Intel® PRO/Wireless 2011B LAN USB Device

User's Guide

Product Model

Intel® PRO/Wireless 2011B LAN USB Device product models:
WUD2011BWW
WUD2011BSG

Copyright

Patents

This product is covered by one or more of the following U.S. and foreign patents:

U.S. Patent No.

4,360,798;	4,369,361;	4,387,297;	4,460,120;	4,496,831;	4,593,186;	4,603,262;	4,607,156;	4,652,750;	4,673,805;	4,736,095;	4,758,717;	4,816,660;
4,845,350;	4,896,026;	4,897,532;	4,923,281;	4,933,538;	4,992,717;	5,015,833;	5,017,765;	5,021,641;	5,029,183;	5,047,617;	5,103,461;	5,113,445;
5,130,520;	5,140,144;	5,142,550;	5,149,950;	5,157,687;	5,168,148;	5,168,149;	5,180,904;	5,216,232;	5,229,591;	5,230,088;	5,235,167;	5,243,655;
5,247,162;	5,250,791;	5,250,792;	5,260,553;	5,262,627;	5,262,628;	5,266,787;	5,278,398;	5,280,162;	5,280,163;	5,280,164;	5,280,498;	5,304,786;
5,304,788;	5,306,900;	5,321,246;	5,324,924;	5,337,361;	5,367,151;	5,373,148;	5,378,882;	5,396,053;	5,396,055;	5,399,846;	5,408,081;	5,410,139;
5,410,140;	5,412,198;	5,418,812;	5,420,411;	5,436,440;	5,444,231;	5,449,891;	5,449,893;	5,468,949;	5,471,042;	5,478,998;	5,479,000;	5,479,002;
5,479,441;	5,504,322;	5,519,577;	5,528,621;	5,532,469;	5,543,610;	5,545,889;	5,552,592;	5,557,093;	5,578,810;	5,581,070;	5,589,679;	5,589,680;
5,608,202;	5,612,531;	5,619,028;	5,627,359;	5,637,852;	5,664,229;	5,668,803;	5,675,139;	5,693,929;	5,698,835;	5,705,800;	5,714,746;	5,723,851;
5,734,152;	5,734,153;	5,742,043;	5,745,794;	5,754,587;	5,762,516;	5,763,863;	5,767,500;	5,789,728;	5,789,731;	5,808,287;	5,811,785;	5,811,787;
5,815,811;	5,821,519;	5,821,520;	5,823,812;	5,828,050;	5,850,078;	5,861,615;	5,874,720;	5,875,415;	5,900,617;	5,902,989;	5,907,146;	5,912,450;
5,914,478;	5,917,173;	5,920,059;	5,923,025;	5,929,420;	5,945,658;	5,945,659;	5,946,194;	5,959,285;	D305,885;	D341,584;	D344,501;	D359,483;
D362,453;	D363,700;	D363,918;	D370,478;	D383,124;	D391,250;	D405,077;	D406,581;	D414,171;	D414,172			

Invention No. 55,358; 62,539; 69,060; 69,187 (Taiwan); No. 1,601,796; 1,907,875; 1,955,269 (Japan);
European Patent 367,298; 367,299; 367,300; 414,281; UK 2,072,832; France 81/03938; Italy 1,138,713

A69522-002

About This Document

Reference Documents

This reference guide refers to the following documents:

Part Number	Document Title
A69587-002	*Intel® PRO/Wireless 2011B LAN USB Device Quick Install Guide*

Conventions

Keystrokes are indicated as follows:

ENTER	identifies a key.
FUNC, **CTRL**, **C**	identifies a key sequence. Press and release each key in turn.
Press **A+B**	press the indicated keys simultaneously.
Hold **A+B**	press and hold the indicated keys while performing or waiting for another function. Used in combination with another keystroke.

Typeface conventions used include.

<angles>	indicates mandatory parameters in syntax.
[brackets]	for command line, indicates available parameters; in configuration files, brackets act as separators for options.
GUI Screen text	indicates the name of a control in a GUI-based application.
Italics	indicates the first use of a term, book title, variable or menu title.
Bold	indicates important user information, license provisions or warranty conditions.
`Screen dialog`	indicates screen dialog and user input options, and the exact syntax of items.
`Screen text`	indicates text and data displayed in an application screen on a computer monitor.
Terminal text	indicates text shown in a radio terminal LCD screen.
URL	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 USB Device-trained personnel should attempt to correct or perform.

# Contents

Chapter 1. Introduction to wireless networking

The Intel® PRO/Wireless 2011B LAN USB Device is an 802.11b wireless networking device that connects to a USB port on your computer. Intel® PRO/Wireless 2011B LAN network products are based on the IEEE 802.11b standard and connect computers together to form a wireless local area network (WLAN).

All Intel® PRO/Wireless 2011B LAN products interoperate with other IEEE 802.11b compliant wireless devices from other vendors. The WiFi certification logo indicates that the wireless device is 802.11b compliant.

The Intel® PRO/Wireless 2011B LAN USB Device operates in either infrastructure mode or peer-to-peer mode.

## 1.1   Infrastructure Mode: A WLAN with Access Points

In infrastructure mode, wireless clients send and receive information through access points. When a wireless client communicates with another, it transmits to the access point. The access point receives the information and rebroadcasts it. Then the other device receives the information.
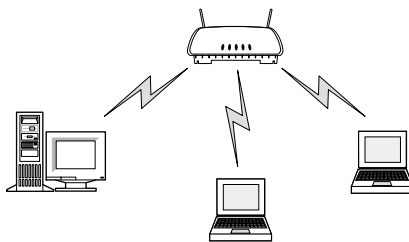
Access points are strategically located within an area to provide optimal coverage for wireless clients. A large WLAN uses multiple access points to provide coverage over a wide area. Access points can connect to a LAN through a wired Ethernet connection. Access points send and receive information from the LAN through this wired connection.

1.2   Peer-to-Peer Mode: A WLAN without Access Points

In peer-to-peer mode, al*so called Ad Hoc Mode, wireless clients send and receive information to other wireless clients without using an access point. In contrast to infrastructure mode, this type of WLAN only contains wireless clients.*
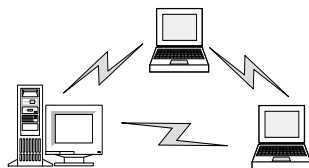
*You can use peer-to-peer mode to network c*omputers in a home or small office, or to set up a temporary wireless network for a meeting.

1.3   Identifying a WLAN

All the devices on a WLAN use a Network Name, or Service Set Identifier (SSID) to identify the WLAN. In peer-to-peer mode, an Independent Basic Service Set Identifier (IBSSID) identifies a WLAN. In infrastructure mode, an Extended Service Set Identifier (ESSID) identifies a WLAN. This guide uses SSID as a general term for both ESSID and IBSSID. All the devices on a WLAN must use the same SSID to communicate with other wireless devices. When installing an access point or wireless device in a wireless client, the software asks you to specify an SSID.

1.4   Identifying Devices on a WLAN

A Basic Service Set Identifier (BSSID) uniquely defines each wireless device. The BSSID is the Ethernet Media Access Control (MAC) address of the wireless device installed in the wireless client. The MAC address is permanently set when the device is manufactured. MAC addresses determine the device sending or receiving data. A MAC address is a 48-bit number written as six hexadecimal bytes separated by colons. For example:

`00:A0:F8:24:9A:C8`

To view the MAC address of an Intel® PRO/Wireless 2011B LAN USB device, see the label on the back of the device.

1.5   Wireless Security

Wireless networking devices transmit information through the air. Without implementing security, it is easy for an unauthorized person to intercept the information.

A common way of implementing security and protecting information is encryption. Before sending information, the wireless client or access point encrypts or scrambles information using an encryption key. The device receiving the information uses the same key to decrypt or unscramble the information. The information is only readable to wireless devices that have the correct encryption key.

The IEEE 802.11 wireless LAN standard specifies the Wired Equivalent Privacy (WEP) encryption and decryption algorithm. The standard includes two levels of security, using a 40-bit key or a 128-bit key. To implement WEP, use either one of these methods. For better security, use a 128-bit key. A 128-bit key has several trillion times as many possible combinations as a 40-bit key. For added security, change your keys often. Some vendors refer to 40-bit encryption as 64-bit. These are identical. A wireless device that claims to have 40-bit encryption interoperates with a device that claims to have 64-bit encryption.

The same device, host computer or front-end processor usually performs both encryption and decryption. The algorithm, like the pattern of a lock, is standardized and may be used by anyone, but the encrypted data is unreadable without the appropriate key, which is known only by the sender and receiver of the transmitted data. You should change your keys often for added security.

1.6   Radio Basics

IEEE 802.11 networking devices transmit and receive radio signals. Users communicate with the network by establishing radio links between mobile devices and access points, or between each other.

IEEE 802.11 devices use frequency modulation (FM) to transmit digital data from one device to another. The radio signal propagates into the air as electromagnetic waves. The receiving device demodulates the signal, which results in the original digital data. The radio devices transmit in the 2.4 to 2.5 gigahertz frequency range, a license-free range throughout most of the world. The actual range is country-dependent.

1.7   Intel® PRO/Wireless LAN USB Software

Intel® PRO/Wireless LAN USB software consists of the Windows device drivers for the USB Device and the Wireless LAN Configuration Utility. The configuration utility allows you to evaluate device performance and display and modify the wireless LAN settings for the Intel® PRO/Wireless 2011B LAN USB Device. Settings include the operating mode, the SSID, transmission rate, and encryption keys used for wireless network communication.

For the network device to function in a wireless LAN, you must change the settings to match the settings of other wireless devices in your network.

Chapter 2.   Using the Wireless LAN Configuration Utility

The Wireless LAN Configuration Utility allows you to configure wireless clients, evaluate performance, and display the current status of a wireless network device.

2.1   Viewing the Status Icon

The Wireless LAN Configuration Utility starts automatically and places a status icon on the Windows taskbar when Windows starts. The status icon is shown below.

If the status icon is not present do the following:

1.   Click the Windows **Start** menu and click **Programs**.

2.   Click the **Intel® PRO/Wireless 2011B LAN USB** software menu.

3.   Click the **Wireless LAN Configuration Utility**.

The following colors on the taskbar icon show the status of the wireless device:

Color	Infrastructure mode	Ad hoc mode
Green	Communicating successfully with an access point.	Connected to another wireless client.
Yellow	Communicating with an access point but the signal strength and quality are not optimal.	Yellow is not used in this mode.
Red	Searching for a new access point because it is: • out of range of an access point. • connected to an access point, but attempting to find an access point with a better signal.	Red is not used in this mode.

2.2   Viewing Information about the Network Connection

To view detailed status about your wireless network connection, double-click the status icon on the Windows Taskbar. This information can help you troubleshoot problems and adjust the placement of clients, access points, or antennas.
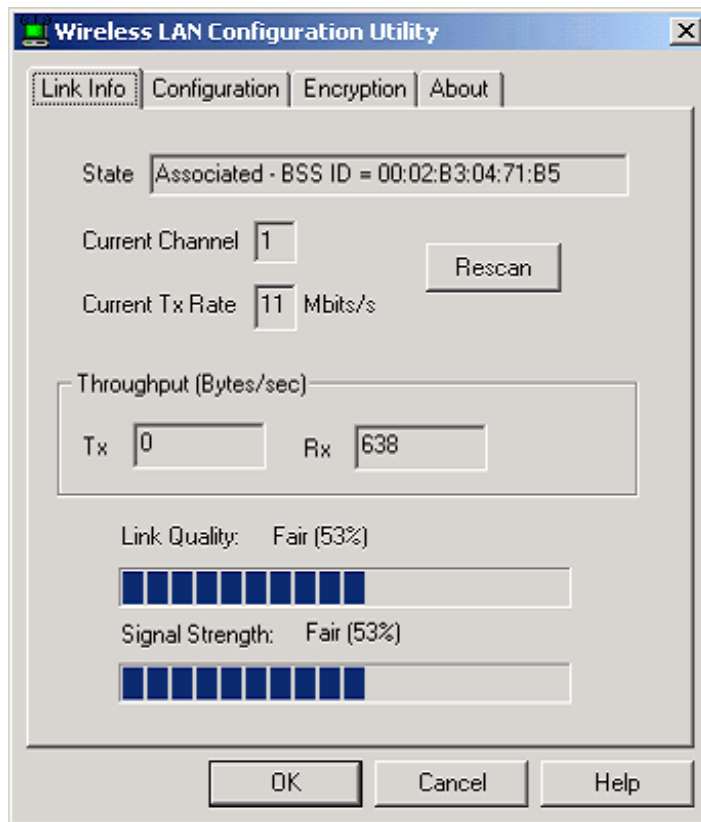
State: Shows the current status of your wireless network:

- **Associated** – The access point's Ethernet Address (Media Access Controller ID). This access point is the one your wireless client is communicating with.

- **Scanning** – The wireless client is searching for a wireless network. The scanning status also occurs while the client is roaming between access points.

- **Disconnected** – The client is not connected to the wireless network.

Rescan button: Click to re-establish a connection with a wireless network. When you click this button, the wireless client is briefly disconnected from the network and begins searching for an access point with a stronger signal in the specified wireless network.

Current Channel: Displays the channel currently used for receiving and transmitting wireless data communication.

Current Tx Rate: Shows the maximum achievable data rate allowed for this location. The data transmit rate is automatically negotiated between wireless clients and access points, and changes dynamically depending on signal strength and link quality. The data rates automatically shift among 11Mbps, 5.5Mpbs, 2Mbps and 1Mbps.

Throughput (Bytes/sec): The **Tx** (transmit) and **Rx** (receive) throughput fields display the current number of data packets that are transferred or received by the wireless client. This information is updated every two seconds.

Link Quality: A measure of the data quality. Both low signal strength and interference can adversely affect the data quality.

Signal strength: The power of the received signal.

2.3   Changing Network Settings

The Configuration tab allows you to change the device's network settings
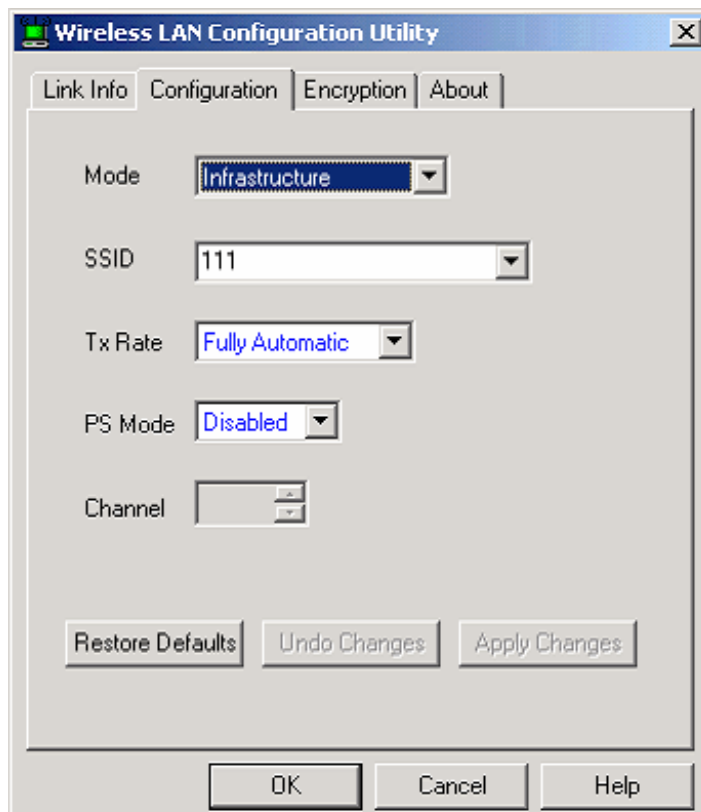
You can configure the wireless device to communicate with an access point or directly with other wireless computers.

Mode: This field indicates what kind of wireless network the device is connected to. Infrastructure mode indicates that the device is communicating with an access point. Ad Hoc mode indicates that the device is communicating directly with other computers without using an access point.

SSID: The SSID, also referred to as Network Name or Network ID, is the specific wireless network the device is part of.

Tx Rate: Shows the maximum achievable data rate allowed for this location. The data transmit rate is automatically negotiated between wireless clients and access points, and changes dynamically depending on signal strength and link quality. The data rates automatically shift among 11Mbps, 5.5Mpbs, 2Mbps and 1Mbps.

PS Mode: This setting does not apply to the Intel® PRO/Wireless 2011B LAN USB Device.

Channel: Indicates what channel the device is using to communicate with the access point or other computers. If you are in Infrastructure mode, the access point and device must use the same channel. In Ad Hoc mode, all wireless devices in the wireless network must use the same channel.

To configure the Device to communicate with an access point

1. In the **Mode** field, select **Infrastructure**.

2. In the **SSID** field, enter the SSID. The SSID is case sensitive and must not exceed 30 characters. This entry must be the same as the SSID set on the access point.

To configure the Device to communicate directly with other computers

3. In the **Mode** field, select **Ad Hoc**.

4. In the **SSID** field, enter the SSID. The SSID is case sensitive and must not exceed 30 characters. This SSID must be the same as the SSID assigned to all other computers in your wireless network.

5. Select a channel you want to use for receiving and transmitting wireless data communication. Wireless clients using the same channel communicate with each other.


If you set the transmission rate to 1, 2, 5.5, or 11 Mbps, configure all other wireless clients in the peer-to-peer network to use the same transmission rate.

Restore the Default Settings

To restore all values on the screen to the original default values, click **Restore Defaults**.

2.4   Implementing Security

The **Encryption** tab allows you to set up WEP encryption to protect your wireless network. WEP encryption uses either a 64-bit key or 128-bit key to provide security during every data transmission.
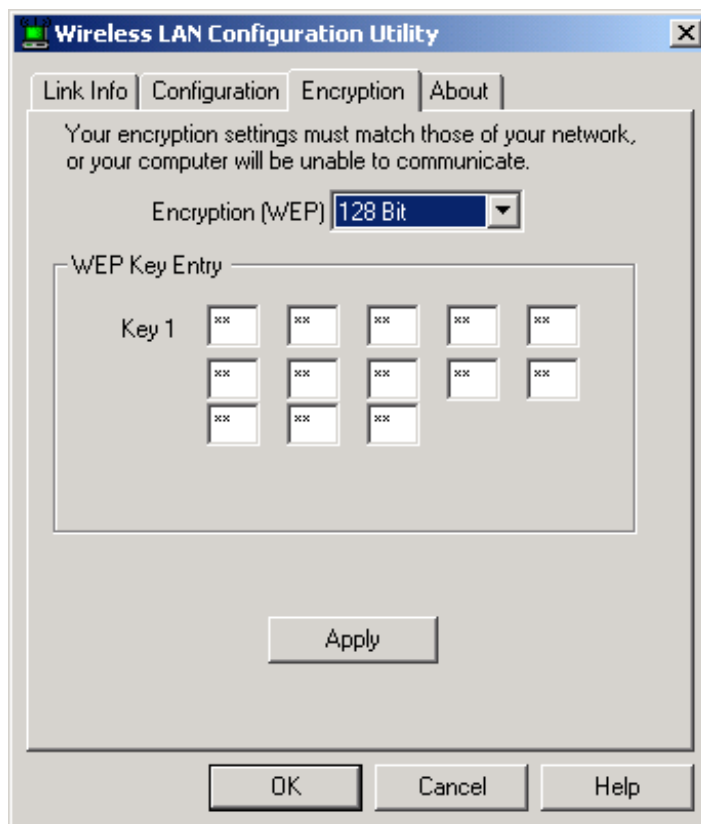
Each wireless device on your network must use the same encryption method and keys.

Choose one of the following settings from the Encryption(WEP) drop down box:

*   **Disabled**: Data is not encrypted.
*   **64-bit**: All communication is encrypted with a 64-bit key.
*   **128-bit**: All communication is encrypted with a 128-bit key. This setting gives you the best security, but network performance is slightly less.

Note

For security purposes, the utility displays asterisks for the encryption key every time the Wireless LAN Configuration Utility window is closed and then re-opened.

To use 64-bit WEP Encryption

1. Select 64-bit from the Encryption (WEP) drop down box.

2. Enter a key. The WEP key values are hexadecimal and can only contain the numbers 0 through 9 and the letters a through f.

To use 128-bit WEP Encryption

1. Select 128-bit from the Encryption (WEP) drop down box.

2. Enter a key. The WEP key values are hexadecimal and can only contain the numbers 0 through 9 and the letters a through f.

Using a Virtual Private Network (VPN) Connection

For added security, use a VPN. For more information, consult the documentation regarding VPN software.

2.5 Viewing Driver and Firmware Information

The **About** tab allows you to view driver, firmware, and software versions.
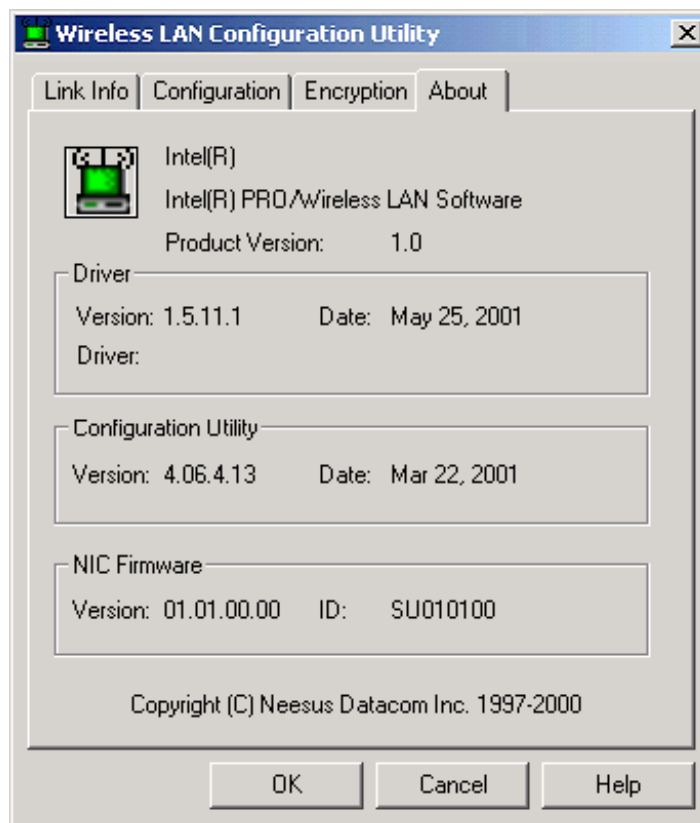
2.6 Downloading Drivers and Firmware

To download the latest drivers and firmware for this product, go to the Intel support web site:

http://www.intel.com/support

Chapter 3. Troubleshooting

Intel® PRO/Wireless 2011B LAN USB Device is similar to a wired network adapter except that the connection is wireless. The troubleshooting techniques that apply to a wired network adapter also apply to this wireless device.

To see if the wireless device is working, note the color of the device icon on the right side of the Windows taskbar:

Green indicates that the device is communicating. Double-click the icon for more status information. For more information, see Chapter 2.

The light on the front of the device indicates the following:

*   **Off:** no power
*   **Blink:** looking for association
*   **On:** associated or in Ad Hoc mode

Unable to communicate with an access point or other wireless computers

For the wireless device to communicate with an access point or otherwireless computers::

*   The Network Name (SSID) of all wireless devices must match.
*   If the WEP encryption option is enabled, all wireless devices must use the same encryption level and key.
*   The preamble settings of the device must be the same as the settings for other wireless devices. If the access point or other devices use long preamble headers, your device must also use long preamble headers. To check or change the preamble settings:
    1. Double-click **My Computer**, and then double-click **Control Panel**.
    2. Double-click **Network**.
        –   Windows 2000: Right-click the **Local Area Connection** for the Intel(R) PRO/Wireless 2011B LAN USB Device and click **Properties**.
        –   Windows ME, 98, and 95: Select Intel(R) PRO/Wireless 2011B LAN USB Device and click **Properties**.
    3. Click the **Advanced** tab and select **Preamble Mode**.

Degraded performance detected

*   Place the Intel® PRO/Wireless 2011B LAN USB Device in an open area and as high as possible. Metal objects and fluorescent lights can adversely affect performance.

Windows 98 Troubleshooting Tips

*   Windows 98 does not recognize the Intel® PRO/Wireless 2011B LAN USB Device when installed.
    —   Verify the computer has a Plug and Play BIOS.
*   The driver fails to load.
    —   A resource conflict could exist. Use the **Device Manager** to resolve resource conflicts. Select the **System** applet from the **Control Panel**. Select the **Device Manager** tab.
*   Network drive mappings disappear when the laptop suspends or the device is removed then reinserted. Windows 98 does not restore network drive mappings under these conditions.
    —   Log out and log in again, or restart the computer to restore the connections.

Windows ME Installation

Step 1 - Install the software

1. Insert the Intel® PRO/Wireless LAN USB Software CD into your CD-ROM drive and wait for your computer to display the following:

2. Click **Install Software** and follow the instructions in the installation program.

Step 2 - Install the hardware

1. Place the wireless device in an open area as high as possible and away from metal objects or florescent lights.

2. Plug the cable from the USB device into a USB port in your computer.

Step 3 - Install the driver

1. After you connect the USB cable, Windows starts the New Hardware Wizard.

2. Click **Next** and follow the steps in the Wizard. Make sure that you click **Specify the location of the driver** and select **Search for the best driver for your device**.

3. Finish the wizard and restart your computer if prompted.

Step 4 - Configure the device

1. Double click the Intel® PRO/Wireless 2011B LAN USB Device icon on the right side of the Windows taskbar:

2. If the icon is missing from the taskbar, click **Start**, **Programs**, **Intel(R) Wireless LAN, Wireless LAN Utilities**, and then **Configuration Utility**.

3. Click the **Configuration** tab and set the following:
    –   **Mode**: If you have a wireless access point, select Infrastructure. If you are connecting directly to other wireless computers, select **Ad Hoc**.
    –   **Network Name (SSID)**: Type the same name used by other wireless devices on your network. For information about these settings, click the **Help** button.

4. If you use encryption to protect your wireless network, click the **Encryption** tab and type settings that match the other wireless devices on your network

5. Click **OK** and restart your computer for these settings to take effect.

Step 5 - Check the device

To see if the wireless device is working, note the color of the device icon on the right side of the Windows taskbar:

Green indicates that the device is communicating. Double-click the icon for more status information. For more information, see Chapter 2.

The light on the front of the device indicates the following:

•   **Off:** no power

•   **Blink:** looking for association

•   **On:** associated or in Ad Hoc mode

Chapter 4. Customer Support

4.1   Intel Automated Customer Support

You can reach Intel automated support services 24 hours a day, every day at no charge. The services contain the most up-to-date information about Intel products. You can access installation instructions, troubleshooting information, and product information.

4.1.1   User Guide on Your Product CD-ROM

For more information about installing drivers or troubleshooting other topics, see the online User Guide. To view the guide, insert the Intel CD in your drive and wait for the Autorun to display. Click the **User Guide** button to view the guide. Note that a web browser is required to view the guide.

4.1.2   Web and Internet Sites

- Support: http://support.intel.com
- Network Products: http://www.intel.com/network
- Corporate: http://www.intel.com
- Newsgroups: news://cs.intel.com
- FTP Host: ftp://download.intel.com
- FTP Directory: /support/network/<device>/

4.1.3   Customer Support Technicians

U.S. and Canada

For 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).

Worldwide Access

Intel has technical support centers worldwide. Many of the centers are staffed by technicians who speak the local languages. For a list of all Intel support centers, the telephone numbers, and the times they are open, refer to the Customer Support Phone Numbers web site (http://www.intel.com/support/9089.htm).

4.2   Intel Software License Agreement

IMPORTANT - READ CAREFULLY BEFORE COPYING, INSTALLING OR USING.

> **Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.**

LICENSES

- If you are a network administrator, the "Site License" below shall apply to you.
- If you are an end user, the "Single User License" shall apply to you.

Single User License

You may copy the Software onto a single computer for your personal, noncommercial use, and you may make one back-up copy of the Software, subject to these conditions:

1. **This Software is licensed for use only in conjunction with Intel component products. Use of the Software with non-Intel component products is not licensed hereunder.**

2. You may not copy, modify, rent, sell, distribute or transfer any part of the Software except as provided in this Agreement, and you agree to prevent unauthorized copying of the Software.

3. You may not reverse engineer, decompile, or disassemble the Software.

4. You may not sublicense or permit simultaneous use of the Software by more than one user.

5. The Software may include portions offered on terms in addition to those set out here, as set out in a license accompanying those portions.

OWNERSHIP OF SOFTWARE AND COPYRIGHTS

Title to all copies of the Software remains with Intel or its suppliers. The Software is copyrighted and protected by the laws of the United States and other countries, and international treaty provisions. You may not remove any copyright notices from the Software. Intel may make changes to the Software, or to items referenced therein, at any time without notice, but is not obligated to support or update the Software. Except as otherwise expressly provided, Intel grants no express or implied right under Intel patents, copyrights, trademarks, or other intellectual property rights. You may transfer the Software only if the recipient agrees to be fully bound by these terms and if you retain no copies of the Software.

LIMITED MEDIA WARRANTY

If the Software has been delivered by Intel on physical media, Intel warrants the media to be free from material physical defects for a period of ninety days after delivery by Intel. If such a defect is found, return the media to Intel for replacement or alternate delivery of the Software as Intel may select.

EXCLUSION OF OTHER WARRANTIES

> **EXCEPT AS PROVIDED ABOVE, THE SOFTWARE IS PROVIDED "AS IS" WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OF ANY KIND INCLUDING WARRANTIES OF MERCHANTABILITY, NONINFRINGEMENT, OR FITNESS FOR A PARTICULAR PURPOSE.** Intel does not warrant or assume responsibility for the accuracy or completeness of any information, text, graphics, links or other items contained within the Software.

LIMITATION OF LIABILITY

> **IN NO EVENT SHALL INTEL OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, LOST PROFITS, BUSINESS INTERRUPTION, OR LOST INFORMATION) ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE, EVEN IF INTEL HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME JURISDICTIONS PROHIBIT EXCLUSION OR LIMITATION OF LIABILITY FOR IMPLIED WARRANTIES OR CONSEQUENTIAL OR INCIDENTAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. YOU MAY ALSO HAVE OTHER LEGAL RIGHTS THAT VARY FROM JURISDICTION TO JURISDICTION.**

TERMINATION OF THIS AGREEMENT

> Intel may terminate this Agreement at any time if you violate its terms. Upon termination, you will immediately destroy the Software or return all copies of the Software to Intel.

APPLICABLE LAWS

> Claims arising under this Agreement shall be governed by the laws of California, excluding its principles of conflict of laws and the United Nations Convention on Contracts for the Sale of Goods. You may not export the Software in violation of applicable export laws and regulations. Intel is not obligated under any other agreements unless they are in writing and signed by an authorized representative of Intel.

GOVERNMENT RESTRICTED RIGHTS

> The Software is provided with "RESTRICTED RIGHTS." Use, duplication, or disclosure by the Government is subject to restrictions as set forth in FAR52.227-14 and DFAR252.227-7013 et seq. or its successor. Use of the Software by the Government constitutes acknowledgment of Intel's proprietary rights therein. Contractor or Manufacturer is Intel Corporation, 2200 Mission College Blvd., Santa Clara, CA 95052.

4.3   Limited Hardware Warranty

Intel warrants to the original owner that the hardware product delivered in this package will be free from defects in material and workmanship. This warranty does not cover the product if it is damaged in the process of being installed. Intel recommends that you have the company from whom you purchased this product install the product. Intel reserves the right to fill your order with a product containing new or remanufactured components.

THE ABOVE WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE.

This warranty does not cover replacement of hardware products damaged by abuse, accident, misuse, neglect, alteration, repair, disaster, improper installation or improper testing.

If the hardware product is found to be otherwise defective, Intel, at its option, will replace or repair the hardware product at no charge except as set forth below, provided that you deliver the hardware product along with a Return Material Authorization (RMA) number (see below) either to the company from whom you purchased it or to Intel (North America only). If you ship the hardware product, you must assume the risk of damage or loss in transit. You must use the original container (or the equivalent) and pay the shipping charge.

Intel may replace or repair the hardware product with either new or remanufactured product or parts, and the returned hardware product becomes Intel's property. Repaired or replaced products will be returned at the same revision level as received or higher, at Intel's option. Intel reserves the right to replace discontinued product with an equivalent current generation product.

This warranty gives you specific legal rights and you may have other rights which vary from state to state. All parts or components contained in this hardware product are covered by Intel's limited warranty for this product; the product may contain fully tested, recycled parts, warranted as if new. For warranty information call one of the numbers below.

Returning a Defective Product

From North America

Before returning any hardware product, contact Intel Customer Support to obtain an RMA number by calling +1 916-377-7000.

If the Customer Support Group verifies that the hardware product is defective, they will have the Return Material Authorization Department issue you an RMA number to place on the outer package of the hardware product. Intel cannot accept any product without an RMA number on the package.

All Other Locations

Return the hardware product to the place of purchase for a refund or replacement.

4.3.1　Limitation of Liability and Remedies

INTEL'S SOLE LIABILITY HEREUNDER SHALL BE LIMITED TO DIRECT, OBJECTIVELY MEASURABLE DAMAGES. IN NO EVENT SHALL INTEL HAVE ANY LIABILITY FOR ANY INDIRECT OR SPECULATIVE DAMAGES (INCLUDING, WITHOUT LIMITING THE FOREGOING, CONSEQUENTIAL, INCIDENTAL, AND SPECIAL DAMAGES) INCLUDING, BUT NOT LIMITED TO, INFRINGEMENT OF INTELLECTUAL PROPERTY, REPROCUREMENT COSTS, LOSS OF USE, BUSINESS INTERRUPTIONS, LOSS OF GOODWILL, AND LOSS OF PROFITS, WHETHER ANY SUCH DAMAGES ARISE OUT OF CONTRACT, NEGLIGENCE, TORT OR UNDER ANY WARRANTY, IRRESPECTIVE OF WHETHER INTEL HAS ADVANCE NOTICE OF THE POSSIBILITY OF ANY SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, INTEL'S TOTAL LIABILTIY FOR ALL CLAIMS UNDER THIS AGREEMENT SHALL NOT EXCEED THE PRICE PAID FOR THE PRODUCT. THESE LIMITATIONS ON POTENIAL LIABLTIES WERE AN ESSENTIAL ELEMENT IN SETTING THE PRODUCT PRICE. INTEL NEITHER ASSUMES NOR AUTHORIZES ANYONE TO ASSUME FOR IT ANY OTHER LIABILITIES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

Critical Control Applications

Intel specifically disclaims liability for use of the hardware product in critical control applications (including, for example only, safety or health care control systems, nuclear energy control systems, or air or ground traffic control systems) by you or your customers, and such use is entirely at the user's risk. You agree to defend, indemnify, and hold Intel harmless from and against any and all claims arising out of use of the hardware product in such applications by you or your customers.

Software

Software provided with the hardware product is not covered under the hardware warranty described above. See the applicable software license agreement which shipped with the hardware product for details on any software warranty.

4.4　Product Registration

The Beginning of a Valuable Relationship…

Register Your Product Today!

As a registered customer, you stay connected and informed by receiving:

- Access to Intel's outstanding technical support for optimum performance.
- Advance notice of product upgrades and new products to give you a competitive edge.
- Information updates to keep you current.
- Special offers for savings on products and evaluation units.

There are three easy ways to register:

- Browse the Intel product registration web site (http://www.intel.com/product/register).
- Mail the attached postage prepaid registration card.
- Fax the attached registration card to +1 608-757-1727.

Chapter 5. Regulatory Compliance Information

For U.S. and international regulatory compliance information for the Intel® PRO/Wireless 2011B LAN USB Device, please see the Regulatory Specifications posted at the following web sites:

sDOC URL:

    http://developer.intel.com/design/litcentr/ce_docs/

Regulatory document URL:

    http://support.intel.com/support/network#Wireless_Ethernet_LAN

Important Regulatory Compliance Instructions

If your country is listed on the regulatory labels included with the Intel® PRO/Wireless 2011B LAN USB Device hardware, remove the label for your country and attach it to the bottom of the device in the space provided. Failure to apply the label for the appropriate country constitutes a breach of law.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modificaitons made by the user that are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio Frequency Interference Requirements – European Union

CE Marking & European Union Compliance

CE Marking and European Union compliance details are as follows:

Products intended for sale within the European Union are marked with the Conformite Europeene (CE) Marking, which indicates compliance with the applicable Directives and European Normes, and amendments, identified below.

This equipment also carries the Class 2 identifier.

This equipment also carries the Class 2 identifier.

English

This product follows the provisions of the European Directive
1999/5/EC.

Danish

Dette produkt er i overensstemmelse med det europæiske direktiv 1999/5/EC

Dutch

Dit product is in navolging van de bepalingen van Europees Directief 1999/5/EC.

Finnish

Tämä tuote noudattaa EU-direktiivin 1999/5/EC määräyksiä.

French

Ce produit est conforme aux exigences de la Directive Européenne 1999/5/EC.

German

Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 1999/5/EC.

Greek

Ôï ðñïúüí áõôü ðëçñïß ôéò ðñïïâëÝøåéò ôçò ÅõñùðáúêÞò Ïäçãéáò 1999/5/EC.

Icelandic

Þessi vara stenst reglugerð Evrópska Efnahags Bandalagsins númer 1999/5/EC.

Italian

Questo prodotto è conforme alla Direttiva Europea 1999/5/EC.

Norwegian

Dette produktet er i henhold til bestemmelsene i det europeiske direktivet 1999/5/EC.

Portuguese

Este produto cumpre com as normas da Diretiva Européia 1999/5/EC.

Spanish

Este producto cumple con las normas del Directivo Europeo

1999/5/EC.

Swedish

Denna produkt har tillverkats i enlighet med EG-direktiv 1999/5/EC.

Index

Intel® PRO/Wireless 2011B LAN USB Device User's Guide