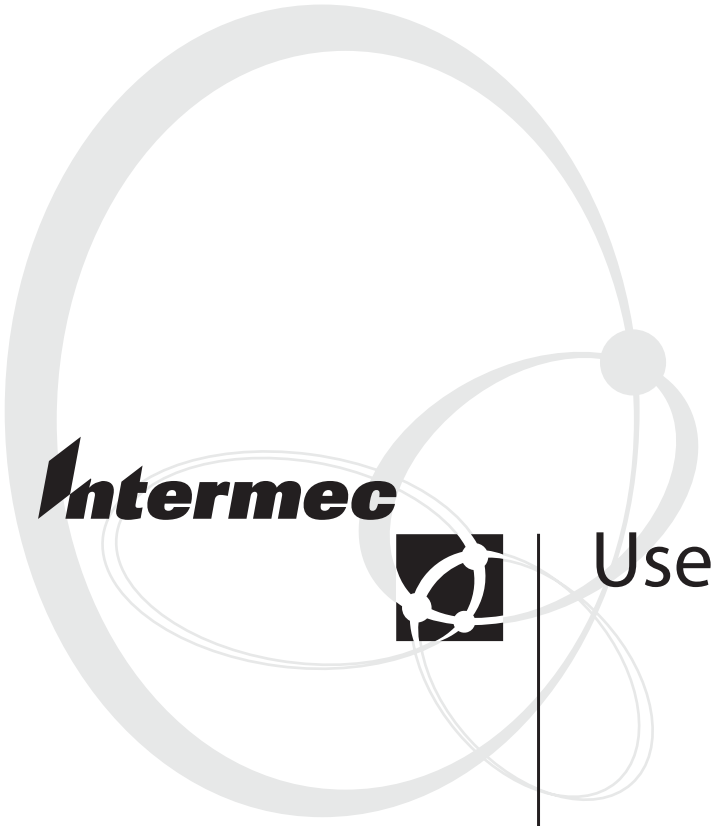


Intermec

User's Manual

EasyLAN™ 10i2 Ethernet Adapter

Intermec Technologies Corporation
6001 36th Avenue West
Everett, WA 98203

U.S. service and technical support: 1-800-755-5505
U.S. media supplies ordering information: 1-800-227-9947

Canadian service and technical support: 1-800-668-7043
Canadian media supplies ordering information: 1-800-268-6936

Outside U.S.A. and Canada: Contact your local Intermec service supplier.

Contents

Before You Begin

This section introduces you to standard warranty provisions, safety precautions, warnings and cautions, document formatting conventions, and sources of additional product information. A documentation roadmap is also provided to guide you in finding the appropriate information.

Warranty Information

To receive a copy of the standard warranty provision for this product, contact your local Intermec support services organization. In the U.S.A. call 1-800-755-5505, and in Canada call 1-800-668-7043. If you live outside of the U.S.A. or Canada, you can find your local Intermec support services organization on the Intermec Web site at www.intermec.com.

Safety Summary

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

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

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

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

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

Warnings, Cautions, and Notes

The warnings, cautions, and notes in this manual use this format.

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

Avertissement
Un avertissement vous avertit d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour éviter l'occurrence de mort ou de blessures graves aux personnes manupulant l'équipement.

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

Conseil
Une précaution vous avertit d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour empêcher l'endommagement ou la destruction de l'équipement, ou l'altération ou la perte de données.

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

About This Manual

This manual contains all of the information necessary to install, configure, operate, maintain, and troubleshoot the EasyLAN™ 10i2 Ethernet adapter.

This manual was written for users who want to know more about the EasyLAN 10i2 adapter. It was also written for installers, applications analysts, systems engineers, and programmers who will install, operate, program, and troubleshoot the EasyLAN 10i2 adapter in a network. A basic understanding of data communications and networks is necessary.

What You Will Find in This Manual

This table summarizes the information in each chapter of this manual:

For Information On	Refer To
Installing the EasyLAN 10i2 adapter	Chapter 1, "Installing the EasyLAN 10i2 Adapter." Tells you how to install the EasyLAN 10i2 adapter in your network.
Configuring the EasyLAN 10i2 adapter	Chapter 2, "Configuring the EasyLAN 10i2 Adapter." Explains how to configure the EasyLAN 10i2 adapter for advanced and network specific settings.
Managing the EasyLAN 10i2 adapter	Chapter 3, "Troubleshooting and Managing the EasyLAN 10i2 Adapter." Explains how to reboot, set to factory defaults, and load firmware in the EasyLAN 10i2 adapter.
Troubleshooting the EasyLAN 10i2 adapter	Chapter 3, "Troubleshooting and Managing the EasyLAN 10i2 Adapter." Provides general troubleshooting information.
Console commands	Appendix A, "Console Commands." Explains how to send console commands to the EasyLAN 10i2 adapter, and lists the commands.

Terminology

You should be aware of how these terms are being used in this manual:

Term	Description
EasyLAN 10i2 adapter	The external or internal Ethernet adapter for Intermec printers providing a 10BaseT connection.
Web browser interface	The HTML pages that you can use to configure and manage the EasyLAN 10i2 adapter.
IPNM	The Intermec Printer Network Manager software that you can use to manage the EasyLAN 10i2 adapter.

Format Conventions for Input From a Keyboard or Keypad

This table describes the formatting conventions for input from PC or host computer keyboards and device keypads:

Convention	Description
`Special` text	Shows the command as you should enter it into the device. See "Format Conventions for Commands" later in this section.
Italic text	Indicates that you must replace the parameter with a value. See "Format Conventions for Commands" later in this section.
Bold text	Indicates the keys you must press on a PC or host computer keyboard. For example, "press **Enter**" means you press the key labeled "Enter" on the PC or host computer keyboard.

Format Conventions for Commands

This manual includes sample commands that are shown exactly as you should type them on your device. The manual also describes the syntax for many commands, defining each parameter in the command. This example illustrates the format conventions used for commands:

Type the following command:

`arp -s` *`nnn.nnn.nnn.nnn nn-nn-nn-nn-nn-nn`*

`ping` *`nnn.nnn.nnn.nnn`*

`arp -d` *`nnn.nnn.nnn.nnn`*

where:

nnn.nnn.nnn.nnn is the IP address for the EasyLAN 10i2 adapter

nn-nn-nn-nn-nn-nn is the MAC address for the EasyLAN 10i2 adapter

This table defines the conventions used in this manual:

Convention	Description
`Special` font	Commands appear in this font. You enter the command exactly as it is shown.
Italic text	Italics indicate a variable, which you must replace with a real value, such as a number, filename, or keyword.
[ ]	Brackets enclose a parameter that you may omit from the command. Do not include the brackets in the command.
Required parameters	If a parameter is not enclosed in brackets [ ], the parameter is required. You **must** include the parameter in the command; otherwise, the command will not execute correctly.
where	This word introduces a list of the command's parameters and explains the values you can specify for them.

Other Intermec Manuals

You may need additional information when working with the EasyLAN 10i2 adapter with various printers in a data collection system. Please visit our Web site at www.intermec.com to download many of our current manuals in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

1

Installing the EasyLAN 10i2 Adapter

This chapter provides an overview of the EasyLAN 10i2 adapter and explains how to install it in your network.

Introducing the EasyLAN 10i2 Adapter

The external EasyLAN™ 10i2 Ethernet adapter, Part No. 072885, and the internal EasyLAN 10i2 Ethernet adapters, Part Nos. 072894 and 072884, allow you to share your available printer resources with everyone on your Ethernet network.

You can connect only the external EasyLAN 10i2 adapter to the following Intermec printers to print labels:

- 91* printers
- 301/E4* printers
- 401* and 401LL* printers
- 501*, 501E*, 501S*, and 501XP printers
- C4 printers
- 601XP printers
- 4630* printers
- 7421 and 7422* printers
- 901/V4* printers

* These printer models require an external power supply to run the external EasyLAN 10i2 adapter.

You can connect either the external or the internal EasyLAN 10i2 adapter Part No. 072894 to the following Intermec printers to print labels:

- 3240 printers
- 3400D and earlier and 3440 printers
- 3600 printers

Note: For the 3240, 3400D and earlier, 3440, and 3600 printers, you must have the parallel port option installed on your printer to connect the external EasyLAN 10i2 adapter.

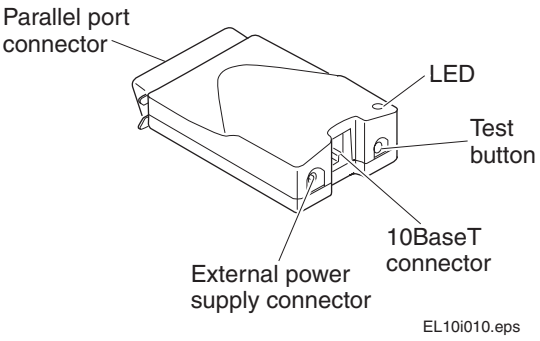
You can connect the EasyLAN 10i2 adapter Part No. 072884 to the 3400e, 4420, and 4440 printers.

Note: With the internal EasyLAN 10i2 adapter installed, the parallel port on the 3400e, 4420, and 4440 printers is not available for use.

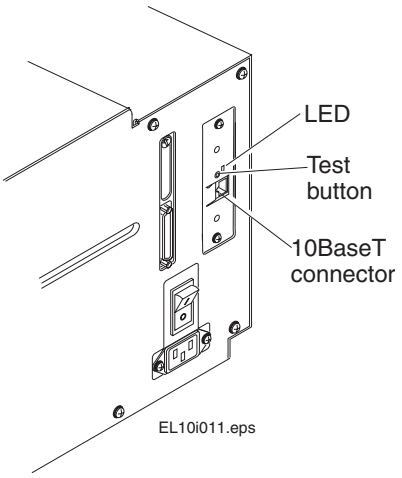
The EasyLAN 10i2 adapter uses a twisted pair (10BaseT) connection with a network speed of 10 Mbps. Throughout the manual, “EasyLAN 10i2 adapter” is used to refer to both the internal and external adapter unless specified.

Physical Description

External EasyLAN 10i2 Adapter



Internal EasyLAN 10i2 Adapter



Part	Function
10BaseT connector	Connects the EasyLAN 10i2 adapter to a 10 Mbps Ethernet network via a 10BaseT cable.
Parallel port connector (external EasyLAN 10i2 adapter only)	Provides the external EasyLAN 10i2 adapter with a single high-speed parallel port that can connect directly, without the need of cabling, to an Intermec printer with a parallel port installed.

Physical Description (continued)

Part	Function
External power supply connector (external EasyLAN 10i2 adapter only)	Connects the external EasyLAN 10i2 adapter to a power source via a power supply.
Test button	Use the Test button to: • Print a test label that shows some of the EasyLAN 10i2 adapter's settings. Printers that do not use the Intermec Printer Language (IPL) or Direct Protocol (DP), such as the 91, 7422, C4, or V4, cannot print a test label. • Reset the EasyLAN 10i2 adapter's parameters to the factory default settings. Refer to "Starting and Printing a Test Label" later in this chapter for more information about the Test button.
LED	The LED provides information for the power-up diagnostic and network activity. For more information, see "Starting and Printing a Test Label" later in this chapter.

Supported Operating Systems and Network Protocols

- Windows® 95, 98, ME, NT 4, 2000, XP
- TCP/IP
  - LPD/LPR
  - Raw TCP/IP (port 9100)
  - NetBIOS® over IP (with SMB)
  - Multiple configurable TCP port numbers
- Telnet
- WINS
- DHCP
- IPX/SPX
  - NetWare™ RPrinter Bindery mode
  - NetWare PServer Bindery mode
  - NetWare NPrinter NDS mode with NDPS support
  - NetWare PServer NDS mode

  - Ethernet II, 802.3, 802.2, 802.2 SNAP Frame types
  - Compatible with PCONSOLE, NWADMIN, PRINTCON, and other Novell utilities
- NetBEUI
- Unix®

Installing the EasyLAN 10i2 Adapter

Before you install the EasyLAN 10i2 adapter, make sure that you have the appropriate Ethernet cable and power cable. Also make sure that you have loaded media and ribbon into the printer. For help, see the quick start guide for your printer.

Connecting the EasyLAN 10i2 Adapter to Your Network

This section explains how to physically connect the internal or external EasyLAN 10i2 adapter to your network.

To connect the internal EasyLAN 10i2 adapter

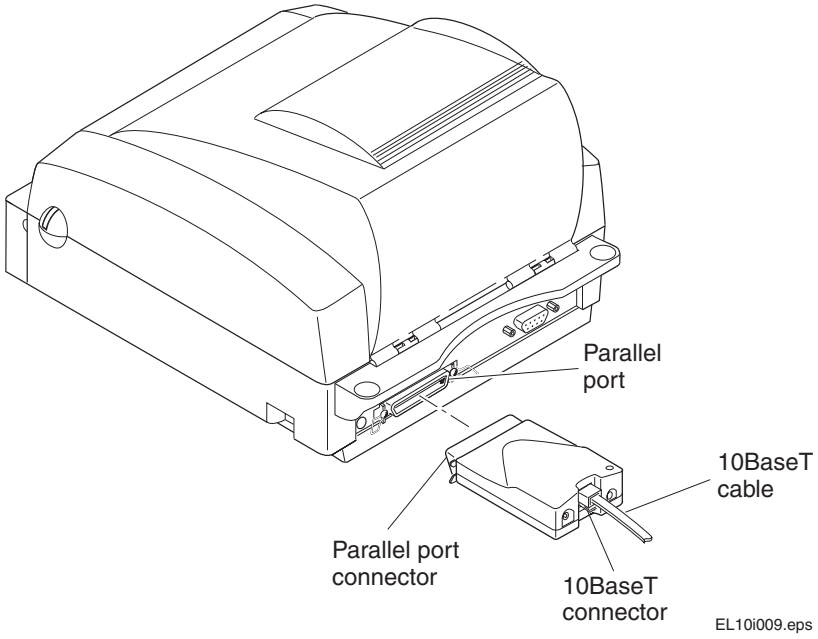
1. Connect a 10BaseT cable into the 10BaseT connector. For help finding the 10BaseT connector, see "Physical Description" earlier in this chapter.
2. Connect the other end of the 10BaseT cable into an Ethernet port for your network.

Although you can connect the external EasyLAN 10i2 adapter to several different Intermec printers, the illustrations in the following procedure use the 7421.

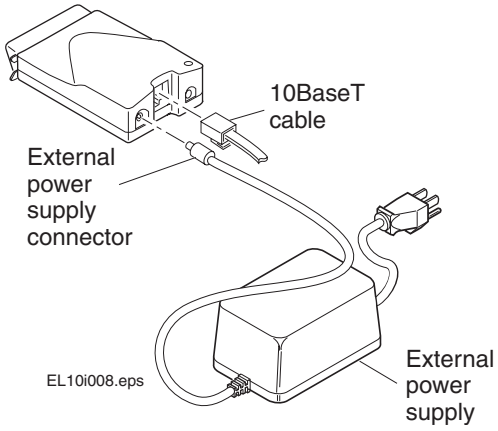
To connect the external EasyLAN 10i2 adapter

1. Note the MAC address found on the underside of the EasyLAN 10i2 adapter. You need this address during the configuration.
2. Turn off the printer.
3. Plug the parallel port connector into the printer's parallel port.

Plugging in the External EasyLAN 10i2 Adapter



4. Connect a 10BaseT cable into the 10BaseT connector.
5. Connect the other end of the 10BaseT cable into an Ethernet port for your network.
6. If necessary, plug in the external power supply.



7. Switch on the printer. The LED for the EasyLAN 10i2 adapter flashes.

If you have a Dynamic Host Configuration Protocol (DHCP) server on your network, the EasyLAN 10i2 adapter receives an IP address when you plug in the adapter and turn on the printer. You are now ready to print to your printer. If you want to print a test label or set a static IP address for the EasyLAN 10i2 adapter, see the next two sections.

Turning on the Printer and Printing a Test Label

When you turn on the printer with the EasyLAN 10i2 adapter, the EasyLAN 10i2 adapter goes through the following startup sequence:

- The EasyLAN 10i2 adapter runs through a set of power-up diagnostics for a few seconds. If the EasyLAN 10i2 adapter is operating properly, the LED blinks momentarily and then stays unlit. The LED blinks whenever there is networking activity.

After the LED stays unlit, print a test label to make sure that the EasyLAN 10i2 adapter is working. The test label shows the current Ethernet and network settings of the EasyLAN 10i2 adapter.

Note: Printers that do not use the Intermec Printer Language (IPL) or Direct Protocol (DP), such as the 91, 901, 7422, C4, or V4, cannot print a test label.

To print a test label

- Insert a small, straightened paper clip into the Test button, and press and release the Test button. For help finding the Test button, see "Physical Description" earlier in this chapter.

If you cannot print a test label, see Chapter 3, "Troubleshooting and Managing the EasyLAN 10i2 Adapter."

You can also use the Test button to reset the EasyLAN 10i2 adapter to its factory default. For help, see "Setting the EasyLAN 10i2 Adapter to Factory Defaults" in Chapter 3.

Downloading the IP Address

If you have a DHCP server on your network, the EasyLAN 10i2 adapter automatically connects to the server and receives an IP address. If you don't have a DHCP server or want to configure a static IP address, this section explains how to use ARP (address resolution protocol) to download the IP address to the EasyLAN 10i2 adapter. To change the IP address using the Web browser interface, see Chapter 2, "Configuring the EasyLAN 10i2 Adapter."

To download the IP address from a Windows-based PC

1. Start a DOS® window.

2. Type the following command:

   ```
   arp -s nnn.nnn.nnn.nnn nn-nn-nn-nn-nn-nn
   ping nnn.nnn.nnn.nnn
   arp -d nnn.nnn.nnn.nnn
   ```

   where:

   nnn.nnn.nnn.nnn is the IP address for the EasyLAN 10i2 adapter

   nn-nn-nn-nn-nn-nn is the MAC address for the EasyLAN 10i2 adapter

   Example:

   ```
   arp -s 192.168.3.191 00-40-8c-10-00-86
   ping 192.168.3.191
   arp -d 192.168.3.191
   ```

The host will return `Reply from 192.168.3.191 ...` or a similar message. This reply indicates that the address has been set and communications established.

To download the IP address from a UNIX host

- Type the following command:

  ```
  arp -s host_name nn:nn:nn:nn:nn:nn temp
  ping host_name
  ```

  where:

  host_name is the name mapped to the EasyLAN 10i2 adapter's IP address. The default name is `INTERMEC_nnnnnn` where *nnnnnn* is the last six digits of the MAC address.

  nn:nn:nn:nn:nn:nn is the MAC address for the adapter.

  Example:

  ```
  arp -s INTERMEC_0B766F 00:40:8c:10:00:86 temp
  ping INTERMEC_0B766F
  ```

The host will return `INTERMEC_0B766F is alive` or a similar message. This message indicates that the address has been set and communications established.

When you execute the PING command for the first time, you may experience a longer response time than is usual.

The ARP command can vary between different UNIX systems. Berkeley System Distribution (BSD) type systems expect the host name and node address in reverse order. Furthermore, IBM AIX® systems require the additional argument ether. For example:

```
arp -s ether host_name 00:40:8c:10:00:86 temp
```

Setting Up to Print

After you have connected the EasyLAN 10i2 and printer to your network and assigned the EasyLAN 10i2 adapter an IP address, you are ready to set up your printer to print. This section explains

- how to print through FTP.
- how to set up printing on a Windows NT 4 PC or Windows 2000/XP PC.
- how to install and use the Intermec print monitor on a Windows 95/98 PC.

To set up your printer to print from a UNIX system, see "Configuring for UNIX" in Chapter 2.

Printing Through FTP

After you install the EasyLAN 10i2 adapter in your network, you are ready to print through it. This section explains how to use FTP to print to your printer.

To print using an FTP session

1. From an MS DOS prompt, login to the EasyLAN 10i2 adapter using the command `ftp` *`ipaddress`*, where *ipaddress* is the IP address or name assigned to your EasyLAN 10i2 adapter. The default name is `INTERMEC_`*`nnnnnn`* where *nnnnnn* is the last six digits of the MAC address.
2. Press **Enter**. You do not need to enter a specific user id and password.
3. Enter the following command to print the test label:

   `put` *`c`*`:\`*`path`*`\`*`file_name`* `p1`

   where:

c:	is the drive where the file you want to print is.
path	is the directory that the file is in.
file_name	is the name of the file you want to print.
p1	is the name of the port you want to print to.

4. Log out using the command `quit`, `bye`, or `exit` depending on your FTP version.

Printing From a Windows NT 4 PC or Windows 2000/XP PC

This section explains how to set up your printer to print from a Windows NT 4 PC or Windows 2000/XP PC.

Setting Up for a Windows NT 4 PC

To print from a Windows NT 4 PC, you need to prepare the Windows NT 4 PC for LPR/LPD printing and then install the printer.

To prepare for LPR/LPD printing

1. From the Start menu, select Settings and then Control Panel. The Control Panel dialog box opens.
2. Double-click the Network icon. The Network dialog box opens.
3. Select Protocols.
4. Add TCP/IP Protocol, select Services, and add MS TCP/IP Printing.

To install a printer

1. Install the InterDriver™ for your printer. For help, see the Software page for your printer on the PrinterCompanion™ CD.
2. From the Start menu, select Settings and then Control Panel. The Control Panel dialog box opens.
3. Double-click the Printers folder.
4. Click Add Printer.
5. Select My Computer, and click Next.
6. Select Add Port.
7. In Printer Ports, select LPR Port, and click New Port.
8. In Add LPR compatible printer, enter the name or IP address of the EasyLAN 10i2 adapter as the server providing lpd. The default name is INTERMEC_*nnnnnn* where *nnnnnn* is the last six digits of the MAC address.
9. Enter pr1, pr2, up to pr8 as the name of the printer or print queue on that server.
10. Choose the printer driver for your printer, and click Next.
11. Enter a printer name, and click Next.
12. Select Shared if you wish to share the printer over the network.
13. Enter a share name, click Next, and then click Finish.

Your can now print from your Windows NT 4 PC to your printer.

Setting Up for a Windows 2000/XP PC

Before you install the printer on a Windows 2000/XP PC, you need to install the InterDriver for your printer. For help installing the InterDriver, see the Software page for your printer on the PrinterCompanion CD.

To install the printer, use the Add Printer wizard to add your printer using the following settings when prompted:

- Choose Local Printer.
- Choose Create a new port and then Standard TCP/IP Port.
- Choose the InterDriver for your printer.

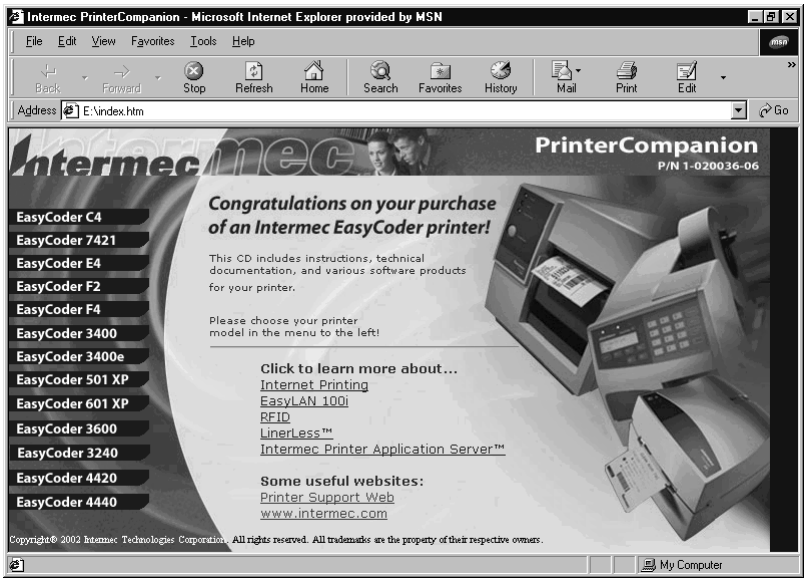
After you install the printer as a TCP/IP port, you are ready to print to it.

Installing and Using the Intermec Print Monitor

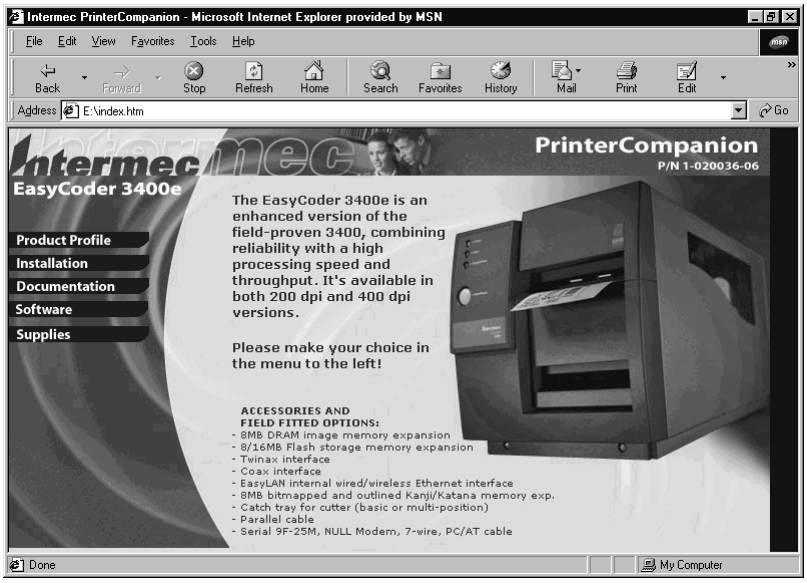
If you want to install the printer so that you can print over your Ethernet network from a Windows 95/98 system, you must install the Intermec print monitor. The Intermec print monitor is available on the PrinterCompanion CD that shipped with your printer. This print monitor creates a network port for the Ethernet link on a Windows 95/98 system. As a result, the port acts transparently with any printer driver for Intermec printers and any application program. Because this print monitor uses TCP/IP, it can be used with IP routers and other IP-based equipment.

To install the print monitor

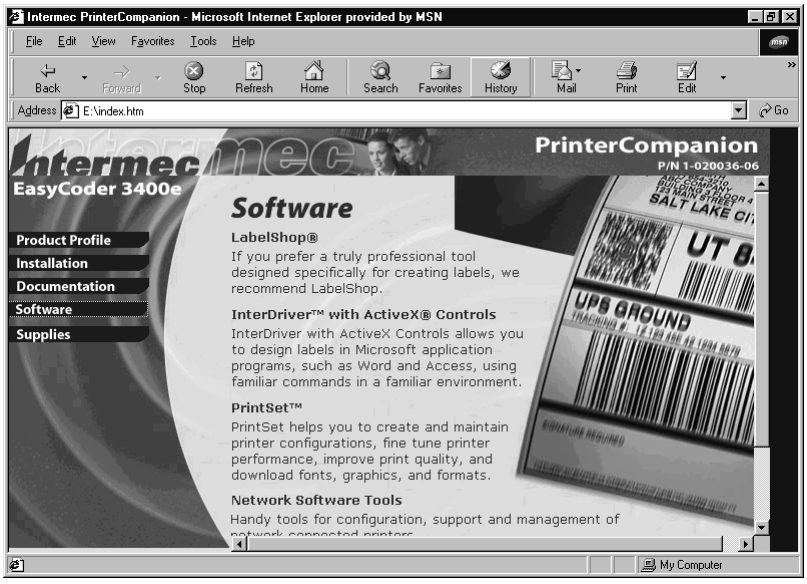
1. Place the PrinterCompanion CD in your PC's CD drive. The PrinterCompanion page appears.



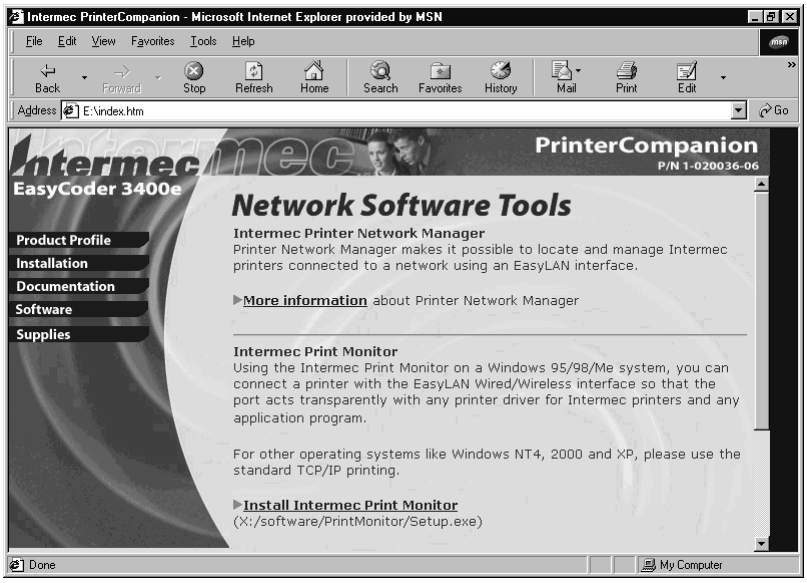
2. Click the button for a specific printer, such as the 3400e. The page for that printer appears.



3. Click Software in the left frame. The Software page appears.



4. Scroll down to Network Software Tools, and then click the link for the Network Software Tools page.



5. In the Network Software Tools page, click Install Intermec Print Monitor.
6. Follow the instructions for installing the Intermec Print Monitor.
7. When the installation is complete, close the CD screen.

You are now ready to install the printer to TCP/IP ports.

To install the printer

1. Open the Start menu, select Settings and then Printers. The Printers dialog box appears.
2. Double-click Add Printer. The Add Printer Wizard appears.
3. Add the printer with the EasyLAN 10i2 adapter selecting the Local printer radio button and the printer driver that came with your printer. After you click Finish in the last dialog box, the printer appears in the Printers dialog box.
4. Right-click the printer in the Printers dialog box, and select Properties from the menu. The Properties dialog box appears.
5. Click the Details tab.
6. Click Add Port. The Add Port dialog box appears.
7. Select the Other radio button, select Intermec Print Monitor, and then click OK. The Port Name dialog box appears.

8. In the Printer Name or IP address field, enter the EasyLAN 10i2 adapter's IP address.
9. In the Port Name field, enter the TCP printer port for the EasyLAN 10i2 adapter.
10. In the Port Number field, enter the port number that you want to use. The default is 9100.
11. Click OK. The new TCP/IP port appears in the Print to the following port drop-down list.
12. Select the new port, and click Apply. The new TCP/IP port is ready.

You are now ready to print to your printer as a TCP/IP port from your Windows 95/98 system.

2

Configuring the EasyLAN 10i2 Adapter

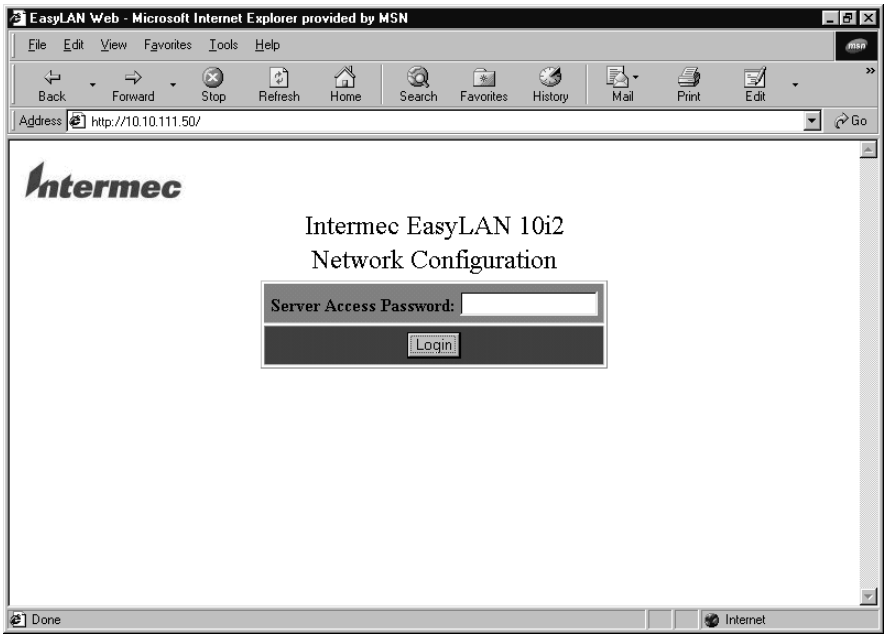
This chapter explains how to configure the EasyLAN 10i2 adapter for advanced and network specific settings using the Web browser interface and network specific utilities, such as Novell NWAdmin utility. For information on using console commands to configure the EasyLAN 10i2 adapter, see Appendix A, "Console Commands."

Opening the Web Browser Interface

To configure the EasyLAN 10i2 adapter, you need to open the Web browser interface.

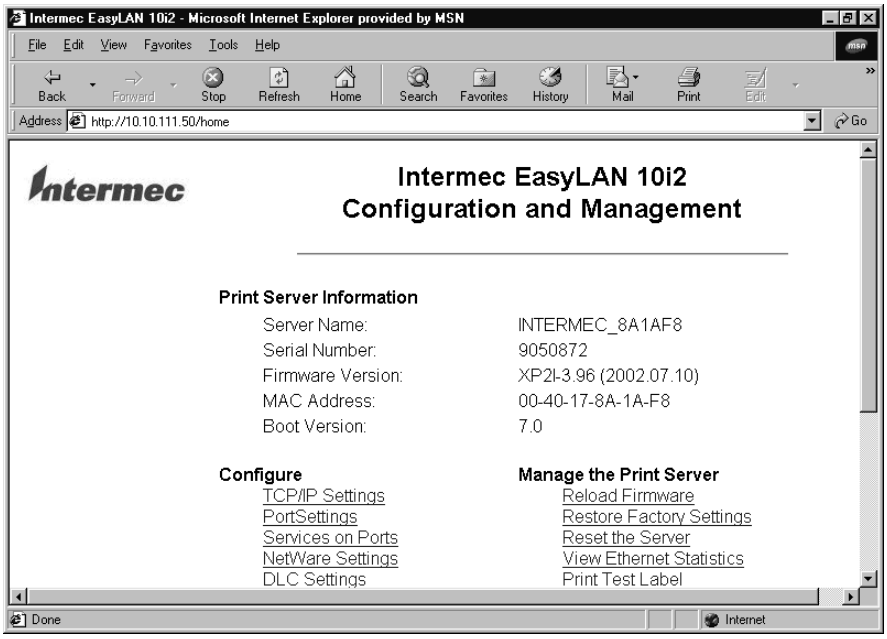
To open the Web browser interface

1. Start your Web browser.
2. In the Address (Internet Explorer) or Go to (Netscape) line, enter the IP address for the EasyLAN 10i2 adapter, and press **Enter**. The Server Access Password page appears.



3. In the Server Access Password field, enter the password. The default password is intermec.
4. Click Submit. The Configuration and Management page appears.

Configuration and Management Page



You are now ready to configure the EasyLAN 10i2 adapter.

Configuring the TCP/IP Parameters

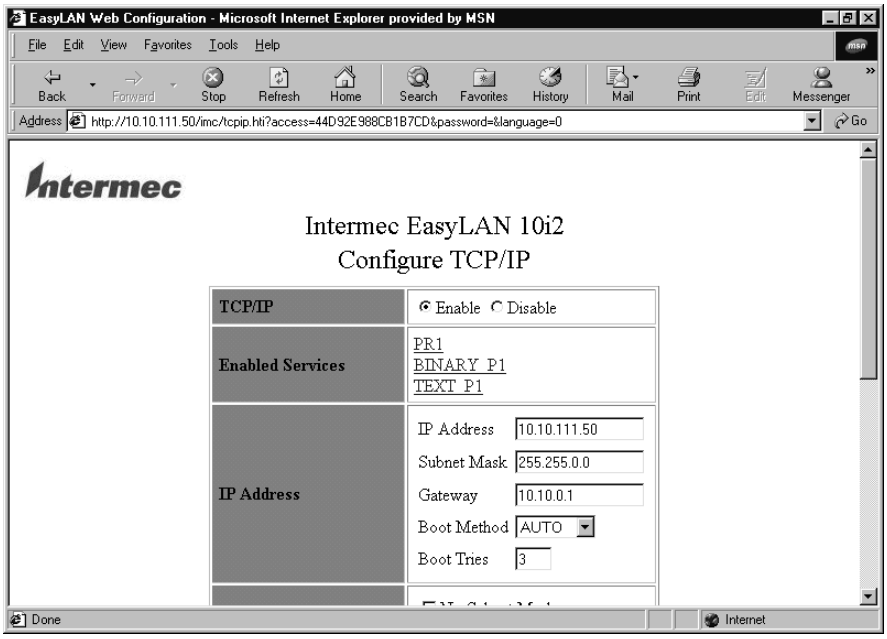
If you want to configure advanced parameters or update the configuration, you can use the Web browser interface to configure the TCP/IP parameters.

Note: If you are using DHCP on your network, the EasyLAN 10i2 adapter may have automatically acquired valid IP settings, and no further configuration is necessary. Using DHCP may work well if your DHCP server allows the EasyLAN 10i2 adapter to keep its IP address permanently, but in most cases, you want to use a static IP address outside the range reserved for DHCP (see your DHCP server manual for details). You want a static IP address for when you configure your printer port and to use the Web browser interface.

To configure TCP/IP parameters

1. From the Configuration and Management page, click Configure TCP/IP Settings. The Configure TCP/IP page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" earlier in this chapter.

Configure TCP/IP Page



2. Configure the parameters. For information on the parameters, see "TCP/IP Parameters Defined" later in this section.
3. Click Submit. A page appears letting you know that your changes were successful.
4. Click OK to return to the Configuration and Management page.

You can now communicate with your EasyLAN 10i2 adapter using TCP/IP or configure other settings.

TCP/IP Parameters Defined

Parameter	Definition	Values
TCP/IP	Enable or disable TCP/IP communications.	Enable, Disable Default = Enable
Enabled services	Configure the services on the port you are using. For help, see "Configuring the Port Services" later in this chapter.	
IP address	Enter the IP address for the EasyLAN 10i2 adapter. After you click Submit in the Web browser interface, you will have to enter the new IP address in the Address/Go to line of your browser to get the Web browser interface back.	*n.n.n.n* where *n* is from 0 to 255 Default = 0.0.0.0
Subnet mask	Enter the subnet mask.	*n.n.n.n* where *n* is from 0 to 255 Default = 0.0.0.0

TCP/IP Parameters Defined (continued)

Parameter	Definition	Values
Gateway	Enter the IP address for the gateway or router.	*n.n.n.n* where *n* is from 0 to 255 Default = 0.0.0.0
Boot method	Select the method for finding the EasyLAN 10i2 adapter IP address, subnet mask, and gateway address when the printer turns on or the EasyLAN 10i2 adapter is reset: • Auto sets the EasyLAN 10i2 adapter to try to get an IP address using DHCP, BOOTP, and RARP. If it cannot get an IP address using these methods, Auto changes to Static. • DHCP sets the EasyLAN 10i2 adapter to use the dynamic host configuration protocol to get an IP address. • BOOTP sets the EasyLAN 10i2 adapter to use the boot protocol to get an IP address. • RARP sets the EasyLAN 10i2 adapter to use the reverse address resolution protocol to get an IP address. • Static sets the EasyLAN 10i2 adapter to use the IP address set in the IP Address field whenever it boots.	Auto, DHCP, BOOTP, RARP, Static Default = Auto
Boot tries	Enter the number of times the boot method tries to set the IP address, subnet mask, and gateway address before using the available values. The boot method must be set to Auto, DHCP, BOOTP, or RARP.	0 to 255 Default = 3
RARP boot settings	Select whether RARP sets the subnet mask based on the EasyLAN 10i2 adapter's IP address and sets the gateway IP address. To use these settings, set the boot method to RARP or Auto.	Checked, not checked Default = not checked
TCP window	Enter the maximum TCP window for TCP communications. Normally this value is set automatically, but you may want to change it to optimize network performance.	1,500 to 65,535 Set by network
TCP timeout	Enter how many minutes or seconds a TCP job can be idle before the job is terminated. If you set the timeout to zero, the TCP job can be idle indefinitely.	0 to 255 Default = 1 minute
LPD banner	Set the EasyLAN 10i2 adapter to print the banner page in an LPD control file.	Checked, not checked Default = not checked
LPD retry	Set the EasyLAN 10i2 adapter to wait for an LPD job that has been terminated before it was completed to be resent. If the LPD job is resent, the EasyLAN 10i2 adapter continues printing the job where it had stopped.	Checked, not checked Default = not checked

TCP/IP Parameters Defined (continued)

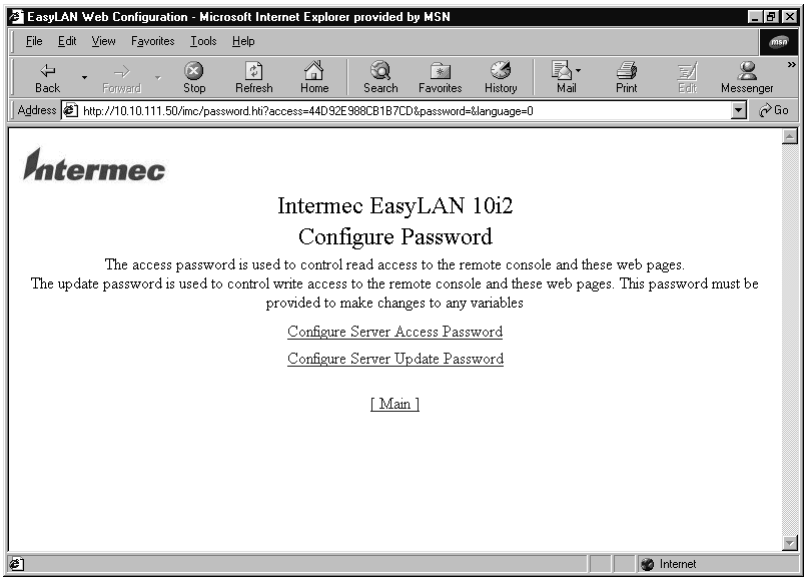
Parameter	Definition	Values
Keepalive timer	Enter how often in minutes the EasyLAN 10i2 adapter sends an IP ping packet to the router to keep the router aware of the EasyLAN 10i2 adapter. Enter zero to disable this feature.	0 to 255 Default = 0
Probe idle connections	Set the EasyLAN 10i2 adapter to send a probe packet on TCP connections with no data traffic. If the EasyLAN 10i2 adapter does not receive an acknowledgement, it closes the connection.	Enable, Disable Default = Disable
TCP receive checksum	Set the EasyLAN 10i2 adapter to compute the TCP checksum on received packets. Disabling this feature can enhance performance, but data corruption will not be checked.	Enable, Disable Default = Enable

Configuring the Access and Update Passwords

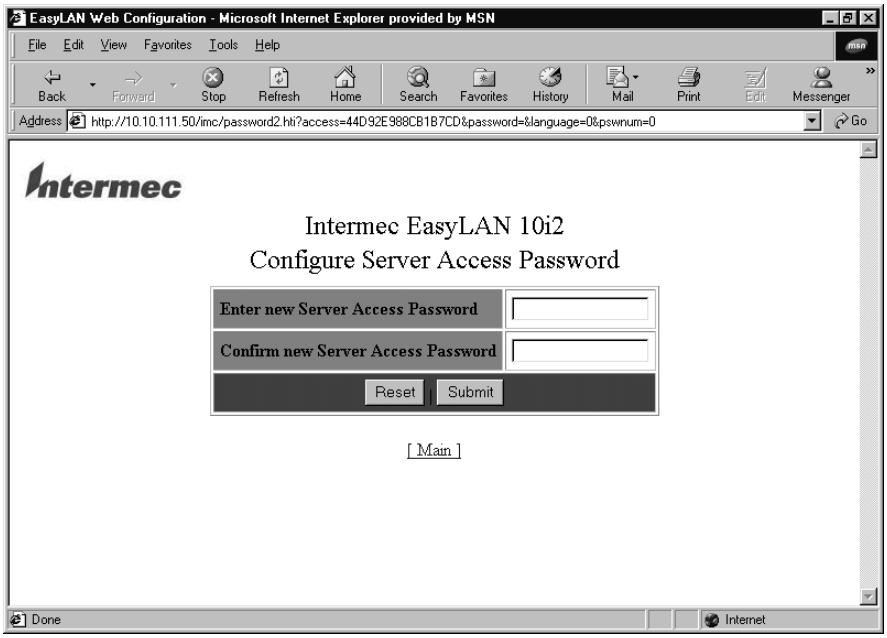
Use the Web browser interface to configure the access and update passwords. The default passwords are intermec. The access password is the password you use to get to the Configuration and Management page of the Web browser interface. The update password is the password you use to reload the firmware.

To configure the access and update passwords

1. From the Configuration and Management page, click Configure Passwords. The Configure Password page appears. For help opening the Configuration and Management page, see “Opening the Web Browser Interface” earlier in this chapter.

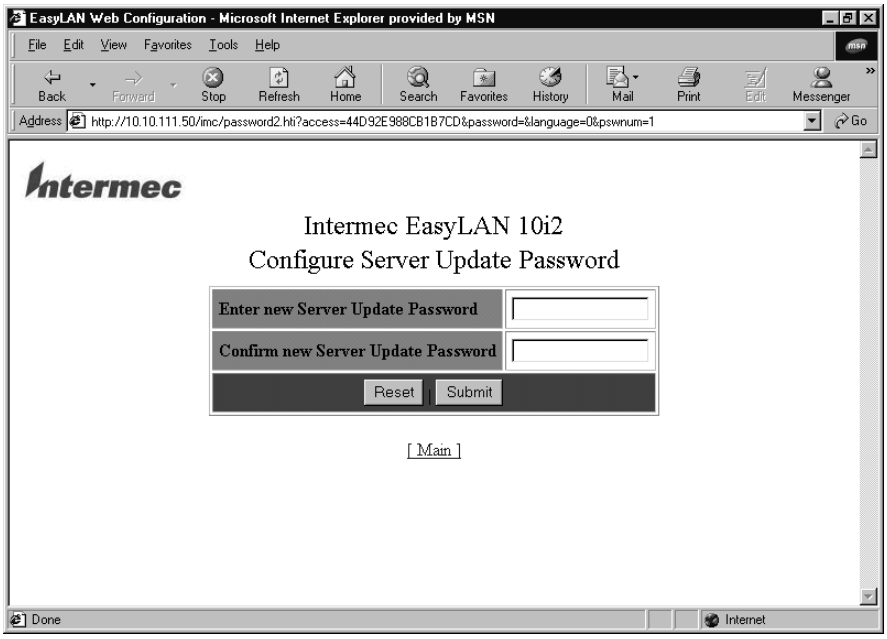


2. Click Configure Server Access Password. The Configure Server Access Password page appears.



3. Enter the access password in both fields.
4. Click Submit. A page appears letting you know that your changes were successful.
5. Click OK to return to the Configuration and Management page.
6. Repeat Steps 1 through 5 for the update password. The Configure Server Update Password page is shown next.

Configure Server Update Password Page



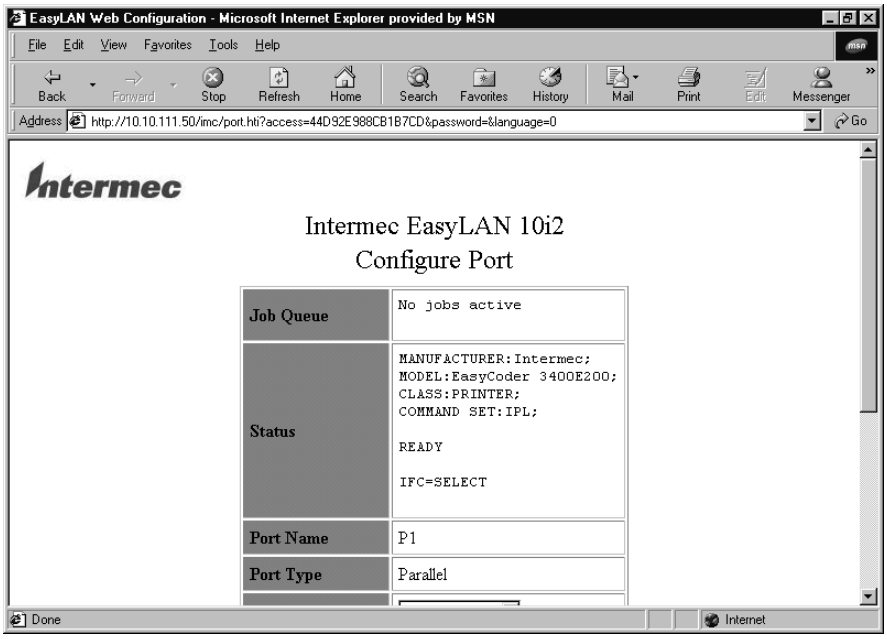
Configuring the Parallel Port

If you do not want to use the default settings for the parallel port, use the Web browser interface to configure the parallel port. The EasyLAN 10i2 adapter communicates with the printer through a parallel port.

To configure the parallel port

1. From the Configuration and Management page, click Configure Port Settings. The Configure Port page appears. For help opening the Configuration and Management page, see “Opening the Web Browser Interface” earlier in this chapter.

Configure Port Page



2. Read the first four rows to find out what jobs are in the port, the status of the port, the port name, and the port type.
3. Configure the parameters. For information on the parameters, see "Parallel Port Parameters Defined" later in this section.
4. Click Submit. A page appears letting you know that your changes were successful.
5. Click OK to return to the Configuration and Management page.

Parallel Port Parameters Defined

Parameter	Definition	Values
Output mode	Select the mode for data output.	Auto, High Speed, Compatible Default = Auto
Bi-directional communication	Select whether the port supports two way communications.	Checked, not checked Default = checked
ECP	Enable or disable the enhanced capabilities port.	Checked, not checked Default = not checked
Software I/O	Enable or disable input/output communication.	Checked, not checked Default = not checked

Parallel Port Parameters Defined (continued)

Parameter	Definition	Values
Output buffering	Enable or disable setting aside a portion of memory for buffering output data.	Checked, not checked Default = not checked
PJL status	Enable or disable printer job language status.	Checked, not checked Default = not checked

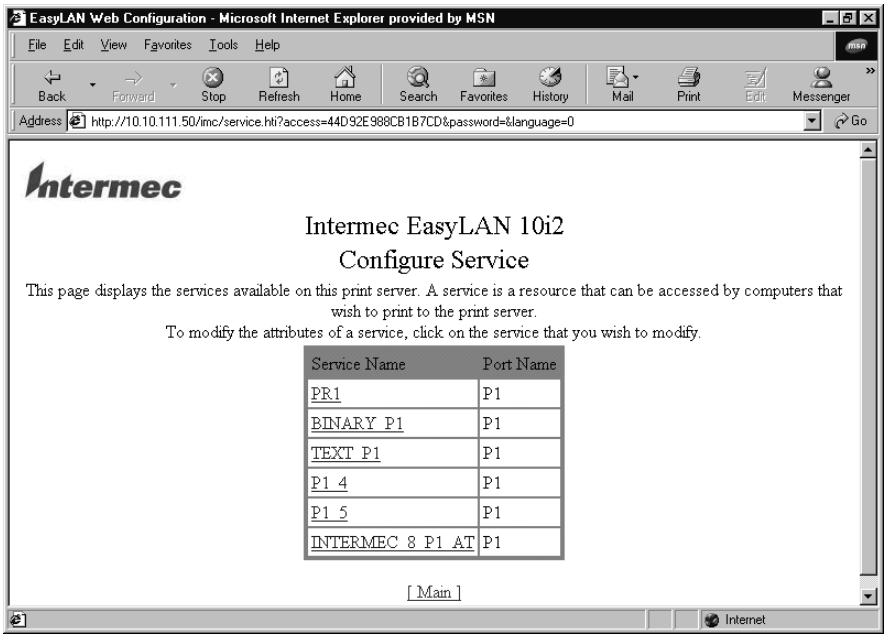
Configuring the Port Services

The port services are programs or routines that provide support to other programs at a close to hardware level. If you do not want to use the default settings for the port services, use the Web browser interface to configure port services.

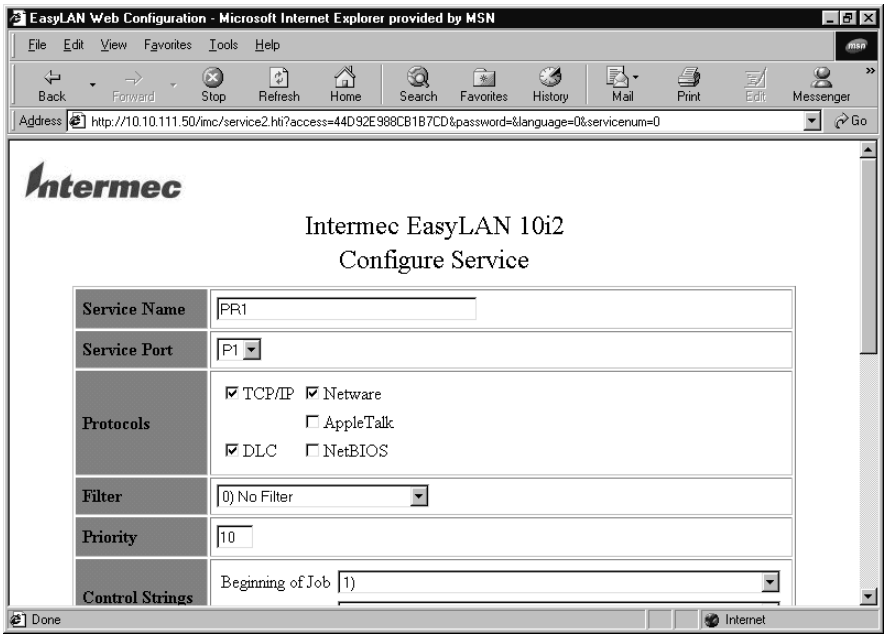
If you clicked on a service name in a network parameter page, such as Configure NetWare, go to Step 3.

To configure the port services

1. From the Configuration and Management page, click Configure Services on Ports. The Configure Service page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" earlier in this chapter.



2. Click the service name for the service you want to configure. The following page appears.



3. Configure the parameters. For information on the parameters, see "Port Services Parameters Defined" later in this section.
4. Click Submit. A page appears letting you know that your changes were successful.
5. Click OK to return to the Configuration and Management page.

Port Services Parameters Defined

Parameter	Definition	Values
Service name	Enter the name of the service.	Any ASCII characters Default = INTERMEC*nnnnnn*_P1 where *nnnnnn* is the last six digits of the MAC address
Service port	Select the port that the service runs on.	P1
Protocols	Choose the protocols the service uses to communicate.	TCP/IP, NetWare, DLC, NetBIOS Default = TCP/IP, NetWare, DLC

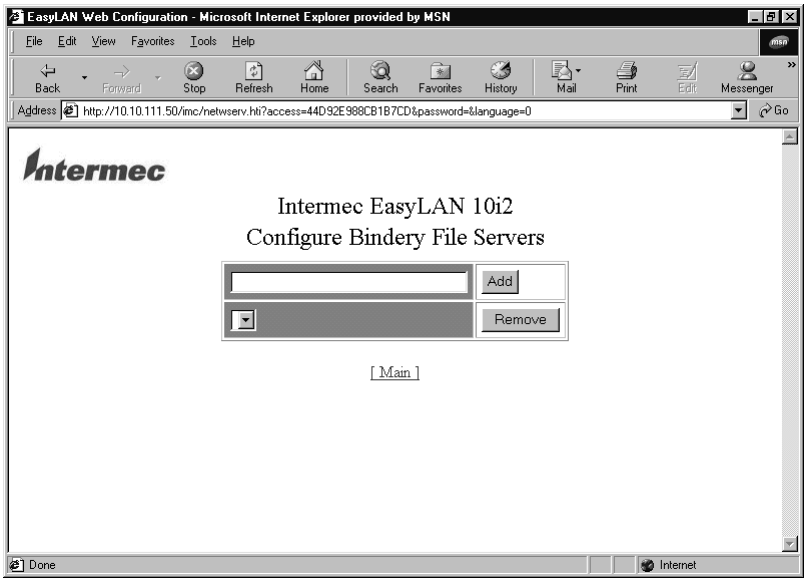
Port Services Parameters Defined (continued)

Parameter	Definition	Values
Filter	Select the data filter the service uses: • 0, no filter: data passes unmodified • 1, text substitution: default is CRLF for line feed (LF) • 2, not used • 3, converts normal text to PostScript • 4, converts output data to PostScript Tagged Binary	0, 1, 2, 3, 4 Default = 0
Priority	Enter the priority: a small number equals a high priority.	0 to 255 Default = 10
Control strings	Select the data strings for the beginning of a job and end of a job.	Predefined Default = No string
Queue server	Configure the EasyLAN 10i2 adapter to fetch print jobs directly from the NetWare print queues.	Checked, not checked Default = checked
NDS tree	Enter the name of the organizational tree and enter the context for your NetWare network. To configure the EasyLAN 10i2 adapter for NetWare Directory Services, check the Queue Server radio button and enter an NDS tree name and context for the EasyLAN 10i2 adapter. To disable NDS support, leave the NDS Tree field and the NDS Context field blank.	Any ASCII characters Default = blank
NDS context	Enter the organizational unit(s) that you configured for the EasyLAN 10i2 adapter using NWAdmin or PCONSOLE. To disable NDS support, leave the NDS Tree field and the NDS Context field blank.	Any ASCII characters Default = blank
Bindery file servers or service bindery file servers	Click either Configure Bindery File Servers or Configure Service Bindery File Servers. For help, see the next procedure, "To configure bindery file servers and service bindery file servers."	
Remote printer	Check this radio button if you have a NetWare print server loaded on the file server or workstation.	Checked, not checked Default = not checked
Printer number	Enter the NPrinter number on your NetWare server.	0 to 255 Default = 0
Print server	Enter the name of the NetWare print server.	Any ASCII characters Default = blank
Raw TCP port	Enter a number for the TCP port to be used with this service.	1024 to 65535 Default = 9100
Bi-directional communication	Configure the service to send data back from the printer to the network. Normally you should not need to change this.	Checked, not checked Default = checked
Queued (TCP) communication	Configure the EasyLAN 10i2 adapter to queue jobs sent to the raw TCP port. If not configured, the EasyLAN 10i2 adapter rejects jobs if the EasyLAN 10i2 adapter is currently busy with another job.	Checked, not checked Default = checked

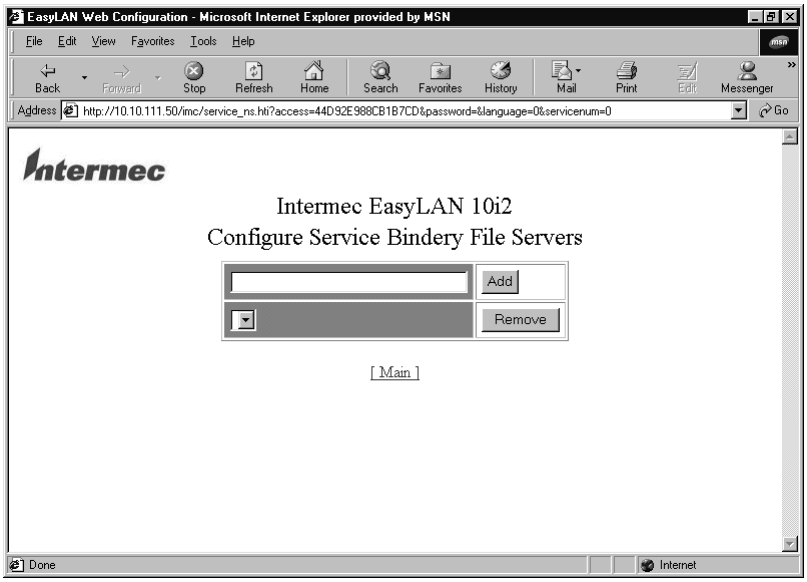
To configure bindery file servers and service bindery file servers

1. In the Active Servers and Queues row of the Configure NetWare page or the NetWare row of the Configure Services page, click Configure Bindery File Servers or click Configure Service Bindery File Servers. The Configure Bindery File Servers page or Configure Service Bindery File Servers page appears.

Configure Bindery File Servers Page



Configure Service Bindery File Servers Page



2. If you want to add a server, enter a server number in the field and click Add.
3. If you want to remove a server, select a server from the drop-down list and click Remove.
4. Click Back in your browser toolbar to return to the previous page.

   Or, click Main to return to the Configuration and Management page.

Configuring for the NetWare Network

This section explains how to use the Web browser interface to configure NetWare parameters and how to configure additional queues using the Novell NWAdmin utility.

Note: Intermec recommends you use the Novell 32-bit client on your Windows PC instead of the Microsoft NetWare client because it allows direct configuration of print queues without the need for a Novell utility like NWAdmin or PCONSOLE.

The EasyLAN 10i2 adapter automatically makes itself known on a NetWare network. The default NetWare Print Server name is PR1. Note that the NetWare Print Server name is used for either NDS or bindery mode configuration.

If you are configuring the first port with the Web browser interface, the NDS Printer Name for this port is automatically assigned as INTERMEC*nnnnnn*_P1 where *nnnnnn* is the last six digits of the MAC address. If you are using an alternate configuration method like NWAdmin, you may assign any unique name for the printer. For help configuring the first port, see "Configuring the Parallel Port" earlier in this chapter.

You extensively use the Print Server and Printer names while configuring. Note that these names are actually the names of the EasyLAN 10i2 adapter's NetWare services. If desired, you can change the default names using the Web browser interface. For help, see "Configuring the Port Services" earlier in this chapter.

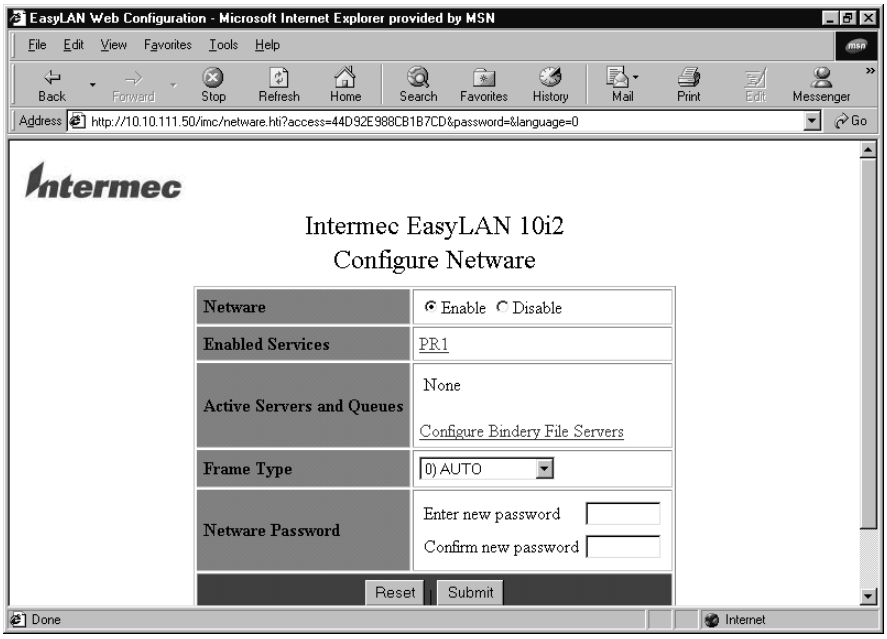
Configuring the NetWare Parameters

If you do not want to use the default settings, you can use the Web browser interface to configure the NetWare parameters.

To configure the NetWare parameters

1. From the Configuration and Management page, click Configure NetWare Settings. The Configure Netware page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" earlier in this chapter.

Configure Netware Page



2. Configure the parameters. For information on the parameters, see "NetWare Parameters Defined" later in this section.
3. To configure services for the port shown in the Enabled Services row, click the link for the port. For help, see "Configuring the Port Services" earlier in this chapter.
4. Read the information in the Active Servers and Queues row to find out what servers and queues are enabled.
5. To configure bindery file servers, click Configure Bindery File Servers. For help, see "To configure bindery file servers and service bindery file servers" earlier in this chapter.
6. Click Submit. A page appears letting you know that your changes were successful.
7. Click OK to return to the Configuration and Management page.

NetWare Parameters Defined

Parameter	Definition	Values
NetWare	Enable or disable NetWare communications.	Enable, Disable Default = Enable
Enabled services	Configure the services on the port you are using. For help, see "Configuring the Port Services" earlier in this chapter.	

NetWare Parameters Defined (continued)

Parameter	Definition	Values
Bindery file servers	Click either Configure Bindery File Servers or Configure Service Bindery File Servers. For help, see "To configure bindery file servers and service bindery file servers" earlier in this chapter.	
Frame type	Select the frame type.	Auto, 802.3, Ethernet II, 802.2, SNAP Default = Auto
NetWare password	Enter the password the EasyLAN 10i2 adapter uses to communicate with the file server in the Enter new password field and Confirm new password field. To disable the password, enter a single space.	Any ASCII characters Default = blank

Configuring Additional Queues

If you want to configure additional queues, you must use the Novell NWAdmin utility (this program is usually found in the Public directory on the NetWare file server).

To configure additional queues and ports

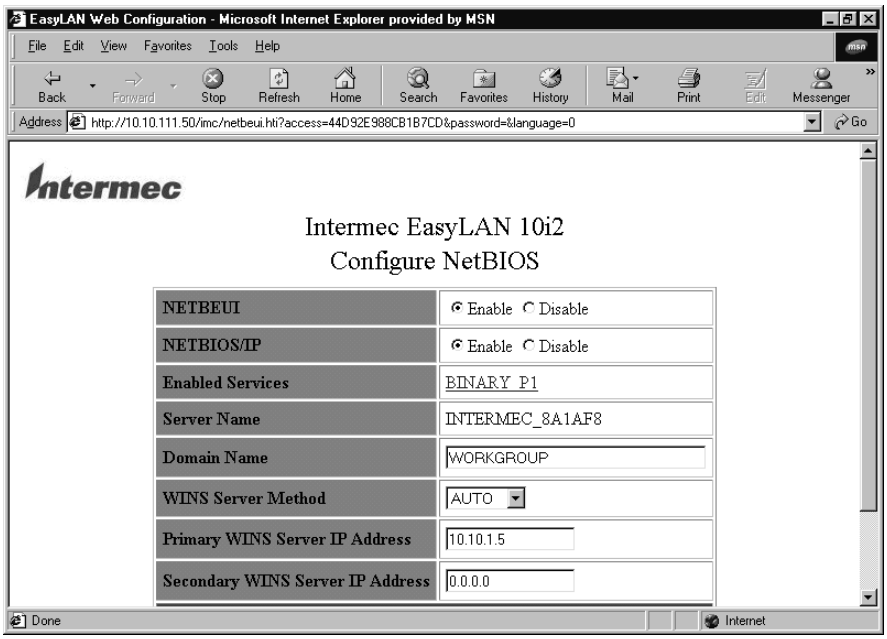
1. Start the NWAdmin utility and make sure you are in the right context. (If not, select NDS Browser from the Tools menu and then browse for the desired context.)
2. Select the container where you want the print queue to reside.
3. From the Tools menu, select Print Services Quick Setup.
4. Browse for the NetWare Print Server by clicking on the button next to the Print Server Name window.
5. Enter the name of the NDS Printer for the desired port in the Name box (for example, INTERMEC04ECBA_P1).
6. Leave the Type box at the default Parallel setting.
7. Select the desired banner type.
8. Enter any desired name for the print queue.
9. If necessary, browse for the volume.
10. Click Create to create the print queue. You are now ready to use the queue from a NetWare workstation.

Configuring for NetBIOS

NetBIOS provides application programs with a uniform set of commands for requesting the lower-level network services required to conduct sessions between nodes on a network and to transmit information back and forth. If you do not want to use the default settings, use the Web browser interface to configure the NetBIOS parameters.

To configure for NetBIOS

1. From the Configuration and Management page, click Configure NetBIOS Settings. The Configure NetBIOS page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" earlier in this chapter.



2. Configure the parameters. For information on the parameters, see "NetBIOS Parameters Defined" later in this section.
3. In the Enabled Services row, click the displayed port to configure the services for that port. For help, see "Configuring the Port Services" earlier in this chapter.
4. Read the name of the EasyLAN 10i2 adapter from the Server Name row.
5. Click Submit. A page appears letting you know that your changes were successful.
6. Click OK to return to the Configuration and Management page.

NetBIOS Parameters Defined

Parameter	Definition	Values
NetBEUI protocol	Enable or disable communication over the NetBEUI protocol.	Enable, Disable Default = enable
NetBIOS/IP	Enable or disable communication over the Internet protocol.	Enable, Disable Default = enable
Enabled services	Configure the services on the port you are using. For help, see "Configuring the Port Services" earlier in this chapter.	
Domain name	Enter the name of the domain that contains the PCs that will print to this printer.	Any ASCII characters Default = INTERMEC
WINS server method	Select the server method: • Set to Auto to use DHCP to set the primary and secondary WINS server IP addresses. To use DHCP, you must set the boot method in the Configure TCP/IP page to either Auto or DHCP. • Set to Static to always use the values you enter in the Primary WINS Server IP Address row and Secondary WINS Server IP Address row. To disable WINS registration, select Static and set the primary and secondary WINS server IP addresses to 0.0.0.0.	Auto, Static Default = Auto
Primary WINS server IP address	Enter the IP address for the primary WINS server.	*n.n.n.n* where *n* is from 0 to 255 Default = 0.0.0.0
Secondary WINS server IP address	Enter the IP address for the optional secondary WINS server.	*n.n.n.n* where *n* is from 0 to 255 Default = 0.0.0.0

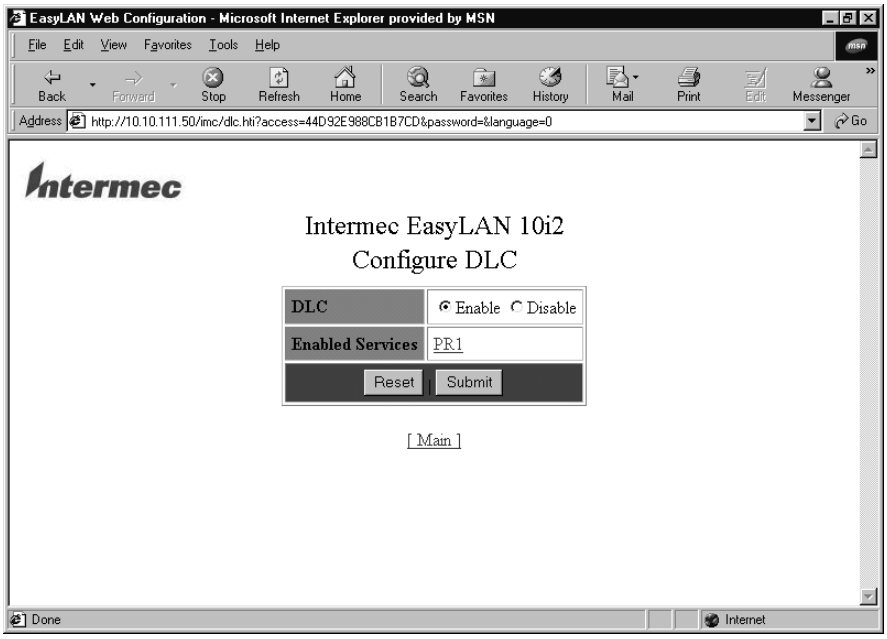
Configuring the DLC Parameters

Data link control is an error-correction protocol in the Systems Network Architecture (SNA) responsible for transmission of data between two nodes over a physical link. If you do not want to use the default settings, use the Web browser interface to configure the DLC parameters.

To configure the DLC parameters

1. From the Configuration and Management page, click Configure DLC Settings. The Configure DLC page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" earlier in this chapter.

Configure DLC Page



2. In the DLC row, select Enable or Disable.
3. In the Enabled Services row, click the port you want to configure services for. For help, see "Configuring the Port Services" earlier in this chapter.
4. Click Submit. A page appears letting you know that your changes were successful.
5. Click OK to return to the Configuration and Management page.

Configuring for UNIX

The EasyLAN 10i2 adapter appears to the network as a UNIX host computer with a unique IP address running the line printer daemon (lpd) protocol. As a result, any host computer that supports the Berkeley remote-LPR command can spool jobs to the EasyLAN 10i2 adapter without the need for any special software on the host computer.

Note: Before you configure a UNIX print queue, the EasyLAN 10i2 adapter must have a valid IP address.

Configuring for a Berkeley UNIX Host

Berkeley UNIX host computers include Linux, Digital Equipment Corporation Digital UNIX, OSF/1, and ULTRIX; Compaq Tru64 UNIX; SunOS (not Solaris), SCO UNIX; and many others. Sun Solaris, HP-UX, and IBM AIX users should skip to the appropriate sections later in this chapter.

Note: Do not use the Linux X-Windows graphical user interface printer configuration utility because it does not work with the EasyLAN 10i2 adapter. Instead, Linux users should follow the configuration steps listed in this section.

Note: SCO UNIX users should use the ripconf command to create a printer and automatically configure the /etc/printcap file (you still need to edit the /etc/hosts file). Enter the EasyLAN 10i2 adapter's service name (INTERMEC_*nnnnnn*_P1 where *nnnnnn* is the last six digits of the MAC address) as the name of the printer (refer to the EasyLAN 10i2 adapter's test label for the exact name of this service), and enter the name of the EasyLAN 10i2 adapter that you assigned in the etc/hosts file as the remote host name. Note that because this name must be unique for each printer, we recommend using the INTERMEC_*nnnnnn*_P1 service instead of the normal BINARY_P1 service.

To configure for a Berkeley UNIX host

1. Edit the /etc/hosts file (or equivalent local host table). For example:

   ```
   192.189.207.33 imcprinter
   ```

2. Edit the printcap file. For example:

   ```
   LabelPrinter:\
       :lp=:\
       :rm=IMCD:\
       :rp=BINARY_P1:\
       :sd=/usr/spool/LabelPrinter:
   ```

   where:

LabelPrinter	is the queue name.
IMC	matches the name in the hosts file.
BINARY_P1	is the EasyLAN 10i2 adapter's service name. Use TEXT_P1 instead of BINARY_P1 for text files.
sd	is the spool directory.

3. Create the spool directory. The lpd spool directory is usually located in the /usr/spool directory. To create a new spool directory, use the mkdir command. For example:

   ```
   mkdir /usr/spool/lpd/LabelPrinter
   ```

4. Print using the standard lpr command:

   `lpr -PLabelPrinter filename`

5. For AT&T based UNIX systems, such as SCO, use the standard lp command:

   `lp -dLabelPrinter filename`

Configuring for Sun Solaris

To use an EasyLAN 10i2 adapter with Sun Solaris, first use the Host Manager in the Admintool utility to add the EasyLAN 10i2 adapter's IP address and name to the /etc/hosts file.

To use the Host Manager to add the EasyLAN 10i2 adapter's IP address

1. Open Host Manager in the Admintool utility. For help, see the documentation for your Sun Solaris system.
2. Click None – Use /etc files on host.
3. Click Apply.
4. Click Edit, and then click Add Host.
5. Enter the EasyLAN 10i2 adapter's name as the Host Name (this name is anything you want it to be, but should not have an underscore [_] character in it).
6. Enter the IP address and MAC address of the EasyLAN 10i2 adapter (the MAC address has the format aa:bb:cc:dd:ee:ff).
7. Click Add.
8. Close the Host Manager windows. Now you are ready to use the Printer Manager in the Admintool utility.

To use the Printer Manager

1. Open the Printer Manager under Open Windows in the Admintool utility. For help, see the documentation for your Sun Solaris system.
2. Select Edit.
3. Select Add.
4. Select Add Access to Remote Printer.
5. At the Printer Name prompt, type any desired name for the print queue.

6. At the Printer Server prompt, type

   name\!*servicename*

   where:

   name matches the EasyLAN 10i2 adapter's name as entered in the hosts table.

   servicename is the print service name. For binary graphics files, use the service BINARY_P1; for text files, use the service TEXT_P1.

7. Make sure that the Printer Server OS is set to BSD (this is the default setting).
8. Select Add.
9. To print, use the standard lp command:

   lp -d*LabelPrinter filename*

Note: We recommend using the /etc/hosts file for the printer name rather than NIS or other name services.

Due to a bug in the Sun lpd implementation on Solaris 2.4 and earlier releases, you may encounter problems printing very long print jobs. The workaround is to configure the EasyLAN 10i2 adapter as an HP JetDirect card using the HP JetAdmin for UNIX software.

Solaris print queues can also be configured from the UNIX shell using the lpadmin command.

Configuring for HP-UX

1. For HP-UX 10.x and 11.x, open the sam program to configure the EasyLAN 10i2 adapter.
2. When you get a list of options, select Printers and Plotters.
3. Select LP Spooler.
4. Select Printers and Plotters.
5. Select Actions, and then select Add Remote Printer/Plotter.
6. Enter any name as the Printer Name (the Printer Name is the name of the print queue).
7. Enter the IP address of the EasyLAN 10i2 adapter as the Remote System Name.
8. Enter the desired EasyLAN 10i2 adapter's service name (BINARY_P1 for binary files or TEXT_P1 for text files) as the Remote Printer Name.
9. Check that the box next to Remote Printer is on BSD System.
10. If you choose to, accept the default values for the remaining items.

11. Click OK to configure the printer.
12. Print using the `lp -d` command with the EasyLAN 10i2 adapter's name.

Note: The configuration for HP Distributed Print Services and for earlier versions of HP-UX is slightly different.

You can also configure the EasyLAN 10i2 adapter as a JetDirect card using HP-UX. To do this, you need the HP UNIX Host Printing Software (part of HP's JetAdmin for UNIX).

Configuring for IBM AIX

1. Using the SMIT program, enter `smit` and select Devices.
2. Select Printer/Plotter.
3. Select Manage remote printer subsystem.
4. Select Client services.
5. Select Remote printer queues.
6. Select Add a remote queue.
7. Enter the following remote queue settings:
   - Name of queue to add (user selectable)
   - Activate the queue (Yes)
   - Destination host (EasyLAN 10i2 adapter's IP address; or if you have configured the /etc/hosts file, use the name of the EasyLAN 10i2 adapter that you specified in that file)
   - Name of queue on remote printer (BINARY_P1 for binary files or TEXT_P1 for text files)
   - Name of device to add (user selectable; for example, lp0)
8. Print using the `lp -d` command.

Note: The configuration for earlier versions of AIX is slightly different.

You can also configure the EasyLAN 10i2 adapter as a JetDirect card using AIX. To do this, refer to your AIX documentation.

Configuring for Other Systems

You can use the EasyLAN 10i2 adapter with any computer system that supports either the lpr/lpd protocol or the HP JetDirect card (the EasyLAN 10i2 adapter's parallel port is port 9100). Refer to your system's documentation for information on configuring lpr/lpd or JetDirect print queues.

3

Troubleshooting and Managing the EasyLAN 10i2 Adapter

This chapter explains how to troubleshoot and manage the EasyLAN 10i2 adapter.

Troubleshooting Printing Problems

First, check the printer to make sure it is online and has media and ribbon.

If the printer is working fine, test the connection between the printer and the EasyLAN 10i2 adapter by pushing the Test button on the back of the printer for less than 5 seconds.

Note: Remember, if a test label does not print, the printer may still be able to print through the EasyLAN 10i2 adapter. Set up the printer as you normally would and try printing from an application.

If the test label does not print, try resetting the EasyLAN 10i2 adapter to factory defaults by holding the Test button for more than 5 seconds.

Troubleshooting Network Configuration Problems

If you are using TCP/IP, make sure that your computer and the EasyLAN 10i2 adapter are on the same IP segment or can reach each other with a PING command from the host. The IP address you assign to the EasyLAN 10i2 adapter must be on the same logical network as your host computers (for example, if your computer has an IP address of 192.189.207.3, the EasyLAN 10i2 adapter should have an IP address of 192.189.207.*n* where *n* is an integer between 1 and 254), or you must properly configure your router address to work with the EasyLAN 10i2 adapter.

If your EasyLAN 10i2 adapter is set to Auto or DHCP for obtaining an IP address, it is possible the EasyLAN 10i2 adapter's IP address can change. Either configure your DHCP server to give the EasyLAN 10i2 adapter a permanent lease or configure the EasyLAN 10i2 adapter to be on a static address outside the scope of DHCP addresses.

Managing the EasyLAN 10i2 Adapter

This section explains how to

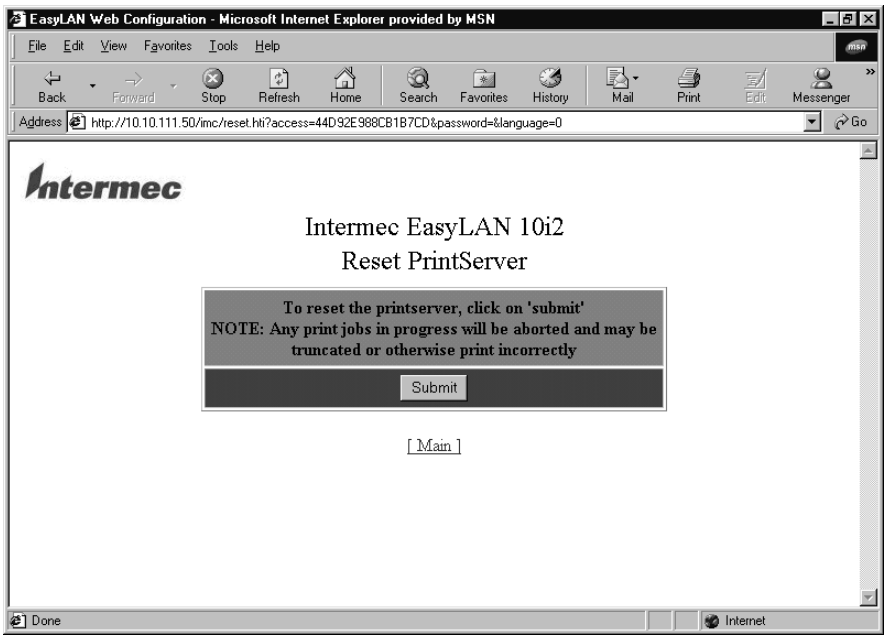
- reboot the EasyLAN 10i2 adapter.
- set the EasyLAN 10i2 adapter to factory defaults.
- print a test label.
- reload firmware.
- view Ethernet statistics.

Rebooting the EasyLAN 10i2 Adapter

Note: Only the EasyLAN 10i2 adapter reboots, not the entire printer.

To reboot the EasyLAN 10i2 adapter

1. From the Configuration and Management page, click Reset the Server. The Reset PrintServer page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" in Chapter 2.



2. Click Submit. A page appears telling you that the EasyLAN 10i2 adapter has been reset.
3. Click OK to return to the Configuration and Management page.

Setting the EasyLAN 10i2 Adapter to Factory Defaults

Use the Test button or the Web browser interface to set the EasyLAN 10i2 adapter to factory defaults.

Note: Only the EasyLAN 10i2 adapter is set to factory defaults, not the entire printer.

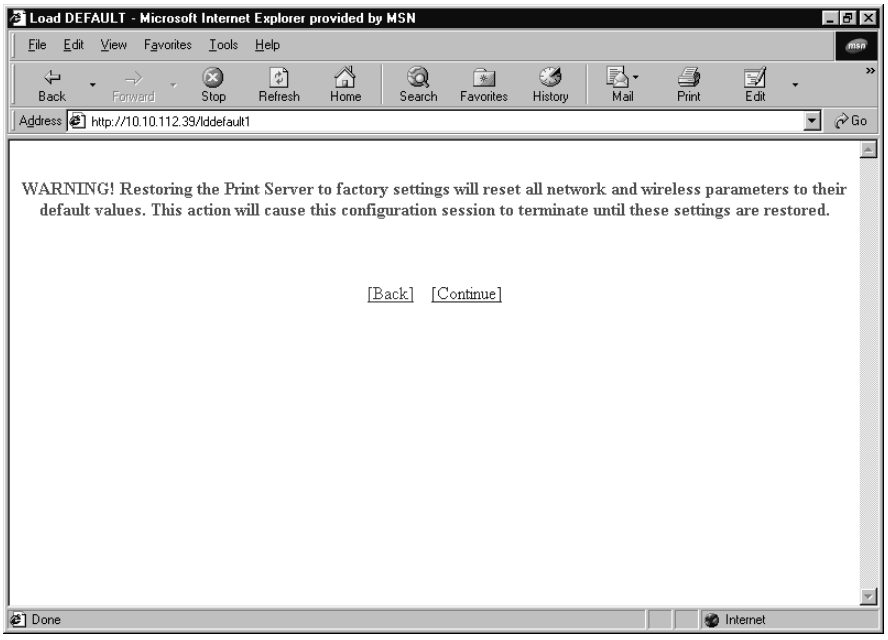
If you have a DHCP server on your network, the EasyLAN 10i2 adapter reconnects after being set to factory defaults and may receive a new IP address. To find the new IP address, print a test label. For help, see "Printing a Test Label" later in this chapter. If you do not have a DHCP server, you need to set the IP address after setting the EasyLAN 10i2 adapter to defaults.

Using the Test Button

- Press and hold the Test button for more than 5 seconds.

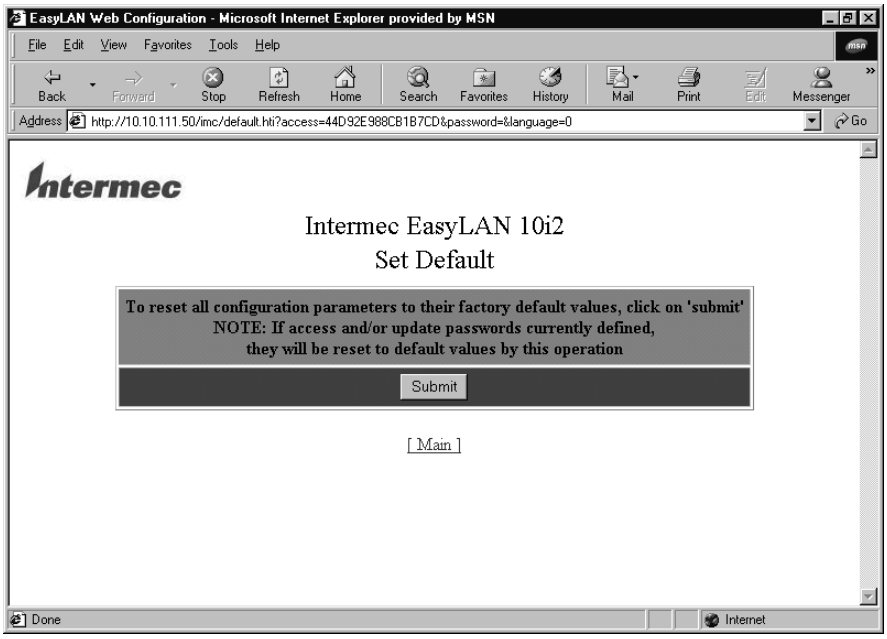
Using the Web Browser Interface

1. From the Configuration and Management page, click Restore Factory Settings. A warning page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" in Chapter 2.



2. Click Continue. The Set Default page appears.

Set Default Page



2. Click Submit. A page appears telling you that the EasyLAN 10i2 adapter is set to factory defaults.

Note: The access and update passwords have been set to the factory default of intermec.

3. Click Main to return to the Configuration and Management page.

Printing a Test Label

Use the Web browser interface or the Test button to print a test label. This section explains how to use the Web browser interface. For help using the Test button, see "Turning on the Printer and Printing a Test Label" in Chapter 1.

To print a test label

Note: The test label is sent to the printer when you click Print Test Label.

1. From the Configuration and Management page, click Print Test Label. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" in Chapter 2.

   A page appears telling you that the test label has been sent to the printer.

2. Click Main to return to the Configuration and Management page.

Reloading Firmware

You can load firmware on the EasyLAN 10i2 adapter using TFTP on Windows NT/2000/XP or the Web browser interface.

Using TFTP

- Use the TFTP PUT command:

  `tftp –i` *`ipaddress`* `put` *`pathname password`*

  where:

  ipaddress is the IP address of the EasyLAN 10i2 adapter

  pathname is the path and file name for the firmware

  password is the password for the EasyLAN 10i2 adapter (default password is intermec)

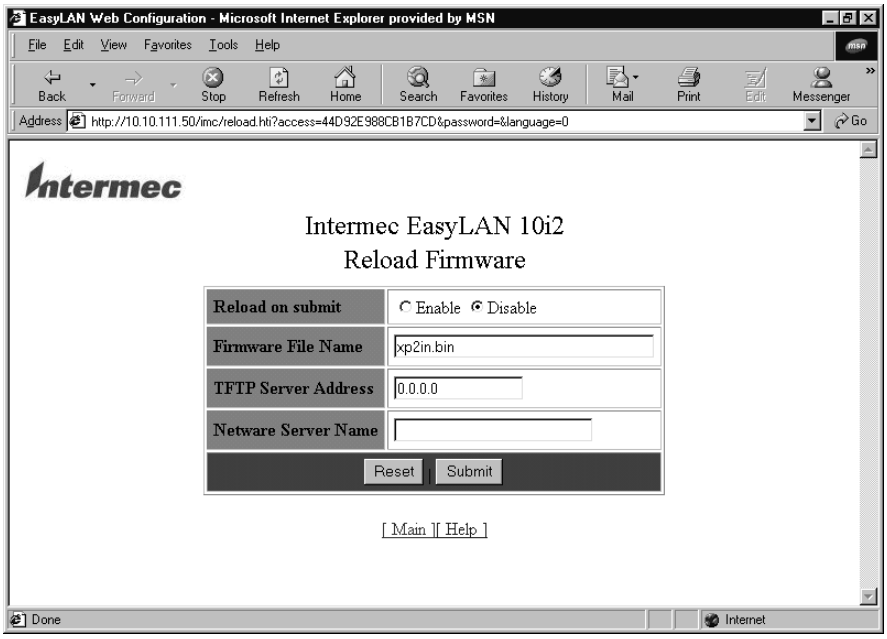
Example: `tftp -i 10.20.111.35 put c:\wlim.bin intermec`

Using the Web Browser Interface

Note: Before you can load the firmware onto the EasyLAN 10i2 adapter, you need to load the firmware into the /TFTP directory on your TFTP server or into the /LOGIN directory on your NetWare server.

1. From the Configuration and Management page, click Reload Firmware. The Reload Firmware page appears. For help opening the Configuration and Management page, see “Opening the Web Browser Interface” in Chapter 2.

Reload Firmware Page



2. In the Reload on submit row, choose Enable to reload the firmware when you click submit. If you choose Disable, the firmware will not be loaded.
3. In the Firmware File Name row, enter the file name for the firmware. If the new firmware is not in the /TFTP directory (TFTP server) or the /LOGIN directory (NetWare server), enter the path for the firmware before the file name.

   If you are using the SolarWinds TFTP server on a Windows 95/98 PC, you need to enter ./ before the file name for the firmware. For more information about using the SolarWinds TFTP server, see the readme.txt for the SolarWinds TFTP server on your PrinterCompanion CD.
4. If the new firmware is on your TFTP server, enter the IP address for the TFTP server in the form *n.n.n.n* where *n* is from 0 to 255.

   If the new firmware is on your NetWare server, enter the name of the Netware server.
5. Click Submit. If you enabled reload on submit, the firmware is sent to the EasyLAN 10i2 adapter, and a message page appears letting you know the reload was successful.
6. Click OK to return to the Configuration and Management page.

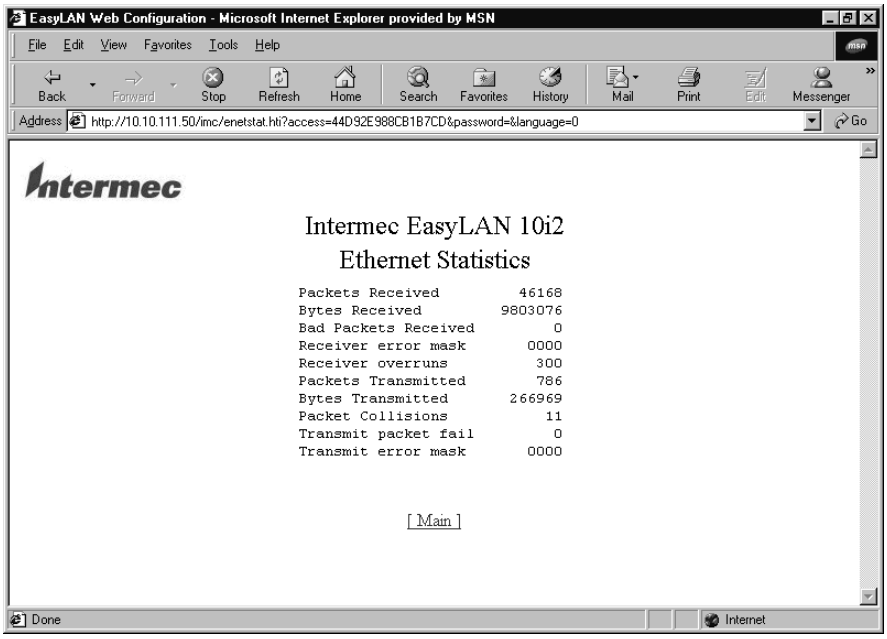
Viewing Ethernet Statistics

The Ethernet Statistics page provides the following information:

- Packets received
- Bytes received
- Bad packets received
- Receiver error mask
- Receiver overruns
- Packets transmitted
- Bytes transmitted
- Packet collisions
- Transmit packet fail
- Transmit error mask

To view Ethernet statistics

1. From the Configuration and Management page, click View Ethernet Statistics. The Ethernet Statistics page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" in Chapter 2.



2. Click Main to return to the Configuration and Management page.

A

Console Commands

This appendix explains how to send the console commands and lists the commands.

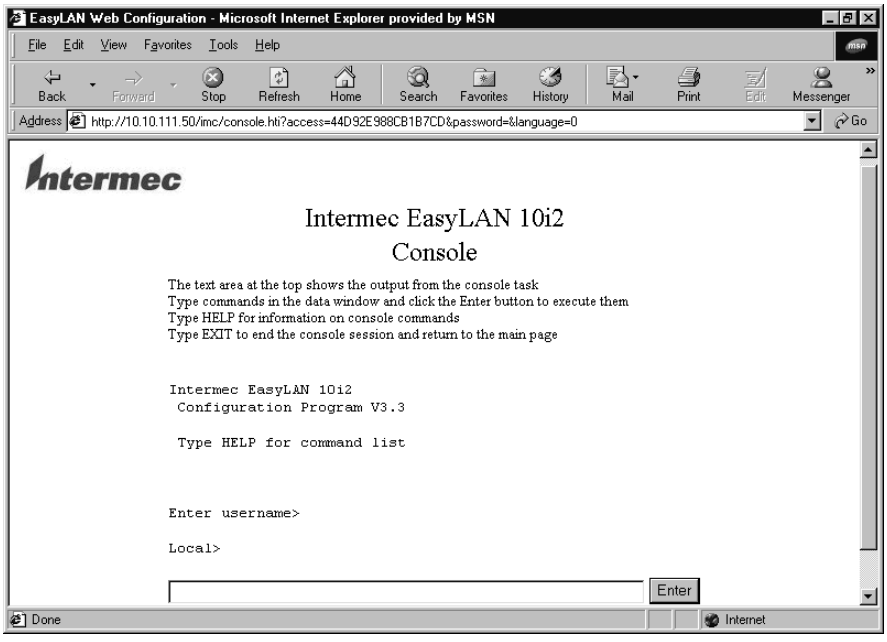
Sending the Console Commands

You can send console commands to the EasyLAN 10i2 adapter by using either Telnet or the Web browser interface. The following procedure explains how to use the Web browser interface. For help using Telnet, see the documentation for Telnet.

If you are using the Console mode from the Web browser interface to send commands, you should only use commands that show information, such as `sh port`, which shows the port parameters, or commands that do not have an equivalent Web page. Most of the parameters that you can configure using console commands can also be configured through the configuration pages of the Web browser interface. Using console commands to configure the EasyLAN 10i2 adapter can interfere with your connection through the Web browser where as the configuration pages of the Web browser interface have ways to minimize the disruption to your connection.

To send the console commands

1. From the Configuration and Management page, click Access the Console to Send Commands. The Console page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" in Chapter 2.



2. Enter the commands you want to send in the field, and then click Enter. For a list of commands, see the next sections.

3. To return to the Configuration and Management page, click your browser's Back button.

General Commands

This table lists general console commands for configuring and managing the EasyLAN 10i2 adapter.

Command	Description
`cl serve st` *`stringnumber`*	Removes the specified string number.
`cl fa`	Deletes the fatal error log.
`cl po p1 job`	Clears the current entry in the EasyLAN 10i2 adapter's internal queue for the parallel port.
`exit/^d`	Exits EasyLAN 10i2 console.
`he`	Provides information on available commands
`in`	Resets the EasyLAN 10i2 adapter.
`set default`	Sets the EasyLAN 10i2 adapter's parameters to factory defaults.
`set load dis`	Disables the firmware reload after exit.
`set load en`	Enables the firmware reload after exit.
`set load ho` *`name`*	Sets the node name of the boot host for NetWare firmware load. Load the firmware into the /LOGIN directory.
`set load ip` *`n.n.n.n`*	Sets the IP address of the load host (TCP/IP firmware load). Load the firmware into the /TFTP directory.
`set load so` *`filename`*	Sets the host filename of the firmware to load.
`set pa` *`password`*	Sets the console password. The default password is intermec.
`set port p1 ackh` *`status`*	Enables or disables pACKH on parallel port (for older printers). Where *status* equals en for enabled or dis for disabled.
`set port p1 bid` *`status`*	Enables or disables Bi-directional mode on the parallel port. Where *status* equals en for enabled or dis for disabled.

General Commands (continued)

Command	Description
`set port p1 dvid status`	Enables or disables 1284 device ID queries on the parallel port. Where *status* equals en for enabled or dis for disabled.
`set port p1 ecp status`	Enables or disables 1284 ECP mode on the parallel port. Where *status* equals en for enabled or dis for disabled.
`set port p1 fstb status`	Enables or disables Fast Strobe mode on the parallel port. Where *status* equals en for enabled or dis for disabled.
`set port p1 nbuf status`	Enables or disables no buffering on parallel port. Where *status* equals en for enabled or dis for disabled.
`set pro password`	Sets the console protection password to prevent access to set commands. (Use unprotect command to access set commands.)
`set serve de`	Sets the node description string displayed with the show server command.
`set serve str n "…"`	Defines the EasyLAN 10i2 adapter's BOT/EOT string.
`set servi servicename protocol status`	Enables or disables specified protocol on the specified service. Where *servicename* is the name of the service you are modifying, *protocol* is the protocol you want to enable or disable, and *status* equals en for enabled or dis for disabled.
`set servi servicename bot nn`	Sets the service BOT string. Where *servicename* is the name of the service you are modifying and *nn* is the BOT string.
`set servi servicename eot nn`	Sets the service EOT string to *nn*. Where *servicename* is the name of the service you are modifying and *nn* is the EOT string.
`set servi servicename fi nn`	Sets the service filter to *nn*. Where *servicename* is the name of the service you are modifying and *nn* is the service filter.
`set servi servicename fms matchnumber`	Sets the service with the specified match string number. Where *servicename* is the name of the service you are modifying and *matchnumber* is the match string number.
`set servi servicename frs replacenumber`	Sets the service with the specified replacement string number. Where *servicename* is the name of the service you are modifying and *replacenumber* is the replacement string number.
`set servi ip servicename status`	Enables or disables IP jobs. Where *servicename* equals the name of the service and *status* equals en for enabled or dis for disabled.

General Commands (continued)

Command	Description
`set servi` *`servicename`* `na` *`newname`*	Changes the service name. Where *servicename* is the name of the service you are modifying and *newname* is the new name for the service.
`set servi` *`servicename`* `rec` *`status`*	Enables or disables Receive Only mode on the specified service. Where *servicename* equals the name of the service and *status* equals en for enabled or dis for disabled.
`sh fat`	Shows the fatal error log.
`sh free`	Shows the memory available.
`sh loa`	Shows the firmware update parameters.
`sh port`	Shows the port parameters.
`sh snmp` *`argument`*	Shows the SNMP variables for the indicated SNMP item. Where *argument* is the SNMP item.
`sh port p1 sta`	Shows the current port status.
`sh serve co`	Shows the EasyLAN 10i2 adapter's statistics.
`sh servi`	Shows the service parameters.
`sh te`	Prints the test label.
`sh ve`	Shows the EasyLAN 10i2 adapter's firmware version.
`unpro`	Allows the system manager to temporarily access set commands when the remote console is in protected mode. The set default command can be used to permanently disable the protected mode.
`ze`	Zeroes statistical counts.

TCP/IP Commands

Use these console commands to configure and manage TCP/IP parameters.

Command	Description
`set ip ac` *`status n.n.n.n`*	Enables or disables the specified IP address from accessing the EasyLAN 10i2 adapter. Where *status* equals en for enabled, dis for disabled, or all for enabling all IP addresses and *n.n.n.n* equals the specific IP address.
`set ip ad` *`n.n.n.n`*	Sets the IP address of the EasyLAN 10i2 adapter. Where *n.n.n.n* equals the IP address.
`set ip bo` *`n`*	Sets the number of BOOTP/RARP tries. Where *n* is the number of BOOTP/RARP tries.
`set ip` *`status`*	Enables or disables IP processing. Where *status* equals en for enabled or dis for disabled.
`set ip meth stat`	Sets IP to static address so that the EasyLAN 10i2 adapter will not look for a DHCP address.
`set ip ra` *`nn`*	Sets the procedure used by the EasyLAN 10i2 adapter when obtaining its IP address. By default the IP address is set along with a default subnet mask and a router address that is the same as the address of the load host. By setting *nn* to 1, the subnet mask is not set. If *nn* is set to 2, the router address is not set. If *nn* is set to 3, neither the subnet mask nor the router address is set.
`set ip ro` *`n.n.n.n`*	Sets the default router address. Where *n.n.n.n* equals the router IP address.
`set ip su` *`n.n.n.n`*	Sets the subnet mask. Where *n.n.n.n* equals the subnet mask.
`set ip ti` *`n`*	Sets the inactivity timeout in minutes. Where *n* is the number of minutes.
`set servi` *`servicename`* `ip` *`status`*	Enables or disables TCP/IP jobs on the specified EasyLAN 10i2 adapter. Where *servicename* equals the name of the service and *status* equals en for enabled or dis for disabled.
`set servi` *`servicename`* `tcp` *`nn`*	Sets the TCP port number (>1023) on the specified service. Where *servicename* is the service you are modifying and *nn* is the TCP port number.

TCP/IP Commands (continued)

Command	Description
`sh ip`	Shows LPD/TCP/Telnet parameters.
`sh ip ac`	Shows IP addresses that are allowed to access the EasyLAN 10i2 adapter.

NetWare Commands

Use these console commands to configure and manage NetWare parameters.

Command	Description
`cl netw se` *`server`*	Removes the specified NetWare file server from the EasyLAN 10i2 adapter's access list. Where *server* is the NetWare file server.
`set netw ad` *`n`*	Sets the advertising frequency of the EasyLAN 10i2 adapter. Where *n* is the advertising frequency.
`set netw` *`status`*	Enables or disables the NetWare protocol on the EasyLAN 10i2 adapter. Where *status* equals en for enabled or dis for disabled.
`set netw fr` *`type`*	Sets the NetWare frame type. Where *type* equals eth for Ethernet II, al for all, au for auto, or sna for SNAP.
`set netw ne` *`n`*	Sets the NetWare internal network number. Where *n* is the NetWare internal network number.
`set netw np` *`pserver n`* `on` *`service`*	Sets NPrinter mode on the specified service. Where *pserver* is the NetWare print server, *n* is the NPrinter mode, and *service* is the service you are modifying.
`set netw pa` *`password`*	Sets the EasyLAN 10i2 adapter's login password for the file server. Where *password* is the login password.
`set netw po` *`n`*	Sets the queue polling time in seconds. Where *n* is the number of seconds.
`set netw qs` *`fileserver`* `on` *`service`*	Sets Queue Server mode on the specified service. Where *fileserver* is the NetWare file server and *service* is the service you are modifying.
`set netw re`	Rescans the file servers for new queues.

NetWare Commands (continued)

Command	Description
`set netw` *name* `se` *status*	Enables or disables the file server. Where *name* equals the name of the file server and *status* equals en for enabled or dis for disabled.
`set servi` *servicename* `net` *status*	Enables or disables NetWare jobs on the specified service. Where *servicename* is the service you are modifying and *status* equals en for enabled or dis for disabled.
`sh netw`	Shows the NetWare parameters.
`set servi` *servicename* `con` *string*	Sets NDS context. Where *servicename* is the service you are modifying and *string* is the NDS context.
`set servi` *servicename* `tree` *string*	Sets NDS tree. Where *servicename* is the service you are modifying and *string* is the NDS tree.

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