

Intel® PRO/Wireless 2011B LAN

Adapter Quick Installation Guide



*Additional documentation is on the
Intel CD.*

Product Model

Intel® PRO/Wireless 2011B LAN PC Card product model:
WPC2011BWW
WPC2011BJP

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Patents

See the patent information listed in the only manuals.

A63056-001

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About This Document

Conventions

GUI Screen text	indicates the name of a control in a GUI-based application.
<i>Italics</i>	indicates the first use of a term, book title, variable or menu title.
Bold	indicates important user information, license provisions or warranty conditions.
<u>URL</u>	indicates a Uniform Resource Locator, such as a Web page address.

This document uses the following for certain conditions or information:



indicates tips or special requirements.



indicates conditions that can cause equipment damage or data loss.



indicates a potentially dangerous condition or procedure that only Intel® PRO/Wireless 2011B LAN-trained personnel should attempt to correct or perform.

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Network Products: <http://www.intel.com/network>

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For the U.S. and Canada

If you are using this product in conjunction with Intel® PRO/Wireless 2011B LAN hardware in a business or office environment and want customer support, please call +1 916-377-7000 (7:00 – 17:00 M–F Pacific Time). You can also visit the Intel customer support web site (<http://support.intel.com>).

For Worldwide Access

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Register online to receive technical support, product upgrade notices, information updates, and special offers. To register online, re-insert the CD and click **Online Registration**.

Information About Wireless Networks

This section includes general information about wireless networks. If you are already familiar with wireless networks or do not want to read reference information about them, skip this section.

A (LAN) is a network in which you share files, printers, and other services with users. In a Local Area Network (LAN), a networked computer is called a client. In a wireless LAN (WLAN), a client that has an Intel® PRO/Wireless 2011B LAN adapter installed is called a wireless client. A wireless client communicates with the WLAN without cables. It sends and receives information through a path in the air called a channel.

A wireless client operates in either infrastructure mode or peer-to-peer mode.

Infrastructure Mode

In infrastructure mode, a wireless client sends and receives information through one or more access points. The Intel® PRO/Wireless 2011B LAN Adapter operates with Intel® PRO/Wireless 2011B LAN Access Points and IEEE 802.11b compliant access points sold by other vendors.

Peer-to-Peer Mode

In peer-to-peer mode, also called Ad Hoc, wireless clients send and receive information to other wireless clients directly without using an access point. This type of WLAN typically contains only wireless clients.

Identifying a WLAN

A Service Set Identifier (SSID) identifies a WLAN. There are several kinds of SSIDs. For simplicity, this guide uses the term Network Name (SSID) in place of other terms such as ESSID and IBSSID. For either an infrastructure or peer-to-peer WLAN, the SSID indicates what WLAN you are communicating with. When installing a wireless adapter, the software asks you to enter this information. All devices in a WLAN must use the same Network Name (SSID).

Security

In a WLAN, wireless clients send and receive information through the air. Without implementing security, it is possible for an unauthorized person to intercept the information.

A common way of implementing security and protecting information is encryption. Before sending information over a WLAN, the wireless device uses an encryption key to scramble information before it is transmitted over a WLAN. The device receiving the information uses the same key to decrypt or unscramble the information. It is only readable to WLAN devices that have the correct encryption key. You must use the same key and encryption method for all wireless devices in the WLAN. Otherwise, they cannot communicate with each other.



The network administrator provides encryption keys, either directly or from an external key management service. The administrator must propagate any changes to these keys to all access points and wireless clients in a WLAN. Changing the key on just one access point or wireless client, and without the authority to do so, disconnects it from the rest of the network.

There are two Wired Equivalent Privacy (WEP) encryption methods: 40/64-bit and 128-bit. To implement security, use either one of these methods.

Installation Steps

Step 1: Read About the Installation

Installing an Intel® PRO/Wireless 2011B LAN Adapter is part of the bigger process of installing a wireless LAN (WLAN). The steps in this guide are for installing the adapter only.

If the Wireless Network Is Up and Running

It is likely that part of the wireless network is already installed. If you are not sure, ask your network administrator.

If the wireless network uses access points, these access points are probably installed and it is your job to simply install the adapter.

If you are setting up your computer to communicate with other computers in a peer-to-peer network, the other computers are set up and again it is your job to simply install the adapter.

In either case, continue with step 2 in this guide.

If It Is Your Job to Set Up the Entire Wireless Network

If the access point(s) are not installed yet and the wireless network requires them, it is important to set up the access point(s) first before installing adapters. Follow the installation instructions shipped with the access point and then return to step 2 in this guide.

If you are the first person to set up your computer in a peer-to-peer wireless network, you establish the settings for the wireless network when you set up your adapter. Continue with step 2 in this guide, but be aware that other computers that join the wireless network must use the same adapter settings.

The Steps Outlined

Step 2: Attach regulatory compliance labels.

Step 3: Install the hardware for the Intel® PRO/Wireless 2011B LAN Adapter. This adapter is most likely a PC card.

Step 4: Install the driver software.

Step 5: Install the Intel® PRO/Wireless 2011B LAN Software.

Step 6: Configure the adapter.

Step 7: Make sure that the adapter is installed correctly.

For steps 2 through 7, read the subsection entitled “Before You Start.” Failure to read this subsection could result in the adapter not functioning in the network.



To install the Intel® PRO/Wireless 2011B LAN Adapter, you must log onto a computer with an administrative account. If you log onto the computer with an account that does not have administrative privileges, the installation fails.

Step 2: Attach the Regulatory Compliance Label

A sheet of peel and stick regulatory compliance labels is shipped with the adapter. Follow the directions on the sheet and affix the appropriate label to the adapter.

Step 3: Install the Hardware

Before You Start

If the hardware is already installed, go to step 4.

Notebook Requirements

Installing the Intel® PRO/Wireless 2011B LAN Adapter in a notebook computer requires the following minimum configuration:

- 233 MHz Pentium II
- 64 MB RAM
- A CD-ROM drive
- A video card capable of 256 colors
- One of the following operating systems: Microsoft Windows† 95B, Windows 98, Windows 98 SE, Windows ME or Windows 2000.

If you are unfamiliar with these terms, check with your network administrator to make sure that your computer meets these minimum requirements.

Installation Steps

If the installation fails, the following information may be useful to a network administrator. You do not have to be familiar with these terms to continue with the installation. However, if you encounter a problem during the installation, present this information to your network administrator.

- A Type II PC card slot
- An available interrupt request line (IRQ)
- An available input/output (I/O) port address

If You Are Running Microsoft Windows 95, Windows 98, or Windows 2000

Installation and removal methods vary for different notebook computers. Refer to your owner's manual for specific instructions.

1. Slide in the PC Card until it firmly seats. Align the card properly when inserting. Insert the card firmly without forcing. You may have to press very firmly.
2. Insert the PC Card in the notebook computer as shown below.



3. When fully inserted the PC Card antenna and LED protrudes as shown below.



4. If the power to the computer is off, turn the power on.
5. The computer automatically assigns resources to the adapter and displays a wizard for the driver software.

If You Are Running Microsoft Windows CE

Make sure that the Windows CE device has the hardware capability to accommodate a Type II PC Card. You do not need to insert the card into the Windows CE device yet.

Obtain the following information from your network administrator. You need this information to complete the installation.

- Network Name (SSID)
- Encryption Mode Open / 40-bit / 128-bit
- Encryption Keys if Encryption Mode is 40-bit or 128-bit
- Encryption Key Number (1, 2, 3, or 4)
- DHCP (Yes / No)
- IP Address if the DHCP setting is No
- Subnet Mask
- Default Gateway Address
- Primary DNS Server Address
- Secondary DNS Server Address
- Primary WINS Server Address
- Secondary WINS Server Address

Step 4: Install the Adapter Driver Software

Before You Start

In this step, you install the driver software for the adapter. The driver software allows the operating system to recognize the hardware. This software is different from the Intel® PRO/Wireless 2011B LAN Software that you will install later.

Make sure that you know what operating system you are running. The instructions differ for each operating system.



If you are running **Windows CE**, make sure that the Windows CE device is communicating with a desktop computer through synchronization software. If it is not already installed, install it now and make sure that it is working properly. Refer to the documentation that is shipped with the Windows CE device.

During the driver installation, the wizard asks you for the Network Name (SSID). You may also see the term ESSID. For more information, see the first section in this guide. Before continuing, obtain the appropriate Network Name (SSID) from your network administrator.

At this point, the hardware is installed and a wizard screen should be displayed. If your computer recognizes the hardware and the new hardware wizard is not displayed, either one of the following is true:

- The latest version of the driver software is installed. Skip this step and go to step 5.
- A previous version of the driver software is installed. In this case, you must remove it first and return to step 2 in this guide. For instructions on how to remove the previous version, insert the Intel® PRO/Wireless 2011B LAN Software CD and click **Late Breaking News** in the Intel® PRO/Wireless 2011B LAN Software window. The `readme.txt` file includes instructions to remove the driver software.

If you are not sure, contact your network administrator.

If You Are Running Microsoft Windows 95

1. Insert the installation CD. Another screen is displayed for the Intel® PRO/Wireless 2011B LAN Software. Disregard this screen for now and click the wizard screen.
2. When Windows 95 recognizes the adapter, the **Update Device Driver Wizard** begins. Enter the drive name for the CD-ROM and follow the prompts.
3. Enter the SSID for the network in the **Easy Setup** window. Click **OK**.
4. Click **Finish**.
5. When prompted, restart the computer.

If You Are Running Microsoft Windows 98

1. Insert the installation CD. Another screen is displayed for the Intel® PRO/Wireless 2011B LAN Software. Disregard this screen for now and click the wizard screen.
2. When Windows 98 recognizes the adapter, the **Add New Hardware Wizard** begins. Follow the wizard prompts and make sure that you select the **Search for best driver for your device**.
3. Enter the Network Name (SSID), also called ESSID, for the network in the **Easy Setup** window. Click **OK**.
4. When prompted, restart the computer.

If You Are Running Microsoft Windows ME

1. Insert the installation CD. Another screen is displayed for the Intel® PRO/Wireless 2011B LAN Software. Disregard this screen for now and click the wizard screen.
2. When Windows ME recognizes the adapter, the **Add New Hardware Wizard** begins. Follow the wizard prompts and make sure that you select the **Specify the location of the driver** and **Specify the best driver for your device** checkbox. Enter the SSID for the network in the **Easy Setup** window. Click **OK**.
3. Click **Finish**.
4. When prompted, restart the computer.

If You Are Running Microsoft Windows 2000

1. Insert the installation CD. Another screen is displayed for the Intel® PRO/Wireless 2011B LAN Software. Disregard this screen for now and click the wizard screen.
2. When the **Found New Hardware Wizard** begins, follow the wizard prompts and make sure that you select the **Search for a suitable driver for my device** button.
3. Enter the SSID for the network in the **Easy Setup** window. Click **OK**.
4. The **Found New Hardware** dialog box displays again stating Windows has finished installing the software required for this device. Click **Finish**.
5. Restart the computer when prompted by Windows 2000.

If You Are Running Microsoft Windows CE

Insert the installation CD in the desktop computer.

1. From the **Start** menu, click **Run**.
2. Browse to the WinCE directory on the CD and select INTEL_WCE_DSvxxx.EXE where xxx is the version number. Click **Open** to start the installation of the driver and click **OK** when it is complete. If you are not running this EXE file from the CD, browse to the file on the desktop. If the installation fails, install the driver to another directory instead of the default application installation directory.
3. Follow the on screen prompts and select the defaults. When asked to use the default application installation directory, click **Yes**.



The installation continues automatically. The message “Installing Intel® WLAN driver” may be displayed for several minutes depending on your Windows CE device. DO NOT click **Cancel**.

4. When prompted to complete the installation on the Windows CE device, click **OK**. The remaining instructions

vary from one Windows CE device to another, but you are prompted for the same information. For a list of supported Windows CE devices, refer to the Intel support web site.

5. Enter the Network Name (SSID) in the **Easy Setup** program on the Windows CE device.
6. Click **Advanced** to set up encryption keys or other parameters. When finished, click **OK**.
7. When prompted to reset the Windows CE device, click **OK**.
8. The Windows CE device restarts. If not already done, insert the PC Card.
9. You are prompted to specify information needed to connect to the LAN. If you select the Specify an IP Address option, you are prompted for additional information. Follow the wizard instructions.
10. From the **Start** menu, select **Programs, Intel® PRO Wireless LAN**, and then **WLANmon**. The **WLANmon** icon is displayed as green in the system tray indicates a connection. To verify a connection, click this icon.

Step 5: Install Intel® PRO/Wireless 2011B LAN Software

Before You Start

Launch the Intel® PRO/Wireless 2011B LAN software from the CD. When you insert the CD in the CD-ROM drive, a screen is displayed. Make sure that you have the CD.

Instructions

1. If the CD is in the CD-ROM drive, re-insert the CD into the CD-ROM. Otherwise, insert the CD in the CD-ROM.
2. Click **Install Software V3.0** in the Intel® PRO/Wireless 2011B LAN Software window.
3. Follow the instructions on the wizard screens.
4. If you are not running Windows 95, start **Intel® PROSet II** by double-clicking on the **Control Panel** icon or the icon displayed in the system tray.

Step 6: Configure the Intel® PRO/Wireless 2011B LAN Adapter

Before You Start

In this step, configure the adapter.

If you are running Windows 95, configure the adapter with the **Intel Network Control Panel Applet (NCPA)** utility.

If you are running Windows 98, Windows ME, or Windows 2000, configure the adapter with **Intel® PROSet II**.

If You Are Running Microsoft Windows 95

1. Click **Start**, select **Settings**, and then click **Control Panel**.
2. From the Windows 95 Control Panel, double-click **Network** and select **Intel PRO/Wireless LAN PC Card**. Click the **Properties** tab.
3. From the **Easy Setup** window, click the **Advanced** button to view the adapter settings.
4. Use the **NCPA Mobile Unit**, **Mobile IP**, **Encryption** and **WLAN Adapter** tabs to view or adjust the PC Card configuration settings. For more information, refer to the online help for **NCPA**.
5. Restart the system for the changes to take effect.
6. Intel recommends that you update the firmware on the adapter. To do this, run the **WLAN Update Utility**. To download the latest firmware, go to the Intel support web site (<http://support.intel.com>).

If You Are Running Microsoft Windows 98, Windows ME, or Windows 2000

1. Select the wireless adapter on the left side of the **Intel® PROSet II** window.
2. Select **Help** from the **Help** menu and select the topic “**Changing Network Settings**.” Follow the instructions for mobile and security settings.

Step 7: Make Sure That the Adapter Is Working

To see if the adapter is installed correctly, try going to a popular external website like [www. yahoo. com](http://www.yahoo.com). If the browser reports an error, use the troubleshooting tips below.

If you do not have an internet connection, try pinging a device on the network. If you are unfamiliar with pinging devices, contact your network administrator.

With exception of a wired network connection, the Intel® PRO/Wireless 2011B LAN Adapter is just like any mobile wired adapter. In addition to standard troubleshooting techniques for wired network adapters, try the following troubleshooting tips:

- The Network Name (SSID) of all access point and/or adapters must match. Make sure that they do.
- If you are using WEP encryption, the adapter must support this option and the encryption keys for the access point and adapter must match the key you selected must also be identical.