



Intermec



Installation Instructions

**EasyLAN
Interface Kit**
(for EasyCoder PF2i,
PF4i, PF4i Compact
Industrial, and PM4i)

Intermec Printer AB

Idrottsvägen 10

P.O. Box 123

S-431 22 Mölndal

Sweden

Service support: +46 31 869500

The information contained herein is proprietary and is provided solely for the purpose of allowing customers to operate and/or service Intermec manufactured equipment and is not to be released, reproduced, or used for any other purpose without written permission of Intermec.

Information and specifications in this manual are subject to change without notice.

© 2003 by Intermec Printer AB

All Rights Reserved

EasyCoder, EasyLAN, and Fingerprint are registered trademarks of Intermec Technologies Corp. The word Intermec, the Intermec logo, InterDriver, PrintSet, and Duratherm are trademarks of Intermec Technologies Corp.

Microsoft is a registered trademark of Microsoft Corporation.

Torx is a registered trademark of Camcar Division of Textron Inc.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Windows is a trademark of Microsoft Corporation.

Throughout this manual, trademarked names may be used. Rather than put a trademark (TM) symbol in every occurrence of a trademarked name, we state that we are using the names only in an editorial fashion, and to the benefit of the trademark owner, with no intention of infringement.

Contents

	Introduction	iv
	Printer Firmware	iv
	Installation Kit	iv
1	Physical Installation	
	EasyCoder PF2/4i printers	2
	EasyCoder PM4i printers	3
	All Models	3
2	Setup in Fingerprint	
	Setup Methods	8
	Setting the New Line Parameter	8
	Setting the Network Parameters	9
	IP Selection	9
	Reading or Setting the IP Address	10
	Reading or Setting the Netmask, Default Router, and Name Server	10
3	Setup in IPL	
	Setup Methods	14
	Setting the Network Parameters	14
	IP Selection	14
	Reading the IP Address	15
	Reading the Netmask, Default Router, and Name Server	15
	Using ARP'n'PING to set an IP Address	16
4	Accessing the Printer's Home Page	
	Using the Web Browser	22

Introduction

This Installation Instructions booklet describes how to install an EasyLAN Ethernet interface in an EasyCoder PF2i, PF4i, PF4i Compact Industrial, or PM4i printer and how to connect it to a LAN, WAN, Intranet, or Internet network via an RJ-45 network cable.

The installation instructions describes how to physically install the interface board in a printer and how to set up the IP address, netmask, default router, and name server. The instructions end when you have the printer's home page up and running. From there, please refer to the Intermec EasyLAN User's Guide on the attached CD-ROM.



Warning

This interface kit must only be physically installed by an authorized service technician. Intermec assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.

Printer Firmware

The printer must either be fitted with Intermec Fingerprint v8.00 (or later) or IPL v2.00 (or later). In Intermec Fingerprint, the Ethernet port is addressed as device "net1:" (communication channel #5).

Installation Kit

The EasyLAN Interface Kit contains:

- One EasyLAN interface board
- One light guide
- One hexagonal threaded spacer
- One network extension cable
- One cable tie
- One serial number label
- One CD-ROM with software and manuals
- One Installation Instruction booklet

The only tool required for the installation is a #T20 Torx screwdriver and a small wrench.

1 Physical Installation

This chapter describes how to physically install the EasyLAN interface kit in a PF2/4i- or PM4i-series printer.



Warning

The installation described in this chapter must only be performed by an authorized service technician.



Caution

Take precautions against electrostatic discharges, for example by wearing grounded bracelets.

Chapter 1 — Physical Installation

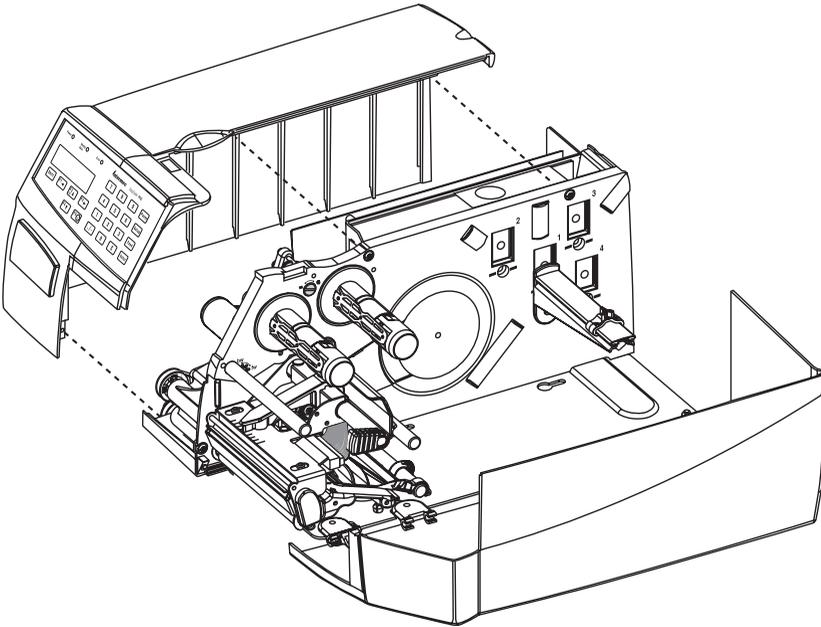
- Switch off the printer and disconnect the power cord.
- Disconnect all communication cables.
- Remove the front/left-hand cover as follows.



The electronic compartment contains wires and components with dangerous voltage (up to 380V). Make sure that the printer is switched off and the power cord is disconnected before the left-hand cover is removed.

EasyCoder PF2/4i printers

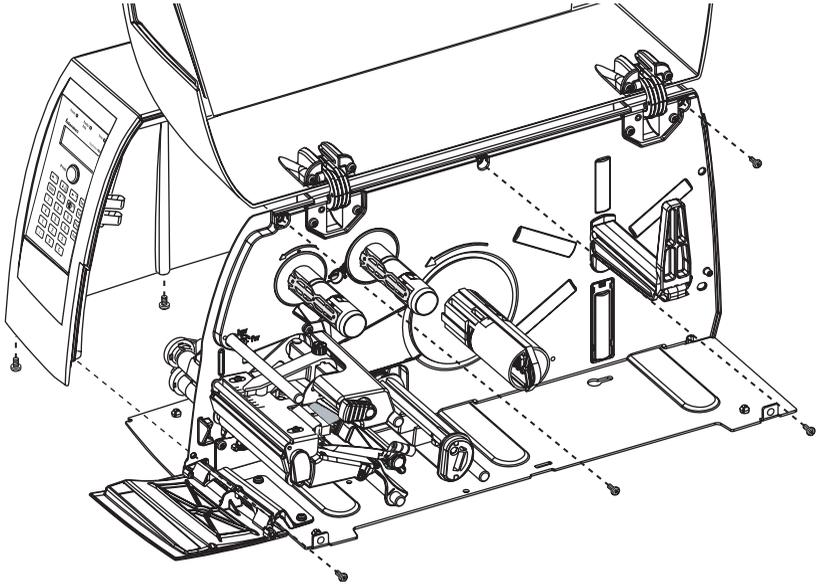
- Open the right-hand door.
- Using a #T20 Torx screwdriver, remove the three screws and lift the cover up so it disengages the bottom plate.



- Swing out the rear part of the cover so you can disconnect the console cable from the CPU board.
- Put the cover aside on a soft cloth or similar to avoid scratches.

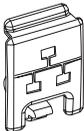
EasyCoder PM4i printers

- Using a #T20 Torx screwdriver, loosen the four screws that holds the cover along the lower left edge of the bottom plate.
- Remove the four screws that hold the cover to the center section.
- Pull out the cover so you can disconnect the console cable from the CPU board.
- Put the cover aside on a soft cloth or similar to avoid scratches.



All Models

- Remove the LAN connector plug, which is snap-locked at the top of the rear plate.

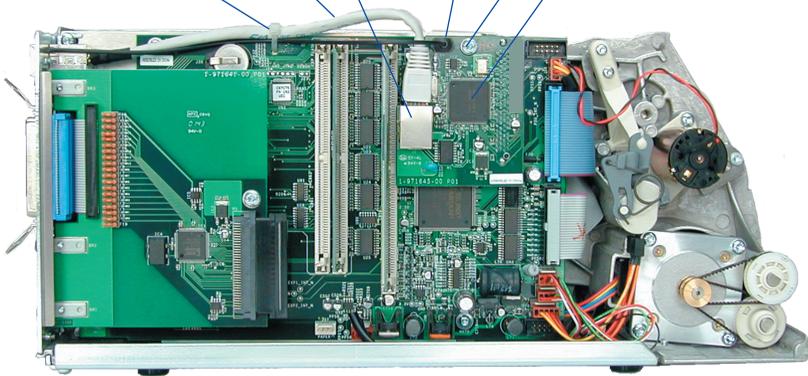


- Remove the #T20 Torx screw that holds the upper/front part of the CPU board to the power supply unit and replace it with the hexagonal spacer included in the kit. Keep the screw.

Chapter 1 — Physical Installation

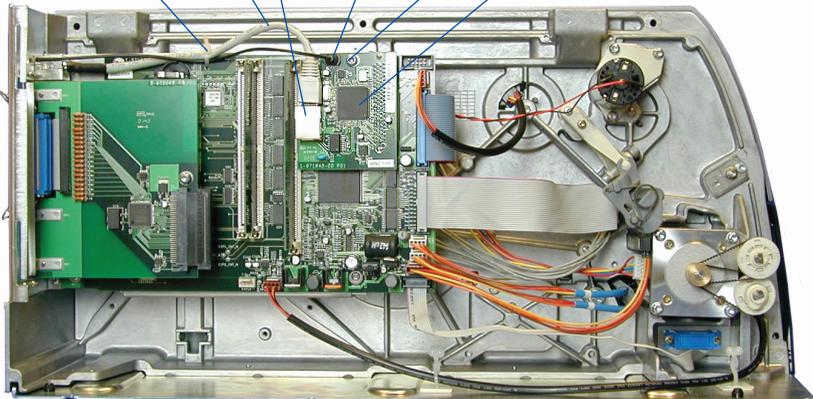
- Connect the EasyLAN board to the PCI connector (J84) on the CPU board so the hole in the interface board becomes aligned with the spacer.
- Secure the EasyLAN board with the #T20 Torx screw you previously removed.
- From the inside of the electronics compartment, press the metal socket of the network extension cable into the square hole in the rear plate (where you removed the LAN plug) until it is held by its snap-lock.
- Route the extension cable over the SIMMs on the CPU board and connect it to the RJ-45 socket on the EasyLAN interface board (J2).
- From the outside, insert the thin end of the light guide through the small hole next to the RJ-45 socket on the rear plate. Press the clear plastic “lamp” in place. Connect the other end to the black plastic socket (D1) on the EasyLAN interface board.
- Pull the cable tie through the hole in the upper edge of the CPU board between the SIMMs and the RTC socket. Secure both the extension cable and the light guide with the cable tie.
- Fit the serial number label to the printer’s rear plate below the RJ-45 socket and to the right of the memory card slot.
- Put back the front/left-hand cover. Route the cable from the display unit above the ribbon motor. Connect the cable to connector J50 at the upper right corner of the CPU board.
- Connect the power cord and switch on the power.
- Enter the Setup Mode and print the test label “Hardware Info” to see if the printer detects the EasyLAN interface board. For information on how to enter the Setup Mode, refer to the User’s Guide for the printer in question.
- Connect the network cable to the RJ-45 socket on the printer’s rear plate.
- Set up the network parameters. See Chapter 2.

- Extension cable
- RJ-45 connector
- Light guide
- #T20 Torx screw and spacer
- Cable tie
- EasyLAN interface board

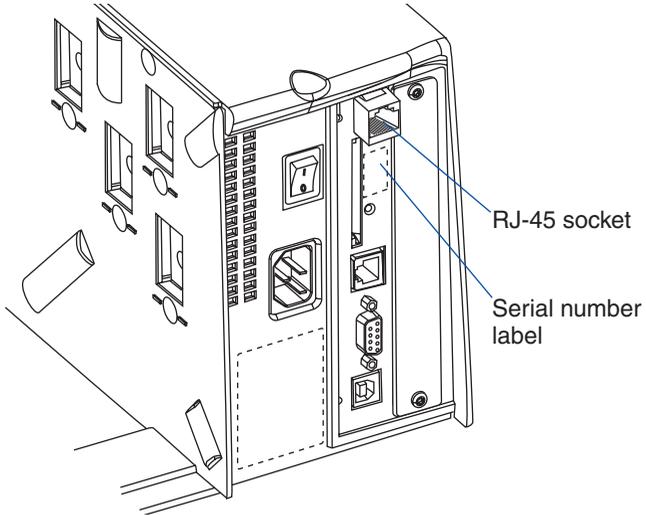


EasyCoder PF2/4i-series printer

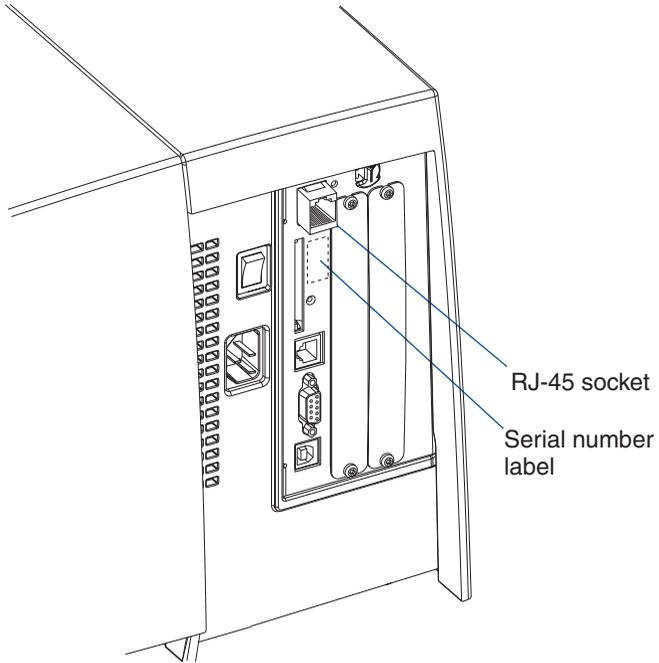
- Extension cable
- RJ-45 connector
- Light guide
- #T20 Torx screw and spacer
- Cable tie
- EasyLAN interface board



EasyCoder PM4i printer



EasyCoder PF2/4i-series printer, rear view



EasyCoder PM4i printer, rear view



2 Setup in Fingerprint

This chapter explains how to set up the network communication via the printer's built-in keyboard and display. It applies to any printer model running the Intermecc Fingerprint v8.00 (or later).

It is also possible to perform the same setup using the Fingerprint instruction SETUP (see the Intermecc Fingerprint Programmer's Reference Manual).

Setting up the network communication is **not** restricted to authorized service technicians!

For information on how to set up the network communication in printer's running IPL, refer to Chapter 3.

Setup Methods

There are two main methods for setting up the printer for network communication:

- Via the printer's built-in keyboard and the Setup Mode. This method is described in this chapter.
- Remotely from the host computer. This method is described in the *Intermec EasyLAN User's Guide* on the CD-ROM included in the kit.

Setting the New Line Parameter

- Press the **Setup** key on the printer's built-in keyboard. This message appears in the display window:

```
SETUP :  
SER-COM, UART1
```

- Repeatedly press the → key until the following message appears:

```
SETUP :  
NET-COM, NET1
```

- Press the ↓ key. The display shows:

```
NET-COM, NET1 :  
NEW LINE
```

- Press the ↓ key. The display shows by default:

```
NEW LINE  
CR/LF
```

- Here, you can decide which control character(s) should specify the switching to a new line. There are three options; CR (carriage return = ASCII 13 dec), LF (linefeed = ASCII 10 dec), or both (default).
- Use the ← or → keys to browse the stack of options. When the desired option is displayed, press the **Enter** key. The display shows:

```
SETUP :  
NETWORK
```

- You can leave the Setup Mode by pressing the Setup key or continue by setting the IP selection method, IP address, netmask, default router, and name server by pressing the → key (see the next page).

Setting the Network Parameters

There are four methods for setting the IP address. DHCP, BOOTP, and DHCP+BOOTP let the server assign a **temporary** IP address to the printer. Which method to choose depends on the server. DHCP, BOOTP, and DHCP+BOOTP also sets the netmask, default router, and name server automatically. If the server neither supports DHCP nor BOOTP, or if you want to set a **permanent** IP address manually, use the MANUAL option. In this case, you will also have to set the netmask, default router, and name server manually via the printer's keyboard.



Caution

Always consult your network administrator before assigning a permanent IP address to avoid having more than one device with the same IP address in the network.

IP Selection

- Press the **Setup** key on the printer's built-in keyboard. This message appears in the display window:

```
SETUP:
SER-COM, UART1
```

- Repeatedly press the **→** key until the following message appears:

```
SETUP:
NETWORK
```

- Press the **↓** key. The display shows:

```
NETWORK:
IP SELECTION
```

- Press the **↓** key. The display shows by default:

```
IP SELECTION:
DHCP+BOOTP
```

- Here, you can select the method for assigning the IP address for the printer as discussed above. There are four options; DHCP+BOOTP, MANUAL, DHCP, and BOOTP.
- Use the **←** or **→** keys to browse the stack of options. When the desired option is displayed, press the **Enter** key.

Reading or Setting the IP Address

- After having selected the method for assigning the IP address, the display shows:

```
NETWORK :  
IP ADDRESS
```

- If you have chosen either DHCP+BOOTP, DHCP, or BOOTP, press the ↓ key and you can read the temporary IP address automatically assigned by the server, for example:

```
IP ADDRESS :  
192.168.1.79
```

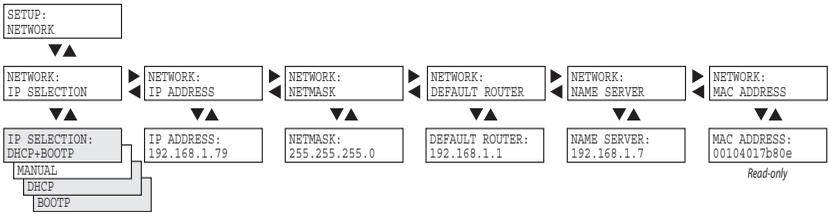
- If you have selected MANUAL, the display will only show this (or possibly an existing IP address):

```
IP ADDRESS :  
0.0.0.0
```

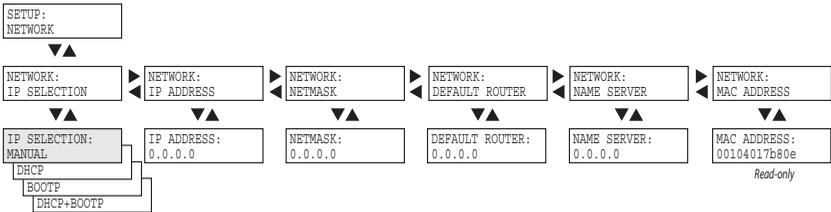
- Before you can enter the IP address, you must first the data on the lower line by repeatedly pressing the C key. Then you can type the desired IP address using the numeric keys on the printer's keyboard.
- After having read or set the IP address, press the **Enter** key to go on to Netmask parameter or press the **Setup** key to exit the Setup Mode.

Reading or Setting the Netmask, Default Router, and Name Server

- These parameters work in the same way as reading or setting the IP address. In case of DHCP, BOOTP, or DHCP+BOOTP, these parameters are set automatically by the server. In case of the MANUAL method, you will have to set these parameters at least partly yourself via the printer's keyboard or via the printer's home page. Refer to the diagrams on the next page.



Example of the network setup when an automatic IP selection method is used.



Example of the network setup when the manual IP selection method is used.



3 Setup in IPL

This chapter explains how to set up the network communication. It applies to any printer model running IPL v2.00 (or later).

Setting up the network communication is **not** restricted to authorized service technicians!

For information on how to set up the network communication in printer's running Fingerprint v8.00 (or later), refer to Chapter 2.

Setup Methods

There are three main methods for setting up the printer for network communication:

- Via the printer's built-in keyboard and the Setup Mode. This method is described in this chapter.
- Using the ARP'n'PING method from the host computer. This method is described in this chapter too.
- Remotely from the host computer. This method is described in the *Intermec EasyLAN User's Guide* on the CD-ROM included in the kit.

Setting the Network Parameters

There are four methods for setting the IP address. DHCP, BOOTP, and DHCP+BOOTP let the server assign a **temporary** IP address to the printer. Which method to choose depends on the server. DHCP, BOOTP, and DHCP+BOOTP also sets the netmask, default router, and name server automatically. If the server neither supports DHCP nor BOOTP, you will have to use the ARP'n'PING method. The MANUAL option is presently not supported by IPL.



Always consult your network administrator before assigning a permanent IP address to avoid having more than one device with the same IP address in the network.

IP Selection

- Press the **Setup** key on the printer's built-in keyboard. This message appears in the display window:

```
SETUP :  
SER-COM
```

- Repeatedly press the → key until the following message appears:

```
SETUP :  
NETWORK
```

- Press the ↓ key. The display shows:

```
NETWORK :  
IP SELECTION
```

- Press the ↓ key. The display shows by default:

```
IP SELECTION:
DHCP+BOOTP
```

- Here, you can select the method for assigning the IP address for the printer as discussed above. There are four options; DHCP+BOOTP, MANUAL, DHCP, and BOOTP. Do **not** select the MANUAL option, but use the ARP'n'PING method described later instead!
- Use the ← or → keys to browse the stack of options. When the desired option is displayed, press the **Enter** key.

Reading the IP Address

- After having selected the method for assigning the IP address, the display shows:

```
NETWORK:
IP ADDRESS
```

- If you have chosen either DHCP+BOOTP, DHCP, or BOOTP, press the ↓ key and you can read the temporary IP address automatically assigned by the server, for example:

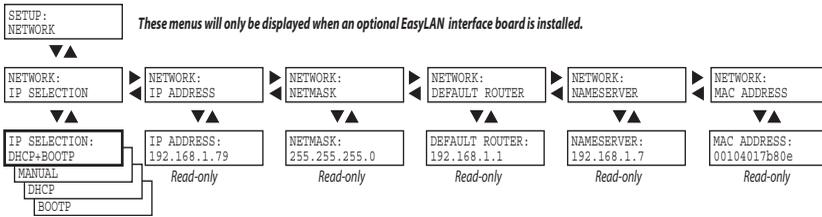
```
IP ADDRESS:
192.168.1.79
```

- After having read IP address, press the **Enter** key to go on to Netmask parameter or press the **Setup** key to exit the Setup Mode.

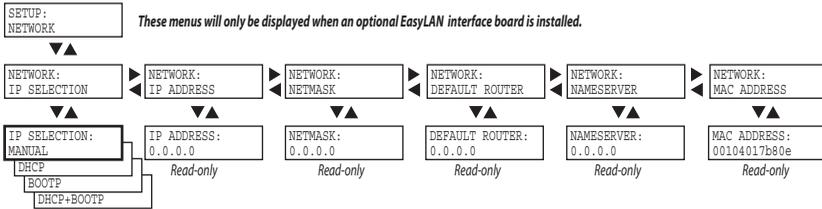
Reading the Netmask, Default Router, and Name Server

- These parameters work in the same way as reading the IP address. In case of DHCP, BOOTP, or DHCP+BOOTP, these parameters are set automatically by the server. In case of the ARP'n'PING method, you will have to set these parameters via the printer's home page once the network communication has been established. Refer to the diagram on the next page.

Chapter 3 — Setup in IPL



Example of the network setup when an automatic IP selection method is used.



Example of the network setup when the manual IP selection method is used or when the network does not have a DHCP or BOOTP server.

Using ARP'n'PING to set an IP Address (Windows)

The ARP'n'PING method is intended for networks that does not have an DHCP or BOOTP server.

You must have a free IP address, which will be permanently assigned to the printer. However, it could be changed later from the printer's home page once the communication is established.

You must also have the printer's MAC address. You can get the MAC address from the Setup Mode as shown above or from the serial number label for the EasyLAN board attached to the printer's rear plate.

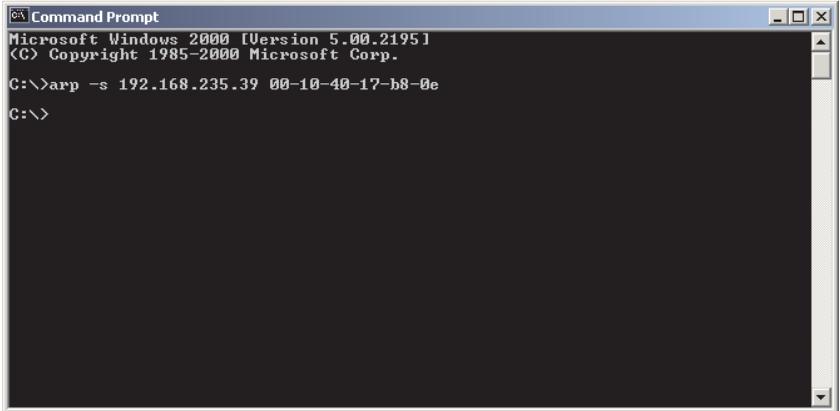
If the printer is started with DHCP and/or BOOTP, the printer will try to find an IP address five times before it considers it a failure. This takes about 2 minutes during which you cannot start using the ARP'n'PING method.

The following instructions apply to Windows 2000, but similar methods can be used on other operating systems, both in Windows and in Unix. In Windows, the groups of digits in the MAC address are separated by hyphens (-), and in Unix by colons (:).

On the task bar of the host, click the **Start** button, click **Accessories**, and then click the **Command Prompt**. In the Command Prompt, type:

```
arp -s <desired IP address><printer MAC-address>
```

Example:



```

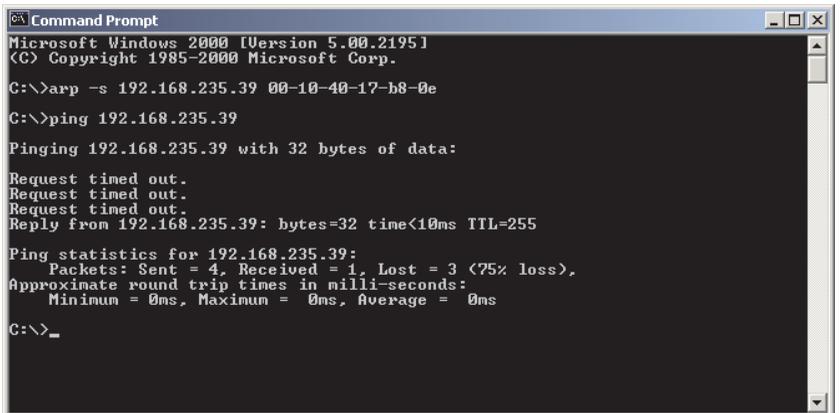
Command Prompt
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
C:\>arp -s 192.168.235.39 00-10-40-17-b8-0e
C:\>

```

While still using the Command Prompt, use ping to make the printer set the IP address by typing:

```
ping <IP address>
```

Example:



```

Command Prompt
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
C:\>arp -s 192.168.235.39 00-10-40-17-b8-0e
C:\>ping 192.168.235.39

Pinging 192.168.235.39 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Reply from 192.168.235.39: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.235.39:
    Packets: Sent = 4, Received = 1, Lost = 3 (75% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>_

```

Exit the Command Prompt.

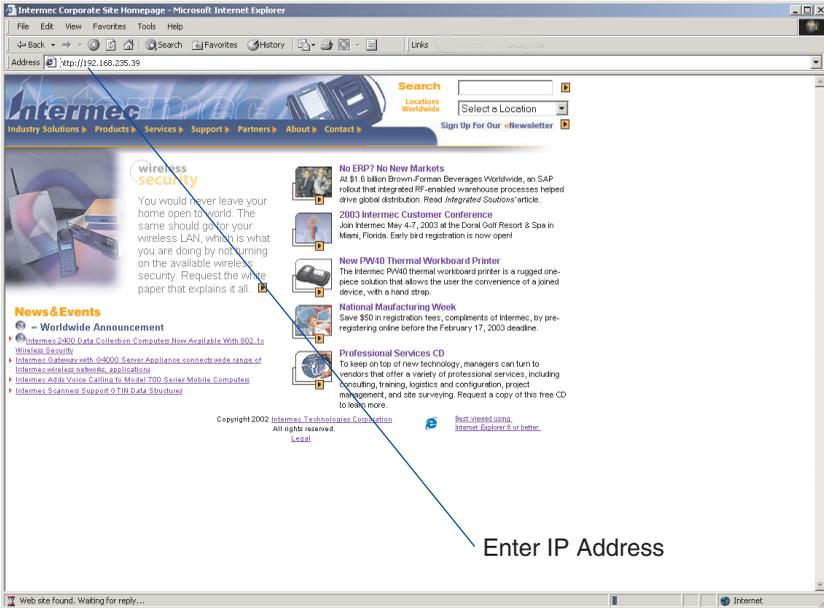


4 Accessing the Printer's Home Page

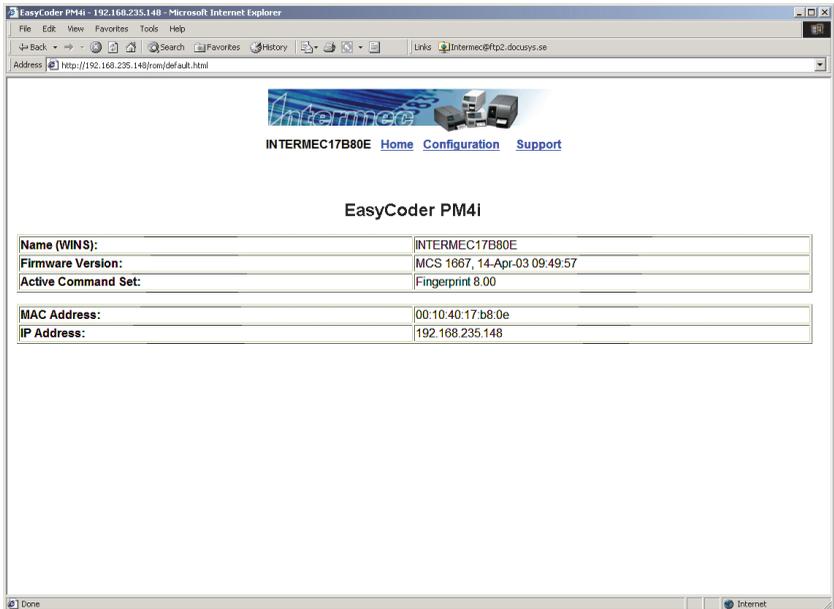
This chapter describes how to access the printer's home page in order to ascertain that the network communication works properly.

Using the Web Browser

Start your favorite web browser (in this example Microsoft Internet Explorer) and enter the printer's IP address in the Address field, for example *http://192.168.235.39*



The printer's home page will appear:



From the printer's home page, you can perform a large number of tasks, including changing or setting the IP address, netmask, default router, and name server. Please refer to the EasyLAN User's Guide that comes in PDF format on the CD-ROM included with the EasyLAN interface board.



Intermec Printer AB

Idrottsvägen 10, P.O. Box 123
S-431 22 Mölndal, Sweden

tel +46 31 869500

fax +46 31 869595

www.intermec.com

EasyLAN Interface Kit Installation Instructions



1-960589-00