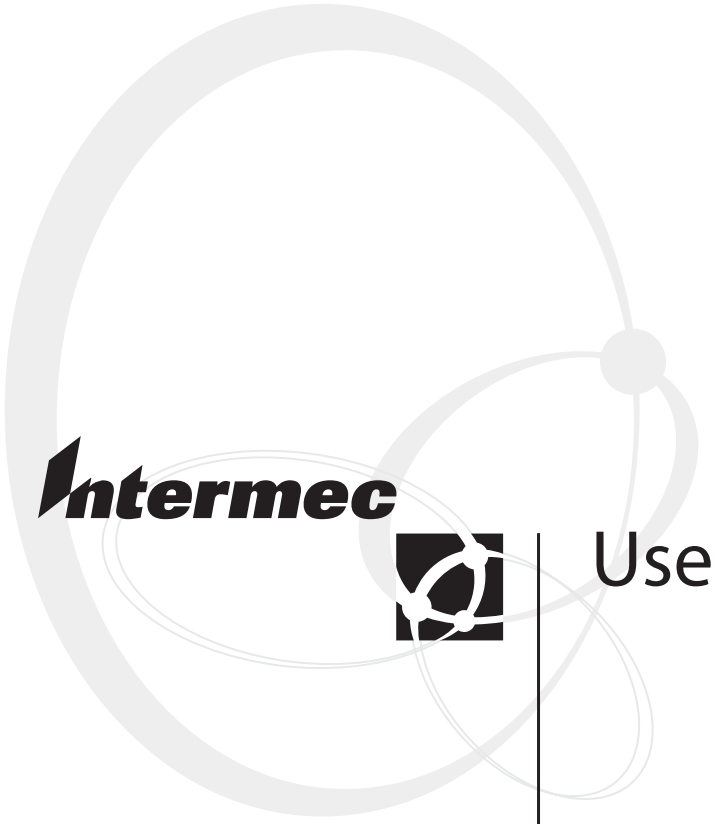

Intermec

User's Manual

EasyLAN™ Wireless

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.

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There are U.S. and foreign patents pending.

Manual Change Record

This page records the changes to this manual. The manual was originally released as version 001.

Version	Date	Description of Change
002	8/02	Updated the user's manual to add • information for the 501XP and 601XP printers. • instructions for configuring for UNIX systems. • instructions for printing using FTP.

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 EasyLAN™ Wireless.

This manual was written for users who want to know more about the EasyLAN Wireless. It was also written for installers, applications analysts, systems engineers, and programmers who will install, operate, program, and troubleshoot the EasyLAN Wireless 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 EasyLAN Wireless	Chapter 1, "Installing EasyLAN Wireless." Tells you how to install EasyLAN Wireless in your network.
Configuring EasyLAN Wireless	Chapter 2, "Configuring EasyLAN Wireless." Explains how to configure EasyLAN Wireless for advanced and network specific settings.
Managing EasyLAN Wireless	Chapter 3, "Managing EasyLAN Wireless." Explains how to reboot, set to factory defaults, and load firmware in EasyLAN Wireless.
Troubleshooting EasyLAN Wireless	Chapter 4, "Troubleshooting EasyLAN Wireless." Provides general troubleshooting information.
Console commands	Appendix A, "Console Commands." Explains how to send console commands to the EasyLAN Wireless, and lists the commands.

Terminology

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

Term	Description
EasyLAN Wireless	The wireless server for Intermec printers.
3400e	The EasyCoder 3400e printer.
4420/4440	The EasyCoder 4420/4440 printer.
501XP	The EasyCoder 501XP printer.
601XP	The EasyCoder 601XP printer.
EasyLAN Wireless Admin utility	The free utility for configuring the EasyLAN Wireless.
Web browser interface	The HTML pages that you can use to configure and manage the EasyLAN Wireless.
IPNM	The Intermec Printer Network Manager software that you can use to manage the EasyLAN Wireless.

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" in the next section.
Italic text	Indicates that you must replace the parameter with a value. See "Format Conventions for Commands" in the next 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:

From the command line in HyperTerminal, type:

`set en keyval` *`value`*

where

value is the hexadecimal value of the WEP encryption (10 hexadecimal values for 64-bit encryption or 26 hexadecimal values for 128-bit encryption)

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 Wireless 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.

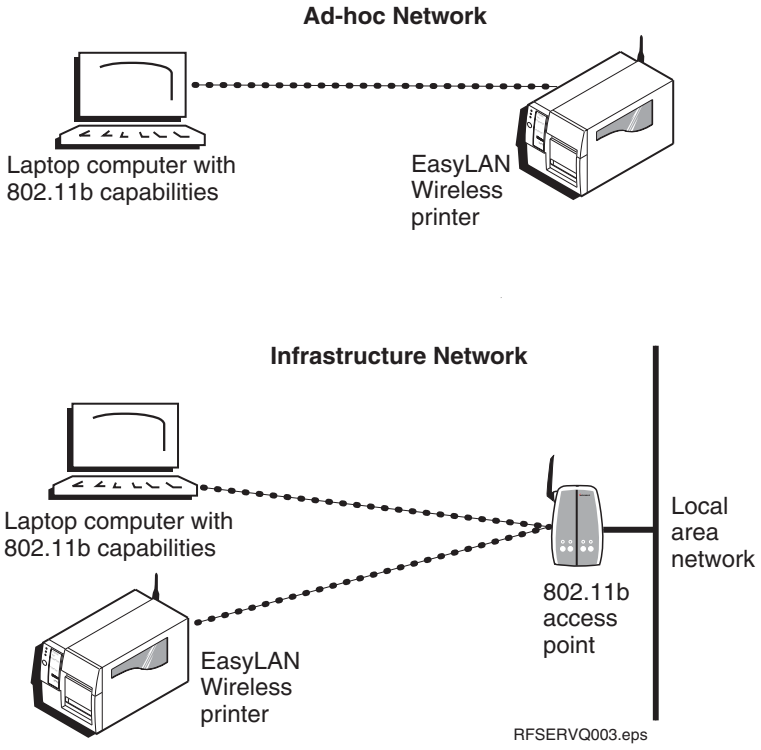
1

Installing EasyLAN Wireless

This chapter provides an overview of the EasyLAN™ Wireless and explains how to install it in your network.

Introducing EasyLAN Wireless

The Intermec EasyLAN™ Wireless is an IEEE 802.11b radio option that may be installed in the EasyCoder® 3400e, 4420, 4440, 501XP, and 601XP printers. EasyLAN Wireless lets the printer communicate wirelessly with a PC that contains an 802.11b radio card (ad-hoc network) or it can communicate with other devices via an access point (infrastructure network) in your data collection network. The following illustration shows an ad-hoc network and then an infrastructure network.



Note: Check with your Intermec sales representative to find out what printers the EasyLAN Wireless is available on.

System Requirements

To print to a printer with EasyLAN Wireless, you need an 802.11b wireless network. The wireless network must consist of one of the following:

- An 802.11b wireless enabled device printing straight to the printer (Ad-hoc mode).
- An 802.11b wireless access point allowing wireless and wired Ethernet enabled devices to print to the printer.

To configure EasyLAN Wireless, you need the following information:

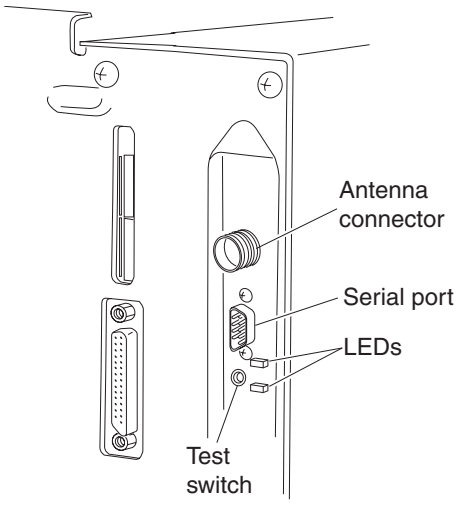
- The MAC address of the EasyLAN Wireless (for example, 004017023F96).
- Information from your network administrator. For help, see "Setting Radio and Network Communications" later in this chapter.

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
- Dynamic host configuration protocol (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®

Understanding EasyLAN Wireless

Make sure you can identify the following EasyLAN Wireless components on the back of your printer:



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Component	Description
Antenna connector	Attach the antenna to this connector.
Serial port (DB9)	Use this port for connecting a serial device.
LEDs	The green LED provides information for the power-up diagnostic and network activity. The yellow LED indicates a network connection. For more information, see “Starting and Printing a Test Label” later in this chapter.
Test switch	Use this switch to print a test label or reset EasyLAN Wireless. For help, see “Starting and Printing a Test Label” later in this chapter.

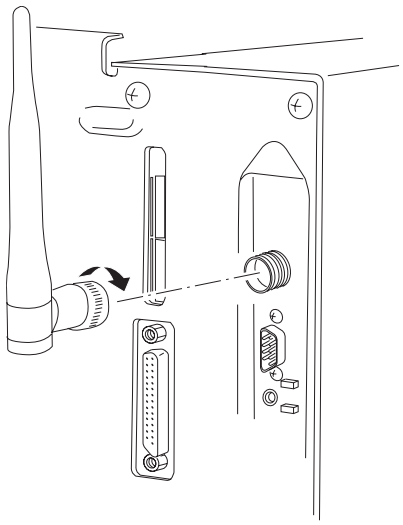
Installing EasyLAN Wireless

Before you install EasyLAN Wireless, make sure that you have properly installed the 802.11b equipment you are using to communicate to the printer as described in the documentation that came with that equipment. Also make sure that you have loaded media and ribbon into the printer. For help, see the quick start guide for your printer.

When you first consider purchasing a wireless data collection system, an Intermec representative works with you to perform a site survey at your facility. The site survey analyzes the range of radio frequency devices in your facility and determines the placement of the access points and printers with EasyLAN Wireless. The site survey ensures that the coverage overlaps to provide uninterrupted wireless access at any location within the building. This manual assumes that a site survey is complete and the access points and printers with EasyLAN Wireless are placed in your facility.

Attaching the Antenna

- Screw the antenna onto the antenna connector, and bend the antenna so that it points up.



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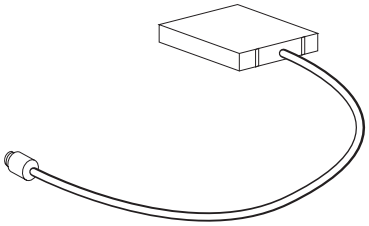
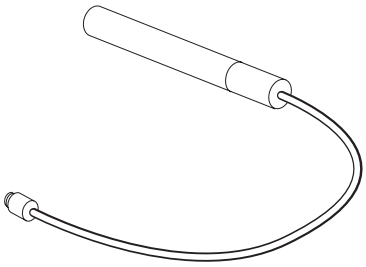
For best performance, position the printer and antenna so that the antenna has a line-of-sight exposure to the access point or wireless device that it communicates with.

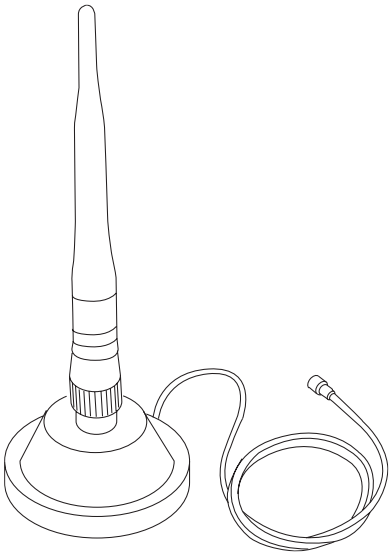
The following antennas and extension cable are also available:



2.4 GHz 5dBi dual flat patch (Part No. 067262) with extension cable, recommended for office corridors, hospital halls, and retail establishments. Talk to your Intermec representative for the correct extension cable.



2.4 GHz 5dBi omnidirectional (Part No. 063363) with extension cable, recommended for open areas, warehouses, and industrial sites. Designed for outdoor use. Talk to your Intermec representative for the correct extension cable.



12-foot long cable with magnetic base at the antenna connector (Part No. 060749). Use with the antenna that came with the EasyLAN Wireless.

Note: Contact your Intermec sales representative for the availability of this part.

Starting and Printing a Test Label

When you turn on the printer with EasyLAN Wireless, EasyLAN Wireless goes through the following startup sequence:

- EasyLAN Wireless runs through a set of power-up diagnostics for a few seconds. If EasyLAN Wireless is operating properly, the yellow and green LEDs blink momentarily and then go out. If the green LED blinks continuously in a regular pattern, there is a problem. Try unplugging the power to the printer and then plugging it in again. If the problem persists, contact your local Intermec representative.

- When a successful connection is made from EasyLAN Wireless to another 802.11b device like an access point or PC, the yellow LED stays lit. The green LED blinks whenever there is wireless networking activity.

Note: When you turn on the 3400e, 4420, or 4440 printer with EasyLAN Wireless, the power LED on the printer will blink continuously.

After the green and yellow LEDs go out, print a test label to make sure that EasyLAN Wireless is working. The test label shows the current wireless and network settings of EasyLAN Wireless.

Note: If you have a 501XP or 601XP printer, you need to configure the EasyLAN Wireless serial port to match the 501XP/601XP serial port and to attach the serial cable that came with your printer before you can print a test label. For help, see "Setting Radio and Network Communications" and "Attaching the Serial Cable (501XP/601XP Only)" later in this chapter.

To print a test label

- Insert a small, straightened paper clip into the test switch, and press and release the test switch. For help finding the test switch, see "Understanding EasyLAN Wireless" earlier in this chapter.

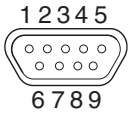
If you cannot print a test page, see Chapter 4, "Troubleshooting EasyLAN Wireless."

You can also use the test switch to reset the EasyLAN Wireless to its factory default. For help, see "Setting EasyLAN Wireless to Factory Defaults" in Chapter 3.

Connecting EasyLAN Wireless to an RS-232 Serial Port

To initially configure EasyLAN Wireless, you must connect it to your PC using the RS-232 serial port. The EasyLAN Wireless has one standard serial port. The serial port uses PC-compatible 9-pin male D-connectors. Note that the standard off-the-shelf 9-pin female to 25-pin male PC cables require a null modem in order to connect to most printers or terminals. You can order a 9-pin female to 9-pin female serial cable from Intermec (Part No. 059167).

The following illustration and table show the pin-outs for the serial port.



DB9 Pin	Input Signal	Output Signal	DTE Pin	DCE Pin
1	Not used	Not used	-	-
2	Receive Data	Transmit Data	2	3
3	Transmit Data	Receive Data	3	2
4	DTR out	DSR in	6	20
5	Signal Ground	Signal Ground	7	7
6	DSR in	DTR out	20	6
7	RTS out	CTS in	5	4
8	CTS in	RTS out	4	5
9	Not used	Not used	-	-

The cable must connect input signals (such as Receive Data) on EasyLAN Wireless to the equivalent output signals (such as Transmit Data) on the PC and vice-versa.

Setting Radio and Network Communications

This section explains how to initially configure your EasyLAN Wireless using HyperTerminal and Console commands from a Windows system. If you are going to configure the EasyLAN Wireless from a UNIX system, you need to install the EasyLAN Wireless Admin utility and use it to configure the EasyLAN Wireless. For help, see Chapter 2, “Configuring EasyLAN Wireless.”

You need to get the following information from your network administrator:

- SSID (also known as network name)
- Boot method (ad-hoc, pseudo ad-hoc, or infrastructure)
- WEP (64-bit, 128-bit, or disabled)
- WEP key number
- WEP encryption value
- IP address for the printer. If you have a DHCP server on your network, the EasyLAN Wireless automatically connects to it and is assigned an IP address. To find the EasyLAN Wireless IP address, print a test label. For help, see “Starting and Printing a Test Label” earlier in this chapter.
- Subnet mask
- Gateway (router)

To use the console commands in the following procedure, the EasyLAN Wireless serial port needs to be in Console mode.

To enable Console mode manually

1. Turn off the printer.
2. Press and hold the test switch and simultaneously turn on the printer.

The port remains in Console mode until you turn off the EasyLAN Wireless. Also, the EasyLAN Wireless is in Ad-hoc mode with the SSID (network name) of `printer` on channel 11 (frequency 2462).

You may also enable Console mode by connecting remotely to the EasyLAN Wireless through the Web browser interface, Telnet, NCP, or XConfig. For more information about using Console mode, see Appendix A, "Console Commands."

To set radio and network communications

1. Make sure that your PC's serial port is set to
   - 115200 baud.
   - 8 data bits.
   - No parity.
   - 1 stop bit.
2. On your PC, open a HyperTerminal session, and press **Enter** to get the `Local>` prompt.
3. Find the commands you need in the following table, and enter each separately pressing **Enter** after each command.

To Set	Enter This Command
SSID	`set en ssid` *`mynetwork`* where *mynetwork* is the SSID of your network
Wireless mode	`set en mo` *`mode`* where *mode* is either `ad` for ad-hoc, `ps` for pseudo ad-hoc, or `in` for infrastructure
IP address	`set ip ad` *`n.n.n.n`* where *n* is a number from 0 to 255
Subnet mask	`set ip su` *`n.n.n.n`* where *n* is a number from 0 to 255
Gateway (router)	`set ip ro` *`n.n.n.n`* where *n* is a number from 0 to 255
Boot method to static	`set ip me static`
WEP	`set en wep` *`mode`* where *mode* is `64` for 64-bit encryption, `128` for 128-bit encryption, or `dis` for disabling WEP

To Set	Enter This Command
WEP key	`set en key# n` where *n* is a number from 1 to 4
WEP encryption value	`set en keyval value` where *value* is the hexadecimal value of the WEP encryption (10 hexadecimal digits for 64-bit encryption or 26 hexadecimal digits for 128-bit encryption)
Baud rate to 57600	`set port s1 sp 57600` You need to set the baud rate to 57600 for the 501XP and 601XP printers. For the best communications, make sure that the printer and EasyLAN Wireless are set to the same communications settings. For help setting your printer, see the *EasyCoder 501XP Bar Code Label Printer User's Guide*, Part No. 1-960567-00, or the *EasyCoder 601XP Bar Code Label Printer User's Guide*, Part No. 1-960568-00.
Disable console mode	`set port s1 co dis` You need to disable Console mode for the 501XP and 601XP printers.

4. To save the changes, type `save`, press **Enter**, type `ini`, and press **Enter**.
5. Type `exit` and press **Enter**.
6. If you have a 501XP or 601XP printer, turn off the printer and attach the serial cable that came with your printer. For help, see the following section, "Attaching the Serial Cable (501XP/601XP Only)."

You can now disconnect the printer from your PC's serial port, install the printer where you want it, and then print to your printer. For help using FTP to print to the printer with EasyLAN Wireless, see "Printing Through FTP" later in this chapter. If you want to set up the printer to act like a parallel port on Windows 95/98 PCs, see "Installing and Using the Intermec Print Monitor" later in this chapter.

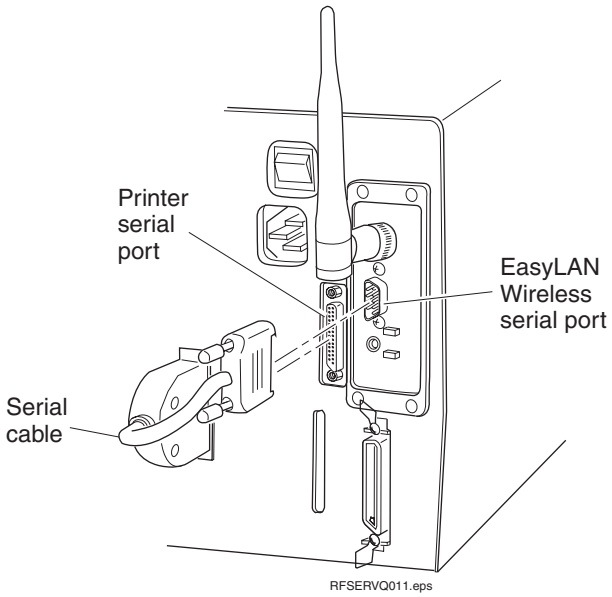
If you want to configure more advanced or network specific parameters, you can also use the Web browser interface or the EasyLAN Wireless Admin utility to configure and manage EasyLAN Wireless. For help, see Chapter 2, "Configuring EasyLAN Wireless," and Chapter 3, "Managing EasyLAN Wireless."

Attaching the Serial Cable (501XP/601XP Only)

For the EasyLAN Wireless to communicate with the 501XP and 601XP printers, the printers require a serial cable connecting the printer to the EasyLAN Wireless. This serial cable ships with your printer.

To attach the serial cable for 501XP/601XP printers

- Turn off the printer, plug one end of the serial cable into the printer serial port and the other end into the EasyLAN Wireless serial port, and then turn on the printer.



Printing Through FTP

After you install EasyLAN Wireless in your network, you are ready to print to 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 Wireless using the command `ftp` *`ipaddress`*, where *ipaddress* is the IP address or name assigned to your EasyLAN Wireless. 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 port you want to print to.

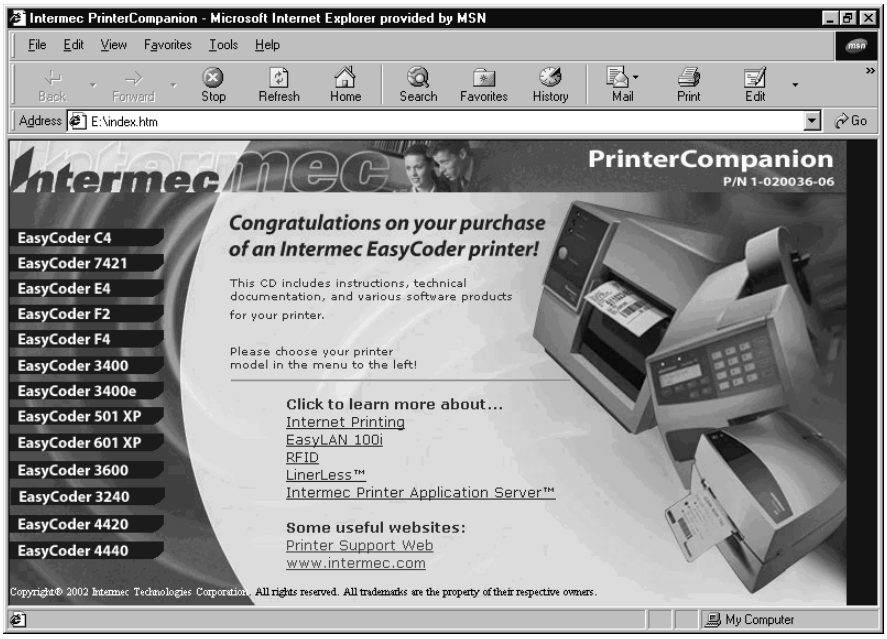
4. Log out using the command `quit`, `bye`, or `exit` depending on your FTP version.

Installing and Using the Intermec Print Monitor

The Intermec print monitor is available on the PrinterCompanion™ CD-ROM that shipped with your printer. This print monitor creates a network port for the 802.11b wireless 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.

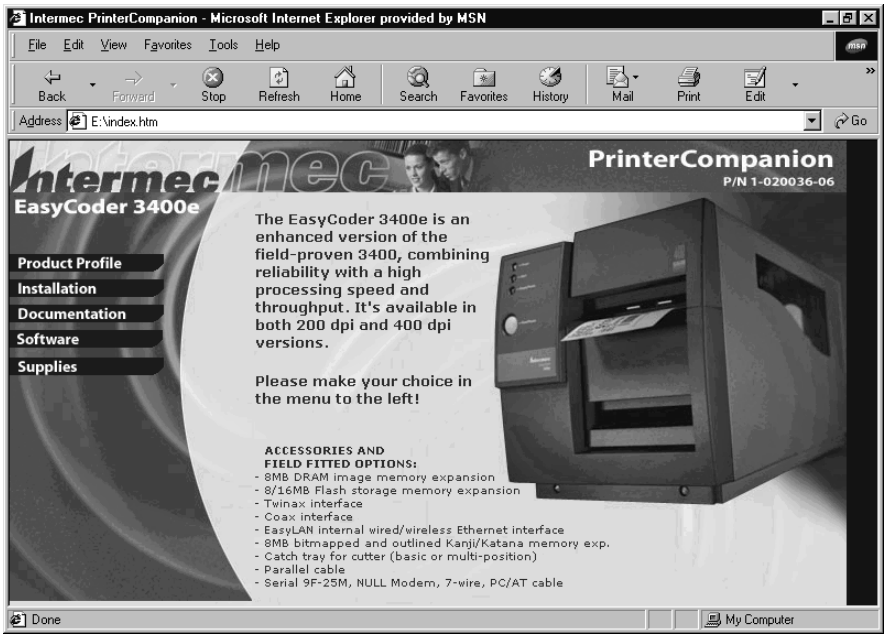
To install the print monitor

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

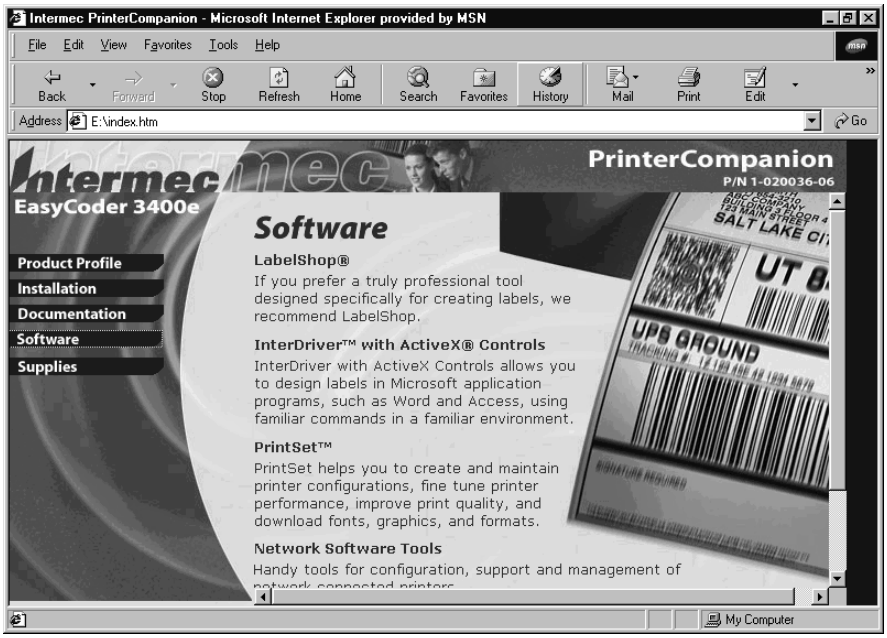


2. Click the button for a specific printer, such as the 3400e. The page for that printer appears.

EasyCoder 3400e Printer Page

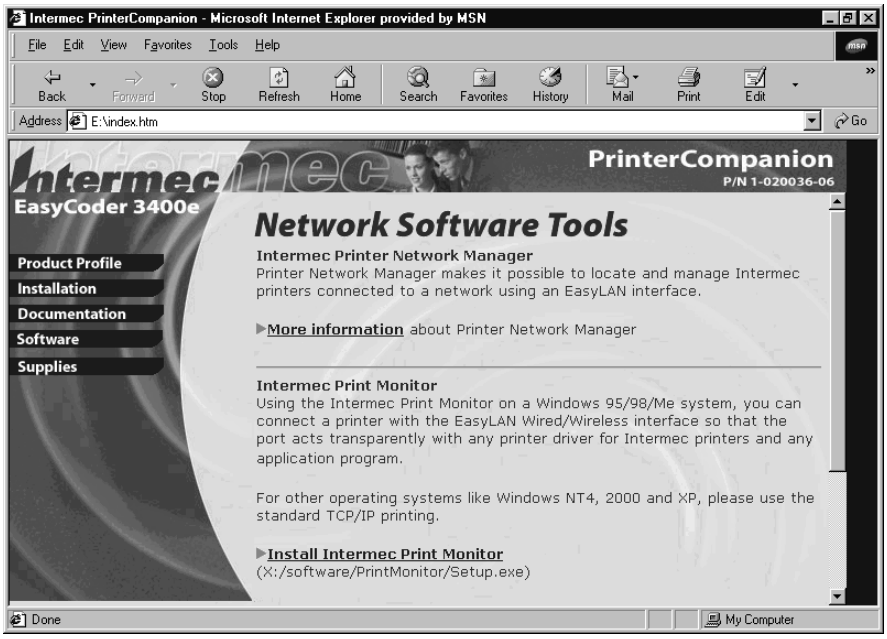


3. Click Software in the left frame. The Software page appears.



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

Network Software Tools Page



5. In the Network Software 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-ROM screen.

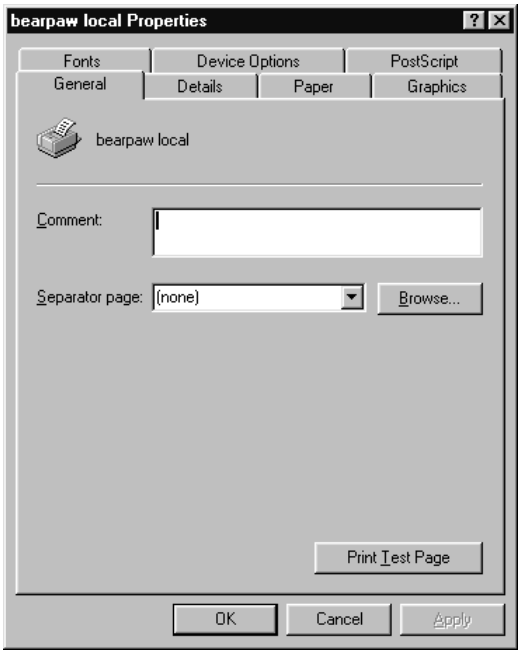
You are now ready to install the printer to TCP/IP ports.

To install the printer to TCP/IP ports

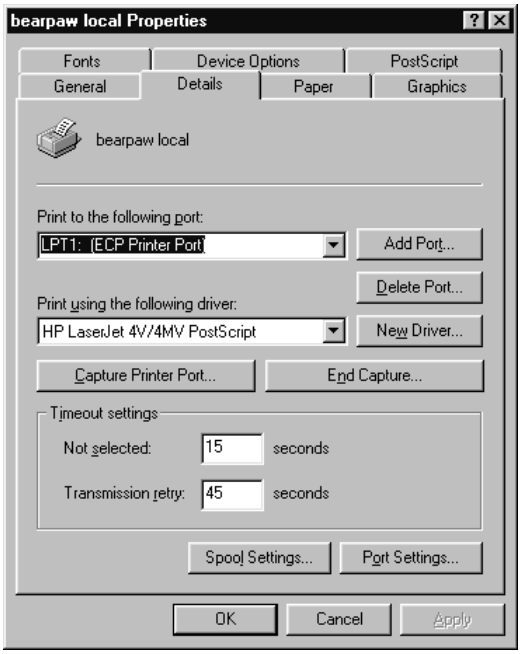
1. Open the Start menu, select Settings and then Printers. The Printers dialog box appears.

2. Double-click Add Printer. The Add Printer Wizard appears.

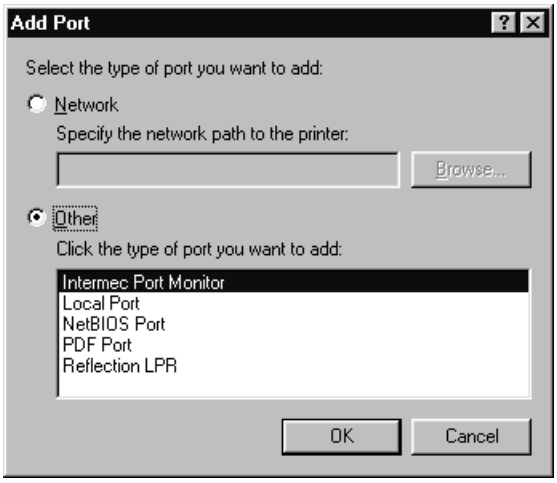
3. Add the printer with EasyLAN Wireless selecting the Local printer radio button and the printer driver that came with your printer. After you click Finish in the last dialog box, the printer appears in the Printers dialog box.
4. Right-click the printer in the Printers dialog box, and select Properties from the menu. The Properties dialog box appears.



5. Click the Details tab.

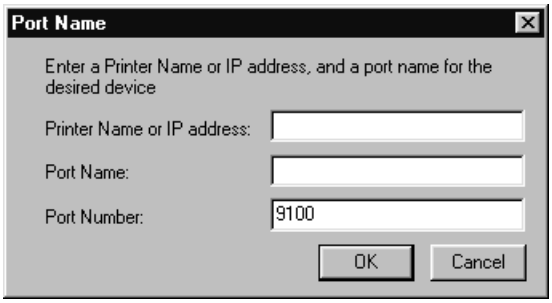


6. Click Add Port. The Add Port dialog box appears.



7. Select the Other radio button, select Intermec Print Monitor, and then click OK. The Port Name dialog box appears.

Port Name Dialog Box



8. In the Printer Name or IP address field, enter the EasyLAN Wireless IP address.
9. In the Port Name field, enter the TCP printer port for the EasyLAN Wireless.
10. In the Port Number field, enter the port number that you want to use. Use port number 9100 for 3400e, 4420, and 4440 printers and 9101 for 501XP and 601XP printers.
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.
13. To make sure the new TCP/IP port is working, click the General tab, and then click Print Test Page.

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

2

Configuring EasyLAN Wireless

This chapter explains how to configure EasyLAN Wireless for radio and network communications.

Setting Up to Configure

Once you have completed the procedures in "Installing EasyLAN Wireless" in Chapter 1, you are ready to communicate through EasyLAN Wireless. This chapter explains how to do maintenance configuration or how to configure advanced and network specific parameters on the EasyLAN Wireless using the Web browser interface, EasyLAN Wireless Admin utility, and network specific utilities, such as Novell NWAdmin utility. This chapter explains how to configure the following parameters:

- TCP/IP parameters
- Radio parameters
- Access and update passwords
- Serial and parallel ports parameters
- Port services parameters
- NetWare network parameters
- NetBIOS parameters
- Data link control (DLC) parameters
- UNIX parameters

If you want to configure the TCP/IP parameters and radio parameters for multiple EasyLAN Wireless at one time, see "Configuring Multiple EasyLAN Wireless" later in this chapter.

For information on using console commands with HyperTerminal to configure EasyLAN Wireless, see Appendix A, "Console Commands."

Before you configure EasyLAN Wireless, make sure that you have properly configured your PC for communication on a wireless network.

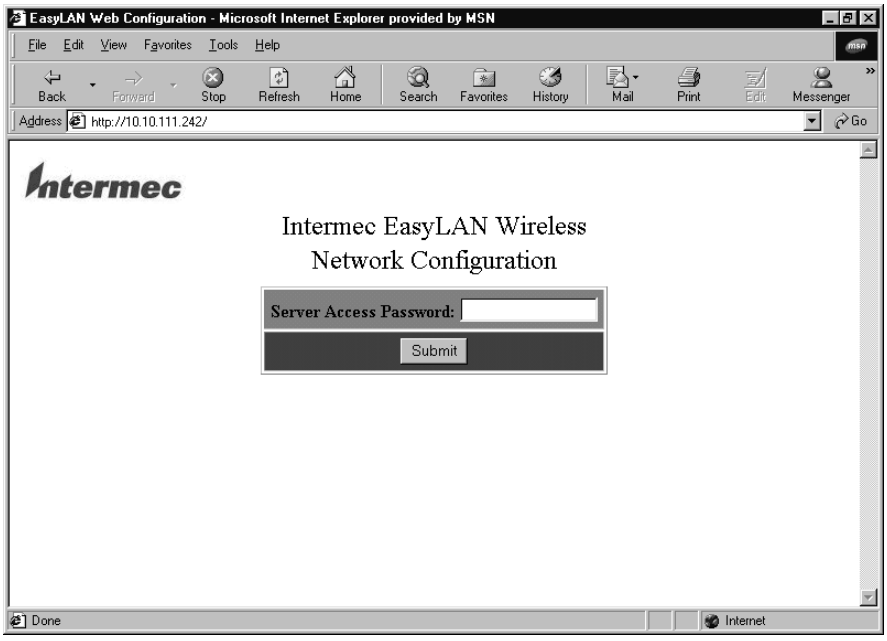
- For communication through an access point, make sure your PC is in Infrastructure mode and that it is associated with the access point. Also make sure you have a good signal between your PC and the access point or are connected to the access point through an Ethernet network. Most wireless adapters have a utility that shows the wireless signal strength. See your PC's wireless adapter's documentation for details.
- If you are communicating directly to the printer without an access point, your PC should be in Ad-hoc mode. See the documentation for your PC's wireless adapter for instructions.

Note: If your PC's wireless adapter includes an option for 802.11 ad-hoc, you must select it if you want to use the printer in Ad-hoc mode. If it does not include this option, select Ad-hoc Computer-to-Computer or whatever mode your adapter uses to communicate on a wireless network without an access point.

To configure EasyLAN Wireless, you need to either open the Web browser interface or install the EasyLAN Wireless Admin utility and search for EasyLAN Wireless on your network. The next sections provide procedures for these tasks.

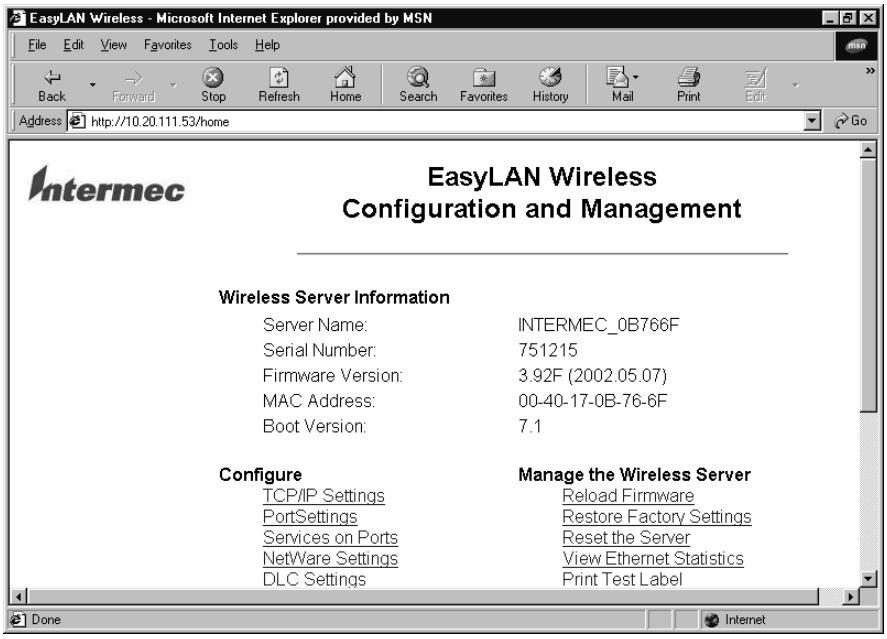
Opening the Web Browser Interface

1. Start your Web browser.
2. In the Address (Internet Explorer) or Go to (Netscape) line, enter the IP address for the EasyLAN Wireless, 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 EasyLAN Wireless.

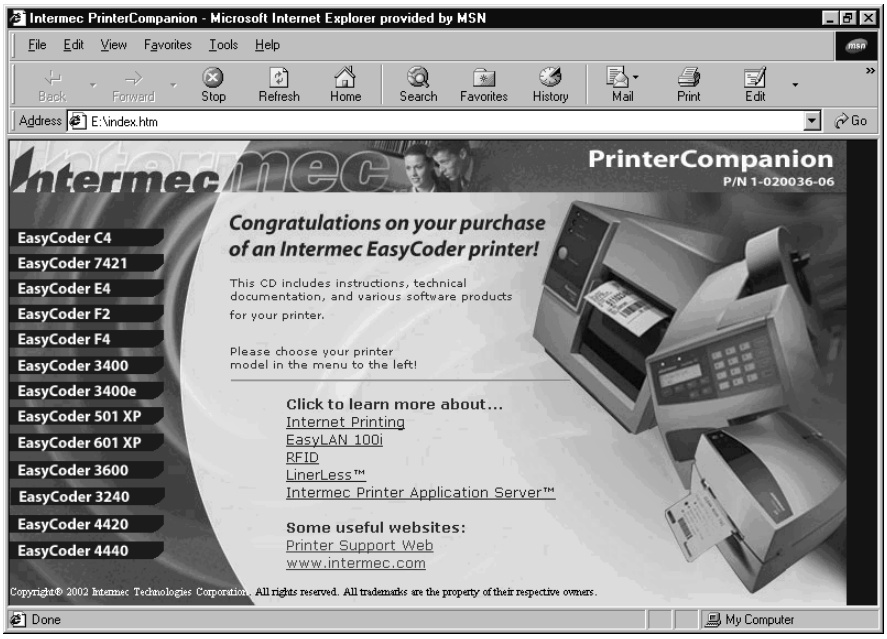
Installing the EasyLAN Wireless Admin Utility

The following sections explain how to install the EasyLAN Wireless Admin Utility on a Windows 95/98/2000/NT/XP system or a UNIX system.

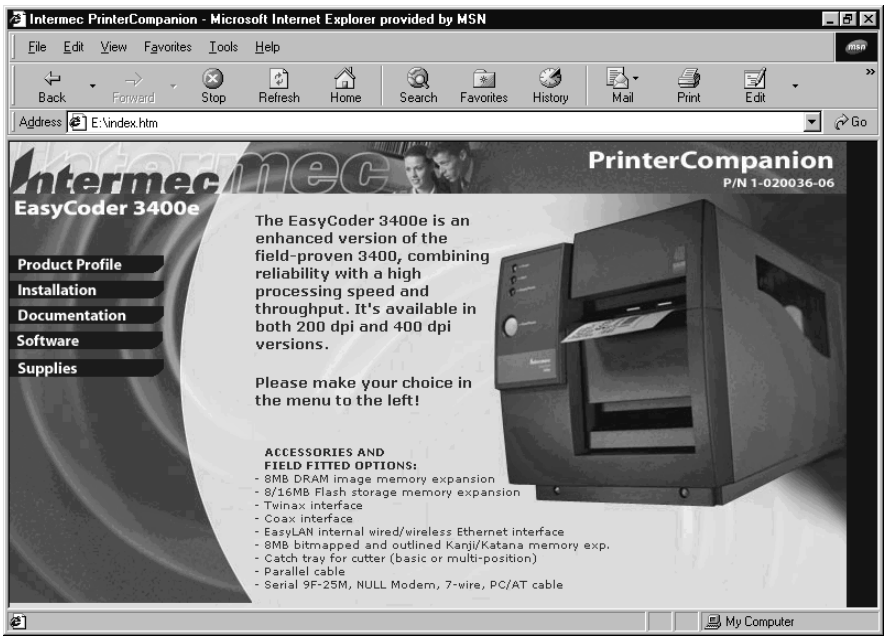
Installing on a Windows 95/98/2000/NT/XP System

1. Place the PrinterCompanion™ CD-ROM in your computer's CD-ROM drive. The PrinterCompanion page appears.

PrinterCompanion Page

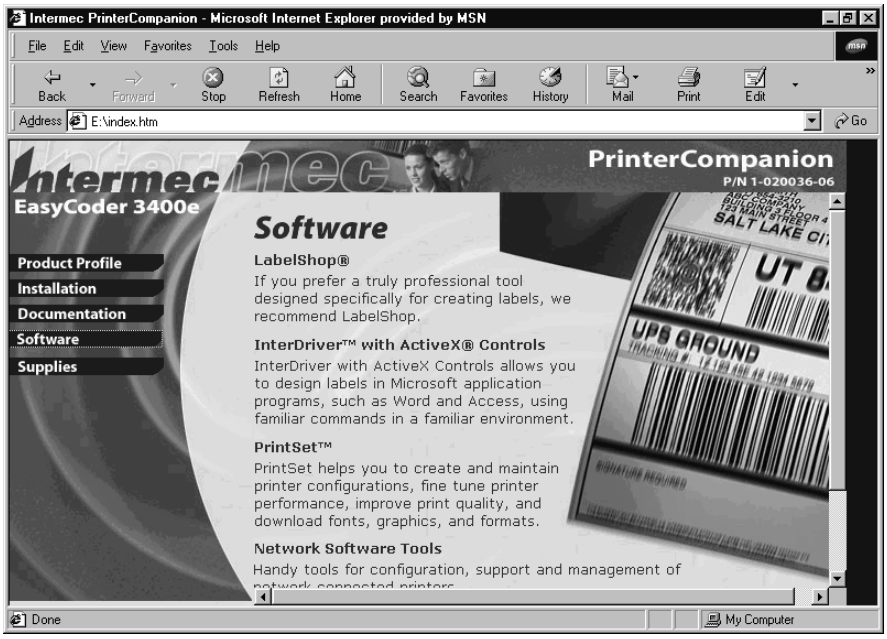


2. Click the button for a specific printer, such as the 3400e. The page for that printer appears.

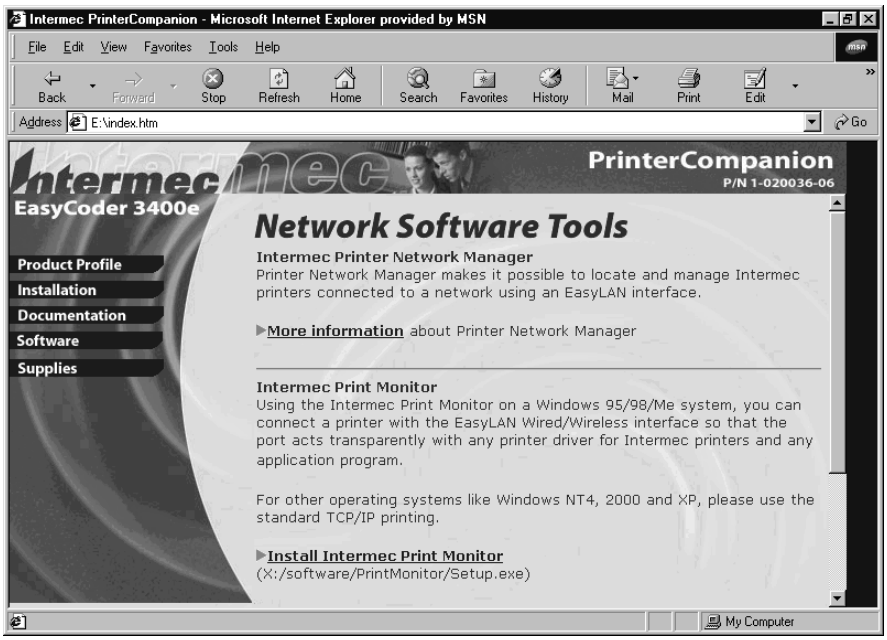


3. Click Software in the left frame. The Software page appears.

Software Page



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 EasyLAN Wireless Admin.

6. Follow the instructions for installing the EasyLAN Wireless Admin utility.
7. When the installation is complete, close the CD-ROM screen.

Installing on a UNIX System

1. Login as root.
2. Open a Web browser and go to one of the following Web sites:
   - If you have Netscape Navigator, go to printer.intermec.com, select Software, and then enter your user name and password (if you are using this page for the first time, enter guest as the user name and intermec as the password).
   - If you have Internet Explorer, go to www.intermec.com, and then select Support, Software Downloads, Printers, and then Printer Applications.
3. Find the EasyLAN Wireless Admin utility for the type of UNIX you are using (Solaris, HP-UX, AIX, or Linux), and download `intermec.bin` to the /tmp directory. Once you have finished downloading, close the Web browser.
4. Use the `ls -al` command to make sure the permission for `intermec.bin` displays as executable: `rwxrr_xr_x`.

   If the permission is not executable, use the following command to change it:

   # `chmod 755 intermec.bin`
5. Run `intermec.bin`:

   # `./intermec.bin`
6. Follow the instructions for installing the EasyLAN Wireless Admin utility. When asked where you want to install the EasyLAN Wireless utility, install the utility in a system directory, such as /opt, not your home directory.

Opening the EasyLAN Wireless Admin Utility

This section explains how to open the EasyLAN Wireless Admin utility on a Windows system or a UNIX system.

To open the EasyLAN Wireless Admin utility on a Windows system

- Open the EasyLAN Wireless Admin utility by selecting it from the Start menu (under Programs, EasyLAN then EasyLAN) or by double-clicking a short cut on your desktop. The Wireless Device Search dialog box appears.

Wireless Device Search Dialog Box

To open the EasyLAN Wireless Admin utility on a UNIX system

1. Open a terminal.
2. Type `cd /opt/Intermec` and press **Enter**, where */opt* is the directory where you installed the EasyLAN Wireless Admin utility.
3. Type `cd EasyLAN_Wireless_Admin` and press **Enter**.
4. Type `./EasyLAN_Wireless_Admin` and press **Enter**. The Wireless Device Search dialog box appears.

Searching for EasyLAN Wireless

Before you use the EasyLAN Wireless Admin utility to find and configure EasyLAN Wireless, make sure you understand the following guidelines:

- If you are using WEP encryption on your wireless network and did not use the console commands to set WEP on EasyLAN Wireless, temporarily disable WEP on your PC in order to configure EasyLAN Wireless using the EasyLAN Wireless Admin utility. If you are using an access point with WEP enabled and it does not allow non-WEP clients to communicate with other non-WEP clients, then you also need to temporarily change the wireless mode of your PC to ad-hoc.

For help setting WEP on EasyLAN Wireless using console commands, see "Setting Radio and Network Communications" in Chapter 1.

Note: If no PCs on your network can be set to Ad-hoc mode, you need to temporarily disable WEP on your access point. When you are done configuring EasyLAN Wireless, you can re-enable WEP on your access point and change the wireless mode back if necessary.

- If you are using a home gateway or router, configure EasyLAN Wireless from a PC on the same network segment that you want EasyLAN Wireless to be on.

To search for EasyLAN Wireless

1. Open the EasyLAN Wireless Admin utility. For help, see "Opening the EasyLAN Wireless Admin Utility" in the previous section. The Wireless Device Search dialog box appears.

2. In the Search Control box, click Start. The name of the EasyLAN Wireless, MAC address, IP address, signal, and device type appear for each EasyLAN Wireless found.

   If the EasyLAN Wireless Admin utility does not find your EasyLAN Wireless right away, click Stop and make sure that the EasyLAN Wireless is on and configured properly. For help with initially configuring the EasyLAN Wireless, see "Setting Radio and Network Communications" in Chapter 1.

Note: If the wireless signal is less than 50% on the Wireless Device Search dialog box, printing performance could be affected. To improve the signal strength, try moving the EasyLAN Wireless closer to the computer or access point and away from other radio devices, such as Bluetooth™ wireless devices, microwave ovens, or cordless phones.

You are now ready to configure EasyLAN Wireless.

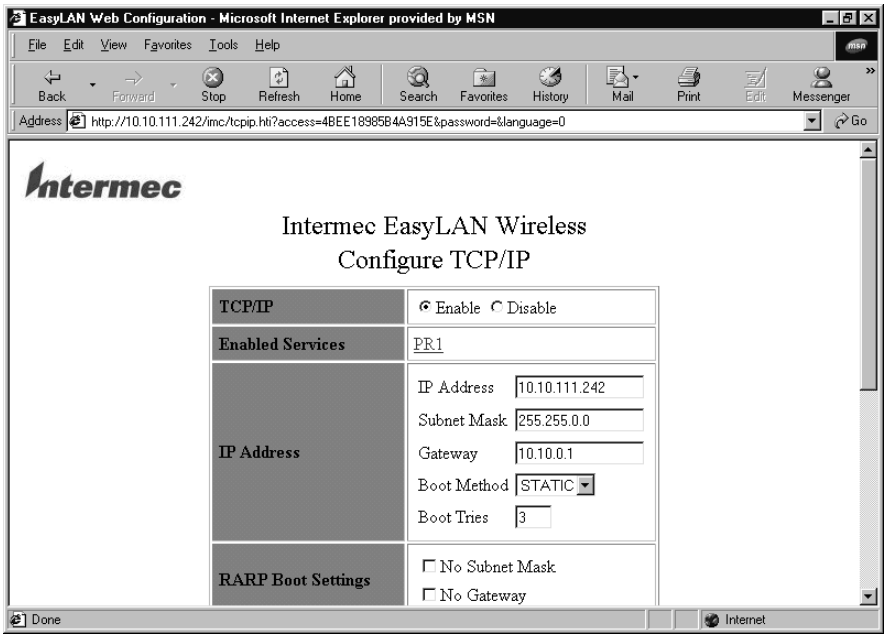
Configuring the TCP/IP Parameters

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

Note: If you are using DHCP on your network, the EasyLAN Wireless may have automatically acquired valid IP settings, and no further configuration is necessary. Using DHCP may work well if your DHCP server allows EasyLAN Wireless 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.

Using the Web Browser Interface

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.



2. Configure the parameters. For information on these 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.

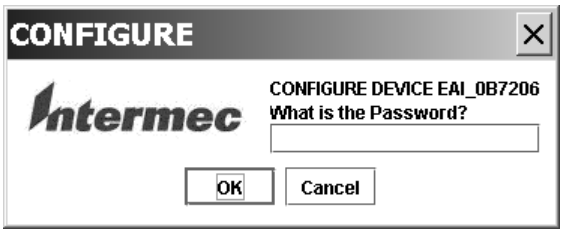
You can now communicate with your EasyLAN Wireless using TCP/IP or configure other settings.

Using the EasyLAN Wireless Admin Utility

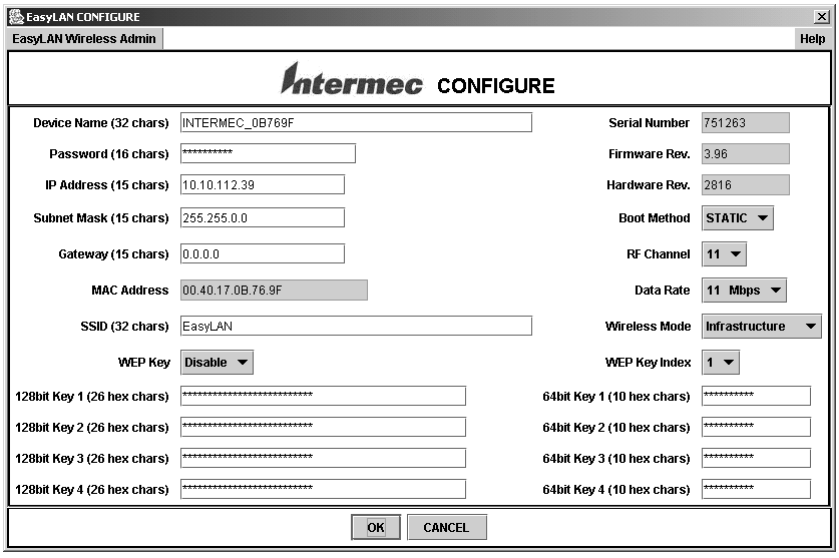
If you want to configure these parameters for multiple EasyLAN Wireless, see "Configuring Multiple EasyLAN Wireless" later in this chapter.

To use the EasyLAN Wireless Admin utility

1. Open the EasyLAN Wireless Admin utility and search for EasyLAN Wireless on your network. For help, see "Opening the EasyLAN Wireless Admin Utility" and "Searching for EasyLAN Wireless" earlier in this chapter.
2. Select an EasyLAN Wireless and click Configure. The Configure Password dialog box appears.



3. Enter the password for EasyLAN Wireless. The default password is intermec. The Configure dialog box appears.



Note: The Serial Number field, Firmware Rev. field, Hardware Rev. field, and MAC Address field are read only fields. You cannot change the values of these fields.

4. Configure the parameters. For information on these parameters, see "TCP/IP Parameters Defined" in the next section.
5. Click OK to accept your changes and return to the Wireless Device Search dialog box.

   Click Cancel to reject your changes and return to the Wireless Device Search dialog box.

Note: If you are having trouble configuring an EasyLAN Wireless, click Cancel in the Configuration dialog box. In the Wireless Device Search dialog box, click Clear to clear the list of EasyLAN Wireless, and start a new search. For help searching for EasyLAN Wireless, see "Searching for EasyLAN Wireless" earlier in this chapter.

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

TCP/IP Parameters Defined

Parameter	Definition	Values
Device name	Enter the name for the EasyLAN Wireless.	Any ASCII characters Default = INTERMEC_*nnnnnn* where *nnnnnn* is the last six digits of the MAC address
TCP/IP communications	Enable or disable TCP/IP communications.	Enable, Disable Default = Enable
Port services	Configure the services on the port you are using. For help, see "Configuring the Port Services" later in this chapter.	
IP address for EasyLAN Wireless	Enter the IP address for the EasyLAN Wireless. After you click Submit in the Web browser interface, you 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
Gateway or router	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

TCP/IP Parameters Defined (continued)

Parameter	Definition	Values
Boot method	Select the method for finding the EasyLAN Wireless IP address, subnet mask, and gateway address when the printer turns on or EasyLAN Wireless is reset: • Auto sets the EasyLAN Wireless 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 Wireless to use the dynamic host configuration protocol to get an IP address. • BOOTP sets the EasyLAN Wireless to use the boot protocol to get an IP address. • RARP sets the EasyLAN Wireless to use the reverse address resolution protocol to get an IP address. • Static sets the EasyLAN Wireless 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 Wireless IP address and sets the gateway IP address. To use these settings, set the boot method to RARP or Auto.	No Subnet Mask, No Gateway Default = RARP sets the subnet mask and gateway
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 Wireless to print the banner page in an LPD control file.	Checked, not checked Default = not checked
LPD retry	Set the EasyLAN Wireless 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 Wireless continues printing the job where it had stopped.	Checked, not checked Default = not checked
Keepalive timer	Enter how often in minutes the EasyLAN Wireless sends an IP ping packet to the router to keep the router aware of the EasyLAN Wireless. Enter zero to disable this feature.	0 to 255 Default = 0

TCP/IP Parameters Defined (continued)

Parameter	Definition	Values
Probe idle connections	Set the EasyLAN Wireless to send a probe packet on TCP connections with no data traffic. If the EasyLAN Wireless does not receive an acknowledgement, it closes the connection.	Enable, Disable Default = Disable
TCP receive checksum	Set the EasyLAN Wireless 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
Data rate	Select the throughput speed for the Ethernet connection	1, 2, 5.5, or 11 Mbps Default = 11Mbps
Password	Enter the password that you use to access the Configuration dialog box for the EasyLAN Wireless Admin utility.	Any ASCII characters Default = intermec

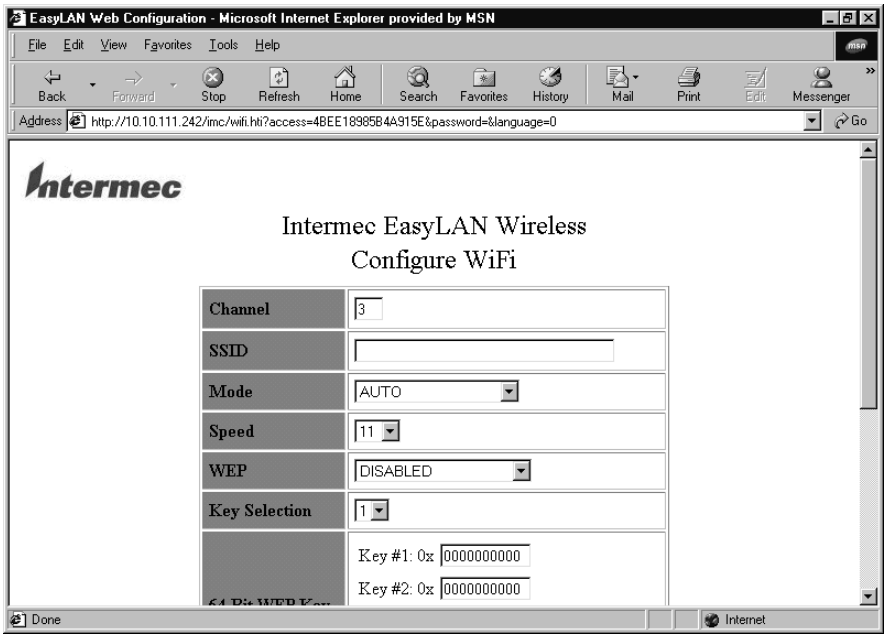
Configuring the Radio Parameters

If you want to configure advanced parameters or update the configuration, you can use the Web browser interface or the EasyLAN Wireless Admin utility to configure the radio parameters.

Using the Web Browser Interface

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

Configure WiFi Page



2. Configure the parameters. For information on the parameters, see "Radio 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 Wireless using your networks radio settings or configure other settings.

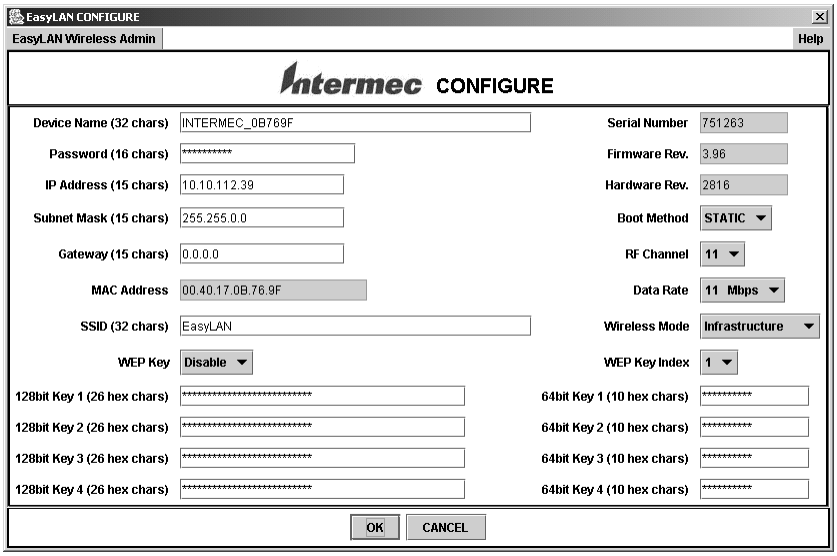
Using the EasyLAN Wireless Admin Utility

If you want to configure these parameters for multiple EasyLAN Wireless, see "Configuring Multiple EasyLAN Wireless" later in this chapter.

To use the EasyLAN Wireless Admin utility

1. Open the EasyLAN Wireless Admin utility and search for EasyLAN Wireless on your network. For help, see "Opening the EasyLAN Wireless Admin Utility" and "Searching for EasyLAN Wireless" earlier in this chapter.
2. Select an EasyLAN Wireless and click Configure. The Configure Server Password dialog box appears.
3. Enter the password for the EasyLAN Wireless. The default password is intermec. The Configure dialog box appears.

Configure Dialog Box



Note: The Serial Number field, Firmware Rev. field, Hardware Rev. field, and MAC Address field are read-only fields. You cannot change the values of these fields.

4. Configure the parameters. For more information on the parameters, see “Radio Parameters Defined” in the next section.
5. Click OK to accept your changes and return to the Wireless Device Search dialog box.

   Click Cancel to reject your changes and return to the Wireless Device Search dialog box.

Note: If you are having trouble configuring an EasyLAN Wireless, click Cancel in the Configuration dialog box. In the Wireless Device Search dialog box, click Clear to clear the list of print servers, and start a new search. For help searching for EasyLAN Wireless, see “Searching for EasyLAN Wireless” earlier in this chapter.

You can now communicate with your EasyLAN Wireless using your networks radio settings or configure other settings.

Radio Parameters Defined

Parameter	Definition	Values
Channel	Enter a channel number from 1 to 11, or enter 0 to have the system automatically select the proper channel.	0 to 11 Default = 11
SSID	Enter the service set identifier for the subnetwork.	Any alphanumeric characters No default
Mode	Select the mode your network is using to communicate: • Choose Auto mode to have the EasyLAN Wireless select the appropriate mode based on what network activity is happening at the time. • Choose Pseudo Ad-hoc mode when your network has some stations without access points. • Choose Ad-hoc (802.11) mode when all of the stations on the network are IEEE 802.11b compliant. • Choose Infrastructure mode when all data is being passed through a root access point.	Auto, Ad-hoc (802.11), Pseudo Ad-hoc, Infrastructure Default = Auto
Speed	Select the speed of your network.	1, 2, 5.5, or 11 Mbps Default = 11 Mbps
WEP security	Select the WEP security your network is using.	Disabled, 64-bit encryption, 128-bit encryption Default = disabled
WEP key selection	Select the WEP key your network is using.	1, 2, 3, 4 Default = 1
WEP Keys	Enter the hexadecimal digits for each key. For help converting ASCII to hexadecimal, see the next table	10 digits for 64-bit encryption and 26 digits for 128-bit encryption Default = 0000000000

ASCII to Hexadecimal Conversion Chart

Hex[1]	ASCII[2]	Hex[1]	ASCII[2]	Hex[1]	ASCII[2]	Hex[1]	ASCII[2]
00	NUL	20	SP[3]	40	@	60	`
01	SOH	21	!	41	A	61	a
02	STX	22	"	42	B	62	b
03	ETX	23	#	43	C	63	c
04	EOT	24	$	44	D	64	d
05	ENQ	25	%	45	E	65	e
06	ACK	26	&	46	F	66	f
07	BEL	27	'	47	G	67	g
08	BS	28	(	48	H	68	h
09	HT	29	)	49	I	69	i
0A	LF	2A	*	4A	J	6A	j
0B	VT	2B	+	4B	K	6B	k
0C	FF	2C	,	4C	L	6C	l
0D	CR	2D	-	4D	M	6D	m
0E	SO	2E	.	4E	N	6E	n
0F	SI	2F	/	4F	O	6F	o
10	DLE	30	0	50	P	70	p
11	DC1	31	1	51	Q	71	q
12	DC2	32	2	52	R	72	r
13	DC3	33	3	53	S	73	s
14	DC4	34	4	54	T	74	t
15	NAK	35	5	55	U	75	u
16	SYN	36	6	56	V	76	v
17	ETB	37	7	57	W	77	w
18	CAN	38	8	58	X	78	x
19	EM	39	9	59	Y	79	y
1A	SUB	3A	:	5A	Z	7A	z
1B	ESC	3B	;	5B	[	7B	{
1C	FS	3C	<	5C	\	7C	|
1D	GS	3D	=	5D	]	7D	}
1E	RS	3E	>	5E	^	7E	~
1F	US	3F	?	5F	_	7F	n[4]

Notes for the ASCII to Hexadecimal Conversion Chart

1 This column lists the hexadecimal value.

2 This column lists the ASCII character.

3 SP is the SPACE character.

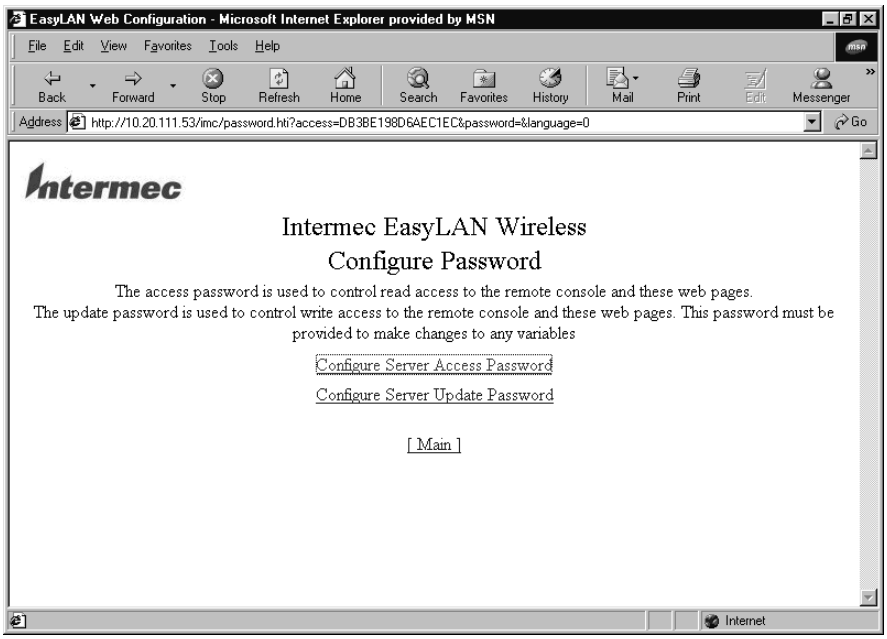
4 n is the Delete character.

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.

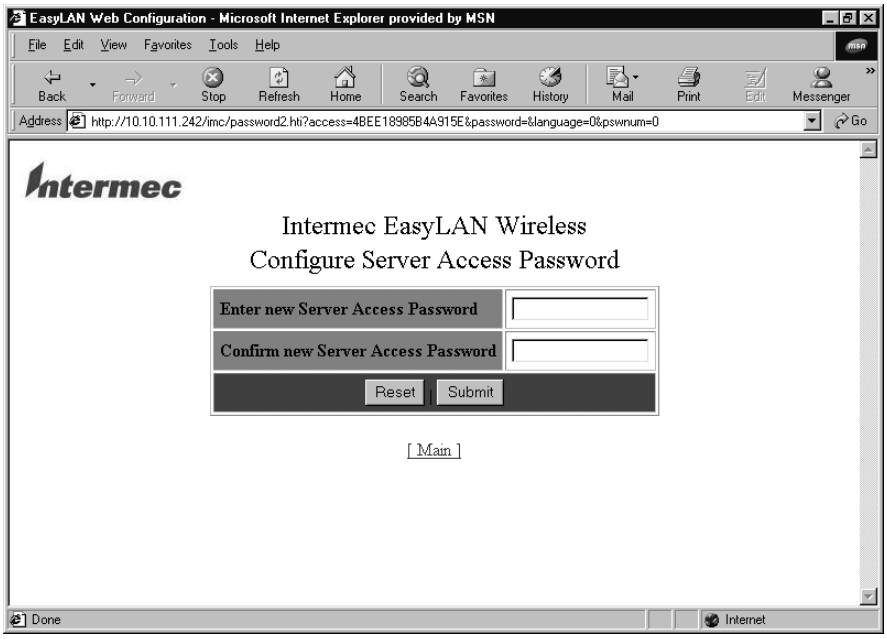
To configure the access and update passwords

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.



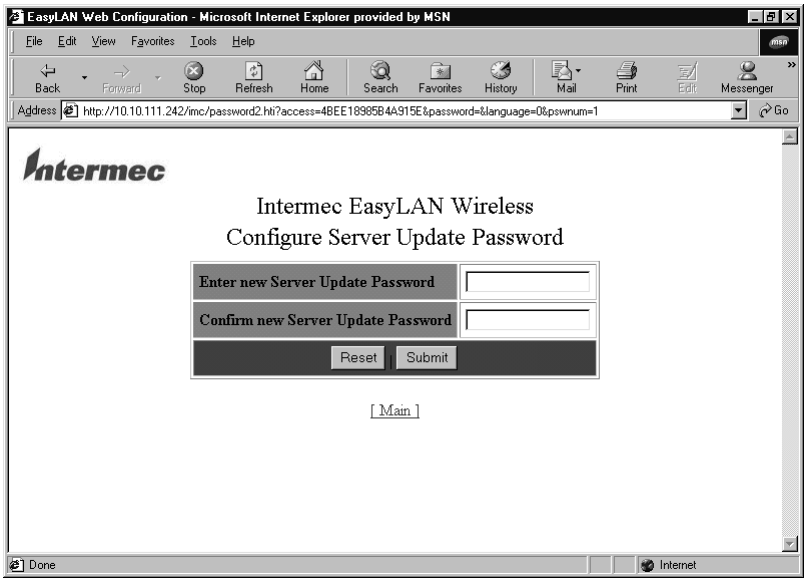
2. Click Configure Server Access Password. The Configure Server Access Password page appears.

Configure Server Access Password Page



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



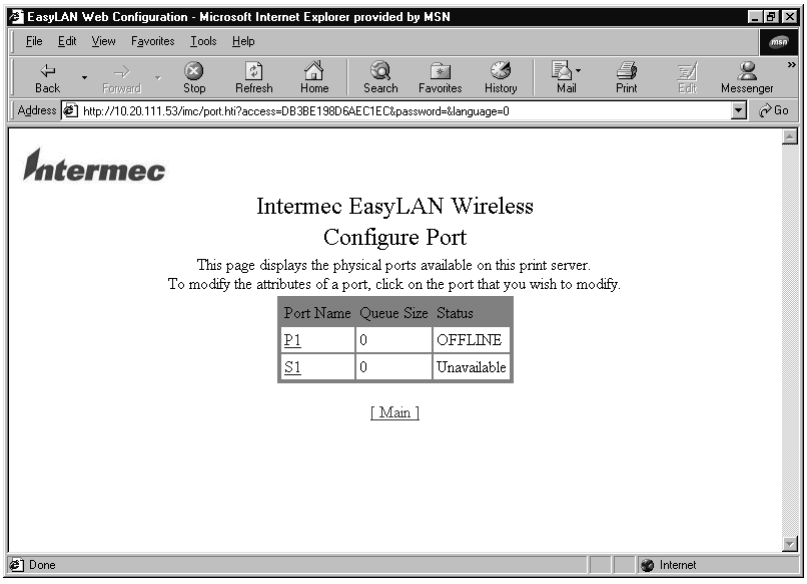
Configuring the Ports

If you do not want to use the default settings for the serial and parallel port, use the Web browser interface to configure the serial and parallel ports. The EasyLAN Wireless communicates with the printer through an internal parallel port for the 3400e, 4420, and 4440 printers and through an external serial cable for the 501XP and 601XP printers.

To open the Configure Port page

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.

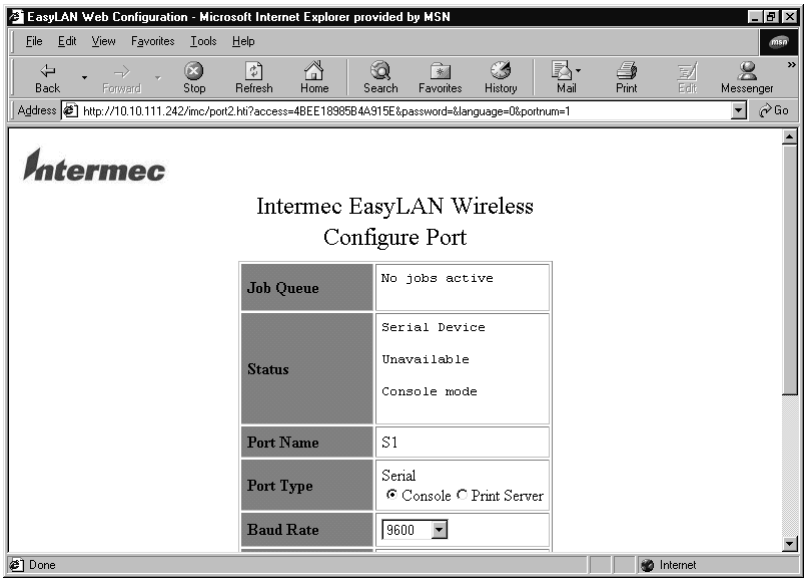
Configure Port Page



2. Click the port name for the port you want to configure.

Configuring the Serial Port

1. Open the Configure Port page, and click S1. The following page appears.



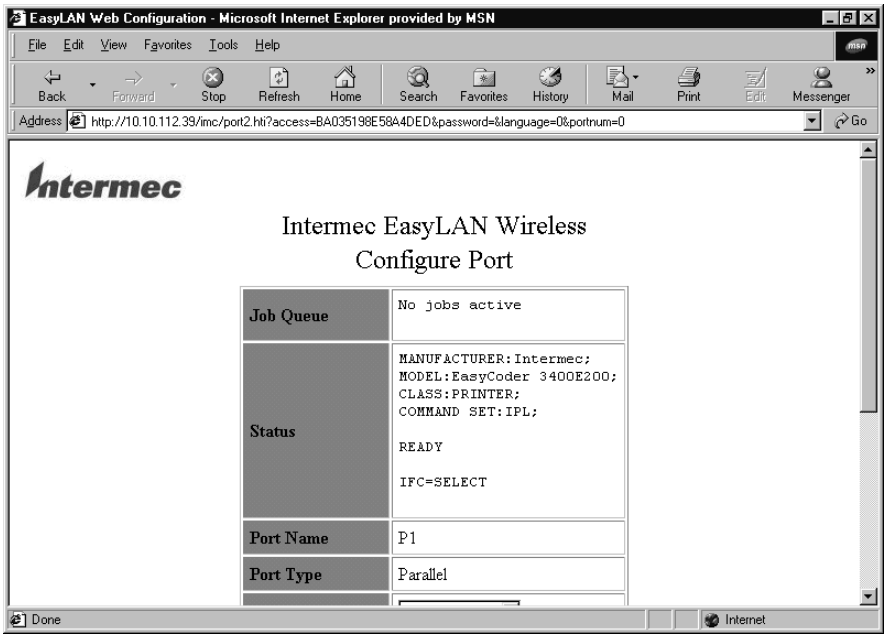
2. Read the first three rows to find out what jobs are in the port, the status of the port, and the port name.
3. Configure the parameters. For information on the parameters, see "Serial Port Parameters Defined" in the next section.
4. Click Submit. A page appears letting you know that your changes were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

Serial Port Parameters Defined

Parameter	Definition	Values
Port type	Select Console to send console commands to EasyLAN Wireless through the serial port, or select Print Server to print to EasyLAN Wireless.	Console, Print Server Default = Console
Baud rate	Select the speed at which the port can transmit data. The baud rate is the number of events that occur in 1 second.	300, 1200, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230400 Default = 9600
Bits per character	Select how many bits define a character.	7, 8 Default = 7
Stop bits	Select the bit that signals the end of the character.	1, 2 Default = 1
Parity	Select how the port checks the equivalence of transmitted data.	None, Odd, Even, Mark, Space Default = None
Flow control	Select the series of signals acknowledging that communication can take place.	None, XON/XOFF, RTS/CTS Default = XON/XOFF

Configuring the Parallel Port

1. Open the Configure Port page, and click P1. The following page appears.



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" in the next 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 = checked

Parallel Port Parameters Defined (continued)

Parameter	Definition	Values
Software I/O	Enable or disable input/output communication.	Checked, not checked Default = not checked
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

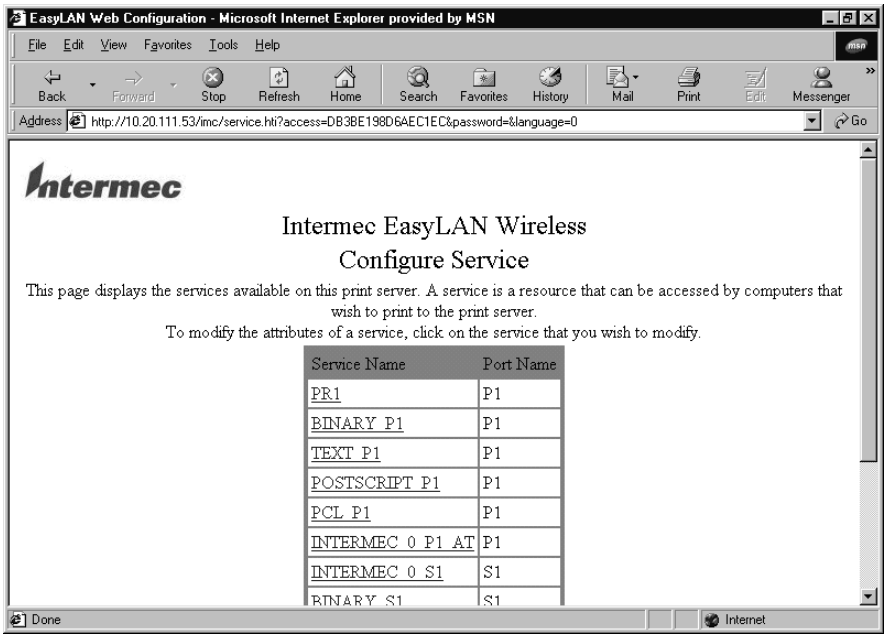
Configuring the Port Services

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.

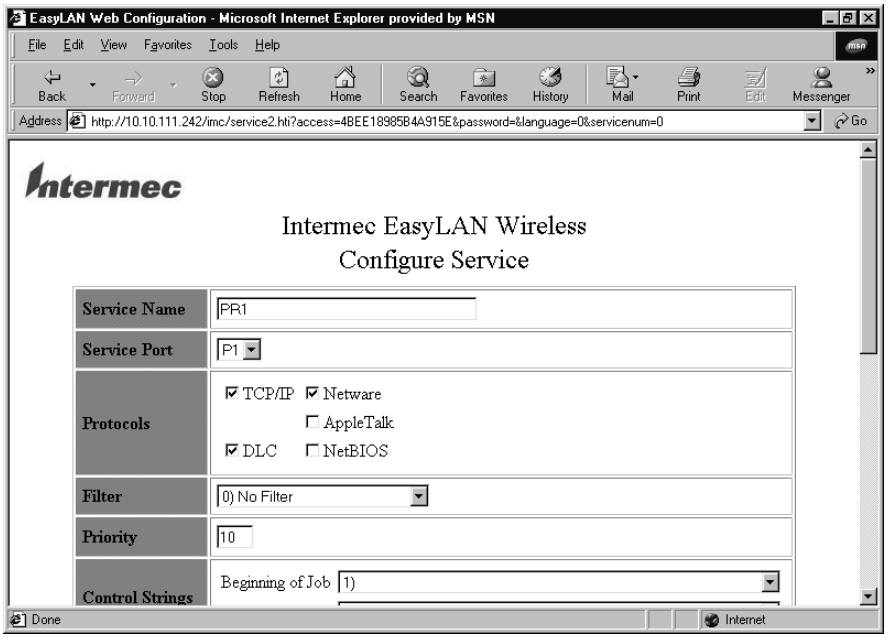
If you clicked on a service name in a network parameter page, such as Configure NetWare, go to Step 3.

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" in the next 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, S1 Default = P1
Protocols	Choose the protocols the service uses to communicate.	TCP/IP, NetWare, DLC, NetBIOS Default = TCP/IP, NetWare, DLC

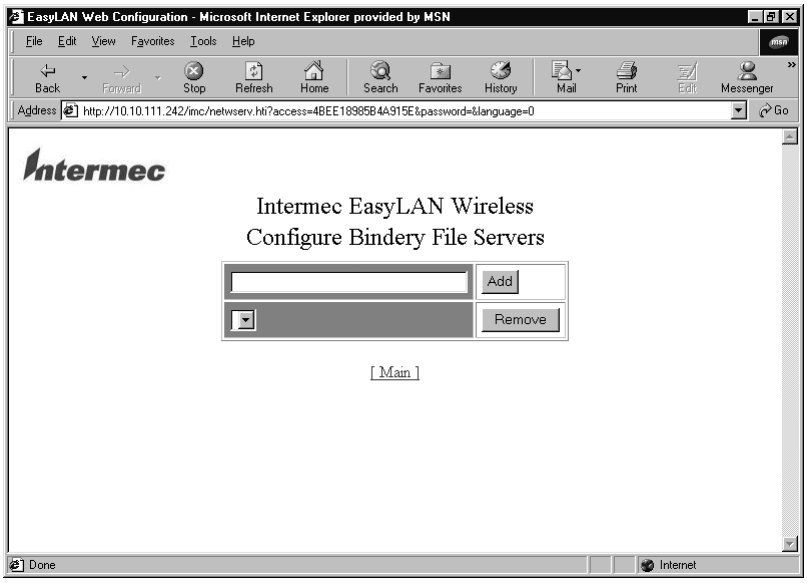
Port Services Parameters Defined (continued)

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 EasyLAN Wireless 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 EasyLAN Wireless for NetWare Directory Services, check the Queue Server radio button and enter an NDS tree name and context for EasyLAN Wireless. 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 EasyLAN Wireless 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
Printer 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 Wireless to queue jobs sent to the raw TCP port. If not configured, the EasyLAN Wireless rejects jobs if EasyLAN Wireless is currently busy with another job.	Checked, not checked Default = checked

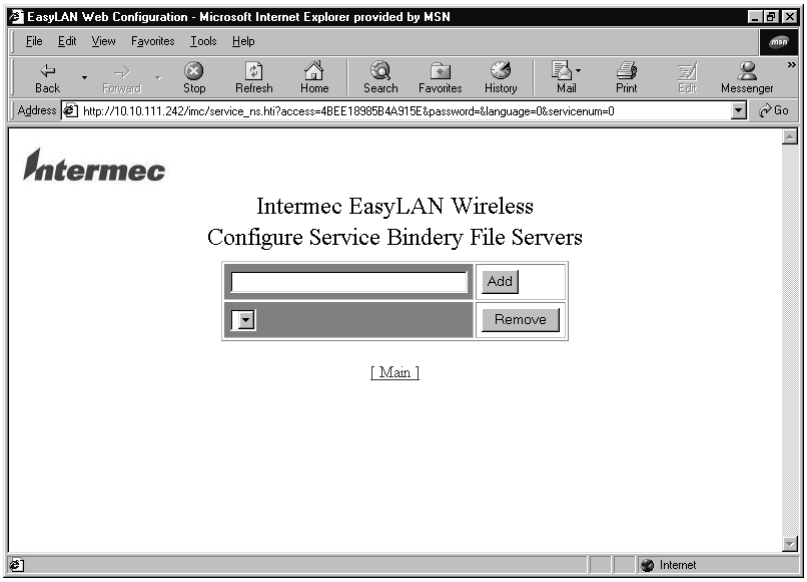
To configure bindery file servers and service bindery file servers

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 Wireless 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 Ports" 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 Wireless 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.

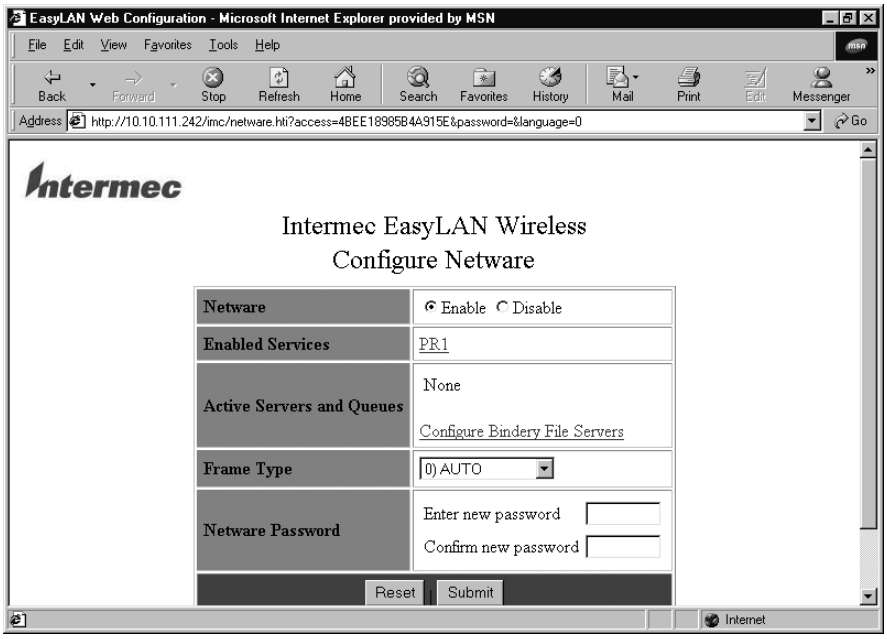
Configuring the NetWare Parameters

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” in the next 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 communications	Enable or disable NetWare communications.	Enable, Disable Default = Enable
Port services	Configure the services on the port you are using. For help, see "Configuring the Port Services" earlier in this chapter.	
Bindery file servers or service 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 Wireless 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

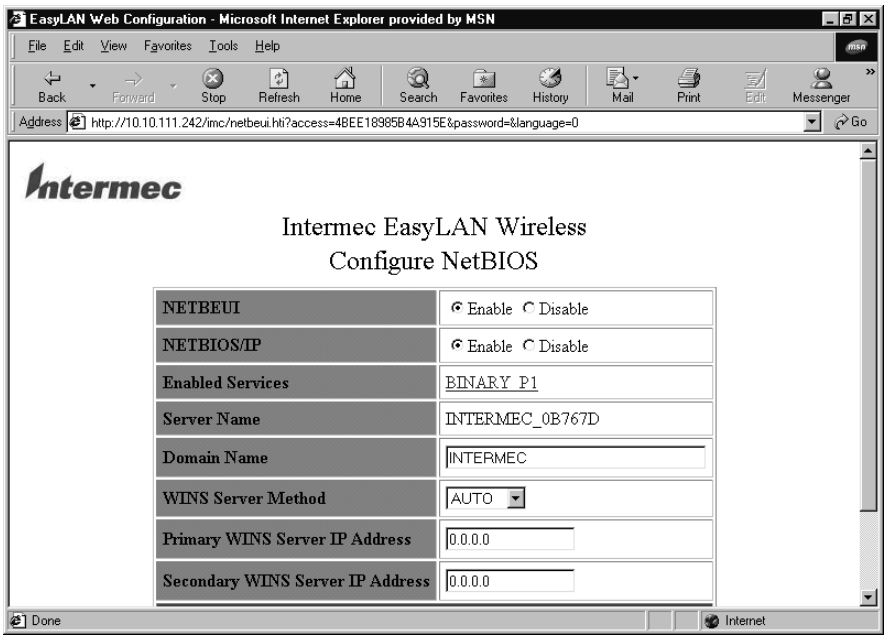
1. Start the NWAdmin utility and make sure you are in the right context. (If not, select NDS Browser from the Tools menu and then browse for the desired context.)
2. Select the container where you want the print queue to reside.
3. From the Tools menu, select Print Services Quick Setup.
4. Browse for 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_S1).
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" in the next 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 Wireless 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 communication	Enable or disable communication over the Internet protocol.	Enable, Disable Default = enable
Port 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

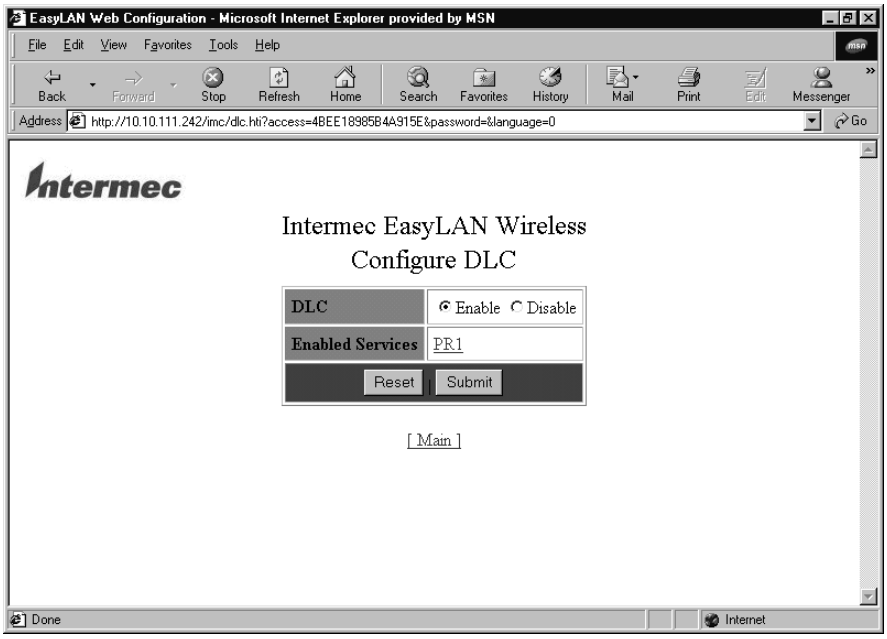
Configuring the DLC Parameters

If you do not want to use the default settings, use the Web browser interface to configure the data link control (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 Wireless 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 Wireless without the need for any special software on the host computer.

Note: Before you configure a UNIX print queue, the EasyLAN Wireless 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 Wireless. 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 Wireless 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 Wireless test label for the exact name of this service), and enter the name of the EasyLAN Wireless 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=IMC:\
       :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 Wireless 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 Wireless with Sun Solaris, first use the Host Manager in the Admintool utility to add the EasyLAN Wireless IP address and name to the /etc/hosts file.

To use the Host Manager to add the EasyLAN Wireless 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 Wireless 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 Wireless (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 Wireless 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 -dLabelPrinter 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 Wireless 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 Wireless.
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 Wireless as the Remote System Name.
8. Enter the desired EasyLAN Wireless 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 Wireless 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 Wireless 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 Wireless IP address; or if you have configured the /etc/hosts file, use the name of the EasyLAN Wireless 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 Wireless as a JetDirect card using AIX. To do this, refer to your AIX documentation

Configuring for Other Systems

You can use the EasyLAN Wireless with any computer system that supports either the lpr/lpd protocol or the HP JetDirect card (the EasyLAN Wireless parallel port is port 9100 while the serial port is port 9101). Refer to your system's documentation for information on configuring lpr/lpd or JetDirect print queues.

Configuring Multiple EasyLAN Wireless

Using the EasyLAN Wireless Admin utility, you can configure the TCP/IP and radio parameters for multiple EasyLAN Wireless at one time.

Before you use the EasyLAN Wireless Admin utility to find and configure EasyLAN Wireless, make sure you understand the following guidelines:

- If you are using WEP encryption on your wireless network and did not use the console commands to set WEP on EasyLAN Wireless, temporarily disable WEP on your PC in order to configure EasyLAN Wireless using the EasyLAN Wireless Admin utility. If you are using an access point with WEP enabled and it does not allow non-WEP clients to communicate with other non-WEP clients, then you also need to temporarily change the wireless mode of your PC to ad-hoc.

  For help setting WEP on EasyLAN Wireless using console commands, see "Setting Radio and Network Communications" in Chapter 1.

Note: If no PCs on your network can be set to Ad-hoc mode, you need to temporarily disable WEP on your access point. When you are done configuring EasyLAN Wireless, you can re-enable WEP on your access point and change the wireless mode back if necessary.

- If you are using a home gateway or router, configure EasyLAN Wireless from a PC on the same network segment that you want EasyLAN Wireless to be on.

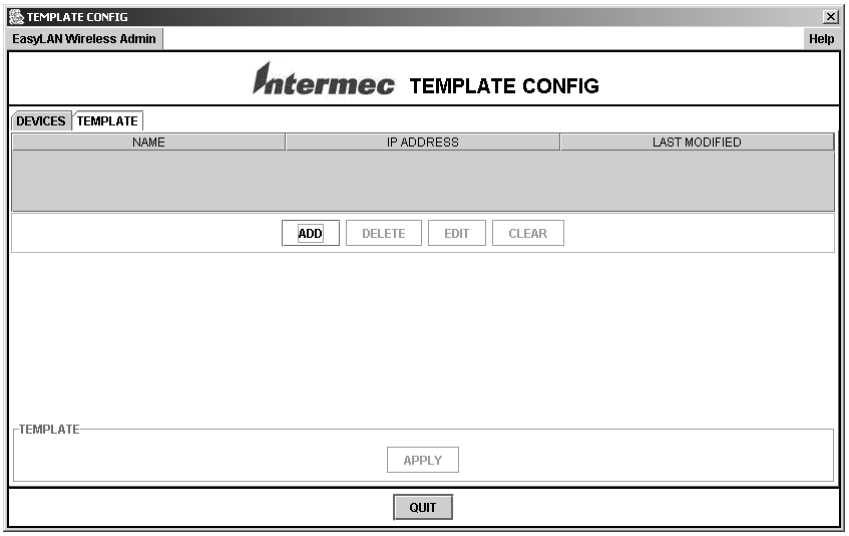
To configure multiple EasyLAN Wireless

1. Create a template.
2. Apply the template to EasyLAN Wireless.

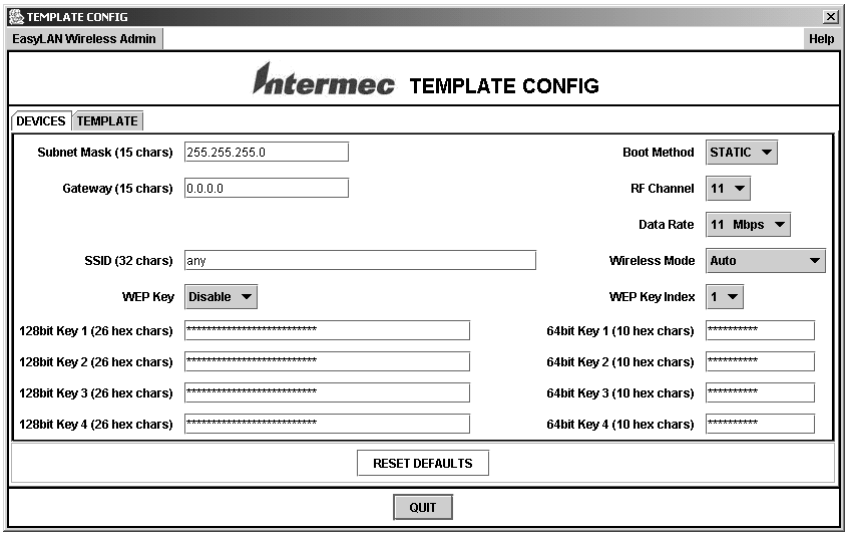
The following procedures explain how to create and apply a template.

To create a template

1. Open the EasyLAN Wireless Admin utility and search for the EasyLAN Wireless on your network. For help, see “Opening the EasyLAN Wireless Admin Utility” and “Searching for EasyLAN Wireless” earlier in this chapter.
2. Click EasyLAN Wireless Admin, and select Template Config. The Template Config dialog box appears.



3. Click the Template tab. The following tab appears.

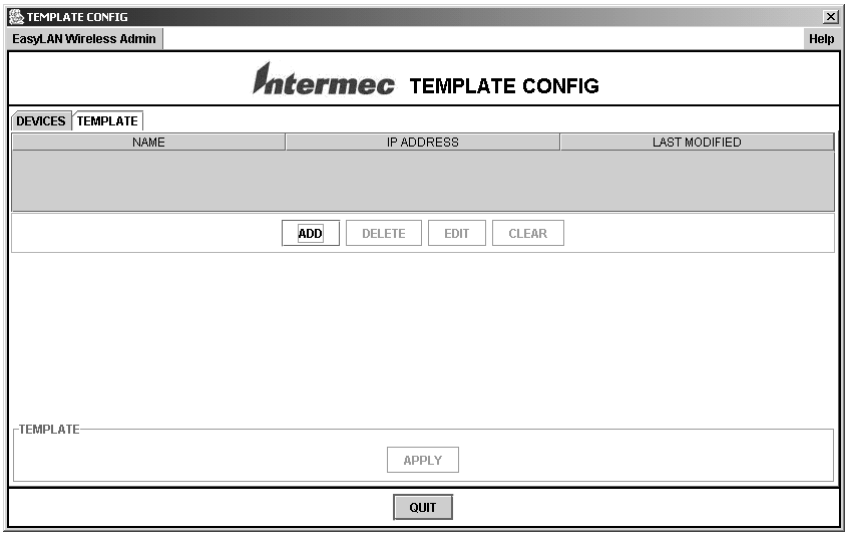


4. Configure the parameters. For information on the parameters, see “TCP/IP Parameters Defined” and “Radio Parameters Defined” earlier in this chapter.

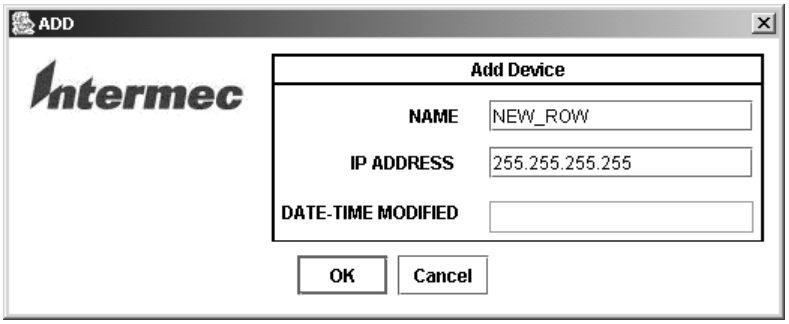
5. Click the Device tab to apply the template to EasyLAN Wireless. For help, see the next procedure.

To apply the template to EasyLAN Wireless

1. Create a template. For help, see the previous procedure.
2. In the Template Config dialog box, click the Devices tab.

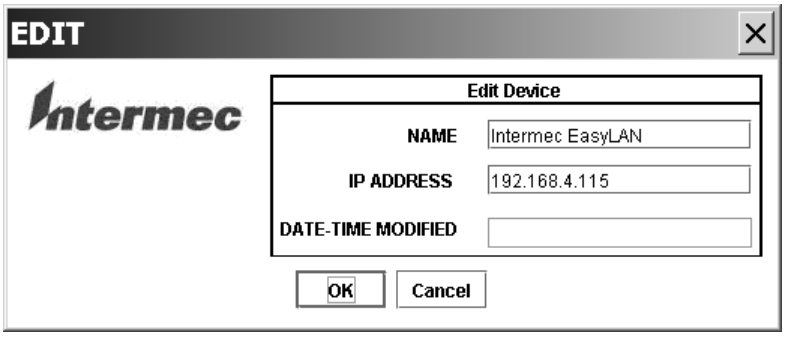


3. To add a device to the list, click Add. The Add dialog box appears.



To change an EasyLAN Wireless's name or IP address, select the EasyLAN Wireless and click Edit. The Edit dialog box appears.

Edit Dialog Box



4. In the Name field, enter the name of the EasyLAN Wireless.
5. In the IP Address field, enter the IP address for the EasyLAN Wireless in the form *n.n.n.n* where *n* is a number from 0 to 255.
6. In the Date-Time Modified field, enter the date and time that you applied the template to this EasyLAN Wireless.
7. Click OK to accept your changes and return to the Devices tab. Or click Cancel to reject your changes and return to the Device tab.
8. To delete an EasyLAN Wireless, select the EasyLAN Wireless and click Delete.
9. To clear all of the EasyLAN Wireless from the list, click Clear.
10. Select the device that you want to apply the template to and click Apply.
11. Click Quit. The Wireless Device Search dialog box appears.

3

Managing EasyLAN Wireless

This chapter explains how to manage EasyLAN Wireless using the Web browser interface and EasyLAN Wireless Admin utility.

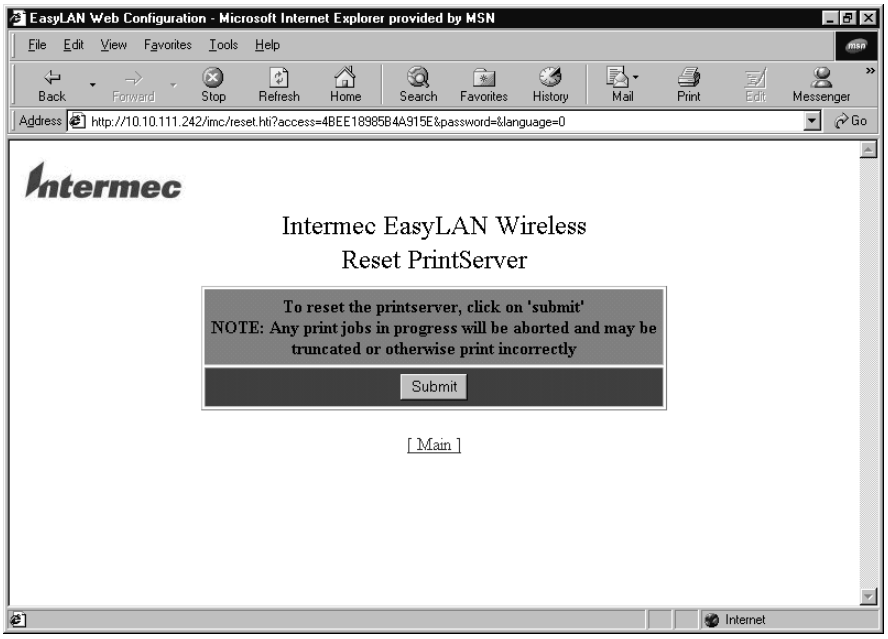
Rebooting EasyLAN Wireless

Use either the Web browser interface or the EasyLAN Wireless Admin utility to reboot EasyLAN Wireless.

Note: Only EasyLAN Wireless reboots, not the entire printer.

Using the Web Browser Interface

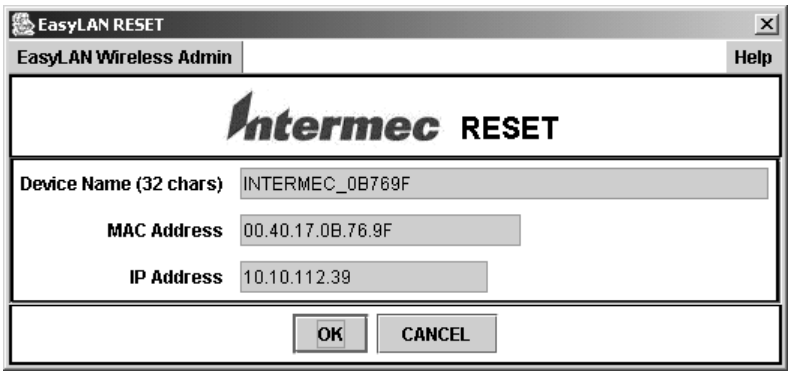
1. From the Configuration and Management page, click Reset the Server. The Reset PrintServer page appears. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" in Chapter 2.



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

Using the EasyLAN Wireless Admin Utility

1. Open the EasyLAN Wireless Admin utility and search for EasyLAN Wireless on your network. For help, see "Opening the EasyLAN Wireless Admin Utility" and "Searching for EasyLAN Wireless" in Chapter 2.
2. Select an EasyLAN Wireless, open the EasyLAN Wireless Admin menu, and select Reset. The Reset dialog box appears.



3. In the Device Name field, enter the name of the EasyLAN Wireless that you want to reboot.
4. In the MAC Address field, enter the MAC address of the EasyLAN Wireless that you want to reboot.
5. In the IP Address field, enter the IP address of the EasyLAN Wireless that you want to reboot.
6. Enter the password for the EasyLAN Wireless. The default password is intermec.
7. Click OK. A message box appears telling you that the EasyLAN Wireless is rebooting. When the EasyLAN Wireless has finished rebooting, the Wireless Device Search dialog box appears.

Setting EasyLAN Wireless to Factory Defaults

Use the test switch, the Web browser interface, or the EasyLAN Wireless Admin utility to set EasyLAN Wireless to factory defaults.

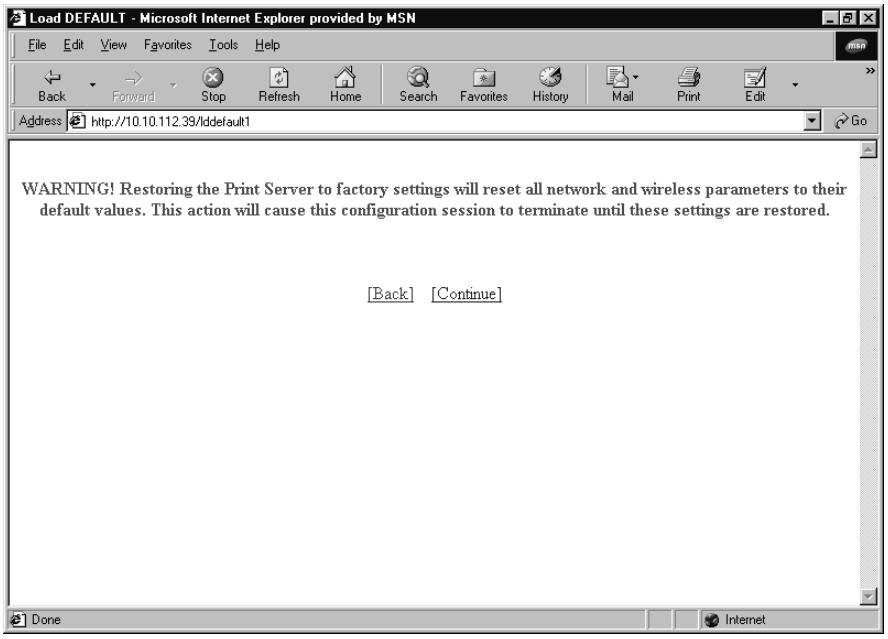
Note: Only EasyLAN Wireless is set to factory defaults, not the entire printer.

Using the Test Switch

- Press and hold the test switch for more than 5 seconds.

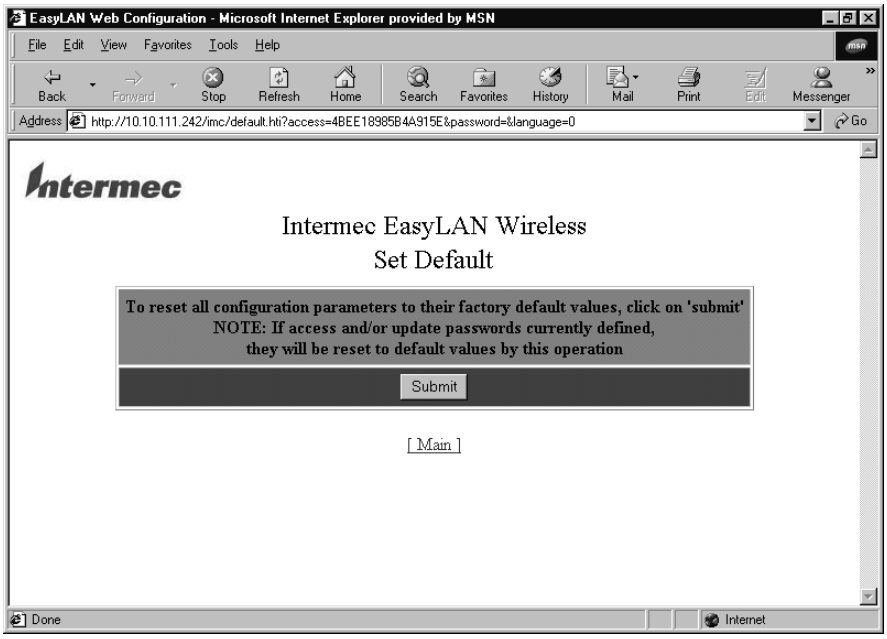
Using the Web Browser Interface

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 EasyLAN Wireless is set to factory defaults.

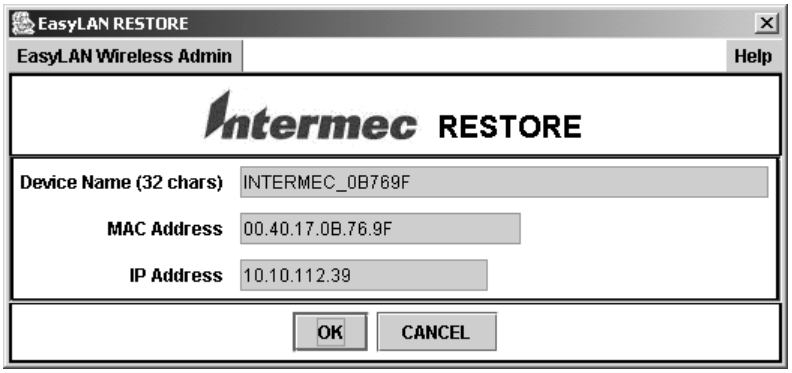
Note: The access and update passwords have been set to the factory default of intermec.

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

Using the EasyLAN Wireless Admin Utility

Note: The password for EasyLAN Wireless is set to intermec when EasyLAN Wireless is set to factory defaults.

1. Open the EasyLAN Wireless Admin utility and search for EasyLAN Wireless on your network. For help, see "Opening the EasyLAN Wireless Admin Utility" and "Searching for EasyLAN Wireless" in Chapter 2.
2. Select an EasyLAN Wireless, open the EasyLAN Wireless Admin menu, and select Restore. The Restore dialog box appears.



3. In the Device Name field, enter the name of the EasyLAN Wireless that you want to set to factory defaults.
4. In the MAC Address field, enter the MAC address of the EasyLAN Wireless that you want to set to factory defaults.
5. In the IP Address field, enter the IP address of the EasyLAN Wireless that you want to set to factory defaults.
6. Enter the password for the EasyLAN Wireless, and click OK. A message box appears telling you that EasyLAN Wireless is being set to factory defaults. When EasyLAN Wireless is set to factory defaults, the Wireless Device Search dialog box appears.

Printing a Test Label

Use the Web browser interface, the EasyLAN Wireless Admin utility, or the test switch to print a test label. This section explains how to use the Web browser interface and the EasyLAN Wireless Admin utility. For help using the test switch, see "Starting and Printing a Test Label" in Chapter 1.

Using the Web Browser Interface

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

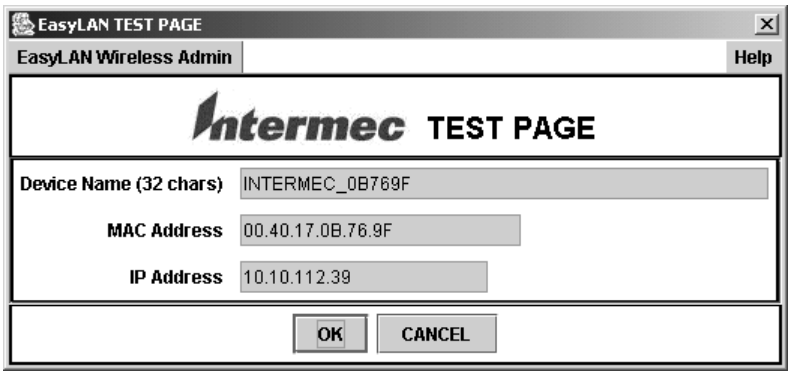
1. From the Configuration and Management page, click Print Test Label. For help opening the Configuration and Management page, see "Opening the Web Browser Interface" in Chapter 2.

   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.

Using the EasyLAN Wireless Admin Utility

1. Open the EasyLAN Wireless Admin utility and search for EasyLAN Wireless on your network. For help, see "Opening the EasyLAN Wireless Admin Utility" and "Searching for EasyLAN Wireless" in Chapter 2.
2. Select an EasyLAN Wireless, open the EasyLAN Wireless Admin menu, and select Test Page. The Test Page dialog box appears.



3. In the Device Name field, enter the name of the EasyLAN Wireless that you want to print a test label.
4. In the MAC Address field, enter the MAC address of the EasyLAN Wireless that you want to print a test label.
5. In the IP Address field, enter the IP address of the EasyLAN Wireless that you want to print a test label.
6. Enter the password for the EasyLAN Wireless and click OK. A message box appears telling you that the test label has been printed.
7. Click OK. The Wireless Device Search dialog box appears.

Reloading Firmware

You can load firmware on EasyLAN Wireless using TFTP on Windows NT/2000/XP, console commands and terminal emulation, 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 Wireless

  pathname is the path and file name for the firmware

  password is the password for EasyLAN Wireless (default password is intermec)

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

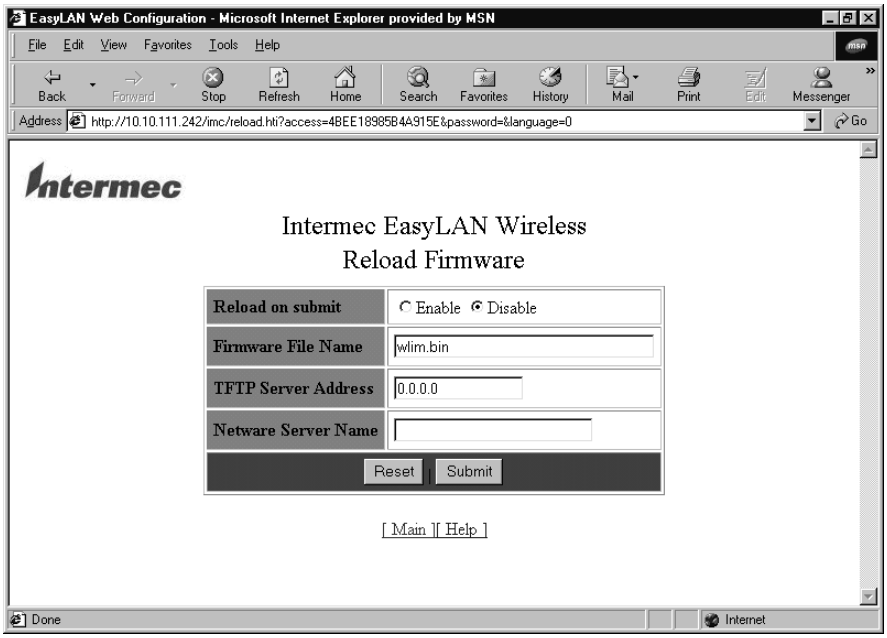
Using Console Commands and Terminal Emulation

1. On your PC, open a HyperTerminal session, and press **Enter** to get the `Local>` prompt.
2. Type `set load enable` and press **Enter**.
3. Type `exit` and press **Enter**.
4. After EasyLAN Wireless reboots, press **Enter** to get the `Boot>` prompt.
5. Type `set load xmodem` and press **Enter**.
6. From the Transfer menu, select Send File. The Send File dialog box appears.
7. Click Browser to browse to and select the firmware.
8. Under Protocol, select Xmodem.
9. Click Send.
10. When the `Boot>` prompt returns, reboot EasyLAN Wireless. For help, see "Rebooting EasyLAN Wireless" earlier in this chapter.
11. When EasyLAN Wireless is finished rebooting, press **Enter** to get the `Local>` prompt.
12. Type `set OEM IMC` and press **Enter**.
13. Type `set default` and press **Enter**.
14. Type `ini` and press **Enter**.
15. Type `exit` and press **Enter**. Your EasyLAN Wireless is now ready to communicate or configure.

Using the Web Browser Interface

Note: Before you can load the firmware onto EasyLAN Wireless, 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.



2. In the Reload on submit row, choose Enable to reload the firmware when you click submit. If you choose Disable, the firmware is reloaded when you reboot EasyLAN Wireless. For help, see "Rebooting EasyLAN Wireless" earlier in this chapter.
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.

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 EasyLAN Wireless, and a message page appears letting you know the reload was successful.

   If you disabled reload on submit, a message page appears letting you know that the firmware is ready to load.

6. Click OK to return to the Configuration and Management page. If you need to reboot EasyLAN Wireless, see "Rebooting EasyLAN Wireless" earlier in this chapter.

Viewing Ethernet Statistics

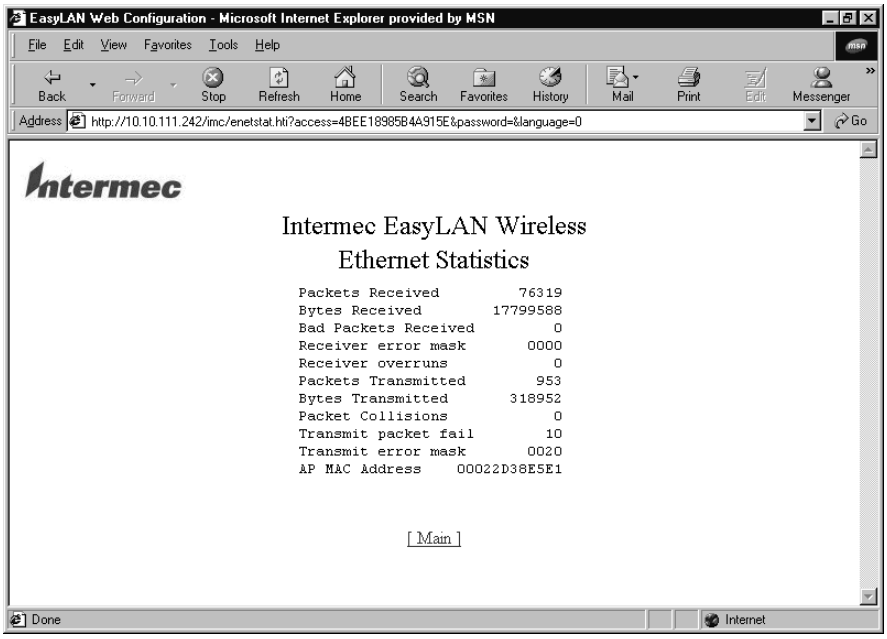
The Ethernet Statistics page provides the following information:

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

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.

Ethernet Statistics Page



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

Other EasyLAN Wireless Admin Utility Functions

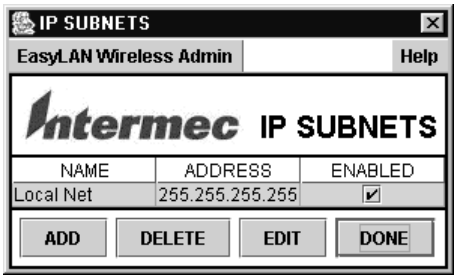
You can also use the EasyLAN Wireless Admin tool to

- configure IP subnets.
- add servers.
- load files.
- save files.

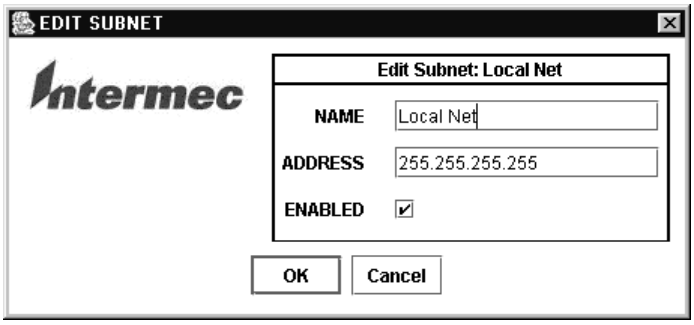
Configuring IP Subnets

1. Open the EasyLAN Wireless Admin utility and search for EasyLAN Wireless on your network. For help, see "Searching for EasyLAN Wireless" in Chapter 2.
2. Open the EasyLAN Wireless Admin menu and select IP Subnet. The IP Subnets dialog box appears.

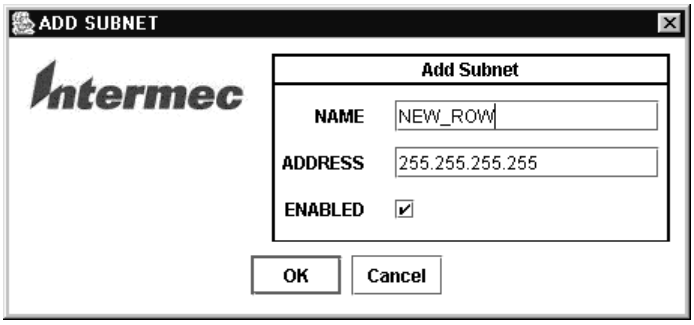
IP Subnets Dialog Box



3. To change a subnet, select the subnet and click Edit. The Edit Subnet dialog box appears.



To add a subnet, click Add. The Add Subnet dialog box appears.



4. In the Name field, enter the name of the subnet.
5. In the Address field, enter the IP address of the subnet in the form *n.n.n.n* where *n* is from 0 to 255.
6. Check or clear the Enabled check box.

7. Click OK to accept your changes and return to the IP Subnet dialog box. Or click Cancel to reject your changes and return to the IP Subnet dialog box.
8. To delete a subnet, select the subnet and click Delete. The subnet disappears from the IP Subnet dialog box.
9. To print a list of subnets, click Print, select the print options you want, and click OK.
10. When you have finished configuring the subnets, click Done. The Wireless Device Search dialog box appears.

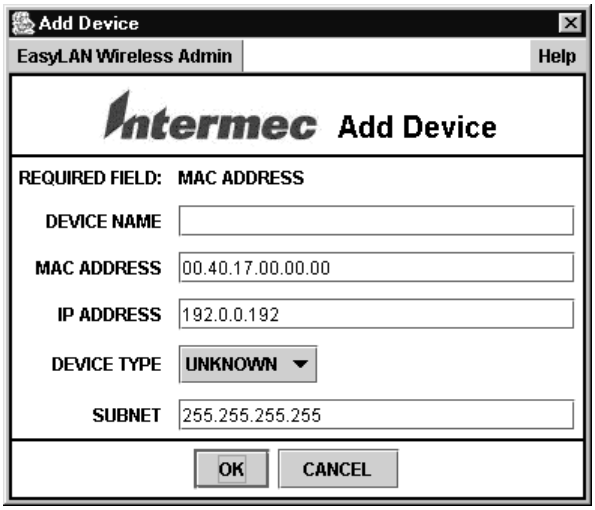
Adding EasyLAN Wireless

If you know you will be bringing an EasyLAN Wireless online, you may want to add it to the EasyLAN Wireless Admin utility to help the utility find it when it comes online. You need the following information to add EasyLAN Wireless:

- The name of the EasyLAN Wireless. The default name is INTERMEC_*nnnnnn* where *nnnnnn* is the last six digits of the MAC address.
- The MAC address of the EasyLAN Wireless.
- The IP address of the EasyLAN Wireless.
- The subnet that the EasyLAN Wireless communicates in.

To add EasyLAN Wireless

1. Open the EasyLAN Wireless Admin utility.
2. Open the EasyLAN Wireless menu and select Add. The Add Device dialog box appears.



3. In the Device Name field, enter the name of the EasyLAN Wireless.
4. In the MAC Address field, enter the MAC address of the EasyLAN Wireless in the form of six hexadecimal values separated by periods.
5. In the IP Address field, enter the IP address of the EasyLAN Wireless in the form *n.n.n.n* where *n* is from 0 to 255.
6. From the Device Type drop-down list, select the type of device.
7. In the Subnet field, enter the subnet that the EasyLAN Wireless communicates in.
8. Click OK to accept your changes and return to the Wireless Device Search dialog box. The EasyLAN Wireless information appears in the Wireless Device Search dialog box.

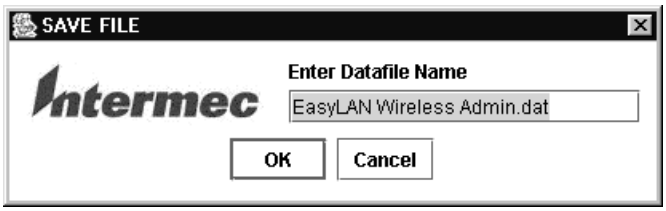
   Click Cancel to reject your changes, not add a server, and return to the Wireless Device Search dialog box.

Saving Files

The Admin.dat file contains the information that appears in the Wireless Device Search dialog box for every EasyLAN Wireless that you find. If you want to keep a separate record of this information, save the Admin.dat file under a new name.

To save files

1. Open the EasyLAN Wireless Admin utility.
2. Open the EasyLAN Wireless Admin menu and select Save. The Save File dialog box appears.



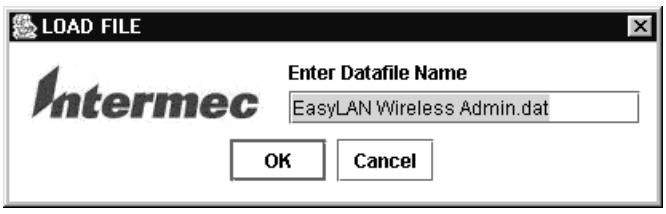
3. Enter the path and name for the file you want to save and click OK. When the file is finished saving, the Wireless Device Search dialog box appears.

Loading Files

If you have saved an Admin.dat file, you can load that file to help you find the EasyLAN Wireless listed in that file.

To load files

1. Open the EasyLAN Wireless Admin utility.
2. Open the EasyLAN Wireless Admin menu and select Load. The Load File dialog box appears.



3. Enter the path and name for the file you want to load and click OK. When the file is finished loading, the Wireless Device Search dialog box appears.

4

Troubleshooting EasyLAN Wireless

This chapter describes how to troubleshoot EasyLAN Wireless.

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 EasyLAN Wireless by pushing the test switch 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 EasyLAN Wireless. Set up the printer as you normally would and try printing from an application.

If the test label does not print, try resetting EasyLAN Wireless to factory defaults by holding the test switch for more than 5 seconds.

Troubleshooting Wireless Configuration Problems

Check the following things:

Having Problems With	Check These Things
Network configuration	Make sure your computer's wireless adapter or access point is configured properly and note the settings paying special attention to the wireless mode, SSID or network name, WEP or security, and IP address settings so you can configure your EasyLAN Wireless to the same wireless settings.
Wireless signal	Make sure you have a good wireless signal from your PC and from EasyLAN Wireless. Make sure that EasyLAN Wireless is within range (90 meters or 300 feet), and that it is away from metal objects and other devices with radio signals (such as Bluetooth radios, cordless phones, and microwave ovens).
Wireless mode	Make sure your computer is set to Infrastructure mode if you are connecting through an access point or Ad-hoc (802.11) mode if you are connecting to EasyLAN Wireless without an access point. See the documentation for your wireless adapter for details. If you are using WEP (Wired Equivalent Privacy) encryption or security on your wireless network, you need to temporarily disable WEP on your PC in order to configure EasyLAN Wireless. If you are using an access point with WEP enabled and it does not allow non-WEP clients to communicate with other non-WEP clients, then you need to temporarily change the wireless mode of your computer to Ad-hoc (802.11) mode. If no computers on your network can be set to Ad-hoc mode, you need to temporarily disable WEP on your access point. When you are done configuring EasyLAN Wireless, you can re-enable WEP on your computer and change the wireless mode back if necessary.

Troubleshooting Wireless Configuration Problems (continued)

Having Problems With	Check These Things
Security	If you want to use WEP encryption or password protect your wireless network, and your wireless adapter or access point normally uses a password or passphrase instead of WEP, it should allow you to enter 0x followed by a 10 digit (for 64-bit WEP) or 26 digit (for 128-bit WEP) key in hexadecimal format (0 to 9 or A to F).
RF channel	If you are experiencing slow performance or are having intermittent problems connecting, try changing the RF channel of your wireless network. For help configuring the RF channel using the Web browser interface or the EasyLAN Wireless Admin utility, see Chapter 2, "Configuring EasyLAN Wireless." For help changing the RF channel on your wireless adapter or access point, see the documentation for those products. You should change it to at least three channels lower or higher than any other wireless networks within range.

Troubleshooting Network Configuration Problems

If you are using TCP/IP, make sure that your computer and EasyLAN Wireless are on the same IP segment or can reach each other with a PING command from the host. The IP address you assign to EasyLAN Wireless 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 Wireless 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 EasyLAN Wireless.

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

A

Console Commands

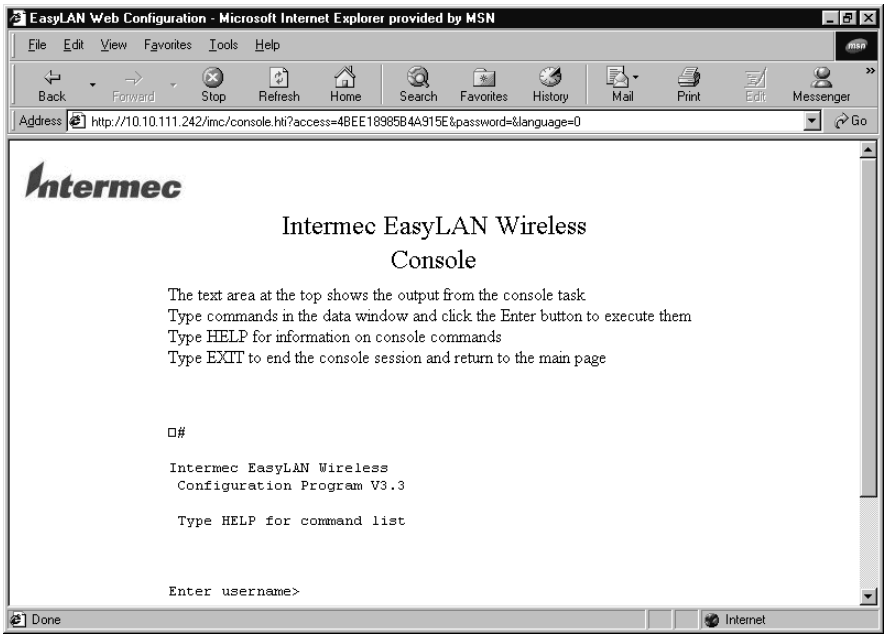
This appendix explains how to send the console commands and lists the commands.

Sending the Console Commands

Use either HyperTerminal or the Web browser interface to send the console commands to EasyLAN Wireless. The following procedure explains how to use the Web browser interface. For help using HyperTerminal, see the documentation for HyperTerminal.

To send the console commands

1. Make sure port S1 is set to Console mode:
   a. 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" in Chapter 2.
   b. In the Mode row, select Console.
   c. Click Submit.
   d. Return to the Configuration and Management page.
2. From the Configuration and Management page, click Access the Console to Send Commands. The Console page appears.



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

4. 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 Wireless.

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 Wireless internal queue for the parallel port.
`exit/^d`	Exits EasyLAN Wireless console.
`he`	Provides information on available commands
`in`	Resets EasyLAN Wireless.
`set default`	Sets the EasyLAN Wireless parameters to factory defaults.
`set port s1 co dis`	Disables Console mode on port S1.
`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.
`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.

General Commands (continued)

Command	Description
`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 Wireless 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.
`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 po p1 sta`	Shows the current port status.

General Commands (continued)

Command	Description
`sh serve co`	Shows the EasyLAN Wireless statistics.
`sh servi`	Shows the service parameters.
`sh te`	Prints the test label.
`sh ve`	Shows the EasyLAN Wireless 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 EasyLAN Wireless. 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 Wireless. 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 Wireless will not look for a DHCP address.
`set ip ra` *`nn`*	Sets the procedure used by EasyLAN Wireless 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.

TCP/IP Commands (continued)

Command	Description
`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 specified EasyLAN Wireless. 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.
`sh ip`	Shows LPD/TCP/Telnet parameters.
`sh ip ac`	Shows IP addresses that are allowed to access EasyLAN Wireless.

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 EasyLAN Wireless access list. Where *server* is the NetWare file server.
`set netw ad n`	Sets the advertising frequency of EasyLAN Wireless. Where *n* is the advertising frequency.
`set netw status`	Enables or disables the NetWare protocol on the EasyLAN Wireless. Where *status* equals `en` for enabled or `dis` for disabled.
`set netw fr type`	Sets the NetWare frame type. Where *type* equals `802.2`, `802.3`, `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`	Set 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 Wireless 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.

NetWare Commands (continued)

Command	Description
`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.
`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.

Radio Commands

Use these console commands to configure and manage radio parameters.

Command	Description
`set en mo` *mode*	Sets the 802.11b wireless mode. Where *mode* equals `in` for infrastructure, `ad` for ad-hoc, or `ps` for pseudo ad-hoc.
`set en ssid` *mynetwork*	Sets the 802.11b wireless SSID, sometimes referred to as network name. Use double-quotes if you are using a space character in the SSID. Where *mynetwork* is the SSID.
`set en wep` *encryption*	Sets the wired equivalent privacy encryption level. Where *encryption* equals `dis` for disabled, `64` for 64-bit encryption, or `128` for 128-bit encryption.
`set en key#` *number*	Sets which WEP key number is to be used. Where *number* is a value from 1 to 4. The default value is 1.
`set en keyval` *wepkey*	Sets the 10-digit (for 64-bit encryption) or 26-digit (for 128-bit encryption) WEP key value. This key must be hexadecimal values. Where *wepkey* is a 10- or 26-digit hexadecimal value.
`set en ch` *nn*	Sets the 802.11b wireless channel to be used. Where *nn* is the wireless channel.

Radio Commands (continued)

Command	Description
set en sp *speed*	Sets the 802.11b wireless speed in Mbps. Where *speed* equals `1`, `2`, `5` for 5.5, or `11`.
set enet bssid *macaddress*	Overrides any SSID setting and connects only to the specified access point. EasyLAN Wireless will not roam to other access points when set. Where *macaddress* is the MAC address of the access point you want to connect to.
del enet bssid	Sets EasyLAN Wireless to use the SSID settings and removes the specific access point setting from the previous command.
show enet bssid	Shows the MAC address for the access point that EasyLAN Wireless is set to communicate with.

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