Intermec

Quick Start Guide

EasyLAN™ Wireless

Contents

EasyLAN Wireless Quick Start Guide

Getting Started

The Intermec EasyLAN™ Wireless Model AW02 is an IEEE 802.11b radio option that can be installed in the EasyCoder® 3400e, 4420, and 4440 printers.

The EasyLAN Wireless Model AW02 with an IEEE 802.11b radio installed is Wi-Fi® certified for interoperability with other 802.11b wireless LAN devices.

In an ad-hoc network, a printer with EasyLAN Wireless communicates wirelessly with a PC that contains an 802.11b/g radio. In an infrastructure network, a printer with EasyLAN Wireless communicates with other wired and wireless devices via an access point with an 802.11b/g radio.

Ad-hoc Network

Laptop computer with 802.11b radio

EasyLAN Wireless printer

Infrastructure Network

Laptop computer with 802.11b radio

EasyLAN Wireless printer

Access Point

Local Area Network
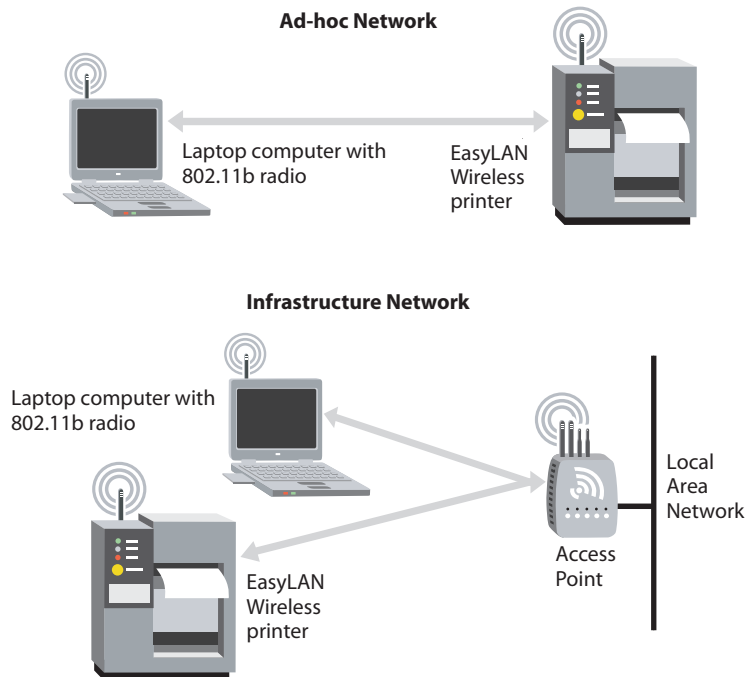
Network Illustration: This illustration shows EasyLAN Wireless printers in an ad-hoc network and an infrastructure network.

What's New in Firmware Version 4.35?

EasyLAN Wireless Model AW02 firmware version 4.35 provides these new features:

• The EasyLAN Wireless Model AW02 with an IEEE 802.11b radio installed is Wi-Fi certified for interoperability with other 802.11b wireless LAN devices. Because 802.11g radios are compatible with 802.11b radios, the EasyLAN Wireless can communicate with 802.11b/g devices. The connection must be established with negotiated 802.11b data rates only.

• You can now use the web browser interface and a remote TFTP server to reload or update your firmware. For help, see the *EasyLAN Wireless User's Manual* (P/N 074980).

• You can now set the Encryption Mode to Dynamic WEP, WPA2, or WPA2-WPA. For help, see the *EasyLAN Wireless User's Manual*.

• You can now set your Authentication Type to PEAP. For help, see the *EasyLAN Wireless User's Manual*.

Out of the Box

Your printer with EasyLAN Wireless comes with these items:

• PrinterCompanion CD, which includes:

  • *EasyLAN Wireless User's Manual* (P/N 074980)

  • EasyLAN Network Setup

  • Intermec Printer Network Manager (IPNM)

  • Intermec Print Monitor

• Printer quick start guide and safety supplement

• Antenna

• This *EasyLAN Wireless Quick Start Guide* (P/N 074981)

• *Important EasyLAN Wireless Information!* (P/N 074991)

System Requirements

EasyLAN Wireless can communicate with 802.11b/g devices, but the connection must be established with negotiated 802.11b data rates only.

To set up printing through EasyLAN Wireless, you need to know if you have an ad-hoc or infrastructure network:

• In an ad-hoc network, you need a PC with an 802.11b/g card or other 802.11b/g device that prints straight to the printer.

• In an infrastructure network, you need an installed 802.11b/g network that allows devices to print to the printer.

To use 802.1x security and TTLS, you need:

• an authentication server. You can use a PC with the Funk Odyssey™ RADIUS server software v1.1 or later. You can use an Intermec MobileLAN™ access point with software v1.80 or later; for help, see the access point system manual. Or, you can use a compatible authentication server.

• an authenticator that supports TTLS, such as an Intermec MobileLAN access point with an 802.11b/g radio and software v1.80 or later. The authenticator knows the IP address and secret key of the authentication server and translates TTLS frames to Remote Authentication Dial-In User Service (RADIUS) frames and vice versa.

• a printer with EasyLAN Wireless Model AW02 running firmware version 4.30 or later.

To use 802.1x security and LEAP, you need:

• an authentication server. You can use a PC with the Funk Odyssey RADIUS server software v1.1 or later. You can use an Intermec MobileLAN access point with software v1.80 or later; for help, see the access point system manual. You can use a Cisco 1230, 1231, or 1300 access point as a LEAP authentication server as well as the authenticator.

• an authenticator that supports LEAP, such as a Cisco 1200 series or Cisco 350 series access point with an 802.11b/g radio.

• a printer with EasyLAN Wireless Model AW02 running firmware version 4.30 or later.

To use 802.1x security and PEAP, you need:

- an authentication server. You can use a PC with the Funk Odyssey RADIUS server software v1.1 or later. Or, you can use a compatible authentication server.

- an authenticator that supports PEAP, such as an Intermec MobileLAN access point with an 802.11b/g radio. The authenticator knows the IP address and secret key of the authentication server and translates PEAP frames to Remote Authentication Dial-In User Service (RADIUS) frames and vice versa.

- a printer with EasyLAN Wireless Model AW02 running firmware version 4.32 or later.

To use WPA-Personal, you need:

- an access point that supports WPA-Personal (PSK). You can use an Intermec MobileLAN access point with software v1.80 or later. For help, see the access point system manual.

- a printer with EasyLAN Wireless Model AW02 running firmware version 4.30 or later.

To use WPA-Enterprise, you need:

- an authentication server. You can use a PC with the Funk Odyssey RADIUS server software v1.1 or later. You can use an Intermec MobileLAN™ access point with software v1.80 or later; for help, see the access point system manual. Or, you can use a compatible authentication server.

- an authenticator that supports both WPA and 802.1x, such as an Intermec MobileLAN access point with an 802.11b/g radio and software v1.80 or later. The authenticator knows the IP address and secret key of the authentication server and translates EAP frames to Remote Authentication Dial-In User Service (RADIUS) frames and vice versa.

- a printer with EasyLAN Wireless Model AW02 running firmware version 4.30 or later.

To use WPA2-Personal, you need:

- an access point that supports WPA2, such as a Cisco 1230, 1231, or 1300 access point. For help, see the access point system manual.

- a printer with EasyLAN Wireless Model AW02 running firmware version 4.32 or later.

To use WPA2-Enterprise, you need:

- an authentication server. You can use a PC with the Funk Odyssey RADIUS server software v1.1 or later. Or, you can use a compatible authentication server.

- an authenticator that supports both WPA2 and 802.1x, such as a Cisco 1230, 1231, or 1300 access point. For help, see the access point system manual. The authenticator knows the IP address and secret key of the authentication server and translates EAP frames to Remote Authentication Dial-In User Service (RADIUS) frames and vice versa.

- a printer with EasyLAN Wireless Model AW02 running firmware version 4.32 or later.

Identifying EasyLAN Wireless Components

Make sure you can identify the EasyLAN Wireless components on the back of your printer.
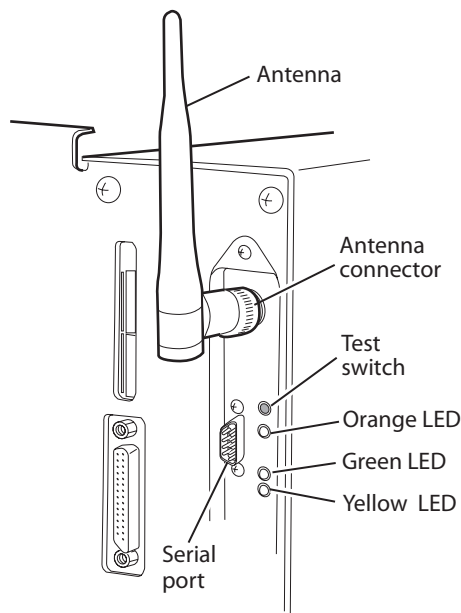
EasyLAN Wireless Components: *This illustration shows what EasyLAN Wireless looks like when it is installed in a 3400e printer.*

Identifying EasyLAN Wireless Components

Component	Description
Antenna connector	Attach the antenna to this connector.
Serial port (DB9)	Use this port only to configure EasyLAN Wireless with the EasyLAN Network Setup configuration wizard or the command console.
Test switch	Use this switch to print a test label or reset EasyLAN Wireless. For help, see "Printing Test Labels" on page 17.
LEDs	Three LEDs indicate status and diagnostic information, as described in the next table.

Understanding the EasyLAN Wireless LEDs

LED	Description		
Orange	Stays on when the printer is powered on. Blinks to indicate an error.		
Green and Yellow	Provides information for the power-up diagnostic and network activity:		
	Green	**Yellow**	**Indicates**
	Off	Off	Network not active
	Off	On	Reserved
	Off	Blink	Reserved
	On	Off	Reserved
	Blink	Off	Reserved
	On	On	Wireless network active
	Blink	Blink	Wireless network data received

Installing EasyLAN Wireless

When you first consider installing EasyLAN Wireless printers in your data collection network, you should arrange for a site survey. An Intermec representative 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 communication at any location within your building. This guide assumes that a site survey is complete and the wireless network is installed in your facility.

This guide also assumes that you have loaded media and ribbon into the printer and connected the printer to power. For help, see the printer quick start guide.

If you are simply using the printer with EasyLAN Wireless in an ad-hoc network, make sure that your PCs with 802.11b/g radios are configured.

Collecting Information

By default, EasyLAN Wireless is in Infrastructure mode with the SSID (network name) set to INTERMEC, DHCP is enabled, and security is disabled.

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

- What type of wireless network are you using: ad-hoc or infrastructure? For help, see the illustration on page 5.

- Will EasyLAN Wireless receive its TCP/IP address automatically? Should you choose AUTO, DHCP, BOOTP, or RARP?

- If you will manually enter the IP address, you also need to know the subnet mask and default router.

- What is the SSID (network name) of the access point your EasyLAN Wireless printer will communicate with?

- What type of security will EasyLAN Wireless use?

  - Static WEP encryption

  - 802.1x security with TTLS

  - 802.1x security with LEAP

  - 802.1x security with PEAP

  - WPA-Personal

  - WPA-Enterprise

  - WPA2-Personal

  - WPA2-Enterprise

  - None

Note: If you choose None, you disable security. Intermec recommends that you implement a security solution to protect your data and network.

- If EasyLAN Wireless will use static WEP encryption, you may need to know these parameters:
  - Encryption Mode (WEP 128-bit or WEP 64-bit)
  - Values for up to 4 WEP keys (entered in Hex values)
  - WEP key (1, 2, 3, or 4)
  - Authentication Type (Open System or Shared Key)
- If EasyLAN Wireless will use 802.1x security with TTLS or PEAP, you may need to know these parameters:
  - You do not need to ask about Encryption Mode because it will be automatically set to Dynamic WEP.
  - Inner authentication (PAP or MSCHAP_v2)
  - User name and password
  - Server common name 1 and server common name 2
  - Will you use the current certificate, reinstall the default, or specify the path and password for another certificate?
- If EasyLAN Wireless will use 802.1x security with LEAP, you may need to know these parameters:
  - You do not need to ask about Encryption Mode because it will be automatically set to Dynamic WEP.
  - Inner authentication (PAP or MSCHAP_v2)
  - User name and password
- If EasyLAN Wireless will use WPA-Personal or WPA2-Personal, you need to know the pre-shared key used by the access point.
- If EasyLAN Wireless will use WPA-Enterprise or WPA2-Enterprise, you may need to know these parameters:
  - Inner authentication (PAP or MSCHAP_v2)
  - User name and password
  - Server common name 1 and server common name 2
  - Will you use the current certificate, reinstall the default, or specify the path and password for another certificate?

Connecting EasyLAN Wireless to Your PC

To initially configure EasyLAN Wireless, you must connect its serial port to your PC's serial port.

The EasyLAN Wireless serial port uses PC-compatible 9-pin male D-connectors. You can order a 9-pin female to 9-pin female serial cable from Intermec (P/N 059167).

To connect EasyLAN Wireless to a serial port

• Plug one end of the serial cable into the serial port of EasyLAN Wireless and the other end into the serial port of your PC.

## Setting Network Communications and Security

This section explains how to initially configure your EasyLAN Wireless to communicate with your network using the EasyLAN Network Setup configuration wizard.

> **Note:** For help configuring EasyLAN Wireless using a UNIX workstation, see the *EasyLAN Wireless User's Manual*.

To set network communications and security

1 Install EasyLAN Network Setup on your PC from the PrinterCompanion CD that came with your printer.

2 On your PC, choose **Start** > **Programs** > **Intermec EasyLAN Network Setup**. The Introduction screen appears.
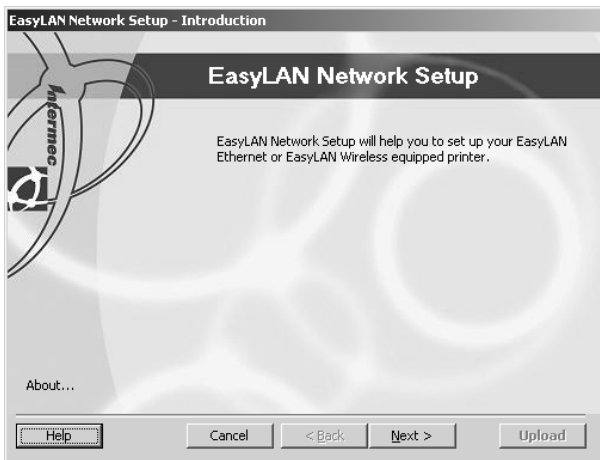
3 EasyLAN Network Setup is easy to use. Follow these guidelines:

- If you are prompted for a password, enter the current update password and click **Next**. The default is intermec in lowercase. To learn about the update password, see the *EasyLAN Wireless User's Manual.*

- At each screen, fill in the fields and click **Next** to continue.

- Click **Help** at any time to view the EasyLAN Network Setup online help.

- When you reach the Communications settings screen, you must set the serial communication parameters exactly as listed in the following table. (The EasyLAN Wireless console-only serial port requires these settings.)

Parameter	Required Value
Baud rate	115200
Data bits	8
Stop bits	1
Parity	None

4 After you click **Finish** to exit EasyLAN Network Setup, you can now attach the antenna to the EasyLAN Wireless. For help, see the next section, "Attaching the Antenna."

Attaching the Antenna

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

See the *EasyLAN Wireless User's Manual* for a list of antennas you can purchase.
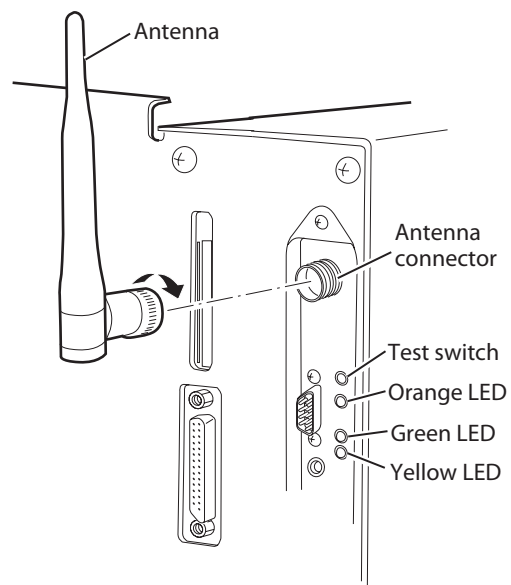
To attach the antenna

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

You can now start EasyLAN Wireless and print a test label. For help, see the next sections, "Starting EasyLAN Wireless" and "Printing Test Labels."

Starting EasyLAN Wireless

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

1 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 go out, and then the orange LED remains on.

  • If there is a problem, the orange LED blinks continuously in a regular pattern. Try unplugging the power to the printer and then plugging it in again. If the problem persists, contact your local Intermec representative.

2 When the EasyLAN Wireless successfully connects to another wireless device, the yellow and green LEDs remain on.

**3** When wireless network data is received, the yellow and green LEDs blink.

Printing Test Labels

The test label shows the current wireless and network settings. After you start EasyLAN Wireless, you need to print two test labels:

• Print a test label locally (by pressing the test switch) to make sure that the EasyLAN Wireless is installed correctly.

• Print a test label remotely (through the web browser interface) to make sure that the network connection is configured correctly.

To print a test label locally

• Use a straightened paper clip to press and release the test switch. The illustration on the next page shows a 3400e printer.

Test switch
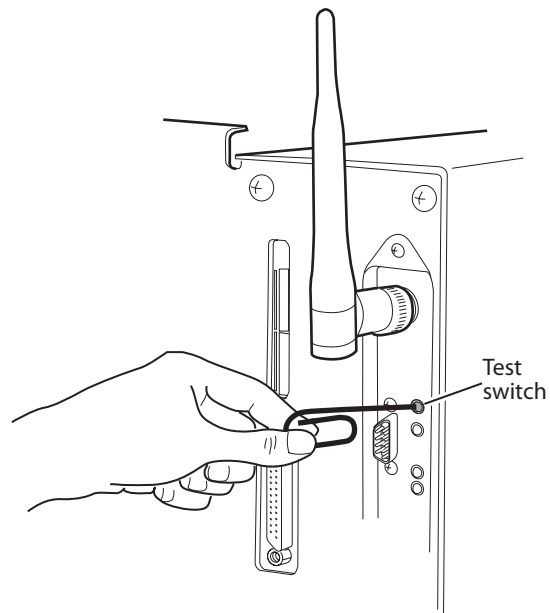
To print a test label remotely

1 Start your web browser.

2 In the **Address** (Internet Explorer) or **Go To** (Netscape) field, enter the IP address for the EasyLAN Wireless, and press **Enter**. The Intermec EasyLAN Wireless Model AW02 web page appears.
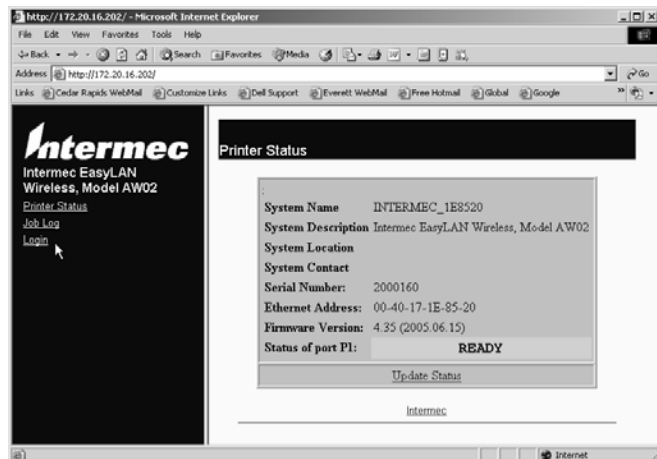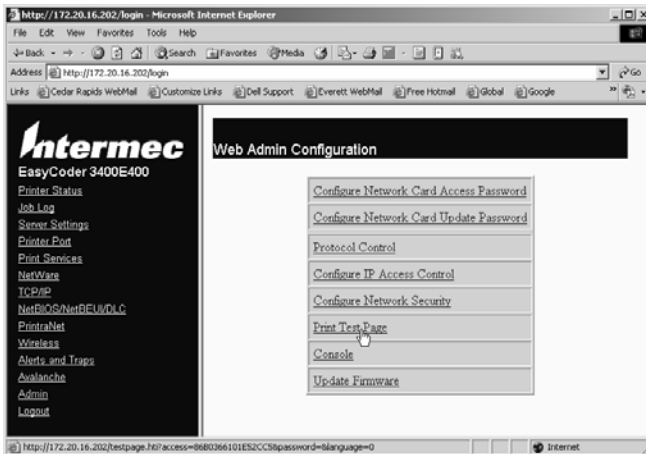
3 Click **Login**. The Network Configuration Login page appears.

4 Enter intermec in lowercase in the **Network Card Access Password** field and click **Submit**.

5 Click **Admin**. The Web Admin Configuration page appears.

6 Click **Print Test Page**. The message, "Test Page queued to all active ports," appears, and the printer prints the test label.

Your printer is now ready to communicate using EasyLAN Wireless.

7 Disconnect the serial cable connecting EasyLAN Wireless to your PC and communicate with your printer using a PC with an 802.11b/g radio or through an access point with an 802.11b/g radio.

Configuring and Managing EasyLAN Wireless

Now you can configure or manage EasyLAN Wireless from a remote location using the following tools:

- Microsoft® Windows® PC, HyperTerminal, and Console commands. For help, see the *EasyLAN Wireless User's Manual*.

- Web browser interface. You can access the web browser interface by typing the IP address for EasyLAN Wireless in either Internet Explorer or Netscape. For help using the web browser interface, see the *EasyLAN Wireless User's Manual*.

- Intermec Printer Network Manager (IPNM). This application is available on the PrinterCompanion CD that came with your printer. For help, see the online help.

- Intermec print monitor. You can use the Intermec print monitor to create a network port for the 802.11b wireless link, which acts like a parallel port, on a Windows 95/98 system. The print monitor is available on the PrinterCompanion CD. For help installing the print monitor and setting up the wireless link, see the *EasyLAN Wireless User's Manual*.

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