

# **Intel® PRO/Wireless 5000 LAN Access Point**

*Quick Installation Guide*

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# Intel® PRO/Wireless 5000 LAN Products

## User Documentation

In addition to this Quick Installation Guide, Intel provides extensive online documentation for the PRO/Wireless 5000 LAN product line on the Intel CD-ROM in HTML format.

**Note:** The Intel CD-ROM contains documentation for other Intel products in addition to the PRO/Wireless 5000 LAN Products. Documentation for the PRO/Wireless 5000 LAN Products is accessible by clicking the View User Guides button on the autorun menu screen displayed when the Intel CD-ROM is inserted into the computer (if this screen does not appear, run autorun.exe from the root directory of the Intel CD-ROM). On the menu page listing all products, click the link for the PRO/Wireless 5000 LAN product you need information on.

## Installing the Access Point

### Package Contents

- Intel® PRO/Wireless 5000 LAN Access Point (model WSAP5000, WDAP5000, or WSAP2000)
- Mounting hardware
- Power supply and power cord
- CD-ROM containing software and online documentation
- Quick Installation Guide (this manual)

### Installation Options and Requirements

- **(Recommended)** To set up and configure the access point, use a wired client workstation connected to the access point directly or connected to the wired LAN to which the access point is connected. Initial setup and configuration must be done over a wired connection, but subsequent changes can be made over a wireless connection.
- **(Optional)** Use DHCP server support for automatic assignment of an IP address to the access point over the wired network. You can configure the access point to use DHCP to get its IP address. See Using DHCP on page 8.

## Connect and Power Up the Access Point

### Connect the Access Point to the Wired Network

- Plug an RJ-45 Category 5 Ethernet cable into the RJ-45 connector on the access point and into a 10/100 Ethernet wall connector or hub.

### Power Over Ethernet (POE)

The Intel® PRO/Wireless 5000 LAN Access Point supports Power Over Ethernet (POE) when connected to a hub, switch, or power injector module that conforms to the IEEE 802.3af standard. However, it does not support the power injector module supplied with Intel® PRO/Wireless 2011 or 2011B LAN Access Point models, or proprietary POE systems that do not conform to the 802.3af standard.

### Connect the Access Point to a Source of AC Power (if no Power Over Ethernet)

- Plug the power adapter into a wall outlet.
- Plug the power adapter cable into the socket on the bottom of the access point.

## LED Indicators

Once the access point is connected to a wired network and is powered on, check the LED indicators to verify that the unit is functioning correctly. If the access point fails to initialize, restart it by disconnecting and reconnecting the power.



The Intel® PRO/Wireless 5000 LAN Access Point can be mounted "right side up" on a desk or table or "upside down" on a wall or ceiling. The LED discussion that follows is based on a wall- or ceiling-mounted configuration in which the access point is "upside down." In this configuration the "Ready" LED will be the top LED and "Wired link" will be the bottom LED.

- The "Ready" LED should be lit.
- If the access point is connected to a LAN through an Ethernet cable, the "Wired link" LED should be lit (green for 10 Mbps, orange for 100 Mbps) and the "Wired network activity" LED should be blinking.
- If the access point is communicating with a wireless adapter, the "Wireless radio activity" LED should be flashing steadily. The Wireless radio activity LED blinks faster when the access point is sending or receiving information from a wireless adapter.
- Note that there are two sets of LEDs for "Wireless radio activity" and "Wireless radio association." The description indicates which models use which set or sets.

Viewed on a wall- or ceiling-mounted access point, the LED indicators have the following locations and functions.

<b>Ready</b>	Green. This indicator will stay illuminated after the access point has completed the initialization sequence. The Ready light flashes quickly 3 times during a reset to factory default settings.
<b>Wireless radio activity (802.11a)</b>	Yellow flashes steadily if no adapter associated, and more rapidly when transferring data. Applies to models WSAP5000 and WDAP5000.
<b>Wireless radio association (802.11a)</b>	Green will be ON if a client is associated to the access point and OFF if not. Applies to models WSAP5000 and WDAP5000.
<b>Wireless radio activity (802.11b)</b>	Yellow flashes steadily if no adapter associated, and more rapidly when transferring data. Applies to models WSAP2000 and WDAP5000.
<b>Wireless radio association (802.11b)</b>	Green will be ON if a client is associated to the access point and OFF if not. Applies to models WSAP2000 and WDAP5000.
<b>Wired network activity</b>	Yellow blinking shows activity.
<b>Wired link</b>	Green for 10 Mbps wired network speed and orange for 100 Mbps.

## Configuring the Access Point for the First Time

1. Set up a portable or desktop computer as a configuration workstation from which to view the browser-based Configuration Management System used to configure the access point.
2. Connect the configuration workstation to the access point either directly (using a crossover RJ-45 cable) or through a hub or switch (using a standard RJ-45 cable).
3. The configuration workstation must be running Microsoft Windows® XP, 2000, Me, or 98, and one of the following web browsers: Microsoft Internet Explorer version 5.50 or Netscape Navigator version 4.78 or 5.x
4. Set up the configuration workstation initially with an IP address compatible with the **default IP address** and **default subnet** of the access point. For example, based on the access point default IP address 192.0.2.1 and default subnet 255.255.0.0, the client workstation could be set to 192.0.2.2, 192.0.2.3, or a similar address not in use by another device.
5. Once the workstation has been configured as just described, type the default access point IP address as a URL in the browser address field: **http://192.0.2.1**.
6. To access the Express Setup pages, type a user name and a password. The default for both is: **Intel**. The password is case-sensitive: capital "I," lower case "ntel."

7. Use Express Setup to configure the access point with a **new IP address, subnet, and other settings** suitable for the network to which it will be permanently connected (see table on page 7).
8. Click Apply first, then click Restart AP. After the access point has restarted, connect it to the required network.
9. Once the access point has been configured and connected to the network, the configuration interface can be viewed from any workstation on the same network segment or subnet. Open a compatible browser and type the actual IP address of the access point as a URL in the address field.

**Note:** To view configuration, function or option changes on the browser pages, turn off the browser's caching function.

- For Netscape, from the menu bar select Edit, Properties, Advanced, Cache, the select Document in cache is compared to document on network: Every time.
- For Internet Explorer, from the menu bar select View, Internet Options, Temporary Internet files, Settings, then select Check for newer versions of stored pages: Every visit to the page.

## Settings for First Time Configuration (Express Setup)

For complete coverage of access point settings see the access point Help file or the online User's Guide.

Setting	Description
<b>Default IP Address</b>	The default IP address is 192.0.2.1. An IP address is not dynamically assigned to the access point under its default configuration. Use the default address initially, then change it to a valid address for the network to which the access point will be connected. For dynamic address assignment, see the section Using DHCP.
<b>System Name</b>	User-defined name for the access point. Any combination of letters and numbers from 1 to 32 characters. Default is the model number of the access point.
<b>Default Subnet Mask</b>	The default Subnet Mask is 255.255.0.0 if DHCP usage is Disabled or DHCP service is not available. Change this to a valid subnet mask for the network to which the access point will be connected.
<b>Default Gateway</b>	There is no default gateway initially configured. Use a valid gateway address for the network to which the access point will be connected. If no valid gateway is defined on your network, use the default gateway 0.0.0.0. For gateway assignment via DHCP, see the section Using DHCP.
<b>DHCP</b>	The Dynamic Host Configuration Protocol (DHCP) dynamically assigns IP addresses on a network with a DHCP server. DHCP default setting for the PRO/Wireless 5000 LAN Access Point is <b>Disabled</b> . To change this to Enabled and install the access point on a network using DHCP support, see Using DHCP.
<b>Help URL</b>	Location of the Help files accessible by clicking the Help button on a screen in the access point Configuration Management System. See the online User's Guide for information.
<b>SSID 11A</b>	Service Set Identifier (also called Network Name, Network ID, ESSID) identifies the network to which the access point is connected. All access points and client workstations on the same wireless LAN must have the same SSID, which can be any combination of letters and numbers up to 32 characters. Default for Intel PRO/Wireless 5000 LAN devices is <b>"101."</b> The default SSID is intended only for preliminary setups and connections; it should usually be changed to a descriptive name for the wireless LAN network in question.



## Using DHCP (Optional)

The Intel PRO/Wireless 5000 LAN Access Point can be configured to use DHCP to get its IP address, subnet mask, and default gateway:

1. Access the Express Setup page in the browser-based Configuration Management System as described in Steps 1-6 under Configuring the Access Point for the First Time on page 6.
2. Change the DHCP setting from Disabled to Enabled on the Express Setup page or the Configuration page. Save the new settings by clicking Apply, then click Restart AP. After the restart, connect the access point to the network to which it will be permanently connected.
3. The next time the access point is restarted after DHCP has been enabled, it will attempt to get its IP address, subnet mask, and default gateway from the DHCP server. If no server is available, the access point will use the Default IP Address and Default Subnet Mask settings.
4. When the access point used DHCP to obtain its IP address, you will have to determine the IP address before you can access the configuration pages. There are several strategies you can use for this, based on the MAC address assigned to the access point:
  - Before connecting the "DHCP Enabled" access point to a DHCP network, ask your network administrator to reserve an IP address, based on the MAC address for the access point, in the DHCP "lease table." This will allow the DHCP server to recognize the access point when it is connected to the network and assign it a known IP address based on the MAC address.
  - You can also connect a "DHCP Enabled" access point to a DHCP network immediately, without reserving the MAC address before connection. In this case an address will be assigned automatically, but you will have to request the address from your network administrator, who will obtain it from the DHCP "lease table."
  - You can also use the Intel Access Point Administration Tool AP Discovery to find the access point and display its IP address. See the online User's Guide for details.

## Restore Factory Defaults

The access point has a Reset button that can be used to perform a hardware reset or to restore the access point's factory default settings.

The Reset button is located in a **pinhole** on the bottom of the access point. Insert the end of an unbent paper clip into the hole and apply pressure as follows:

- Press and release the Reset button quickly to perform a hardware reset.
- Press and hold the Reset button until the "Ready" LED flashes quickly 3 times. This will restore all access point parameters to factory default settings, including default user name, password, and IP address.

## Access Point Factory Default Settings

<b>System name</b>	WSAP5000 (or the model number of your access point)
<b>IP address</b>	192.0.2.1
<b>Subnet mask</b>	255.255.0.0
<b>Default gateway</b>	None
<b>User</b>	Intel (case sensitive)
<b>Password</b>	Intel (case sensitive)
<b>SSID 11A</b>	101
<b>WEP 11A</b>	Disabled

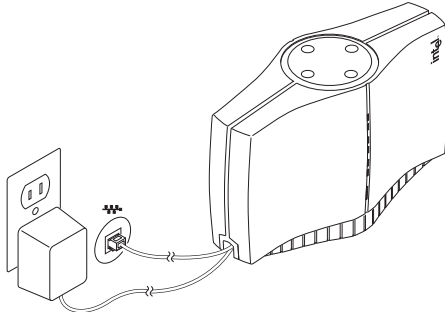
## Setting Up a Wireless LAN

For detailed information on site survey, setup, positioning, and testing of access points on your wireless LAN, see the online User's Guides on the Intel CD-ROM. On the autorun menu screen (which displays when you load the CD-ROM or run autorun.exe from the CD-ROM), select "Access Point Manuals," "Main Contents," and "Administrator's Guide."

## Mount the Access Point

Position each Access point using the following guidelines and illustrations. For best throughput and range, install the Access Point as high as practical.

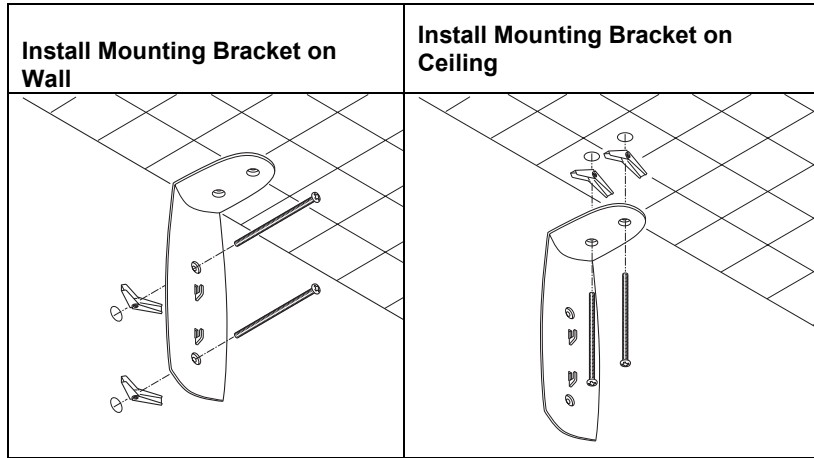
### Desktop or Table Top Location



Set the access point on a flat surface such as a table or desk. If the access point is positioned on a desk or table, the antenna should be on top (as shown above).

## Wall or Ceiling Mounted Location

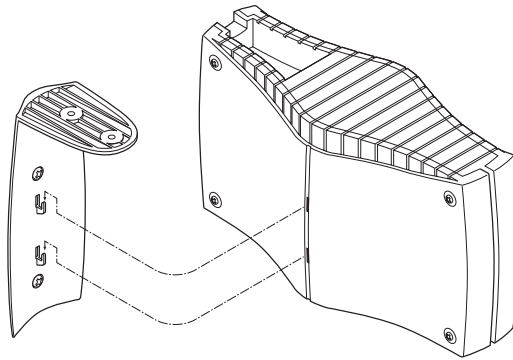
To install the mounting bracket on a hollow wall or ceiling, use the bracket to position and drill holes for the toggle screws supplied, using a 3/8-inch drill bit. Insert the bolt through the holes in the bracket, then screw on the toggle piece. **Insert bolt and toggle through the hole.** The toggle will open on the other side of the hole. Turn the bolt until the bracket is secure.



## Attach Access Point to Bracket

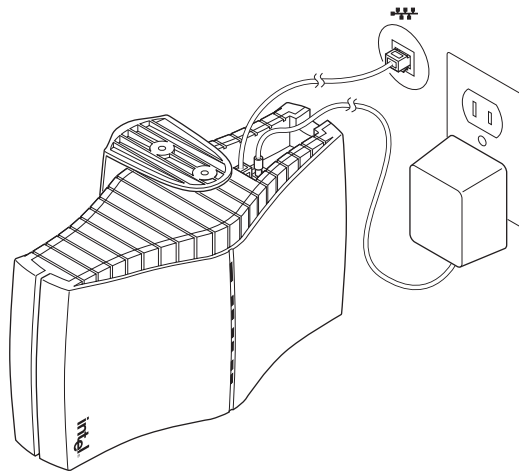
If the access point is attached to a ceiling or to a wall near the ceiling, it should be positioned with the antenna on the bottom (as shown below).

If the access point is mounted at a lower point on the wall, it should be positioned with the antenna on the top (see the illustration for Desk or Table Top location, page 9; the access point is designed so that it can be attached to the mounting bracket hooks in either orientation).



## Connect Wall or Ceiling Mounted Access Point to Network and AC Power

Refer to Connect and Power Up the Access Point on page 5 for detailed instructions.



## **Customer Support**

### **Web and Internet Sites**

- Support: <http://support.intel.com>
- Network Products: <http://www.intel.com/network>
- Corporate: <http://www.intel.com>

### **Customer Support Technicians**

#### **For the U.S. and Canada**

If you are using this product in conjunction with Intel® PRO/Wireless 5000 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>).

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