

Intel® PRO/Wireless 2011B LAN

Access Point Quick Installation Guide



*Additional documentation is on the
Intel CD.*

Product Model

Intel® PRO/Wireless 2011B LAN Access Point product models:

WEAP2011BRW

WEAP2011BAK

WEAP2011BJP

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Access Point Quick Installation Guide

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.
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This document uses the following for certain conditions or information:



indicates tips or special requirements.



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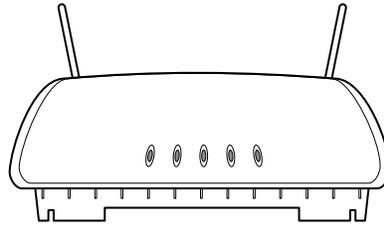
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Information about Wireless Networks

A wireless network in a LAN environment, also called wireless LAN (WLAN), is network that does not use network cables. When a WLAN uses access points, the wireless network is operating in infrastructure mode. In this mode, a 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.

An access point is a stationary device on an 802.11 wireless network that receives and retransmits data. An access point allows computers with wireless network adapters, also called wireless clients, to be connected to typically an Ethernet network. The Intel® PRO/Wireless 2011B LAN Access Point is displayed in the figure below.



For more detailed information about how to determine the design for a wireless network, see the *Administrator's Guide*.

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.

The Installation Steps

Step 1: Read about the Installation

To operate a WLAN in infrastructure mode, you must install an access point. In infrastructure mode, a wireless client sends and receives information through one or more access points.

The Steps Outlined

Step 2: Attach regulatory compliance labels.

Step 3: Install the hardware for the Intel® PRO/Wireless 2011B LAN Access Point.

Step 4: Access the main menu for the access point software.

Step 5: View and alter the settings in the Main Menu.

For steps 2 through 5, read the subsection entitled “Before You Start.” Failure to read this subsection could result in the adapter not functioning in the network.

Step 2: Attach the Regulatory Compliance Label

A sheet of peel and stick regulatory compliance labels are 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

In this step, install the access point. If the access point is already installed, skip this step and proceed to step 2.

Installation Requirements

The location of each access point must be:

- Dry and dust free. Install in wet or dusty areas only with additional protection.
- Between 0° C (32° F) and 55° C (130° F).

Mount the Access Point

Access point coverage is similar to lighting in that an area lit from far away might not be bright enough. Uniform access point placement provides even, efficient coverage. Position each access point using the following guidelines:

- Install the access point as high as practical.
- Orient the access point's antenna vertically for best reception.

Decide how you want to mount the access point. There are three options.

- Resting the access point flat
- Attaching the access point to a wall
- Mounting the access point to the ceiling grid

If you are resting the access point flat, it rests on four rubber pads on its underside. Place on a surface clear of debris and away from office traffic.

If you are attaching the access point to a wall, use the mounting kit provided.

Position the Antennas

The access point contains a dual antenna assembly providing diversity, improved performance, and increased signal strength over single antenna applications. If the access point is attached to the ceiling, point the antennas downward.

Connect the Network

Locate the connector for Ethernet on the back of the access point. Plug the 10/100Base-T Ethernet cable into the connector. Ethernet configurations vary according to the environment.

If you are connecting the access point to a hub, connect the access point to a wired UTP Ethernet hub. Normal 10Base-T limitations apply.

If you are connecting the access point to an Ethernet switch, ensure that the switch port parameters are set to 10 Mbps Half Duplex. Severe performance degradation may result from mismatched speed or duplex mode.

Connect the Power

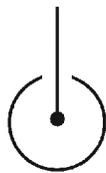
The power adapter connects to the rear of the access point and to a power outlet.

1. Verify that the power adapter matches the country-of-use requirements.
2. Plug the power adapter cable into the socket at the back of the access point.
3. Plug the adapter into an outlet. The access point functions without user intervention after setup.

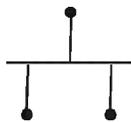
If you are using an Intel® PRO/Wireless 2011B LAN Power Injector, see the Intel® PRO/Wireless 2011B LAN *Power Injector Quick Installation Guide* for more installation instructions.

Check the LED Indicators

Check the LED indicators to verify that the unit is functioning correctly. Although there are six LEDs, only three are operational. The three indicators shown left to right are:



Power



LAN



Wireless

After the access point is initialized, the LEDs should behave as follows.

- The power LED should be lit.
- If the access point is connected to a LAN through an Ethernet cable, the LAN LED should be blinking.
- If the access point is communicating with a wireless adapter, the Wireless LED should be blinking steadily. The Wireless LED blinks faster when the access point is sending or receiving information from a wireless adapter.

If the access point fails to initialize, restart the access point by disconnecting and reconnecting the power.

Step 4: Access the Access Point Main Menu

Before You Start

In this step, configure each access point. First, open the Access Point Main Menu, and then view or alter the configuration values. An example of a configuration value is the access point's Network Name (SSID). This setting is also called an ESSID or Net_ID.

Open the Access Point Main Menu

To open the Access Point Main Menu, use one of three methods based on the network environment. The methods to choose from are:

- Use a Direct Serial Connection.
- Use a Telnet Connection.
- Use the Built-in Web Server.

This section briefly describes each method. For more detailed instructions, refer to Chapter 2 in the *Intel® PRO/Wireless 2011B LAN Access Point User's Guide*.

If you are using the Telnet or Built-in Web Server method, you must determine the IP address of the access point first.

Determining the IP address: By default, the access point's factory DHCP default setting is **Enabled**. If the access point is connected to a DHCP server, contact your network administrator to find the access point's IP address. Otherwise, the default IP address is 192.0.2.1.

To Use a Direct Serial Connection

1. Attach a female-to-female nine-pin serial cable from the serial port on a computer to the Access Point 9-pin serial connector. You must purchase the null modem serial cable separately.
2. Launch **Hyper Terminal** or another serial communications program on the computer.

The Installation Steps

3. Select the correct COM port and set the following parameters:
 - ANSI emulation if available.
 - 19200 bps baud rate.
 - 8 data bits.
 - 1 stop bit.
 - No parity.
 - No flow control.
4. Press **ESC** to display the Access Point Configuration Main Menu. Go to step 5.

To Use a Telnet Connection

Before continuing with the instructions below, find out what the IP address of the access point is.

1. At a DOS or Command prompt, type Tel net x. x. x. x, where x. x. x. x is the IP address of the access point, and press **ENTER**.
2. Type the admin password and press **ENTER**.



The default admin password is `Intel`. The `I` is uppercase and the remaining letters are lower case. If the access point(s) is (are) already functioning as part of the network, the admin password is most likely different from the default. For the correct password, contact your network administrator.

3. Press **ESC** to display the Access Point Configuration Main Menu. Go to step 5.

To Use the Built-in Web Server

Before continuing with the instructions below, determine the IP address of the access point.

1. Make sure that your computer's IP address is on the same subnet or has access via a gateway to the subnet the access point is attached to. Also make sure your proxy settings are correct. If you are not sure, contact your network administrator.

2. Launch an Internet browser.
3. In the browser's address box, enter `http://x.x.x.x`, where `x.x.x.x` is the access point's IP address. Once the user interface is displayed, go to step 5.

Step 5: View and Alter the Settings

If the access point is already functioning as part of a network, altering its settings causes some disruption to users communicating with the access point. If you are only viewing information, there is no disruption to the network.

If you are configuring an access point for the first time, it is important to alter the settings listed in table 1 below. After altering the settings, make sure that you save them.

Table 1: Settings You Alter for the First Time

Setting	Description	Main Menu Selection
Net_ID (ESS)	Any combination of letters and numbers up to 32 characters. This is also called Network Name (SSID). The default is 101. Intel recommends changing this value.	Access Point Installation
IP Address	If addresses are not dynamically assigned to network devices, set the IP address.	Access Point Installation
System Password Admin	Any combination of letters and numbers	Set System Configuration
Channel	See table 2 below for possible values. Neighboring access points should not be on the same channel.	Set System Configuration

The Installation Steps

Short RF Preamble	Enabled by default. Disable this feature in a mixed (Intel and non-Intel) hardware network.	RF Configuration
WEP (Privacy) (for encryption only)	Enable or disable. To use encryption, set to Enable .	RF Configuration
WEP Algorithm (If WEP is enabled)	If WEP Strong Encryption is enabled, an Intel® PRO/Wireless 2011B LAN Access Point allows 128-bit encryption. If you use encryption, Intel recommends changing the default algorithm.	RF Configuration
Encryption Key ID (If WEP is enabled)	1, 2, 3, or 4	RF Configuration
Encryption Key Maintenance (If WEP is enabled)	Choose random letters from A to F and random digits from 0 to 9.	RF Configuration

Table 2: Country Information

Country	Frequency	Channels
United States	2412 to 2470	1 to 11
Israel	2430 to 2447	5 to 8
Spain	2457 to 2463	10 or 11
France	2458 to 2472	10 to 13
Japan	2400 to 2485	1 to 14

**A more complete list of country information is available in the Intel® PRO/Wireless 2011B Access Point User's Guide.