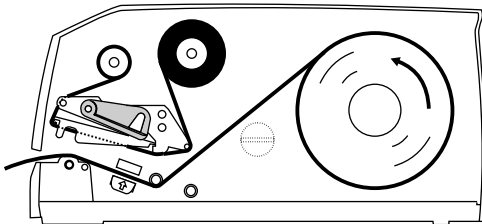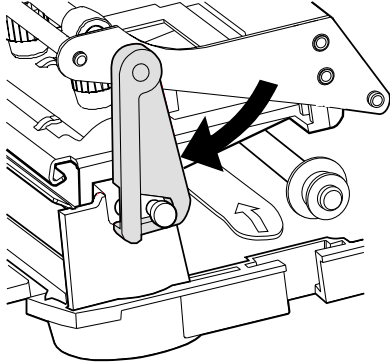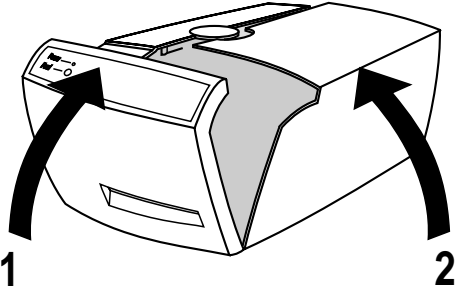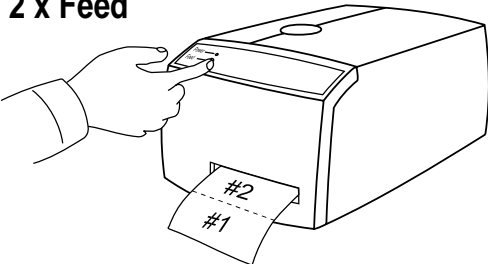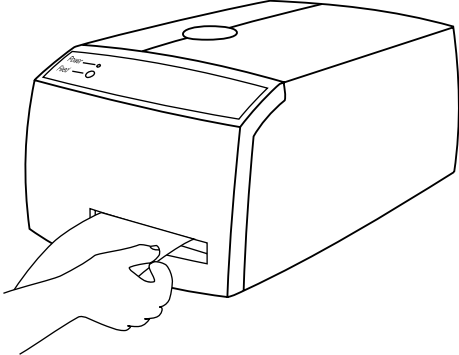
Route the media between the guide rollers, between the two parts of the ribbon/media sensor, over the platen roller and out through the feed-out slot.

⑥
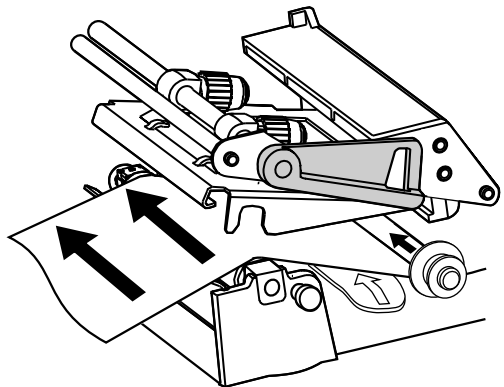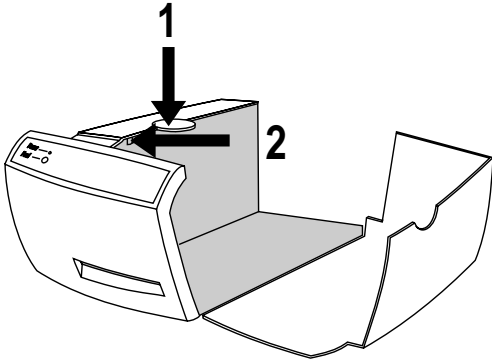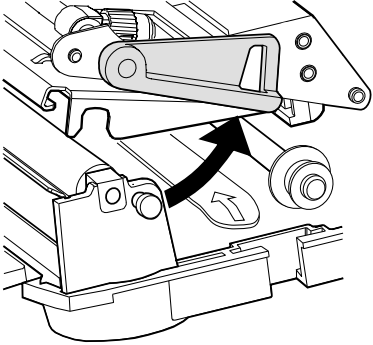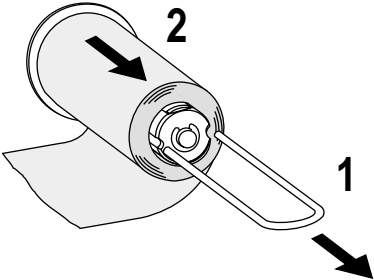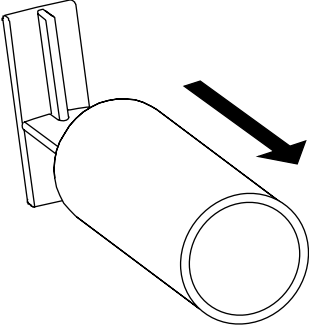
Push the media as far in as it will go and adjust the edge guide ring according to the width of the media.
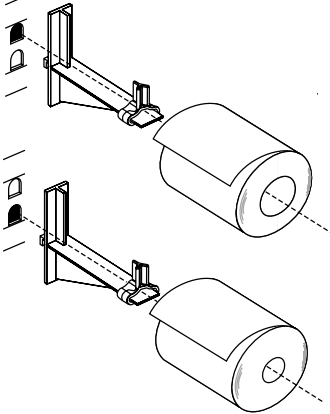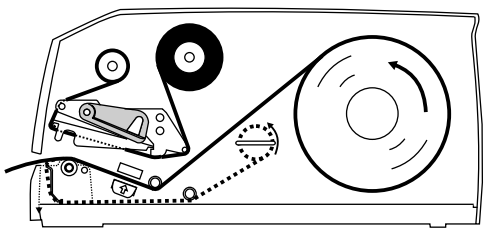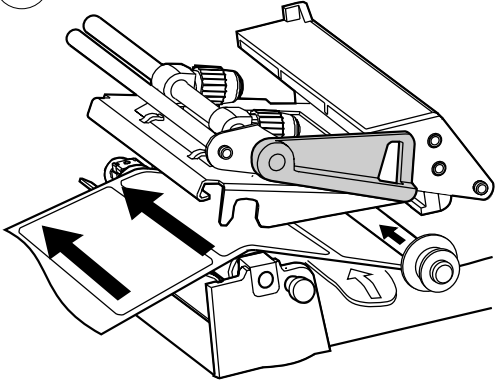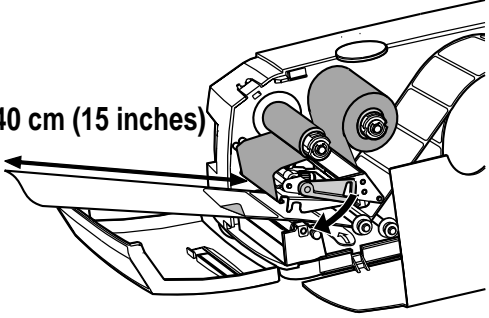
Media Load – Tear-Off, cont.

⑦

Lower the printhead.

⑧

1   **2**

Close the covers.

⑨

2 x Feed

#2
#1

*Print out two blank copies by pressing **Feed** twice. If loading media for the first time or when switching to a new type or brand of media, instead print a test label as described at the end of this chapter.*

⑩

To tear off the media, pull it downwards against the tear bar.

Media Load – Peel-Off (Self-Strip)

1	**2**
Open the side and front covers.	*Raise the printhead.*
3	**4**
Pull out the clip on the liner takeup hub and remove all used liner.	*Remove any empty cardboard core from the post. It is not necessary to remove the edge guide.*

Media Load – Peel-Off, cont.

(5)	(6)
Check that the media supply roll post is in the correct position for the size of the media roll. The post is easier to move if first rotated $^1/_4$ of a turn. Push the new roll as far in as it will go and adjust the edge guide.	*This shows the correct label and liner paths.*
(7)	(8) **40 cm (15 inches)**
Push the media as far in as it will go and adjust the edge guide ring according to the width of the media.	*Pull out approx. 40 cm (15 inches) of labels and remove the labels from the liner. Lower the printhead.*

Media Load – Peel-Off, cont.

⑨

Route the liner over the tear bar, under the platen roller, and under the lower guide shaft.

⑩

2

1

Wind up the liner on to the takeup hub and secure with the clip. Wind up the liner so that the media becomes tight.

⑪

1

2

Close the covers.

⑫

2 x Feed

#2

#1

*Print out two blank copies by pressing **Feed** twice. If loading media for the first time or when switching to a new type or brand of media, instead print a test label as described at the end of this chapter.*

Media Load – External Supply

The EasyCoder E4 printer can use various types of external media supply, for example boxes of fan-folded tickets or an external media roll.

For smooth operation, ensure that the external media supply is lower than the external intake of the printer.

The printer can be supplied with media externally via the slot in the rear panel.

When using an external supply, protect the media from dust, sand, grit, and other hard particles which may damage the printhead.
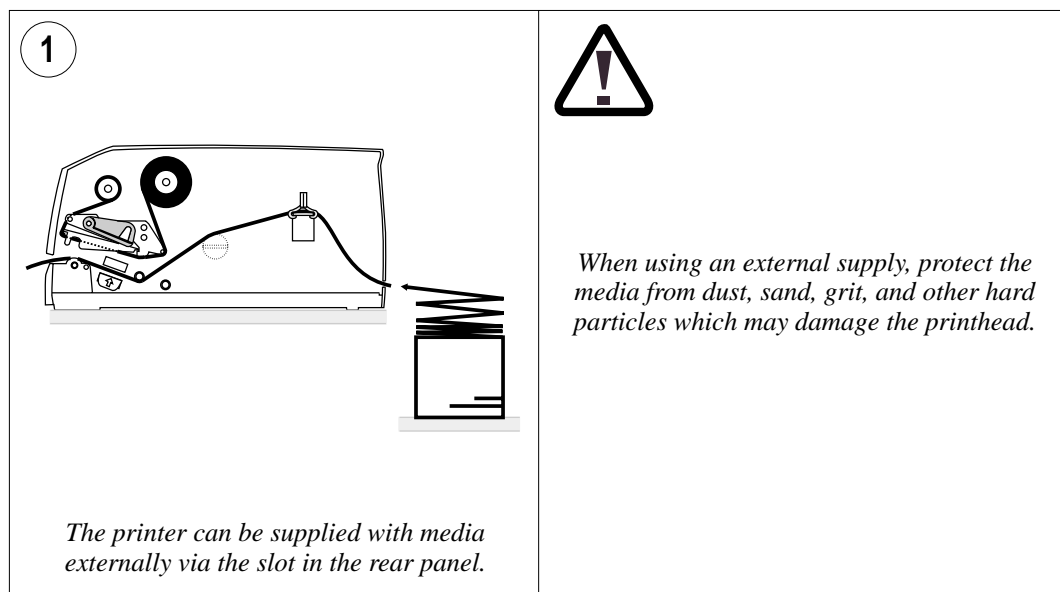
Ribbon Load

You do not need any thermal transfer ribbon when printing on heat-sensitive materials. When you use the thermal transfer printing method, it is important to match the type of transfer ribbon with the receiving face material you are using.

Thermal transfer 'ink' does not smear at normal room temperature.

In case of ribbon wrinkling problems, see Chapter 5, "Troubleshooting" for instructions.

> ***Important!***
> *Intermec thermal transfer ribbons are engineered specifically for the EasyCoder E4 printhead.*

Open the side and front covers.

Raise the printhead and remove any used ribbon and the empty core. Keep the empty core for use with next ribbon load.
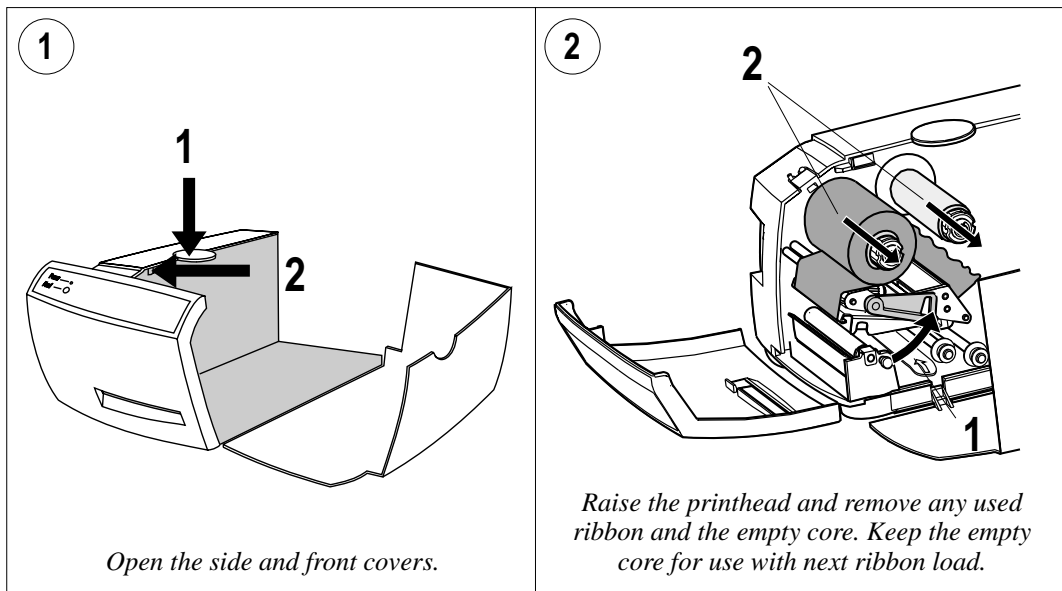
Ribbon Load, cont.

③
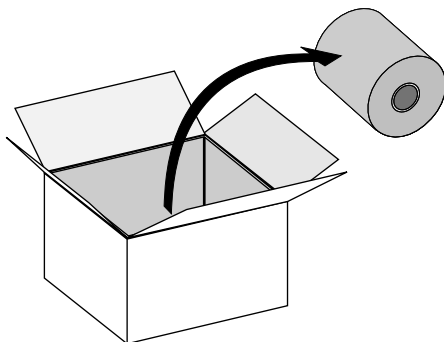
Unpack a roll of original Intermec thermal transfer ribbon.

④
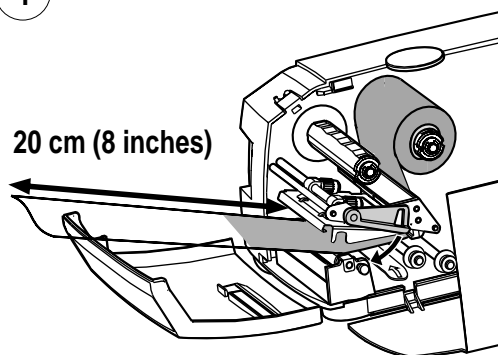
20 cm (8 inches)

Press the ribbon roll onto the ribbon supply spool and route the ribbon under the printhead with the ink-coated side facing down. Pull out approx. 20 cm (8 inches) of ribbon and lower the printhead.

⑤

1

2

3
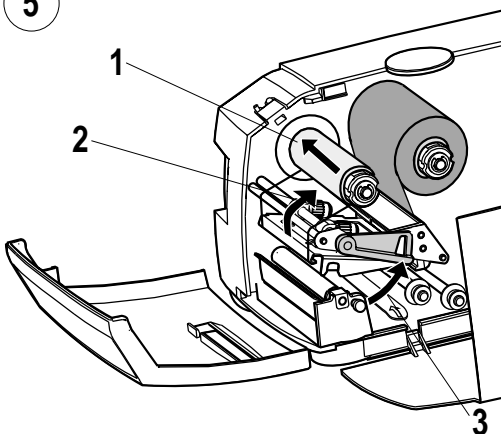
Press an empty core onto the ribbon rewind hub (1.) Tape the transparent ribbon leader to the core (2) and raise the printhead (3.)

⑥
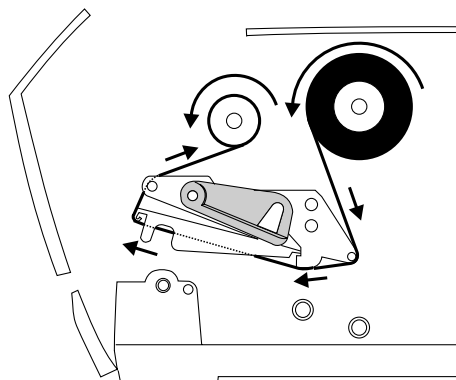
Both ribbon cores must rotate counterclockwise.

Ribbon Load, cont.

⑦

1

2

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

⑧

1   **2**

Close the covers.
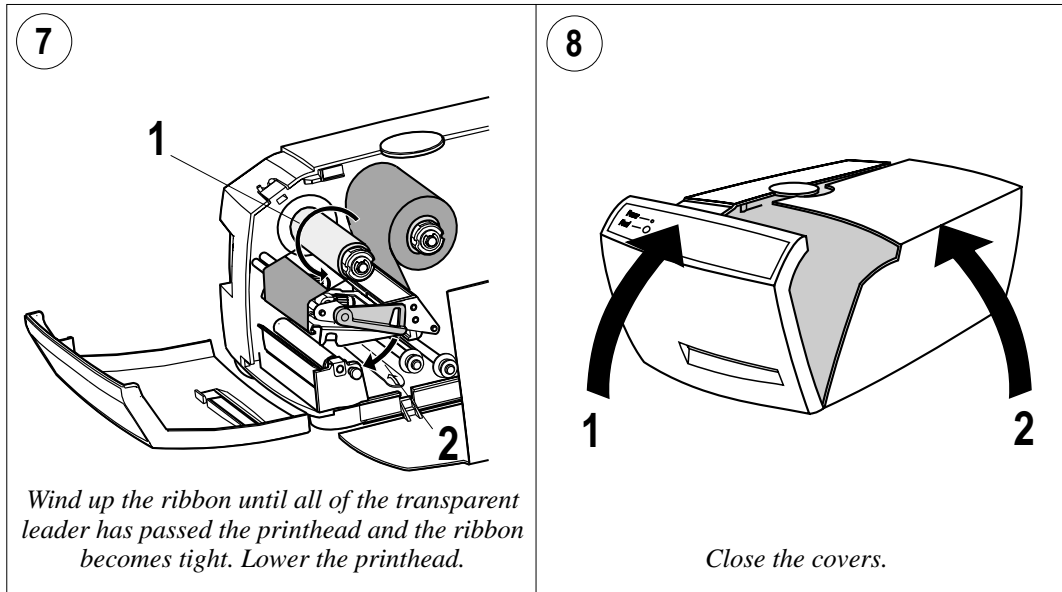
Printing Test Labels

The EasyCoder E4 prints a test label containing the printer's current setup and other useful information. It also contains a test bar and a crosshatch pattern that allow you to check that the printhead is performing correctly.

Another important function is that the label stop sensor is automatically adjusted for characteristics of the type of media loaded when the test label is printed (testfeed.) Always print a test label when you have changed to another type or brand of media. (This is especially important with self-adhesive labels so the sensor can be adjusted for the transparency of the liner.)

To print the test label:

1 Switch off the printer.

2 Press and hold the **Feed** button while switching the printer on.

3 When the green LED flashes, release the **Feed** button.

4 The printer carries out a `TESTFEED` and sets the printhead resistance.

5 After a delay, the test label is printed as illustrated on next page.

6 The printer now enters the Dump Mode, in which all ASCII characters received from the host on any port will printed on labels.

7 To exit the Dump Mode, briefly **tap** the **Feed** button. (If you press the **Feed** button for three seconds or more, the printer will be reset to facory default.)

Test labels are designed to be printed on continuous stock. If the printer is loaded with labels, some lines of the test label may be positioned in the gaps between the labels.

Test labels can be printed on either direct thermal or thermal transfer media. If the printer has been loaded with the wrong media (for example when it is set up for direct thermal printing and thermal transfer ribbon is loaded), the LED turns red when you attempt to print a test label. Correct the fault, then press **Feed** to cancel the error status and the test label is printed. If transfer ribbon is not loaded when it is required, the label will be blank.

If you wish to return the printer to its default setup, press and hold **Feed** for three seconds after printing the test label.

When you change the printer's setup, the new settings are saved and will remain in operation until you reset or change them, even after the printer has been switched off.

Printing Test Labels, cont.

Example of a test label:

Mode of Operation

Now in DUMP mode:
Press Feed to exit

Crosshatch pattern

Setup parameters

```
LSS ADJUST,20
STOPADJ,0
STARTADJ,0
XSTART,0
WIDTH,832
LENGTH,1200
MEDIA TYPE,LABEL (w GAPS)
HEAD RESISTANCE:651
THERMAL TRANSFER
PERFORMANCE,NORMAL
CONTRAST,5
UART1,BAUDRATE,9600
UART1,PARITY,NONE
UART1,CHAR LENGTH,8
UART1,STOPBITS,1
UART1,FLOW CONTROL,RTS/CTS,DISABLE
UART1,FLOWCONTROL,XON/XOFF,DATA FROM HOST,DISABLE
UART1,FLOWCONTROL,XON/XOFF,DATA TO HOST,DISABLE
UART1,NEW LINE,CR/LF
```

Firmware version number

Label size (in dots)[1]

Serial port setup

Total length of media printed
since last font upgrading

Test bar

V2.01

Page: 832x1200
SERCOM:9600N81
Km of labels: 0.000

Hold Feed for 3 seconds
to reset setup parameters.

[1]/. The label size given on the test label is the size for which the printer has been set up. Thus, it is not necessarily the actual size of the labels loaded into the printer.

Printing a Label

You can print labels using the Intermec InterDriver, Intermec LabelShop, or the EasyCoder E4 Direct Protocol programming language.

Intermec InterDriver

If you are using the Intermec InterDriver for the EasyCoder E4:
• Design a label in, for example, MS Office or Intermec LabelShop.
• Enter the number of copies required in the InterDriver application.
• Send the label to print.

Intermec LabelShop

If you are using some version of Intermec LabelShop:
• Follow the instructions in the manual for the version of LabelShop installed in your PC.

EasyCoder E4 Direct Protocol

If you are using EasyCoder E4 Direct Protocol, there are two ways to prepare and print a label. These methods allow the EasyCoder E4 also to be used with other operating systems than Microsoft Windows and NT.
• Type instructions in the Direct Protocol programming language into a terminal program, which sends them to the printer one instruction at a time. To print a label, send a **PRINTFEED** command.
• Type instructions in the Direct Protocol programming language into a text editor and send the resulting text file to the printer using DOS Copy or a terminal program. If you include a **PRINTFEED** command in your file, the printer will print the label immediately.

You can tell the printer how many copies you want by adding a number to the **PRINTFEED** command, for example **PRINTFEED 22**.

When you have sent a label to the printer, it will be printed out whenever you send a **PRINTFEED** command. If you switch off the printer or send any command starting a new label, the previous label format will be lost.

If you have enabled the **Feed** button to work as a print button using a **PRINTKEY ON** command, a new copy of the label presently stored in the image buffer will be printed each time you press the **Feed** button.

See Appendix 4, "Programming" or the *EasyCoder E4 Direct Protocol, Programmer's Guide* for further information.

Printer Setup

Setup Methods

There is a number of methods you can use to set up the printer for the desired type of serial communication and control the printing according to type and size of media and in regard of print speed.

The printer is always provided with the EasyCoder E4 Direct Protocol. This chapter mainly explains how to set up the printer using the Direct Protocol.

There is also a number of supporting software packages from Intermec that can send setup data to the printer in a form that the Direct Protocol understands. Thus, you do not have to type intricate commands but only have to click an option or enter some data in menus presented in a Windows-compatible environment.

The following software allows you to set up the printer:
• Intermec PrintSet v2.1 or later
• Intermec InterDriver with or without ActiveX controls
• Intermec LabelShop (various versions)

The number of setup options may vary according to type of software. Please refer to the manual or the on-line help that came with the software in question.

Even if you use a software package to set up the printer, you may find this chapter instructive as it explains what the various options stand for and what choices you have. You can find more information on the EasyCoder E4 Direct Protocol in Appendix 4. For a full description, please refer to the *EasyCoder E4 Direct Protocol, Programmer's Guide.*

Communication Setup

The EasyCoder E4 can receive data on both the parallel and serial port, so there is no need to specify which port is to be used:
- Either compose a text file containing the required setup commands and send it to the printer via the parallel port,
- or establish two-way serial communication between printer and host computer as described below.

To set up two-way serial communication with the EasyCoder E4:
1 Print out a test label to check the printer's RS-232 serial port setting (see Chapter 3, "Operation; Printing Test Labels.)"
2 Configure the serial port on your host computer to match the printer's settings.
3 Use the **SYSVAR(18)=n** command to set what kind of information will be passed back from the printer (called the Verbosity Level.)
4 Use the **SETUP** command to configure the serial port settings.

SYSVAR Verbosity Level settings:
-1   All levels enabled (Default)
0   No verbosity
1   Echo received characters
2   "OK" after correct command lines
4   Echo input characters from communication port
8   Error after failed line

Bits can be combined so for example **SYSVAR(18)=3** means both *"Echo received characters"* and *"OK after correct command lines".*

Once the printer and computer can communicate using the default serial port settings, you can change the settings to whatever communications settings you require, first on the printer and then on the computer.

Once you have established a working serial communication both ways between printer and host, you can use the command to configure the printer as described on the following pages.

Communication Setup, cont.

By default, the serial port is set for 9600 baud, no parity, 8 data bits, 1 stop bit, XON/XOFF disabled both ways. Note that as soon as a parameter is changed, you must change the setup of the host the same way, or the communication will be lost.

- **Baud Rate**

  This setting controls the speed of the serial communication between printer and host (1 baud = 1 data bit per second.) There are 8 options:

  300   600   1200   2400   4800   9600   19200 38400

  Setup string, example:
  `SETUP "SER-COM,UART1,BAUDRATE,9600" ↵`

- **Parity**

  This setting controls how the software will check for errors in the serial communication. There are 5 options:

  None Even Odd   Mark   Space

  Setup string, example:
  `SETUP "SER-COM,UART1,PARITY,NONE" ↵`

- **Character Length**

  This setting controls how many bits are used to specify a character in the serial communication. There are two options:

  7   Characters ASCII 0-127 dec. can be transmitted
  8   Characters ASCII 0-256 dec. can be transmitted

  Setup string, example:
  `SETUP "SER-COM,UART1,CHAR↔LENGTH,7" ↵`

- **Stop Bits**

  This setting controls how many bits are used to specify a stop character in the serial communication. There are two options:

  1 or **2**

  Setup string, example:
  `SETUP "SER-COM,UART1,STOPBITS,1" ↵`

In the setup string examples, a double-headed arrow (as in "CHAR↔LENGTH") indicates a mandatory space characters in the command line.

Quotation marks (" ") are ASCII 34 dec.

Communication Setup, cont.

Note:
It is not recommended that you enable XON/XOFF, Data to Host.

- **Data Flow Control**
  Data flow control determines serial communication between printer and host. It prevents characters being lost when data is transferred between printer and host at high speeds over the RS-232 serial port. It is important that the printer and host have the same configuration.

  There are three recommended settings for controlling data flow between printer and host.

  - **No flow control**
    RTS/CTS is disabled
    XON/XOFF, Data from Host is disabled.
    XON/XOFF, Data to Host is disabled

  - **RTS/CTS**
    This protocol controls communication by handshake signals through separate wires in the cable.
    RTS/CTS is enabled
    XON/XOFF, Data from Host is disabled.
    XON/XOFF, Data to Host is disabled

  - **XON/XOFF, Data from Host**
    This protocol controls communication using the special characters XON (ASCII 17 dec.) and XOFF (ASCII 19 dec.) which are transmitted on the same wires as the data.
    RTS/CTS is disabled
    XON/XOFF, Data from Host is enabled
    XON/XOFF, Data to Host is disabled

  Setup strings, examples:
  ```
  SETUP "SER-COM,UART1,FLOWCONTROL,RTS/CTS,DISABLE" ↵
  SETUP "SER-COM,UART1,FLOWCONTROL,XON/XOFF,DATA↔TO↔HOST,DISABLE" ↵
  SETUP "SER-COM,UART1,FLOWCONTROL,XON/OFF,DATA↔FROM↔HOST,ENABLE" ↵
  ```

- **New Line Character**
  This setting specifies the character(s) transmitted from printer to host to initiate switching to a new line:
  - CR   (ASCII 13 dec.)
  - LF   (ASCII 10 dec.)
  - CR/LF   (ASCII 13 + ASCII 10 dec.)

In the setup string examples, a double-headed arrow (as in "CHAR↔LENGTH") indicates a mandatory space characters in the command line.

Quotation marks (" ") are ASCII 34 dec.

Print Location Setup

Recommended Adjustments:
Dispensing (Label w gaps):
Start Adjust :   -119
Stop Adjust: -33

Tear Off (Ticket w mark):
Start Adjust: -152
Stop Adjust: 0

Tear Off (Label w gap):
Start Adjust: -152
Stop Adjust: 0

Tear Off (Var. Length Strip):
Start Adjust: -136
Stop Adjust: +75

Tear Off (Fix Length Strip):
Start Adjust: -136
Stop Adjust: +150

Cut Off (option):
Start Adjust: -250
Stop Adjust: +180

In the setup string examples, a double-headed arrow (as in "CHAR↔LENGTH") indicates a mandatory space characters in the command line.

Quotation marks (" ") are ASCII 34 dec.

- **Media Feed Adjustments**
  There are two settings that control the amount of blank media to be fed before the actual printing starts and after it is completed:
  - *Start Adjustment*
    This setting feeds out or pulls back a specified length of media before the printing of a label, ticket, or portion of continuous stock starts. The value is entered as dots, where a positive value (no leading minus sign) feeds out the media and a negative value (leading minus sign) pulls it back.
  - *Stop Adjustment*
    This setting works the same way as the Start Adjustment, but is executed after the printing of a label etc. is completed.

  By means of these two settings, you can, for example, control the media feed so the printing starts at the top of the label and the media still can be torn off in the gap between two labels.

  Setup strings, examples:
  ```
  SETUP "DETECTION,FEEDADJ,STARTADJ,–136" ↵
  SETUP "DETECTION,FEEDADJ,STOPADJ,75" ↵
  ```

- **Print Window**
  The area on the media which can be used for printing (print window), is specified by means of three parameters, which are all given as a positive number of dots. It is important to set the print window so no printing can occur outside the media or ribbon, which may shorten the life of the printhead due to overheating.
  - *X-Start*
    Specifies an offset from the innermost dot on the printhead. When the X-Start value is set to 0, the print area starts 1 mm (0.04 inches) from the edge of the media, that is closest to the printer's center section. By increasing the X-Start value, you can move the origin (X=0) outwards, making the inner margin wider.
  - *Width*
    Specifies the width of the print area, starting from the position of the origin as defined by the X-Start value. The sum of the X-Start and Width values must not exceed the width of the printhead (832 dots.)
  - *Length*
    Specifies the length of the printable area from the origin and along the Y-axis. This value decides the maximum amount of media feed when using any media type except "Var. length strip" (see Media Type below.) In case of labels, tickets, tags, or fixed portions of strip, enter the exact length.

Print Location Setup, cont.

Setup strings, examples:
```
SETUP "SERVICE,MEDIA↔SIZE,XSTART,30" ↵
SETUP "SERVICE,MEDIA↔SIZE,WIDTH,600" ↵
SETUP "SERVICE,MEDIA↔SIZE,LENGTH,800" ↵
```

**From
media supply**

1 mm
(0.04 inches)

9 mm
(0.35 inches)

104 mm (4.1 inches)

Length (y-dimension)

*PRINT
WINDOW*

*Origin
(x=0; y=0)*

Dot-line on
printhead

X-start   **Width (x-dimension)**

Dot 0

Dot 831

**FEED
DIRECTION**

Path of
Label Stop Sensor &
Label Taken Sensor

12 mm
(0.47
inches)

max. 114 mm (4.49 inches)
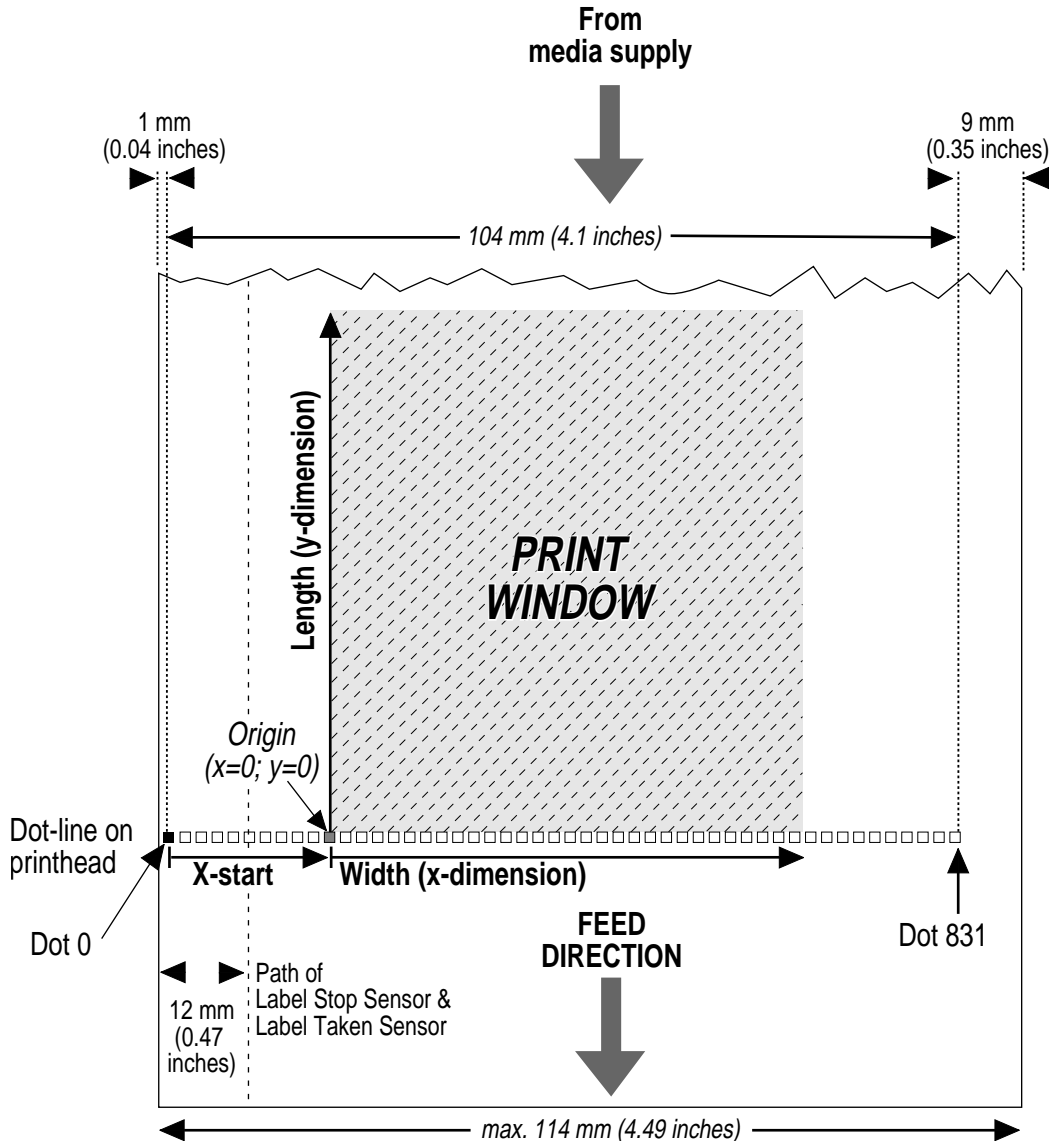
Media Setup

- **Media Type**

  The EasyCoder E4 can be set to handle five different types of direct thermal media or receiving face material:
  - Label with gaps
  - Ticket with marks
  - Ticket with gaps
  - Fixed length strip
  - Variable length strip

  Refer to Appendix 2 for illustrations and specifications of the various types. It is important to specify the correct type, so the media feed will work correctly and the label stop sensor can detect the front edges of labels, tickets, and tags as well as out-of-paper conditions.

  Setup strings, examples:
  ```
  SETUP "SERVICE,MEDIA TYPE,LABEL (w GAPS)" ↵
  SETUP "SERVICE,MEDIA TYPE,TICKET (w MARK)" ↵
  SETUP "SERVICE,MEDIA TYPE,TICKET (w GAPS)" ↵
  SETUP "SERVICE,MEDIA TYPE,FIX LENGTH STRIP" ↵
  SETUP "SERVICE,MEDIA TYPE,VAR LENGTH STRIP" ↵
  ```

- **Paper Type**

  In order to be compatible with previous Intermec printers, the EasyCoder E4 is preset to use a number of standard media and ribbon qualities. Select the appropriate "Paper Type" setting among those listed in Appendix 2.

  More preferred ways of setting up the printer for different ribbons and receiving face materials are described in "New Supplies" below and in Appendix 5, "Printer Setup with the Bar Code Wand."

  Setup string, example:
  ```
  SETUP "SERVICE,PRINT DEFS,PAPER TYPE,UBI HP 07" ↵
  ```

- **New Supplies**

  When using direct thermal media and transfer ribbons, you can send a text string to the printer to indicate the supply type. See Appendix 2 for recommended "New Supplies" settings. This method of setting up the printer is preferred to obtain the best print quality and printhead lifetime.

  Instead of using a computer, you can also easily set up the media and ribbon type using the Bar Code Wand. The necessary codes are shown in Appendix 5. This gives you the same optimized results as "New Supplies" setup strings.

In the setup string examples, a double-headed arrow (as in "CHAR LENGTH") indicates a mandatory space characters in the command line.

Quotation marks (" ") are ASCII 34 dec.

Media Setup, cont.

Always use ribbons and labels from Intermec. These have been carefully matched with the printhead. Other ribbons and labels may shorten the life of the printhead.

Setup string, examples:

Direct thermal printing (Economy grade)
```
SETUP "SERVICE,PRINT↔DEFS,NEW↔SUPPLIES,GQ90" ↵
```

When setting the printer for thermal transfer printing, two "New Supplies" setup strings have to be used; one for the transfer ribbon and another for the receiving face material, for example:

HP07 ribbon:
```
SETUP "SERVICE,PRINT↔DEFS,NEW↔SUPPLIES,GF100" ↵
```

Matt coated face stock:
```
SETUP "SERVICE,PRINT↔DEFS,NEW↔SUPPLIES,GZ0" ↵
```

Print Setup

- **Performance**
  This setting controls the print speed:
  - Normal   *Nominal speed 100 mm/sec.   (4 inches/sec.)*
  - High   *Nominal speed 150 mm/sec. (6 inches/sec.)*

  Normal print speed gives the best printout quality for demanding layouts, containing for example ladder style bar codes or fine-detailed images. However, high speed gives an acceptable quality for most applications.

  Setup strings, examples:
  ```
  SETUP "SERVICE,PERFORMANCE,NORMAL" ↵
  SETUP "SERVICE,PERFORMANCE,HIGH" ↵
  ```

- **Contrast**
  This setting controls the darkness of the printing on the paper. The range is 0-10, where 0 is the lightest and 10 is the darkest. To obtain the best printout quality, the contrast should be set to 5 (default) when using "New Supplies" setup strings or a Bar Code Wand for setting up the printer in regard of ribbon and labels.

  Setup string, example:
  ```
  SETUP "CONTRAST,5" ↵
  ```

In the setup string examples, a double-headed arrow (as in "CHAR↔LENGTH") indicates a mandatory space characters in the command line.

Quotation marks (" ") are ASCII 34 dec.

Testfeed

The label length is defined as the distance between gaps, detection slots, or black marks. Measure the actual distance from the rear end of a gap or slot to the start of next gap or slot. In case of black marks, measure the distance between the forward edges of two adjacent marks and subtract the value expressed in dots by 16.

By using a **TESTFEED** command, a blank label is fed out while the label length is automatically measured and stored in the printer's flash memory, and the sensitivity of the label stop sensor is adjusted according to the characteristics of the presently loaded media.

*It is recommended to send a **TESTFEED** command every time you change to a new label/ticket length or media type!*

When using labels/tickets with a length exceeding 24 cm (9.5 inches), the **TESTFEED** command does not work, so the label length must be set manually using both of the two following setup commands.

```
SETUP "SERVICE,TESTFEED,LENGTH,<length in dots>" ↵
SETUP "SERVICE,MEDIA SIZE,LENGTH,<length in dots>" ↵
```

The default value is 1200 dots (150 mm/5.9 inches.)

In the setup string examples, a double-headed arrow (as in "CHAR↔LENGTH") indicates a mandatory space characters in the command line.

Quotation marks (" ") are ASCII 34 dec.

Troubleshooting

Checklist

The list below is intended to help you to correct possible printout troubles or flaws in printout quality, and to decide when assistance from the Service dept. of the nearest Intermec distributor is required. Note that most problems are due to operating errors or normal wear of the printhead.

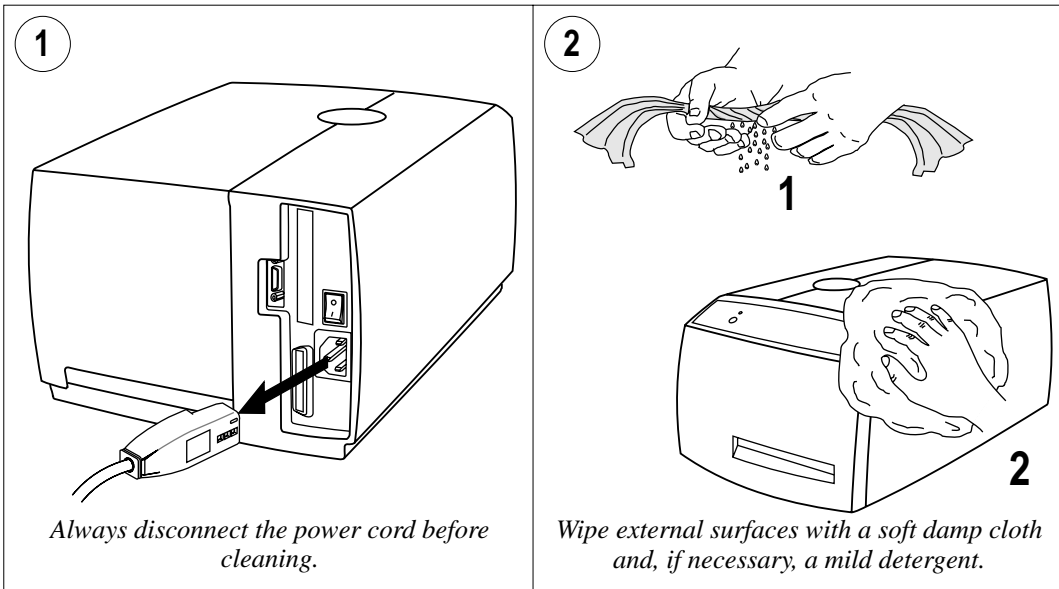| Symptom	Possible Cause	Remedy	Refer to
Overall weak printout	Wrong Paper Type parameter	Change parameter	Chapter 4
	Low Contrast parameter value	Change parameter	Chapter 4
	Printhead pressure too low	Adjust printhead pressure	Chapter 6
	Worn printhead	Replace printhead	Chapter 6
	Wrong printhead voltage	Replace CPU board	☜ Call Service
Printout weaker on one side	Uneven printhead pressure	Adjust pressure	Chapter 6
Weak spots	Foreign particles on media/ribbon	Clean media/ribbon	n.a.
	Media/ribbon don't match	Change media or ribbon	Chapter 3
	Poor media or ribbon quality	Change media or ribbon	Chapter 3
	Worn printhead	Replace printhead	Chapter 6
	Worn platen roller	Check/replace	☜ Call Service
Overall dark printout	Wrong Paper Type parameter	Change parameter	Chapter 4
	Too high Contrast parameter value	Change parameter	Chapter 4
	Printhead pressure too high	Adjust both knobs	Chapter 6
	Wrong printhead voltage	Replace CPU board	☜ Call Service
Excessive bleeding	Wrong Paper Type parameter	Change parameter	Chapter 4
	Contrast parameter value too high	Change parameter	Chapter 4
	Printhead pressure too high	Adjust both knobs	Chapter 6
	Faulty energy control	Replace CPU board	☜ Call Service
Transfer ribbon breaks	Wrong Paper Type parameter	Change parameter	Chapters 4
	Ribbon supply unit stuck	Adjust	☜ Call Service
	Bad energy control	Check CPU board	☜ Call Service
White areas in transfer printing	Transfer ribbon wrinkled	Adjust	See below
Transfer ribbon wrinkles	Incorrect edge guide adjustment	Adjust	Chapter 3
	Too strong printhead pressure	Adjust both knobs	Chapter 6
Dark lines along feed direction	Foreign objects on printhead	Clean printhead	Chapter 6
White lines along feed direction	Printhead dirty	Clean printhead	Chapter 6
	Missing dots on printhead	Replace printhead	Chapter 6
Large part of dot line missing	Wrong X-start or Width parameter	Change parameter	Chapter 4
	Failing printhead	Replace printhead	Chapter 6
	Failing strobe signal	Check CPU-board	☜ Call Service
Printout missing along inner edge	Bad media alignment	Adjust	Chapter 3
	X-start parameter value too low	Increase	Chapter 4

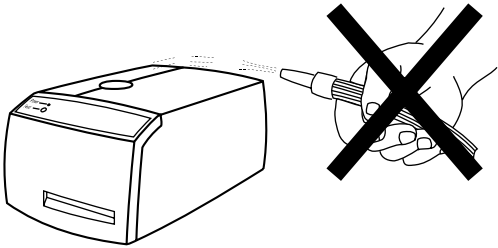# Maintenance

Cleaning the Case
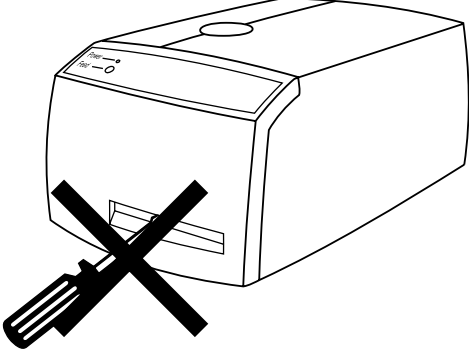
When you clean the case of the printer, use a soft cloth dampened with water. If necessary, use a mild detergent.

> ***Caution!***
> *Do not use abrasive cleaners or solvents as they may damage the surface of the printer.*

Always disconnect the power cord before cleaning.

Wipe external surfaces with a soft damp cloth and, if necessary, a mild detergent.

Cleaning the Case, cont.

3

Protect the printer from liquids at all times.

4

Do not use any sharp tools to remove stuck labels. The printhead and platen roller are easily damaged.

Cleaning the Printhead

It is important to clean the printhead regularly, preferably each time you load a new roll of media or labels.
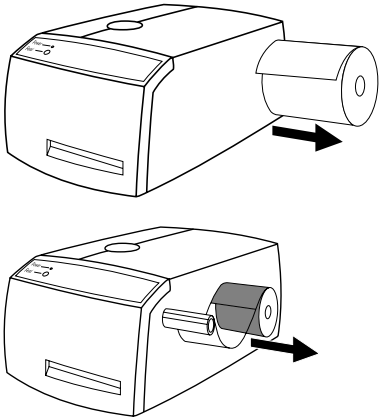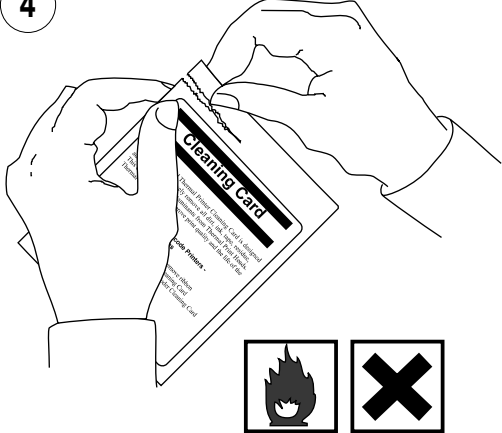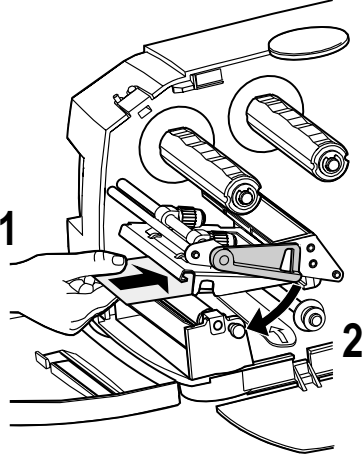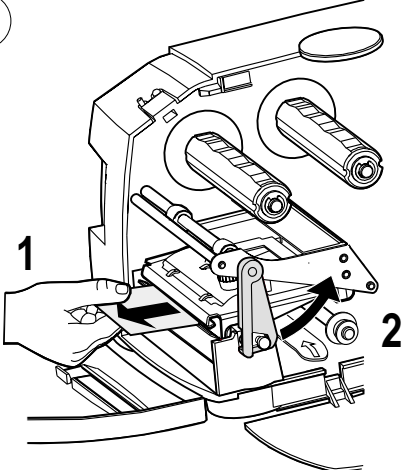
Use the special cleaning card to clean the printhead. Always dispose of the used cleaning card properly.

> ***Warning!***
> *Isopropyl alcohol [$(CH_3)_2CHOH$; CAS 67-63-0] is a highly flammable, moderately toxic, and mildly irritating substance.*

Open the side and front covers.

Raise the printhead.

Cleaning the Printhead, cont.

3

Remove the media and transfer ribbon.

4

Open the cleaning card. The cleaning card contains isopropyl alcohol, see "Warning!" notice on the previous page.

5

Insert most of the cleaning card under the printhead (1), then lower the printhead (2.)

6

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

Cleaning the Printhead, cont.
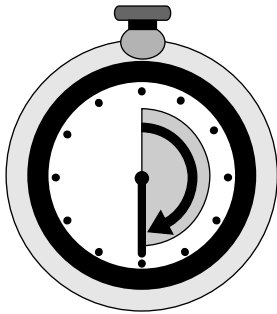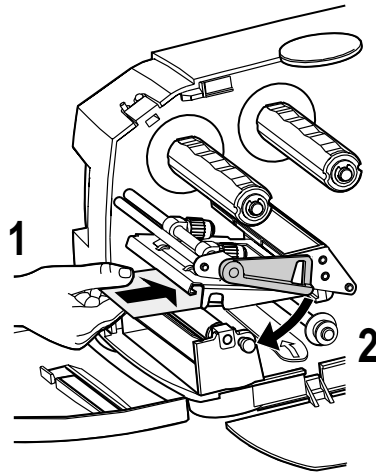
Wait 30 seconds.

Insert most of the cleaning card under the printhead (1), then lower the printhead (2.)
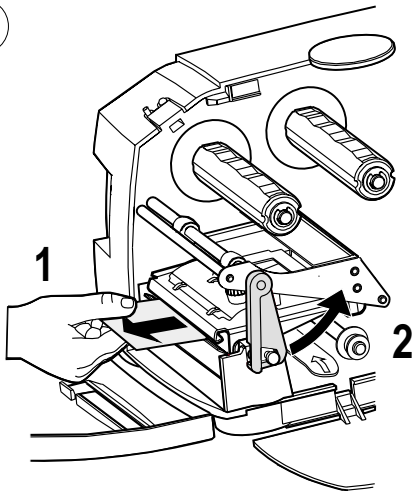
Pull the cleaning card out (1) and raise the printhead (2.)
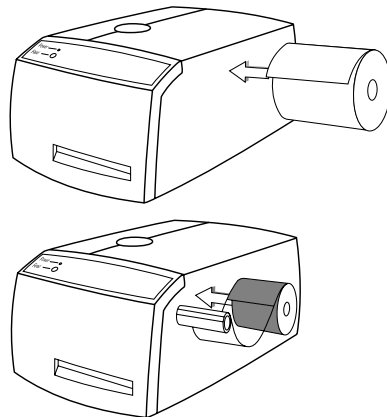
Allow the cleaned printhead to dry for a couple of minutes before reloading media and transfer ribbon.

Cleaning the Platen Roller

When you clean the printhead with a cleaning card, the platen roller is cleaned at the same time. However, if the platen roller becomes heavily contaminated, it may be necessary to clean it separately.

Clean the platen roller with a soft cloth moistened with isopropyl alcohol.

Clean the tear bar and the ribbon guides at the same time as the platen roller.

> *Warning!*
> *Isopropyl alcohol [$(CH_3)_2CHOH$; CAS 67-63-0] is a highly flammable, moderately toxic, and mildly irritating substance.*


Open the side and front covers

Raise the printhead.
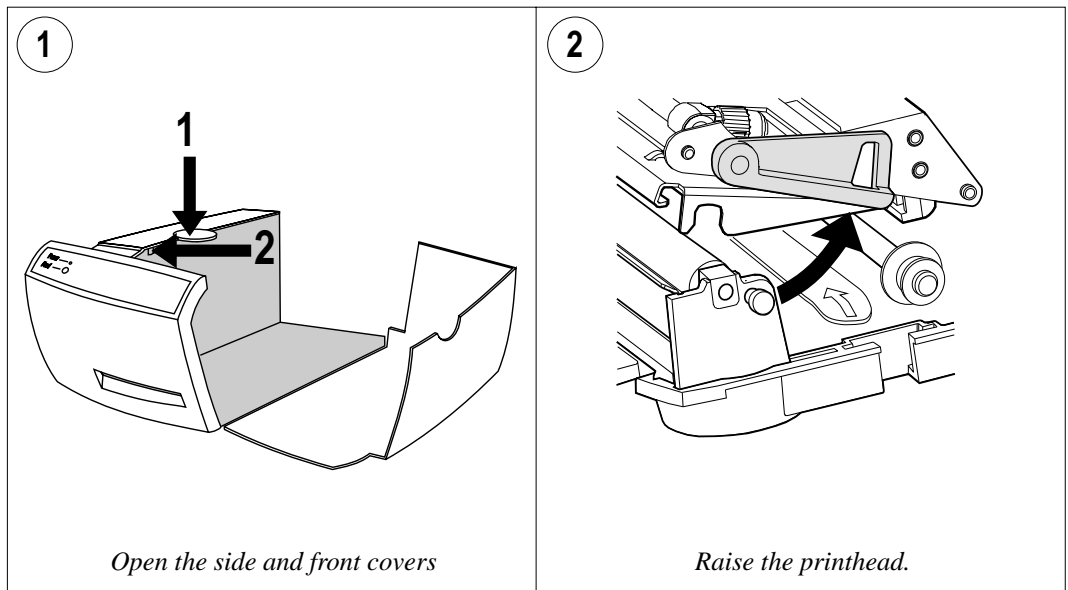
Cleaning the Platen Roller, cont.
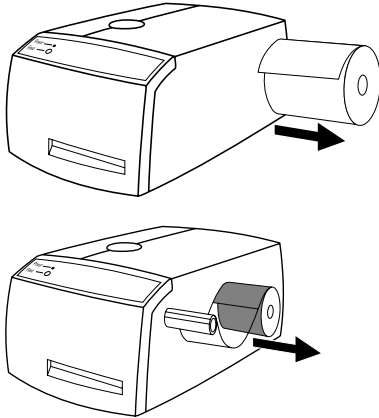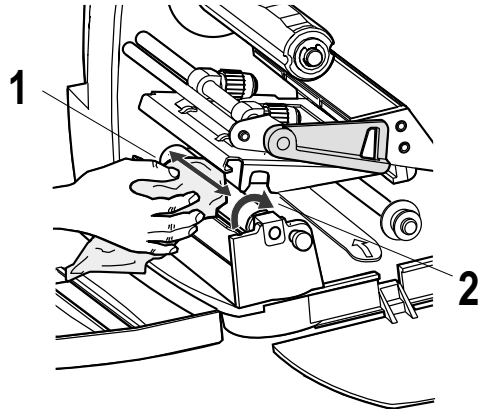
3 *Remove the media and transfer ribbon.*	**4** *Clean the exposed face of the platen roller while rotating it manually.*
5 *Clean the tear bar and the ribbon guides.*	**6** *Reload the media and transfer ribbon.*
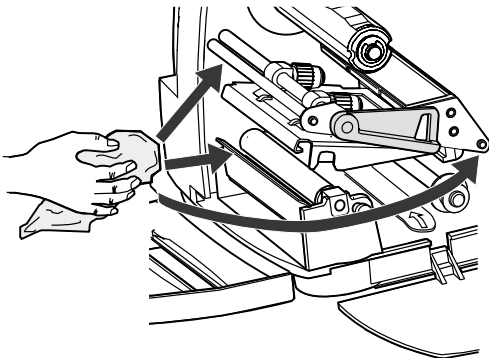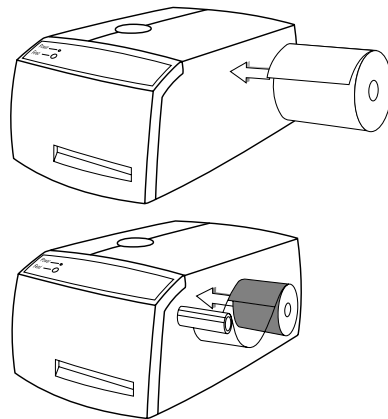
Replacing the Printhead

When the printhead becomes worn or damaged, it can easily be changed. The series of pictures below describes how to fit a replacement printhead.

IMPORTANT!
After completing the physical installation, it is important that the printer is instructed to measure the resistance of the new printhead and adjust itself accordingly. This can be done by sending the following instruction:
PRINT HEAD(-1)

Another method is to start up the printer in the Test Mode, see "Printing Test Labels" at the end of Chapter 3, "Operation."

Failure to adjust the printer to the printhead resistance may result in inferior printout quality or premature wear-out of the printhead.

Open the side and front covers.

Remove the media and transfer ribbon.
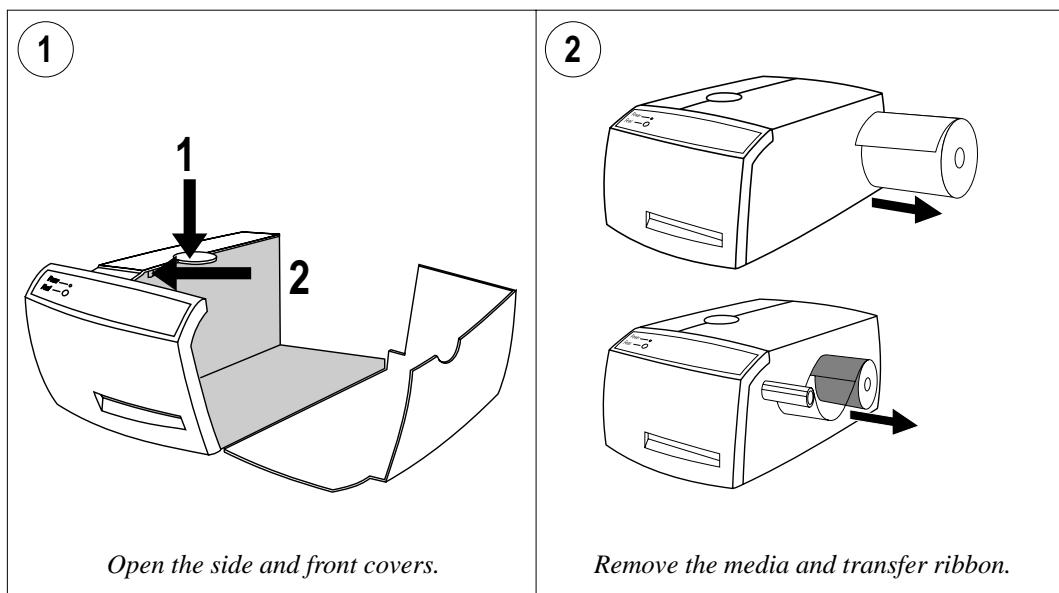
Replacing the Printhead, cont.
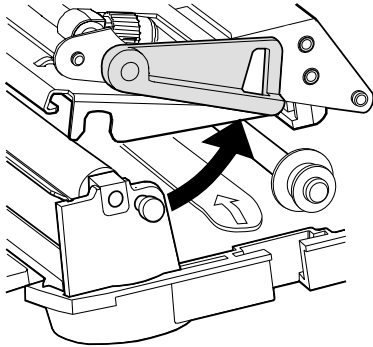
Raise the printhead.
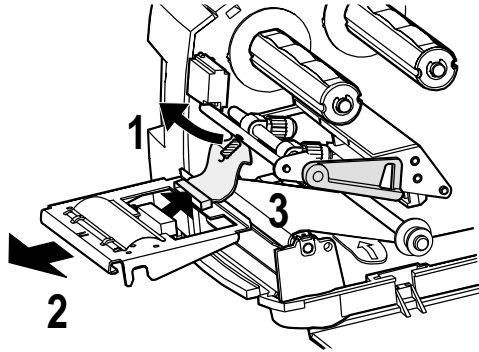
Unhook the spring (1), pull the printhead forward (2), and disconnect the cable (3.)
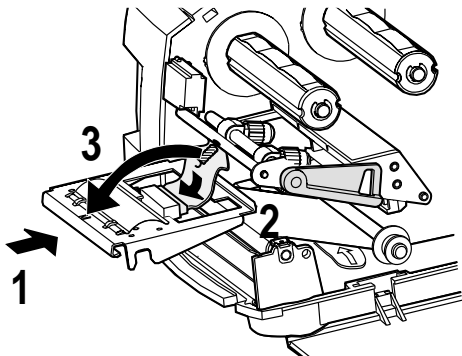
Slide in the new printhead (1), connect the printhead cable (2), and hook the spring into position (3.)
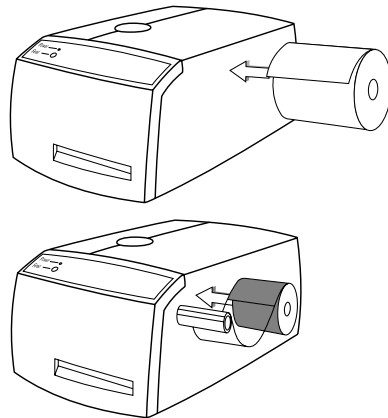
Reload the media and transfer ribbon.

Adjusting Print-head Pressure

When you print, the thermal printhead must be pressed against the platen roller so that heat can be transferred from the printhead to the transfer ribbon or direct thermal media. The pressure should also be great enough to provide sufficient friction to drive the media past the printhead. Too little pressure gives a weak printout quality, while too much pressure can cause ribbon wrinkling and unnecessary printhead wear.

The printer's factory-set for full width, thermal transfer printing. If you change the media to thicker, thinner, or narrower, it may be necessary to adjust the printhead pressure, using trial and error.

Do not use any more pressure than is necessary to obtain the desired print quality.

Full width media:
Equal pressure on both sides

Push the media to the inside edge
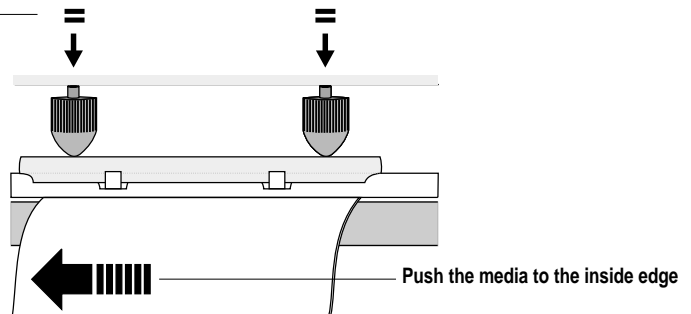
Narrow media:
Reduce pressure on the outside edge so that the printhead remains level

Push the media to the inside edge
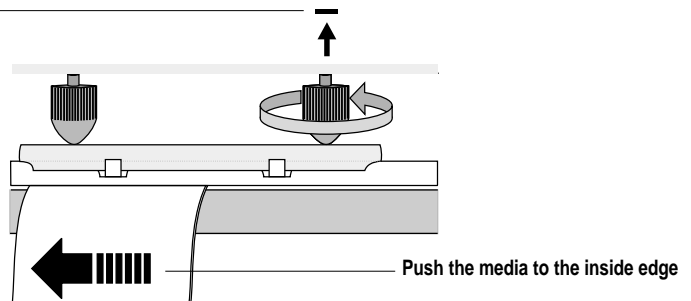
Technical Data

Print Technique	Direct Thermal/Thermal Transfer	
Print Resolution	8 dots/mm (203.2 dots/inch)	
Quick-mount Printhead	Yes	
Maximum Print Width	104 mm (4.09 inches)	
Maximum Media Width	114 mm (4.5 inches)	
Smooth Fonts	Yes	
Print Directions	4	
Maximum Internal Media Roll Diameter	152 mm (6 inches)	
Maximum Ribbon Length	~200 metres (656 feet)	
Dimensions (W x D x H)	236 x 350 x 170 mm (9.3 x 13.78 x 6.7 inches)	
Weight (excluding media, ribbon, & options)	4.7 kgs (10.3 pounds)	
Ambient Operating Temperature	+5°C to +40°C (+41°F to +104°F)	
Humidity	20 to 80% non-condensing	
Sound Emission Level	< 60 dB (A)	
Microprocessor	32 bit	
Firmware	Intermec EasyCoder E4 Direct Protocol 2.01	
Label and Ribbon End Sensors	Yes	
Mains Voltage	110 to 120/220 to 240 VAC, 4/2A, 60/50Hz	Build option
PFC Regulation	IEC 61000-3-2	
Maximum Power Consumption	Stand-by 30W; Typical label 70W; Maximum 250W	
Communications Interface Standard	1 x RS-232 Serial and 1 x Centronics Parallel	
Print Speed (tear-off)	100 or 150 mm/sec (4 or 6 inches/sec)	
Print Speed (peel-off/roll Ø 152 mm)	100 mm/sec. (4 inches/sec)	Recommended
Print Speed (LTS enabled)	100 mm/sec. (4 inches/sec)	
Bar Code Generators	38	
On-board Flash EPROMs	2 x 512K	
On-Board RAM Memory	512K	
RS-232 Cable	Optional	
Centronics Parallel Cable	Standard	
Real Time Clock (RTC)	Optional	
Label Taken Sensor	Fitted	
Scaleable Fonts	Built-in	
Memory Card Slot	1 PCMCIA 5V Type 3, or 2 PCMCIA 5V Type 1 or 2	
Paper Cutter	Optional	
Bar Code Wand	Optional	

Media Specifications

Media Roll Size

The following restrictions apply to media rolls fitted inside the printer. Only the width and web thickness restrictions apply to external media supplies.

Core

Diameters:	38 mm (1.5 inches)	*post in bottom position*
	76.2 mm (3 inches)	*post in top position*
Width:	Must not protrude outside the media.	

The media must not be attached to the core in such a way that the printer cannot pull the end free. Otherwise the thermal transfer ribbon may be damaged.

Roll

Max. diameter:	152 mm (6 inches)
Max. width:	114 mm (4.5 inches)
Min. width:	25.4 mm (1 inches)
Max. web thickness:	175μm (0.007 inches)

The maximum recommended media thickness is 175μm. Thicker media may be used, but print quality will be reduced. Media stiffness is also important and must be balanced against thickness to maintain print quality.

Media rolls fitted inside the printer should be wound with the printable side facing outwards.

Max.152 mm (6")

Max. 114.0 mm (4.5")
Min. 25.4 mm (1.0")

38 mm (1.5")
&
76.2 mm (3")

ABCDEFGH

An external media supply must be protected from dust, sand, grit, etc. Any hard particles, however small, can damage the printhead.
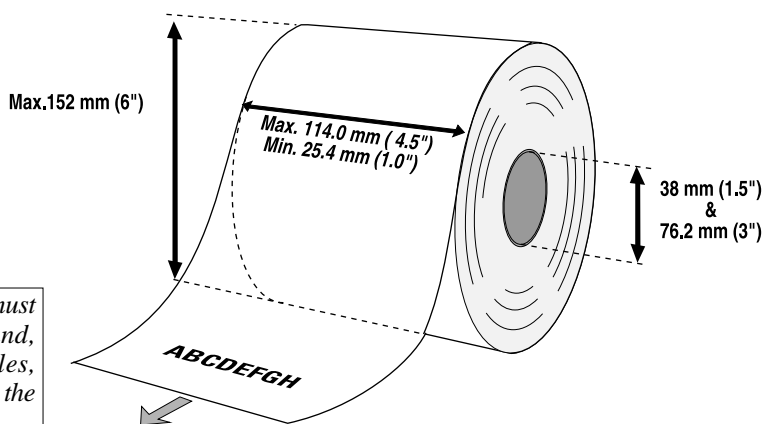
Media

Non-Adhesive Strip

⇐ a ⇒ **Media Width**:
Maximum:	114.0 mm	(4.5 inches)
Minimum:	25.4 mm	(1.00 inches)

Media type setup:
• Fix length strip
• Var length strip

a

Non-Adhesive Strip

Media, cont.

Self-Adhesive Strip

$\Leftarrow$ **a** $\Rightarrow$ **Media Width** (including liner):

Maximum:	114.0 mm	(4.5 inches)
Minimum:	25.4 mm	(1.00 inches)

$\Leftarrow$ **b** $\Rightarrow$ **Liner**

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

$\Leftarrow$ **c** $\Rightarrow$ **Media Width** (excluding liner):

Maximum:	112.4 mm	(4.44 inches)
Minimum:	23.8 mm	(0.94 inches)

Media Type Setup:
• Fix length strip
• Var length strip

Media, cont.

Self-Adhesive Labels
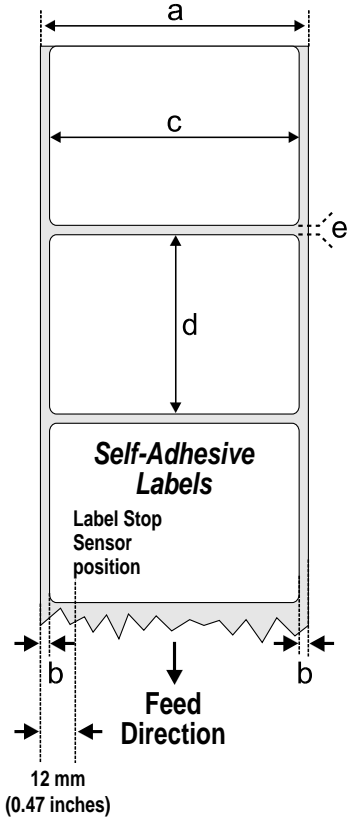
Self-Adhesive Labels

Label Stop Sensor position

b

b

Feed Direction

12 mm (0.47 inches)

⇐ **a** ⇒ **Media Width** (including liner):
Maximum:	114.0 mm	(4.5 inches)
Minimum	25.4 mm	(1.00 inches)

⇐ **b** ⇒ **Liner**
The backing paper must not extend more than a total of 1.6 mm (0.06 inches) outside the labels and should protrude equally on both side. Recommended min. transparency: 40% (DIN 53147.)

⇐ **c** ⇒ **Label Width** (excluding liner):
Maximum:	112.4 mm	(4.44 inches)
Minimum:	23.8 mm	(0.94 inches)

⇐ **d** ⇒ **Label Length:**
Minimum:	10.0 mm	(0.39 inches)

⇐ **e** ⇒ **Label Gap:**
Maximum:	10.0 mm	(0.39 inches)
Recommended:	1.6 mm	(0.06 inches)
Minimum:	1.2 mm	(0.05 inches)

The Label Stop Sensor must be able to detect the extreme front and rear edges of the label. It is positioned 12 mm (0.47 inches) from the inner edge of the media, so do not use labels with a larger inner corner radius.

Media Type Setup:
• Label (w gaps)

Media, cont.

Tickets with Gap

Tickets & Tags

Label Stop
Sensor
position

12 mm
(0.47 inches)

**Feed
Direction**
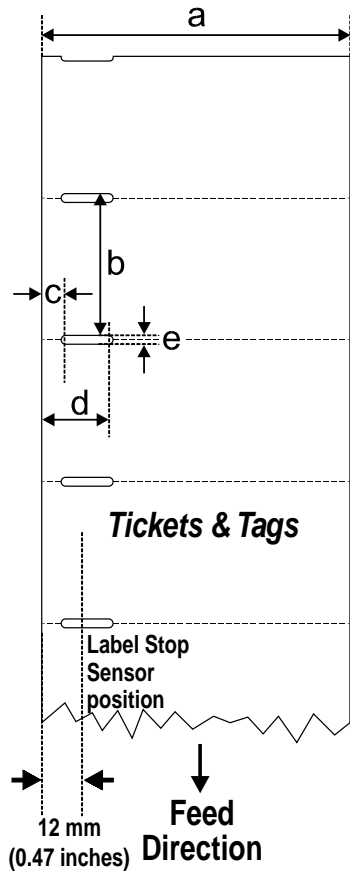
⇐ a ⇒ **Media Width:**

Maximum:	114.0 mm	(4.5 inches)
Minimum (standard):	25.4 mm	(1.00 inches)

⇐ b ⇒ **Copy Length:**

Min. length between slots:	10.0 mm	(0.39 inches)

⇐ c ⇒ **Detection Slit Start**:
The distance between the inner edge of the media and the start of the detection gap (excl. corner radii) must be:

Minimum:	6 mm	(0.24 inches)
Maximum:	9 mm	(0.35 inches)

⇐ c ⇒ **Detection Slit End**:
The distance between the inner edge of the media and the end of the detection gap (excl. corner radii) must be:

Minimum:	15 mm	(0.59 inches)

⇐ e ⇒ **Detection Slit Height:**

Maximum:	10.0 mm	(0.39 inches)
Recommended:	1.6 mm	(0.06 inches)
Minimum:	1.2 mm	(0.05 inches)

Media Type Setup:
• Ticket (w gaps)

Do not allow any perforation to break the edge of the media, as this may cause the media to split and jam the printer.

Media, cont.

Tickets with Black Mark
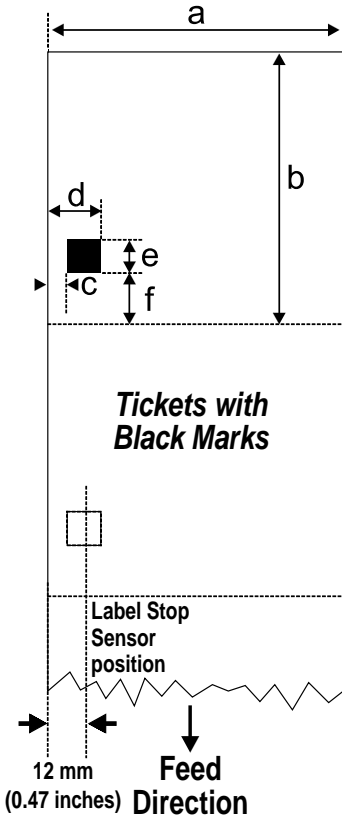
⇐ a ⇒ **Media Width:**

Maximum:	114.0 mm	(4.5 inches)
Minimum:	25.4 mm	(1.00 inches)

⇐ b ⇒ **Copy Length:**

Minimum:	20.0 mm	(0.8 inches)

⇐ c ⇒ **Black Mark Offset**:
The distance between the inner edge of the media and the inner edge of the black mark must be:

Maximum:	9.5 mm	(0.37 inches)
Minimum:	No restriction	

⇐ d ⇒ **Black Mark End**:
The distance between the inner edge of the media and the outer edge of the black mark must be:

Maximum:	No restriction	
Minimum:	25.4 mm	(1.0 inches)

⇐ e ⇒ **Black Mark Height:**

Common:	12.5 mm	(0.5 inches)
Minimum:	5.0 mm	(0.2 inches)

⇐ f ⇒ **Black Mark Y-Position:**
The black mark should be as close to the front edge of the ticket as possible. Use a negative *stopadjust* value to control the media feed, so that the tickets can be properly torn or cut off.

The black mark should be non-reflective carbon black on a whitish background.

Media type setup:
• Ticket (w mark)

Do not allow any perforations to break the edge of the media, as this may cause the media to split and jam the printer.

Transfer Ribbons

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

- *General Purpose (GP)/Standard* transfer ribbons allow high speed printing and give a good printout, but are somewhat sensitive to smearing, especially on smooth surfaces. They are the best choice for coarse surfaces like Vellum.

- *High Performance (HP)/Premium* transfer ribbons allow high speed printing and give a highly readable and defined printout on most face materials with smooth surfaces. They have a good "smear resistance" and are most suitable for intricate logotypes and images.

- *High Resistance (HR)/Super Premium* transfer ribbons give an extremely durable printout, which is resistant to most chemical agents and high temperatures. However, these transfer ribbons set high demands on the receiving face material, which must be very smooth, especially for the printing of ladder-style bar codes.

  The use of HR/Super Premium ribbons requires the print speed and the energy supplied by the printhead to be controlled with great accuracy according to the receiving face material. Custom-made setup options adapted for special applications can also be created. Consult your distributor.

Ribbon Roll Size

Core
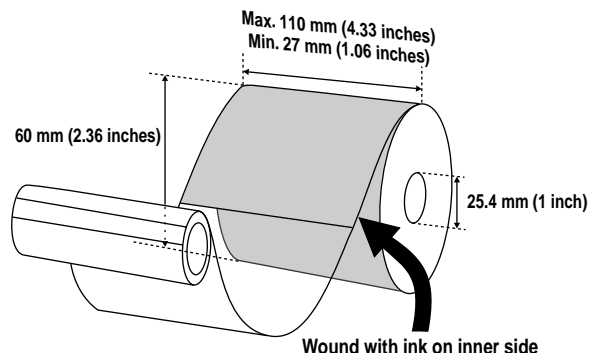
Diameter: 25.4 mm (1 inch)
The printer must be able to pull the end of the used ribbon easily free of the core.

Ribbon Roll

Maximum diameter: 60 mm (2.36 inches)
The ink is on the side or the ribbon that faces the media.

Max. 110 mm (4.33 inches)
Min. 27 mm (1.06 inches)

60 mm (2.36 inches)

25.4 mm (1 inch)

Wound with ink on inner side

New Supplies and Paper Type Settings

THERMAL TRANSFER PRINTING (Europe)						
Ribbon name	Face material	New Supplies: Ribbon	New Supplies: Face material	Paper Type setting	Max. print speed: DIR 1 & 3	DIR 2 & 4
GP02	Matte Coated	GB78	GZ0	UBI GP 11	High	Normal
	Vellum	GB78	GZ6	UBI GP 10	High	Normal
HP05	Matte Coated	GF85	GZ0	UBI GP 10	High	Normal
	Transfer Premium	GF85	GZ-10	–	High	Normal
	Polyethylene Matte	GF85	GZ-10	–	High	Normal
	Polyethylene Gloss	GF85	GZ-5	–	Normal	Normal
	Premium Tag	GF85	GZ5	–	Normal	Normal
HP07	Matte Coated	GF100	GZ0	UBI HP 20	High	Normal
	Transfer Premium	GF100	GZ-10	–	High	Normal
	High Gloss White	GF100	GZ-7	UBI HP 21	High	Normal
	Polyethylene Matte	GF100	GZ-10	–	High	Normal
	Polyethylene Gloss	GF100	GZ-5	UBI HP 20	Normal	Normal
	Premium Tag	GF100	GZ5	–	Normal	Normal
HR03	Polyester Gloss	GJ118	GZ-10	UBI HR 31	High	Normal

DIR 1 & 3: (picket fence bar code)

DIR 2 & 4: (ladder bar code)
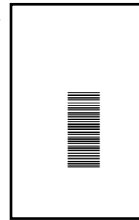
New Supplies and Paper Type Settings, cont.

THERMAL TRANSFER PRINTING (USA)						
Ribbon name	Face material	New Supplies: Ribbon	New Supplies: Face material	Paper Type setting	Max. print speed: DIR 1 & 3	DIR 2 & 4
Standard	Duratran I	GC70	GZ-2	–	Normal	Normal
	Duratran VG	GC70	GZ8	–	Normal	Normal
	Duratran II	GC70	GZ0	–	Normal	Normal
	Duratran II Tag	GC70	GZ1	–	Normal	Normal
	Kimdura	GC70	GZ3	–	Normal	Normal
	Kimdura Tag	GC70	GZ5	–	Normal	Normal
Premium	Duratran II	GG65	GZ0	–	High	Normal
	Duratran II Tag	GG65	GZ1	–	High	Normal
	Kimdura	GG65	GZ3	–	High	High
	Kimdura Tag	GG65	GZ5	–	High	High
Super Premium	Polyester	GJ105	GZ0	–	Normal	Normal

DIRECT THERMAL PRINTING (Europe)				
Label name	New Supplies setting	Paper Type setting	Max. print speed: DIR 1 & 3	DIR 2 & 4
Economy	GQ90	–	High	Normal
Eco Board	GY90	–	Normal	Normal
Premium	GS100	UBI DT 110	High	Normal
Top Board	GT105	–	Normal	Normal
UBI DT 110 + 10%	GS110	UBI DT 120	Normal	Normal
UBI DT 110 + 15%	GS115	UBI DT 110+	Normal	Normal
UBI DT 110 + 30%	GS120	UBI DT 110++	Normal	Normal

DIRECT THERMAL PRINTING (USA)				
Label name	New Supplies setting	Paper Type setting	Max. print speed DIR 1 & 3	DIR 2 & 4
Duratherm II	GT120	–	Normal	Normal
Duratherm Ltg	GT98	–	Normal	Normal
Duratherm IR	GT85	–	Normal	Normal
Duratherm II Tag	GT110	–	Normal	Normal

Interfaces

Parallel Interface

The EasyCoder E4 has two interfaces: Parallel Centronics and Serial RS-232.

Standard
IEEE 1284-I compliant

Interface Cable

Computer end:	Depends on type of host computer.
	IBM-PC: DB-25pin male connector.
Printer end:	36pin female Centronics connector.

Pin	Function	Transmitter
1	/Strobe	Host
2-9	Data 0-7	Host
10	Ack	Printer
11	Busy	Printer
12	Error	Printer
13	Select	Printer
14	Autofd	Host
15	N/C	
16	Signal ground	
17	Chassis ground	
18	Logic high	Printer
19-30	Signal ground	
31	/Init	Host
32	/Fault	Printer
33-35	N/C	
36	/Selectin	Host

Serial Interface

The EasyCoder E4 has two interfaces: Parallel Centronics and Serial RS-232.

Protocol
9600 baud, No parity, 8 data bits, 1 stop bit (default.)

To change the serial interface settings, use the **SETUP** command or read the suitable setup bar codes in Appendix 5 using the bar code wand.

Interface Cable
Computer end: DB-9pin or DB-25pin female connector depending on type of computer
Printer end: DB-9pin male connector.

Host		EasyCoder E4			Host	
Signal	DB-9	DB-9	Signal	DB-9	DB-25	Signal
		1	+5V 150mA[1]	1		
RXD	2	2	TXD	2	3	RXD
TXD	3	3	RXD	3	2	TXD
DTR	4	4	–	4	20	DTR
GND	5	5	GND	5	7	GND
DSR	6	6	RDY	6	6	DSR
RTS	7	7	CTS	7	4	RTS
CTS	8	8	RTS	8	5	CTS
		9	–	9		

[1]. Short-circuit protected.

Programming

Introduction

As an alternative to the InterDriver or LabelShop, the EasyCoder E4 can be controlled directly from a host computer using the Intermec EasyCoder E4 Direct Protocol programming language. It is an easy-to-use printer protocol which is very similar with the Intermec Fingerprint-based Direct Protocol used with for example EasyCoder 501/601 XP and EasyCoder F2/F4 printers, but since the EasyCoder E4 has another type of electronics, there are some important differences.

The Direct Protocol can be used to send instructions to the printer in two ways:
• To create label formats consisting of fields with fixed or variable information. A format can then be selected and provided with variable input from the host computer in the form of a simple string of data.
• To send input data and formatting instructions as a continuous string of data directly from the host computer.

The EasyCoder E4 is designed to operate with anything from an unintelligent terminal to a mainframe computer system. The only requirement is that the host computer needs to be able to transmit characters in ASCII format. It is preferable to connect the printer to the host via the serial RS-232 port, which will provide two-way communication and enable printer errors to be returned.

• If the printer is to be controlled via the Windows HyperTerminal or similar applications, connect via the serial RS-232 port. You can type commands directly into HyperTerminal, or compose them in a text editor like Notepad or Write and then paste them into the HyperTerminal (see the *Microsoft Windows User's Guide.*) You will receive error messages from the printer.

• If the printer is to be controlled via MS-DOS, connect via either the serial RS-232 port or the parallel Centronics port. You can use the DOS Edit program to compose the commands. To print, use DOS Edit's File/Print command or use the DOS Copy or Type commands (see the *MS-DOS User's Guide.*) You will **not** receive error messages from the printer.

• If the printer is connected to a non-PC host computer, connect via the serial RS 232 port. You can type commands directly into the terminal or compose them in a text editor first. You will receive error messages from the printer.

Refer to the Intermec EasyCoder E4 Direct Protocol, Programmer's Guide *for more detailed programming information.*

Programming a Label

Intermec Direct Protocol can be used to send instructions to the printer in two ways:

- You can send individual commands which the printer will act on immediately, mainly for setting up the printer, retrieving information from the printer, and for managing files, fonts and images.

  Examples:

PRINT KEY ON ↵	(enable printing using the **Feed** button)
? DATE\$ ↵	(print the current date to the OUT channel)
KILL "LAYOUT1" ↵	(delete a layout or file)

  You can use this method to produce a label, because the printer will retain all label design instructions until you press **Feed**[1] or send a **PRINTFEED** command.

- You can create a text file containing all the commands necessary to lay out one or more labels and send it to the printer. If the text file contains a **PRINTFEED** command, the label will be printed out. If not, press **Feed** to print the label[1].

There are two types of label programming:

- A fixed label design, where the printer prints exactly what you have programmed.

- A layout (format) which may contain variables. Layouts can be saved and called up when required. The input data for the variables can be set by data strings from the host computer.
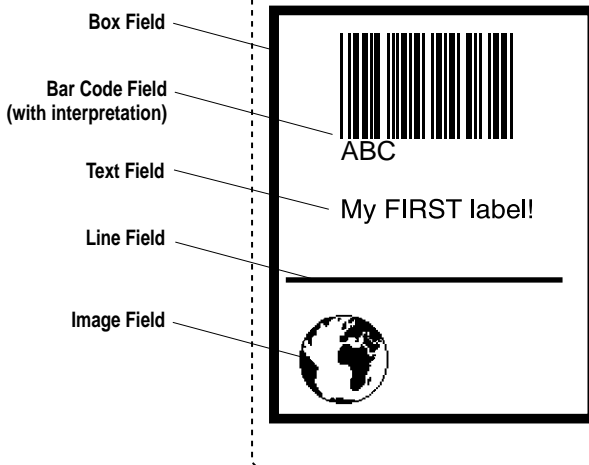
---

*[1]. The **Feed** button will only produce a printout if it has been enabled using the **PRINT KEY ON** command. Otherwise, a blank copy will be produced each time the **Feed** button is pressed (formfeed.)*

Programming a Label, cont.

A label design is made up of fields. There are five different types of field, each of which must be specifically formatted:

- *Text Field***:**
  A text field consists of a single line of text, formatted for font, magnification, rotation, and normal or inverse image.

- *Bar Code Field:*
  A bar code field consists of a single bar code, with or without a bar code interpretation in human readable characters, formatted for type, height, bar ratio, magnification, rotation, interpretation On/Off, and interpretation font.

- *Image Field:*
  An image field is a picture, drawing, logotype, or other type of illustration. Images sent to the printer should be in .PCX format, and formatted for magnification and normal or inverse image. Images can only be rotated by 180°.

- *Box Field:*
  A box field is a square or rectangular area surrounded by a black border line, which must be formatted for height, width, line thickness and rotation. If the border is sufficiently thick, the whole area may appear black.

- *Line Field:*
  A line field is a black line that goes either along or across the media feed direction, and is formatted for length, line thickness, and rotation. A short, thick line can look like a black box.

There are no restrictions, other than the size of the memory, regarding the number of fields on a single label.

Box Field

Bar Code Field (with interpretation)

Text Field

Line Field

Image Field

ABC

My FIRST label!
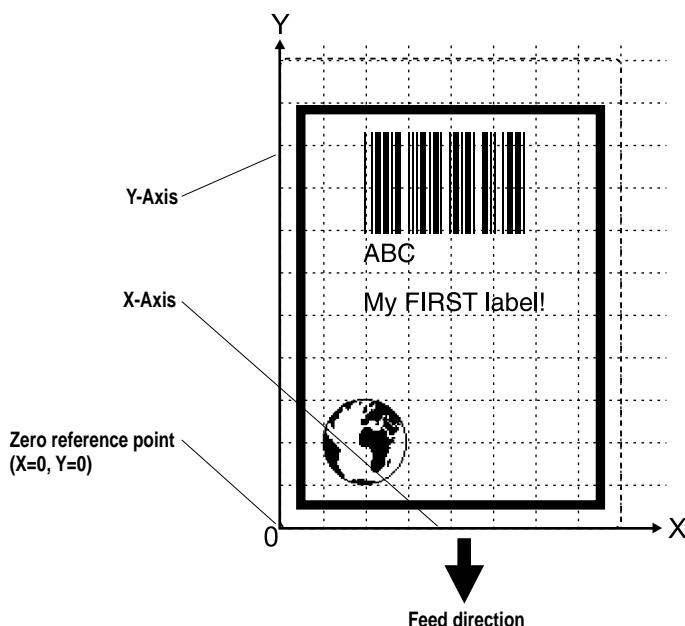
Programming a Label, cont.

Positions on the printable area of the label are defined in terms of an X/Y grid, where the X-axis runs across the label and the Y-axis runs along the media path. The unit of measurement is dots (8 dots per mm/203.2 dots per inch.)

The zero point (origin) is at the front left corner of the label as it emerges from the printer. This position is set up in the printer using the **XStart** value for the X-axis and the **Startadj** value for the Y-axis. All field locations are measured from this point. Setting the **Startadj** value to -152 will begin printing just inside the front edge of a label.

The insertion point of any printable object is specified by the **PRPOS (PP)** command, followed by the X-coordinate, then a comma sign, and the Y-coordinate, for example **PP 100,200**.

Any type of field should be specified with regard to its position, its alignment and its direction. If it is not specified, any previous relevant entry will be used.

See the *EasyCoder E4 Direct Protocol, Programmer's Guide* for more details.

Programming a Label, cont.

As an example, the programming for "My First Label" is included here to help you to get started with designing and programming your own labels and layouts.

You can send the programme as a single string of data, with the individual commands separated by a colon sign.

```
BF ON:BF "Swiss 721 BT",9,0:PP 10,20:PX 400,300,10:
PP 25,25:PM "ROM:GLOBE.1":PP 75,250:BT "CODE39":PB
"ABC":PP 75,200:FT "Swiss  721 BT",9,0:PT  "My
FIRST label!":PF ↵
```

You can also send the same data string line by line, or type it into a text editor and send it as a complete text file:

```
BF ON        ↵                (enable bar code interpretation)
BF "Swiss 721 BT",9,0  ↵       (select interpretation font)
PP 10,20     ↵                (insertion point for box field)
PX 400,300,10   ↵                        (create a box)
PP 25,25     ↵              (insertion point for image field)
PM "ROM:GLOBE.1"   ↵                      (select image)
PP 75,250    ↵           (insertion point for bar code field)
BT "CODE39"   ↵                   (select bar code type)
PB "ABC"     ↵              (input data to bar code field)
PP 75,200    ↵              (insertion point for text field)
FT "Swiss 721 BT",9,0   ↵        (select font for text field)
PT "My FIRST label!"  ↵           (input data to text field)
PF  ↵                               (print one label)
```

If you wish to create a layout (format) which you can use to produce labels with different text or bar code content, you must do it in two steps. First create the layout:

```
LAYOUT INPUT "LABEL1"    ↵          (start layout recorder)
BF ON      ↵                (enable bar code interpretation)
BF "Swiss 721 BT",9,0  ↵       (select interpretation font)
PP 10,20     ↵              (insertion point for box field)
PX 400,300,10    ↵                       (create a box)
PP 25,25     ↵              (insertion point for image field)
PM "ROM:GLOBE.1"    ↵                     (select image)
PP 75,250     ↵          (insertion point for bar code field)
BT "CODE39"   ↵                   (select bar code type)
PB VAR1$     ↵          (variable input data to bar code field)
PP 75,200     ↵              (insertion point for text field)
FT "Swiss 721 BT",9,0    ↵        (select font for text field)
PT VAR2$ ↵                  (variable input data to text field)
LAYOUT END  ↵                           (save layout)
```

↵ = *Carriage Return*

Programming a Label, cont.

Then add the variable data and a print instruction:

```
LAYOUT RUN "LABEL1" ↵          (select layout)
<STX>                          (start of input data, ASCII 02 dec)
ABC ↵                          (variable input data to VAR1$)
My FIRST label! ↵              (variable input data to VAR2$)
<EOT>                          (end of input data, ASCII 04 dec)
PF ↵                           (print one label)
```

To print more than one label, add the number of copies to the **PF** (printfeed) command, for example **PF 10**.

For details on formatting the fields, see the *EasyCoder E4 Direct Protocol, Programmer's Guide.*

Command List

The Intermec Direct Protocol commands are listed below, with a brief description of their purpose and syntax. For full explanation, refer to the *EasyCoder E4 Direct Protocol, Programmer's Guide.*

Instruction	Purpose and Syntax
ALIGN (AN)	Specifies which part (anchor point) of a text, bar code field, image field, line, or box will be positioned at the insertion point.
	`ALIGN|AN <anchor point>`
BARFONT (BF)	Specifies a single byte font for printing human readable bar code interpretation. The settings are: start parameter; font name; font size in points; character slant in degrees; vertical offset between bar code and interpretation; width magnification; height magnification; enable/disable the printing of bar code interpretations.
	`BARFONT|BF [#<starting parameter number>,]"<fontname>"[,<size> [,<slant>[,<offset>[,<hmag>[,<vmag>]]]]][ON|OFF]`
BARFONT (BF) ON/OFF	Enables/disables the printing of bar code interpretations.
	`BARFONT|BF ON`
	`BARFONT|BF OFF`
BARFONTD (BFD)	Specifies a double byte character set font for printing human readable bar code interpretation. The settings are: font name; font size in points; character slant in degrees.
	`BARFONTD|BFD "<fontname>"[,<size>[,<slant>]]`
BARFONTDSIZE (BFSD)	Specifies the font size of a double byte character set in points for printing human readable bar code interpretation.
	`BARFONTDSIZE|BFSD <size>`
BARFONTDSLANT (BFLD)	Specifies the slant of a double byte character set font in degrees for printing human readable bar code interpretation.
	`BARFONTDSLANT|BFLD <slant>`
BARFONTSIZE (BFS)	Specifies the font size for a single byte character set font in points for printing human readable bar code interpretation.
	`BARFONTSIZE|BFS <size>`
BARFONTSLANT (BFL)	Specifies the slant of a single byte character set font in degrees for printing human readable bar code interpretation.
	`BARFONTSLANT|BFL <slant>`
BARHEIGHT (BH)	Specifies the height of a bar code in dots.
	`BARHEIGHT|BH <height>`
BARMAG (BM)	Specifies the width magnification of the bars in a bar code.
	`BARMAG|BM <magnification>`

Command List, cont.

Instruction	Purpose and Syntax
BARRATIO (BR)	Specifies the width ratio between wide and narrow bars in a bar code.
	`BARRATIO|BR <ratio>`
BARSET	Specifies a bar code and sets parameters for complex bar codes.
	`BARSET [#<start parameter>,)"bar code name",<ratio wide bars>,` `<ratio narrow bars>,<mag>,<height>`
BARTYPE (BT)	Specifies the type of bar code.
	`BARTYPE|BT "<bar code name>"`
BREAK	Specifies a break interrupt character separately for either the parallel or serial communication channel.
	`BREAK <device>,<break character>`
BREAK ON/OFF	Enables/disables break interrupt separately for either the parallel or serial communication channel.
	`BREAK <device> ON|OFF`
CHR$	Returns the ASCII character whose number is given in the brackets.
	`CHR$(<ASCII character number>)`
CLEANFEED	Runs the printer's feed mechanism for the distance specified in dots.
	`CLEANFEED <length in dots>`
CLL	Clears the print image buffer; completely if no starting field is specified, or optionally from a specified field to the end of the label.
	`CLL [<variable name>%]`
COPY	Copies files.
	`COPY "[<source device>]<original filename>",` `"[destination device]<new filename>"|"uart1:"`
COUNT&	Creates a counter. Alpha counters range from A to Z, numeric counters have no practical limit.
	`COUNT& "START",<counter number>,"<start value>"`
	`COUNT& "WIDTH",<counter number>,"<number of digits>"`
	`COUNT& "COPY",<counter number>,"<number of copies>"`
	`COUNT& "INC",<counter number>,"<incr. value>|<decr. value>"`
	`COUNT& "STOP",<counter number>,"<stop value>"`
	`COUNT& "RESTART",<counter number>,"<restart value>"`

Command List, cont.

Instruction	Purpose and Syntax
CUT	Makes the optional paper cutter perform a cutting cycle. `CUT`
CUT ON/OFF	Enabling/disabling automatic cutting after **PRINTFEED**. `CUT [<feed length>] ON|OFF`

DATE$	Sets or returns the current date, optionally in the format specified by the **FORMAT DATE$** command.
	`DATE$ = "<YYMMDD>"`
	`PRINT DATE$[("F")]`

DATEADD$	Returns a new date after a number of days has been added to, or subtracted from, the current date or optionally a specified date. `PRINT DATEADD$(["<original date>",]<number of days>[,"F"])`
DIR	Specifies the print direction. `DIR <direction>`
ERROR	Defines error messages and enables the error handler for specified error conditions. `ERROR <error number>,"<error message>"`
FIELDNO	Gets the current field number for partial clearing of the print buffer by a **CLL** instruction. `<variable name>%=FIELDNO`
FILE& LOAD	Receives and stores binary files in the printer's RAM memory. `FILE& LOAD "<filename>",<file size>`
FILES	Lists the files stored in one of the printer's directories to the standard OUT channel. RAM: is the default if no other device is specified. `FILES ["ROM:|RAM:|CARD1:|CARD2:|CACHE:"]`
FONTD (FD)	Selects a double byte character set font for the printing of subsequent **PRTXT** instructions, and optionally sets the font size and slant. `FONTD|FD "<fontname>"[,<size>[,<slant>]]`
FONTDSIZE (FSD)	Sets the size in points of the current double byte character set font. `FONTDSIZE|FSD <size>`
FONTDSLANT (FLD)	Sets the slant in degrees of the current double byte character set font. `FONTDSLANT|FLD <slant>`

Command List, cont.

Instruction	Purpose and Syntax
FONT (FT)	Selects a single byte character set font for the printing of subsequent **PRTXT** instructions, and optionally sets the font size and slant. The default font is Swiss 721 BT in 12 point size, and slant 0°.
	`FONT|FT "<fontname>"[,<size>[,<slant>]]`
FONTSIZE (FS)	Sets the size in points of the current single byte character set font.
	`FONTSIZE|FS <size>`
FONTSLANT (FL)	Sets the slant in degrees of the current single byte character set font.
	`FONTSLANT|FL <slant>`
FONTS	Returns the names of all fonts stored in the printer's memory to the standard OUT channel.
	`FONTS`
FORMAT	Formats the printer's RAM memory, or formats a SRAM-type memory card to MS-DOS format.
	`FORMAT "<device>"[,<no of entries>[.<no of bytes>]]`
FORMAT DATE$	Specifies the format of the string returned by `DATE$("F")` and `DATEADD$(...,"F")` instructions.
	`FORMAT DATE$ <string>`
FORMAT INPUT	Specifies separators for layout variable data entry.
	`FORMAT INPUT "<start separator>","<end separator>","<field separator>"`
FORMAT TIME$	Specifies the format of the string returned by `TIME$("F")` and `TIMEADD$(...,"F")` instructions.
	`FORMAT TIME$ "<string>"`
FORMFEED (FF)	Activates the feed mechanism in order to feed out or pull back a certain length of media. If the feed length is not specified, the printer feeds a blank label.
	`FORMFEED|FF [<feed length in dots>]`
FRE	Returns the number of free bytes in the RAM memory (1) or the Flash memory (2.)
	`FRE(<1>|<2>)`
FUNCTEST$	Performs various hardware tests on the ROM, RAM, any cards fitted, and on the printhead.
	`FUNCTEST$("RAM|CARD1|CARD2|HEAD")`

Command List, cont.

Instruction	Purpose and Syntax
HEAD	Returns the result of a printhead check and sets printhead resistance.
	`PRINT HEAD(<type of check>)`
IMAGE LOAD	Receives and stores image files in .PCX format either in the file system or in volatile memory.
	`IMAGE LOAD "<imagename>",<filesize>,"<flag>"`
IMAGES	Returns the names of all images stored in the printer's memory to the standard OUT channel.
	`IMAGES`
INPUT ON	Sets `SYSVAR(18)` to 0 and enables layouts and use of variable data fields.
	`INPUT ON`
INPUT OFF	Restores `SYSVAR(18)` and disables layouts and use of variable data fields.
	`INPUT OFF`
INVIMAGE (II)	Inverts the printing of text and images from "black-on-white" to "white-on-black."
	`INVIMAGE|II`
KILL	Deletes a file from the printer's RAM memory or from a DOS-formatted memory card. Wildcard support (`<"*">`.)
	`KILL "[<device>]<filename>"`
LAYOUT END	Stops the recording of a layout description and saves the layout.
	`LAYOUT END`
LAYOUT INPUT	Starts the recording of a layout description.
	`LAYOUT INPUT "<layout name>"`
LAYOUT RUN	Enables a pre-defined layout.
	`LAYOUT RUN "<layout name>"`
LTS& ON/OFF	Enables or disables the label taken sensor.
	`LTS& ON|OFF`
MAG	Magnifies a font, barfont or image up to four times separately in regard of height and width.
	`MAG <height mag>,<width mag>`

Command List, cont.

Instruction	Purpose and Syntax
MAP	Changes the ASCII value of a character when received on the standard IN channel, or optionally on another specified communication channel.
	`MAP [<device>],<original ASCII value>,<desired ASCII value>`
NAME DATE$	Enters the preferred month name in return strings of **`DATE$("F")`** and **`DATEADD$(...,"F"`**.)
	`NAME DATE$ <No. of month>,"<name of month>"`
NAME WEEKDAY$	Enters the preferred weekday name in return strings of **`WEEKDAY$`**.
	`NAME WEEKDAY$ <No. of weekday>,"<name of weekday>"`
NASC	Selects a national single byte character set font.
	`NASC <character set number>|"<filename of character set>"`
NASCD	Selects a mapping method for double byte character set fonts.
	`NASCD "<filename of character set>"`
NORIMAGE (NI)	Returns to normal printing after **`INVIMAGE`** printing.
	`NORIMAGE|NI`
PRBAR (PB)	Prints a bar code.
	`PRBAR|PB <input data>[;<input data>]`
PRBOX (PX)	Prints a box.
	`PRBOX|PX <height>,<width>,<line thickness>`
PRESCALE (PS)	Scales the characters listed in the accompanying text string using the current font settings. Prescaled characters are saved in "ram:".
	`PRESCALE|PS "<string>"`
PRIMAGE (PM)	Prints an image stored in the printer's memory.
	`PRIMAGE|PM "<image name>"`
PRINT (?)	Prints data to the standard OUT channel.
	`PRINT|? "<input data>"[;"<input data>"]`
PRINT KEY ON/OFF	Enables/disables printing of the current label when the **Feed** key is pressed.
	`PRINT KEY ON|OFF`
PRINTFEED (PF)	Prints and feeds out one or a specified number of labels, tickets, tags, or portions of strip, according to the printer's setup.
	`PRINTFEED|PF [<batch size>]`

Command List, cont.

Instruction	Purpose and Syntax
PRLINE (PL)	Draws a solid rectangle.
	`PRLINE|PL <length>,<line thickness>`
PRPOS (PP)	Specifes the insertion point for a line of text, a bar code, an image, a box, or a line.
	`PRPOS|PP <x-coordinate>,<y-coordinate>`
PRSTAT	Returns the printer's current status.
	`(PRSTAT AND <parameter>)`
PRTXT (PT)	Provides the input data for a text field (a line of text.)
	`PRTXT[PT "<input data>"[;"<input data>"]`
REBOOT	Restarts the printer.
	`REBOOT`
REMOVE IMAGE	Removes a specified image from the printer's memory.
	`REMOVE IMAGE "<name>"`
SETSTDIO	Forces selection of standard IN and OUT communication channel. This is normally automatic.
	`SETSTDIO <IN channel>,<OUT channel>`
SETUP	Changes the setup by means of a setup string or setup file.
	`SETUP "<setup string>"|"<setup filename>"`
SETUP WRITE	Creates a setup file containing the printer's current setup values or prints the current setup to the host via the serial port.
	`SETUP WRITE "<setup filename>"|"uart1:"`
SYSVAR	Reads or sets various system variables.
	`PRINT SYSVAR(<parameter>)`
	`SYSVAR(<parameter>)=<value>`
TESTFEED	Slowly feeds media to allow the label stop sensor to adjust itself according to the presently loaded media.
	`TESTFEED`
TIME$	Sets or returns the current time, optionally in the format specified by the **FORMAT TIME$** command.
	`TIME$ = "<HHMMSS>"`
	`PRINT TIME$[("F")]`

Command List, cont.

Instruction	Purpose and Syntax
TIMEADD$	Returns a new time after a number of seconds have been added to, or subtracted from, the current time or optionally a specified time.
	`PRINT TIMEADD$(["<original time>",]<no. of seconds>[,"F"])`
V% = FIELDNO	Assigns the number of the current field to a variable.
	`<variable name>%=FIELDNO`
VERSION$	Returns the version of the firmware, printer family, or type of CPU board.
	`PRINT VERSION$[(<type of info>)]`
WEEKDAY$	Returns the name of the weekday for a specified date.
	`PRINT WEEKDAY$("<date>")`
WEEKNUMBER	Returns the number of the week for a specified date.
	`PRINT WEEKNUMBER("<date>")`

Printer Setup with Bar Code Wand

Connection and Operation

In addition to using Intermec Direct Protocol setup strings, the following setup parameters can also be entered by scanning pre-printed bar codes with an optional bar code wand:
- Serial port setup
- Print setup
- Media and ribbon setup

<table>
<tr><td>Important!
<i>The bar codes in this chapter only work with EasyCoder E4.</i></td></tr>
</table>

To use a bar code wand with the EasyCoder E4:

1 Open the side and front covers.
2 Plug the bar code wand into its socket, to the left of the printhead area.
3 Touch the bar code wand on the page containing the bar code to be scanned: the **Power** LED turns yellow.
4 Pass the bar code wand over the bar code and lift it off the page. If the bar code has been read correctly, the **Power** LED turns green. If the bar code has not been read correctly, the **Power** LED flashes red before turning green, when you lift the wand.
5 If the bar code has not been read correctly, check that the bar code wand is properly connected and try again.

Serial Communication on "uart1:"

Baud Rate

1200
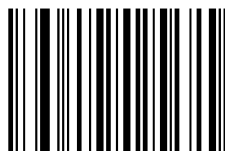
2400

4800
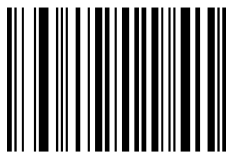
9600
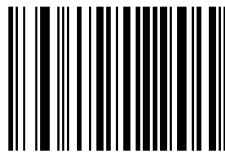
19200
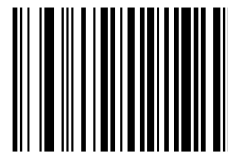
38400

Char. Length
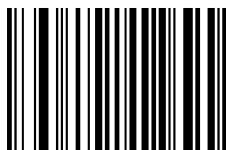
7
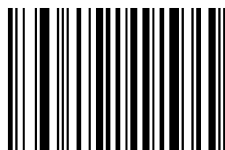
8

Parity

None
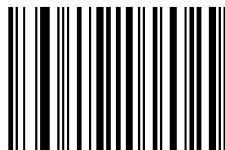
Even

Odd
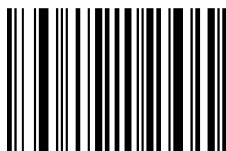
Mark
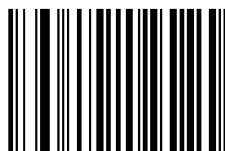
Space

Serial Communication on "uart1:", cont.

No. of Stop Bits
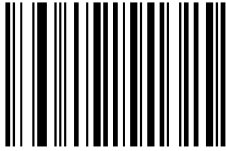
1
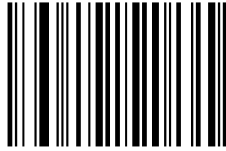
2

RTS/CTS
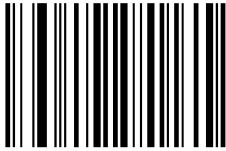
Enable
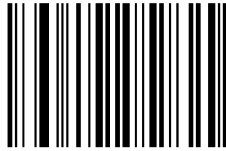
Disable

XON/XOFF, Data to Host
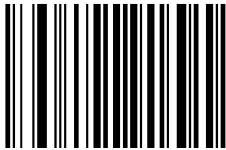
Enable
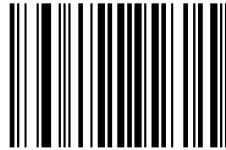
Disable

XON/XOFF, Data from Host
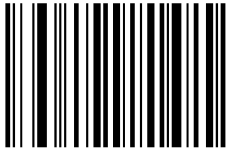
Enable
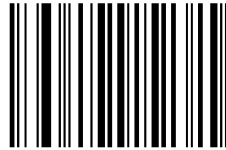
Disable

Serial Communication on "uart1:", cont.

New Line
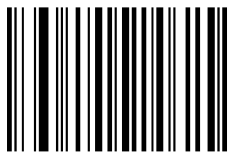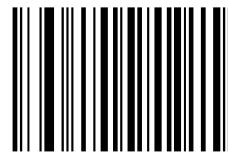
CR/LF	**LF**	**CR**

Startadjust
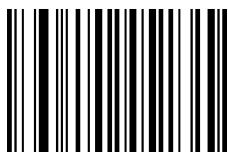
0

Contrast
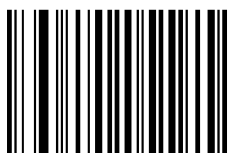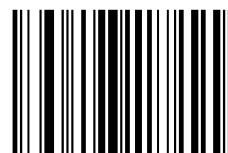
Low	**Normal**	**High**

Print Speed
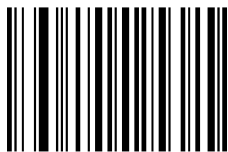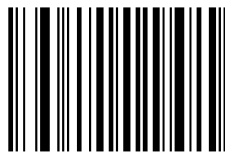
Normal	**High**

Label Type

||||||||||||||||||||

Peel Off; Label (w gaps)
Start adjust: -119
Stop adjust: -33

||||||||||||||||||||

Tear Off; Label (w gaps)
Start adjust: -152
Stop adjust: ±0

||||||||||||||||||||
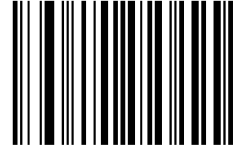
Tear Off; Ticket (w mark)
Start adjust: -152
Stop adjust: ±0

||||||||||||||||||||
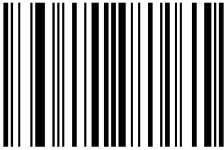
Tear Off; Fix Length Strip
Start adjust: -136
Stop adjust: +150

||||||||||||||||||||
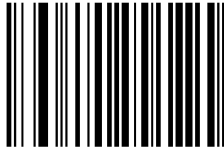
Tear Off; Var Length Strip
Start adjust: -136
Stop adjust: +75

||||||||||||||||||||
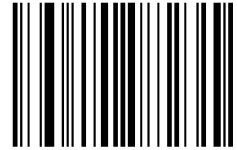
Cut Off (optional cutter)
Start adjust: -250
Stop adjust: +180

Direct Thermal Media (U.S.A.)

||||||||||||||||||||
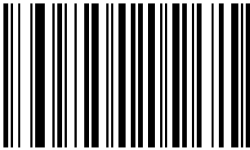
Duratherm II
New Supplies setting:
GT120

||||||||||||||||||||
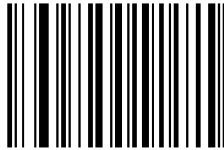
Duratherm Ltg.
New Supplies setting:
GT98

||||||||||||||||||||
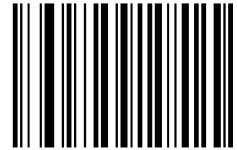
Duratherm IR
New Supplies setting:
GT85

||||||||||||||||||||
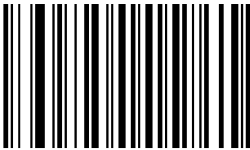
Duratherm II Tag
New Supplies setting:
GT110

Direct Thermal Media (Europe)

Economy
New Supplies setting:
GQ90

Eco Board
New Supplies setting:
GY90

Premium
New Supplies setting:
GS100

Top Board
New Supplies setting:
GT105

UBI DT 120
New Supplies setting:
GS110

UBI DT 110+
New Supplies setting:
GS115

UBI DT 110++
New Supplies setting:
GS120

Transfer Ribbon (U.S.A.)
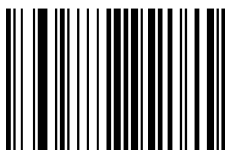
Standard
New Supplies setting:
GC70

Premium
New Supplies setting:
GG65

Super Premium
New Supplies setting:
GJ105

Transfer Ribbon (Europe)
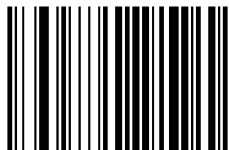
GP02
New Supplies setting:
GB78

HP05
New Supplies setting:
GF85

HP07
New Supplies setting:
GF100

HR03
New Supplies setting:
GJ118

Thermal Transfer Media (U.S.A.)
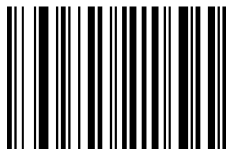
Duratran I
New Supplies setting:
GZ-2

Duratran II
New Supplies setting:
GZ0

Duratran II Tag
New Supplies setting:
GZ1

Duratran VG
New Supplies setting:
GZ8

Kimdura
New Supplies setting:
GZ3

Kimdura Tag
New Supplies setting:
GZ5

Polyester
New Supplies setting:
GZ0

Thermal Transfer Media (Europe)

Vellum
New Supplies setting:
GZ6

Matte Coated
New Supplies setting:
GZ0

Transfer Premium
New Supplies setting:
GZ-10
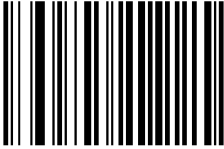
High Gloss White
New Supplies setting:
GZ-7

Polyethylene Matte
New Supplies setting:
GZ-10
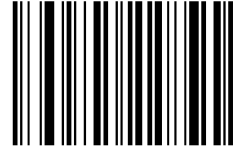
Polyethylene Gloss
New Supplies setting:
GZ-5

Premium Tag
New Supplies setting:
GZ5
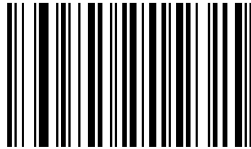
Polyester Gloss
New Supplies setting:
GZ-10