



Advanced Configuration on Mac OS X

This chapter describes the client utility used with a Cisco Aironet Wireless LAN Adapter running on the Mac OS X operating system.

The following topics are covered in this chapter:

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- [Opening the Client Utility, page 6-2](#)
- [Basic Properties, page 6-3](#)
- [Location Profiles, page 6-6](#)
- [Loading New Firmware, page 6-8](#)
- [Advanced Properties, page 6-10](#)
- [Turning Your Client Adapter Radio On or Off, page 6-18](#)
- [Obtaining Software Version Information, page 6-21](#)

Overview

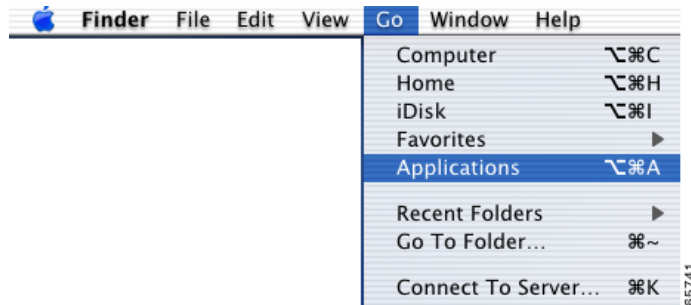
This section explains how to use the client utility to load new firmware and to configure your client adapter for use in a wireless network. This section also explains how you can use the client utility to set parameters that govern how the adapter transmits or receives data, and controls the adapter's operation within an infrastructure or ad hoc network.

Opening the Client Utility

To open the client utility, follow the steps below.

- Step 1** From the **Finder** menu bar on the top of the screen, select **Go** and click **Applications** (see [Figure 6-1](#)). The Applications screen appears.

Figure 6-1 Finder Menu Bar



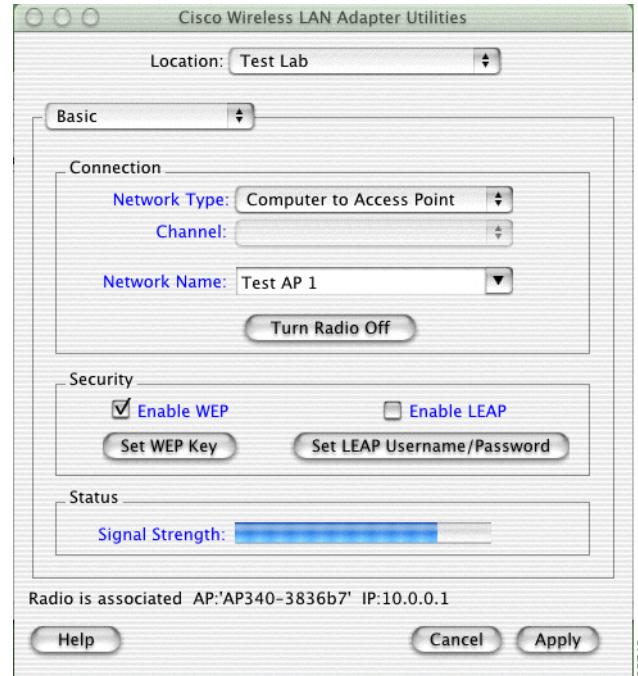
- Step 2** On the Applications screen, double-click the **Aironet Client Utility** icon. The client utility screen appears, and the computer searches for the client adapter radio. When the radio is found, the basic properties screen appears (see [Figure 6-2](#)).

Basic Properties

The basic properties screen displays when you open the client utility. The screen provides useful information about your client adapter and enables you to quickly set key configuration parameters needed to successfully communicate with an access point or another wireless device.

The basic properties screen is shown in [Figure 6-2](#).

Figure 6-2 Client Utility Basic Properties Screen



Note

You can click the blue words on any client utility screen to obtain descriptive information, such as Signal Strength or Enable WEP.

The basic properties screen provides the following information:

- **Location**—Allows you to select or define different wireless network profiles for various operating locations.
- **Connection**—Allows you to specify the network type, the network name, and the frequency channel for computer to computer (Ad-Hoc) networks. You can also turn the radio on or off.
- **Security**—Allows you to specify the WEP and LEAP security settings. You can enable WEP and LEAP, set up to four WEP keys, and set your LEAP username and password.
- **Status**—Shows a bar graph to represent the signal strength of the received RF signal.
- **Association Status**—Shows the association status of your client adapter.
 - **Radio associated**—Your client adapter is associated to an access point or other wireless device. For an access point, the name and IP address are shown.
 - **Radio not associated**—Your client adapter is ready and enabled but not associated to an access point or wireless device.

Table 6-1 lists and describes the parameters that can be set from the basic properties screen. Follow the instructions in the table to initially set or change any parameter. Click **Apply** at the bottom of the basic properties screen to save any changes you make.

Table 6-1 Basic Properties Parameters

Parameter	Description						
Location	<p>Specifies different radio network profile settings used in various locations, such as your office, your home, the factory, or the airport. For each profile, you can specify unique connection and security settings. Click the up and down arrows to select a different profile. For additional information see the “Location Profiles” section on page 6-6.</p> <p>Range: (number of profiles supported is limited by available disk space)</p> <p>Default: Default</p>						
Network Type	<p>Specifies the type of network in which your client adapter is installed.</p> <p>Default: Computer to Access Point</p> <table border="1"> <thead> <tr> <th>Network Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Computer to Access Point</td> <td>Also referred to as <i>infrastructure</i>. Used to set up a connection to a wired Ethernet network (through an access point).</td> </tr> <tr> <td>Computer to Computer</td> <td>Also referred to as <i>ad hoc</i> or <i>peer to peer</i>. Used to set up a small network between two or more wireless devices. For example, an ad hoc network could be set up between computers in a conference room so users can share information in a meeting.</td> </tr> </tbody> </table>	Network Type	Description	Computer to Access Point	Also referred to as <i>infrastructure</i> . Used to set up a connection to a wired Ethernet network (through an access point).	Computer to Computer	Also referred to as <i>ad hoc</i> or <i>peer to peer</i> . Used to set up a small network between two or more wireless devices. For example, an ad hoc network could be set up between computers in a conference room so users can share information in a meeting.
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Channel	<p>Specifies which frequency your client adapter uses as the channel for communications. These channels conform to the IEEE 802.11 Standard for your regulatory domain.</p> <ul style="list-style-type: none"> In infrastructure mode, this parameter is set automatically and cannot be changed. The client adapter listens to the entire spectrum, selects the best access point to associate to, and uses the same frequency as that access point. In ad hoc mode, the channel of the client adapter must be set to match the channel used by the other clients with which you wish to communicate. <p>Range: Dependent on regulatory domain Example: 1 to 11 (2412 to 2462 MHz) in North America</p> <p>Note Refer to Appendix D, “Channels and Antenna Settings,” for a list of channel identifiers, channel center frequencies, and regulatory domains for each channel.</p>						

Table 6-1 Basic Properties Parameters (continued)

Parameter	Description
Network Name	<p>Network name is the same as service set identifier (SSID) and it identifies the wireless network that you want to access.</p> <p>Range: Up to 32 characters (case sensitive)</p> <p>Note If you leave this parameter blank, your client adapter can associate to any access point or wireless device on the network that is configured to allow broadcast SSIDs. If the access points or wireless devices with which you wish to communicate are not configured to allow broadcast SSIDs, the value of this parameter must exactly match their SSID or network name. Otherwise, you will not be able to access the access point or wireless device.</p>
Enable WEP	<p>Enables or disables Wired Equivalent Privacy (WEP) for your client adapter.</p> <p>If you want to enable WEP for your client adapter, you must select this check box and create a WEP key. This check box can also be used to disable WEP. Refer to Chapter 4, “Security Features” for more information on WEP and instructions on setting a WEP key.</p> <p>Note If you enable LEAP for your client adapter, this check box is automatically selected (check marked) to indicate the use of dynamic WEP keys.</p> <p>Default: Deselected</p>
Enable LEAP	<p>Enables or disables LEAP (also referred to as <i>EAP - Cisco Wireless</i>) for your client adapter.</p> <p>If you want to enable LEAP for your client adapter, you must select this check box and set a LEAP username and password. Refer to Chapter 4, “Security Features” for more information about LEAP and instructions on setting a LEAP username and password.</p> <p>Default: Deselected</p>

Table 6-2 describes the buttons on the basic properties screen.

Table 6-2 Buttons on the Basic Properties Screen

Button	Description
Turn Radio On Turn Radio Off	Turns the client adapter radio on or off. The button changes to indicate the operation to be performed; for example: <i>Turn Radio On</i> indicates the radio is turned on when you click the button and <i>Turn Radio Off</i> indicates the radio is turned off when you click the button.
Set WEP Key	Allows you to set up to four WEP keys (for additional information see Chapter 4, “Security Features”).
Set LEAP Username/Password	Allows you to set your LEAP username and password (for additional information see Chapter 4, “Security Features”).
Cancel	Exits the application or screen without saving revised settings.
Apply	Exits the application or screen and saves the revised settings.
Help	Allows you to access the client utility help screen (for additional information see the “Getting Help” section on page 1-12).

Location Profiles

The client utility allows you to specify different wireless network profile settings used in up to 16 operating locations, such as your office, your home, the factory, or the airport. You can specify unique connection and security settings for each location profile. These unique settings are stored in your Macintosh and recalled when you select each location.

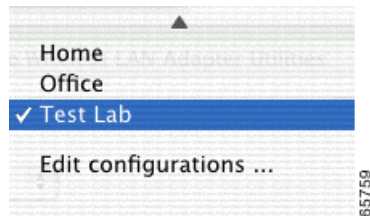
To configure a location profile involves the following operations:

- Select a location profile or add a new profile. See [“Selecting a Location Profile”](#) section on page 6-7.
- Specify unique connection parameters on the basic properties screen (see [Figure 6-2](#)) or the advanced properties screen (see [Figure 6-8](#)).
 - Set the network type
 - Set the network name or SSID
- Specify security parameters on the basic properties screen (see [Figure 6-2](#)) or the advanced properties screen (see [Figure 6-8](#)). Refer to [Chapter 4, “Security Features”](#) for information on LEAP and WEP and instructions on setting these security features.
 - Enable or disable WEP
 - If WEP is enabled, set up to four WEP keys
 - Enable or disable LEAP
 - If LEAP is enabled, set your LEAP username and password
- Click the **Apply** button on the basic properties screen (see [Figure 6-2](#)) or the advanced properties screen (see [Figure 6-8](#)) to set and store the parameters for the specified profile.

Selecting a Location Profile

To select a location profile from the client utility basic or advanced screens, click the up and down arrows at the end of the Location field and select the desired location from the pull-down menu (see [Figure 6-3](#)).

Figure 6-3 Location Pull-Down Menu

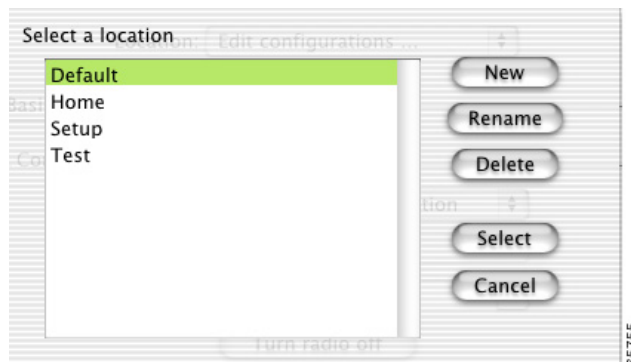


Click **Apply** on the basic or advanced properties screen to activate the selected location profile.

Editing a Location Profile

To add a new location profile name or to rename, delete, or select an existing location profile, click **Edit Configurations** from the location pull-down menu (see [Figure 6-3](#)). The Edit Configurations screen appears (see [Figure 6-4](#)).

Figure 6-4 Edit Configurations Screen



Use the buttons on the Edit Configurations screen to perform the following operations:

- To add a new location profile name, click **New** and enter a new name in the drop-down screen. Click **OK** to add the new name or click **Cancel** to return to the basic or advanced screen without setting a new name. When you create a new location profile name, you should enter the specific connection and security settings for that location on the basic or advanced screens.
- To rename an existing location profile, click **Rename** and enter the revised name in the drop-down screen. Click **OK** to revise the name or click **Cancel** to return to the basic or advanced screen without changing the name.
- To delete an existing location profile, select the profile to delete from the Edit Configuration screen and click **Delete**. The basic or advanced screen appears.
- To select an existing location profile as the client utility default location, select the profile from the Edit Configuration screen and click **Select**. The basic or advanced screen appears.

- To exit the Edit Configuration screen without making changes, click **Cancel**. The basic or advanced screen appears.

Table 6-3 lists and describes the buttons on the Edit Configurations screen.

Table 6-3 Buttons on the Edit Configurations Screen

Button	Description
New	Allows you to specify a name for a new location profile.
Rename	Allows you to rename an existing location profile name.
Delete	Allows you to delete an existing location profile name.
Select	Allows you to select the location profile name to be used as the client utility default.
Cancel	Exits the application or screen without saving revised settings.

Loading New Firmware

Your client adapter firmware is contained in the adapter's Flash memory, where it can be easily updated. The current version of the firmware is displayed on the Status screen. See the “[Obtaining Software Version Information](#)” section on page 6-21 for instructions on accessing this screen.

You can find the latest firmware version for your client adapter at the Cisco Software Center web site. Follow the instructions below to obtain and load the new firmware into your client adapter:



Note

If a power failure occurs while you are loading new firmware, your client adapter can become inoperable. If this occurs, start the procedure again.

Step 1

To obtain the latest client adapter radio firmware from the Cisco Web site, follow these steps:

- a. Use your web browser to access the Cisco Software Center at the following URL:
<http://www.cisco.com/public/sw-center/sw-wireless.shtml>
- b. In the firmware section, click on the link for your client adapter's series, such as Cisco Aironet 350 Series.
- c. Click on the latest client adapter radio firmware filename, such as PC350v42523.exe.



Note

The firmware image file (*.exe) is a compressed file. You can use Stuffit Expander to expand (uncompress) this file.



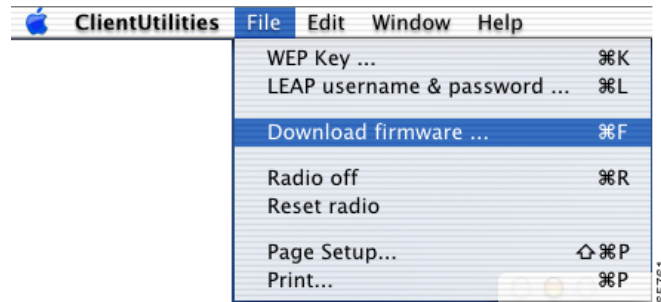
Note

To support the message integrity check (MIC) feature, you must use firmware version 4.25.23 or later.

- d. Read and accept the terms and conditions of the Software License Agreement.
- e. Select the Cisco server from which to download the file.
- f. Save the file to your hard drive then exit the web browser.

- Step 2** Locate and use the Stuffit Expander program on your hard drive to expand (uncompress) the radio firmware image file (*.exe) you copied to your hard drive. This creates an image file (filename.img) in the folder where the compressed file is located.
- Step 3** Make sure your client adapter is installed in your computer (refer to “[Inserting the Client Adapter into a Computing Device](#)” section on page 3-8).
- Step 4** Select **Download firmware** from the File pull-down menu (see [Figure 6-5](#)). The file location screen appears.

Figure 6-5 File Pull-Down Menu



- Step 5** Click the up and down arrows on the right of the From field and select the location (volume and folder) of the new radio firmware file on your hard disk.
- Step 6** Click the new radio firmware image file (*.img); see [Figure 6-6](#).

Figure 6-6 Firmware File Location Screen



- Step 7** Click the **Open** button. A dialog box appears indicating the progress of the download. The selected image is loaded into the client adapter’s Flash memory.
- Step 8** Click **OK** when a message appears indicating the firmware download was successful.

Advanced Properties

The advanced properties screen is similar to the basic properties screen but provides additional screen tabs to configure advanced settings and to provide status information for the wireless network.

To access the advanced properties screen perform the following steps:

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- Step 1** Click the up and down arrows to the right of the basic properties field (see [Figure 6-2](#)).
- Step 2** Select **Advanced** on the pull-down menu and the advanced properties screen appears.
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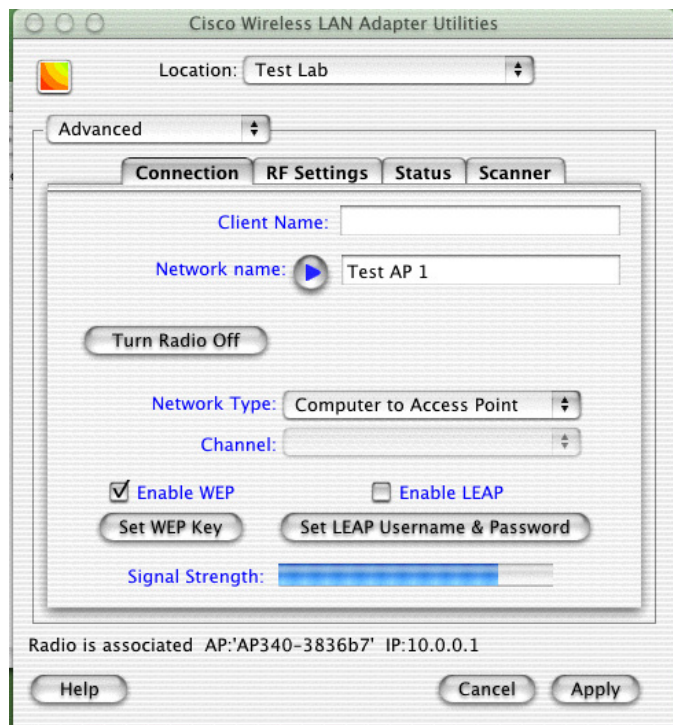
The following tabs are provided on the advanced properties screen (see [Figure 6-7](#)):

- **Connection**—allows you to specify the network type and the network name for your wireless network. You can also turn the radio on or off.
- **RF Settings**—allow you to specify RF (radio) parameters.
- **Status**—allows you to view client adapter status information.
- **Scanner**—allows you to view information on detected access points.

Advanced Connection Properties

To access the advanced connection properties screen, click the **Connection** tab (see [Figure 6-7](#)).

Figure 6-7 Client Utility Advanced Connection Properties Screen



The advanced connection properties screen is similar to the basic properties screen but allows you to specify a client name for your client adapter and up to three network names or SSIDs (see Figure 6-8).

Figure 6-8 Client Utility Advanced Connection Parameters Screen

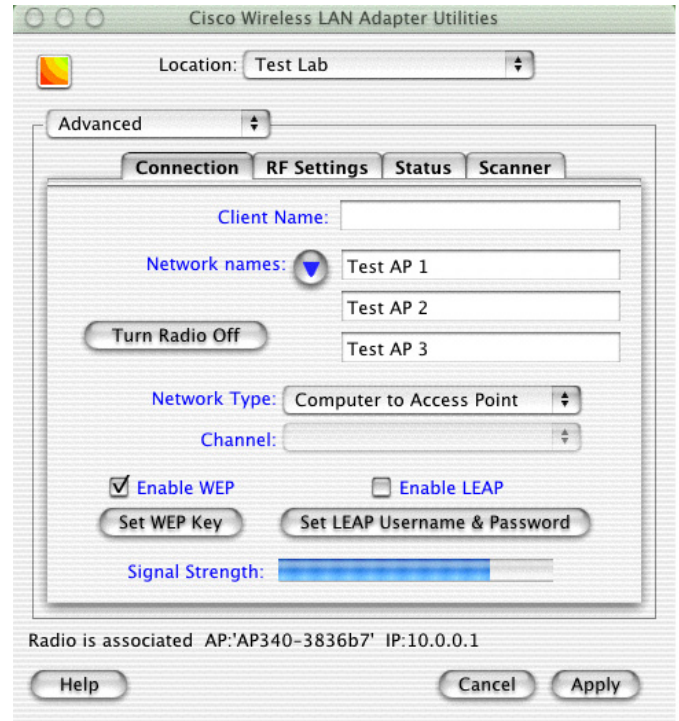


Table 6-4 lists and describes the client adapter’s system parameters on the advanced connection parameters screen. Follow the instructions in the table to initially set or change any parameter. Click **Apply** at the bottom of the advanced connection properties screen to save any changes you have made, or click **Cancel** to exit the client utility.

Table 6-4 Advanced Connection Properties Screen Parameters

Parameter	Description
Location	Specifies different wireless network profile settings used in various locations, such as your office, home, factory, or airport. For each profile, you can specify unique connection parameters required for that operating location. For additional information see the “ Location Profiles ” section on page 6-6. Range: Up to 16 locations can be specified Default: Default
Client Name	A logical name for your client adapter. It enables an administrator to quickly determine which devices are connected to the access point. This name is included in the access point’s list of connected devices. Range: Up to 16 characters Note Each computer on the network should have a unique client name.

Table 6-4 Advanced Connection Properties Screen Parameters (continued)

Parameter	Description						
Network Name	<p>Network name is the same as service set identifier (SSID) and it identifies the wireless network that you want to access. Up to three names can be specified for different wireless networks by pressing the arrow on the right of the Network Name field (see Figure 6-7).</p> <p>Range: Up to 32 characters (case sensitive) for each name</p> <p>Note If you leave this parameter blank, your client adapter can associate to any access point or wireless device on the network that is configured to allow broadcast SSIDs. If the access points or wireless devices with which you wish to communicate are not configured to allow broadcast SSIDs, the value of this parameter must exactly match their SSID or network name. Otherwise, you cannot access the access point or wireless device.</p>						
Network Type	<p>Specifies the type of network in which your client adapter is installed.</p> <p>Default: Computer to Access Point</p> <table border="1"> <thead> <tr> <th>Network Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Computer to Computer</td> <td>Also referred to as <i>ad hoc</i> or <i>peer to peer</i>. Used to set up a small network between two or more wireless devices. For example, an ad hoc network could be set up between computers in a conference room so users can share information in a meeting.</td> </tr> <tr> <td>Computer to Access Point</td> <td>Also referred to as <i>infrastructure</i>. Used to set up a connection to a wired Ethernet network (through an access point).</td> </tr> </tbody> </table>	Network Type	Description	Computer to Computer	Also referred to as <i>ad hoc</i> or <i>peer to peer</i> . Used to set up a small network between two or more wireless devices. For example, an ad hoc network could be set up between computers in a conference room so users can share information in a meeting.	Computer to Access Point	Also referred to as <i>infrastructure</i> . Used to set up a connection to a wired Ethernet network (through an access point).
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Channel	<p>Specifies which frequency your client adapter uses as the channel for communications. These channels conform to the IEEE 802.11 Standard for your regulatory domain.</p> <ul style="list-style-type: none"> In infrastructure mode, this parameter is set automatically and cannot be changed. The client adapter listens to the entire spectrum, selects the best access point to associate to, and uses the same frequency as that access point. In ad hoc mode, the channel of the client adapter must be set to match the channel used by the other clients with which you wish to communicate. <p>Range: Dependent on regulatory domain Example: 1 to 11 (2412 to 2462 MHz) in North America</p> <p>Note Refer to Appendix D, “Channels and Antenna Settings” for a list of channel identifiers, channel center frequencies, and regulatory domains for each channel.</p>						

Table 6-4 Advanced Connection Properties Screen Parameters (continued)

Parameter	Description
Enable WEP	<p>Enables or disables Wired Equivalent Privacy (WEP) for your client adapter.</p> <ul style="list-style-type: none"> If you want to enable WEP for your client adapter, you must select this check box and create a WEP key. Refer to Chapter 4, “Security Features” for more information on WEP and instructions on setting a WEP key. <p>Note This check box can also be used to disable WEP. If you enable LEAP for your client adapter, this check box is selected automatically.</p> <p>Default: Deselected</p>
Enable LEAP	<p>Enables or disables LEAP (also referred to as <i>EAP - Cisco Wireless</i>) for your client adapter.</p> <p>If you want to enable LEAP for your client adapter, you must select this check box and set a LEAP username and password. Refer to Chapter 4, “Security Features,” for more information about LEAP and instructions on setting a LEAP username and password.</p> <p>Default: Deselected</p>

[Table 6-5](#) describes the buttons on the advanced connection properties screen.

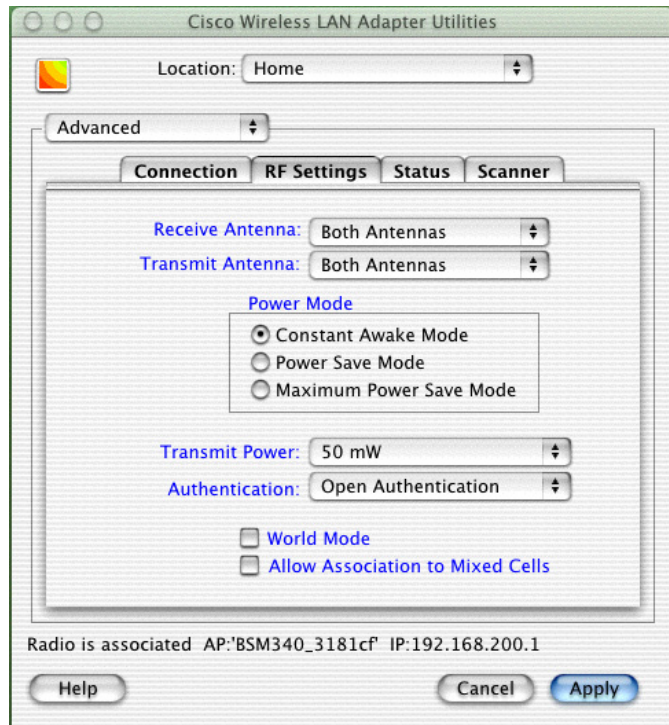
Table 6-5 Buttons on the Advanced Connection Properties Screen

Button	Description
Network Name Right Arrow or Down Arrow	Allows you to specify one or up to three network names. The right arrow indicates one network name can be entered. When you click the right arrow, it changes to a down arrow to indicate three network names can be entered and Network Name changes to Network Names.
Turn Radio On Turn Radio Off	Turns the client adapter radio on or off. The button changes to indicate the operation to be performed; for example: <i>Turn Radio On</i> indicates the radio is turned on when you click the button and <i>Turn Radio Off</i> indicates the radio is turned off when you click the button.
Set WEP Key	Allows you to set up to four WEP keys (for additional information refer to Chapter 4, “Security Features”).
Set LEAP Username/Password	Allows you to set your LEAP username and password (for additional information refer to Chapter 4, “Security Features”).
Cancel	Exits the application or screen without saving revised settings.
Apply	Exits the application or screen and saves the revised settings.
Help	Allows you to access the client utility help screen (for additional information see “Getting Help” section on page 1-12).

Setting RF Parameters

The advanced RF settings screen (see [Figure 6-9](#)) enables you to set parameters that control how your client adapter transmits and receives data. To access this screen, click the **RF Settings** tab on the advanced properties screen.

Figure 6-9 Client Utility Advanced RF Settings Screen



The advanced RF settings screen allows you to specify advanced radio parameters and also provides the following information:

- **Location**—Allows you to define up to 16 different wireless network profiles for various operating locations. In each profile you can specify a network type, network name, plus WEP and LEAP security settings for that operating location. For additional information, see the [“Location Profiles” section on page 6-6](#).
- **Radio Status**—Shows the operational mode of your client adapter. If your client adapter is associated to an access point or wireless device, the name and IP address are displayed.
 - **Radio associated**—Your client adapter is associated to an access point or other wireless device. The access point or wireless device name and IP address are shown.
 - **Radio not associated**—Your client adapter is ready and enabled but not associated to an access point or wireless device.

Table 6-6 lists and describes the parameters on the Client Utility Advanced RF Network Settings screen. Follow the instructions in the table to initially set or change any parameters. Click **Apply** at the bottom of the screen to save any changes you make.

Table 6-6 Client Utility Advanced RF Settings Screen Parameters

Parameter	Description
Location	<p>Allows you to define up to 16 different wireless network profiles for various operating locations. For each profile you can specify unique RF network parameters required for that operating location. For additional information see the “Location Profiles” section on page 6-6.</p> <p>Range: Up to 16 locations</p> <p>Default: Default</p>
Receive Antenna	<p>Specifies the antenna that your client adapter uses to receive data.</p> <ul style="list-style-type: none"> PC card—The PC card’s integrated, permanently attached antenna operates best when used in Antennas 1 and 2 mode (also referred to as <i>diversity mode</i>). Diversity mode allows the card to use the better signal from its two antenna ports. <p>Range: Left Antenna, Right Antenna, Both Antennas</p> <p>Default: Both Antennas</p> LM card—The LM card is shipped without an antenna; however, an antenna can be connected through the card’s external connector. If a snap-on antenna is used, diversity mode is recommended. Otherwise, select the mode that corresponds to the antenna port to which the antenna is connected. <p>Range: Left Antenna, Right Antenna, Both Antennas</p> <p>Default: Both Antennas</p> PCI client adapter—The PCI client adapter must use the Right Antenna. <p>Default: Right Antenna</p>
Transmit Antenna	<p>Specifies the antenna that your client adapter uses to transmit data. See the Receive Antenna parameter above for information on the options available for your client adapter.</p>

Table 6-6 Client Utility Advanced RF Settings Screen Parameters (continued)

Parameter	Description								
Power Save Mode	<p>Sets your client adapter to its optimum power consumption setting.</p> <p>Range: Constant Awake Mode, Power Save Mode, and Maximum Power Save Mode</p> <p>Default: Constant Awake Mode (CAM)</p>								
	<table border="1"> <thead> <tr> <th>Power Save Mode</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Constant Awake Mode (CAM)</td> <td> <p>Keeps the client adapter powered up continuously so there is little lag in message response time.</p> <p>Consumes the most power but offers the highest throughput. Recommended for desktop computers and devices that use AC power.</p> </td> </tr> <tr> <td>Power Save Mode (PSP)</td> <td> <p>Switches between a PSP mode and CAM mode, depending on network traffic. This mode switches to CAM when retrieving a large number of packets and switches back to PSP after the packets have been retrieved.</p> <p>Recommended when power consumption is a concern but you need greater throughput than that allowed by Max PSP.</p> </td> </tr> <tr> <td>Maximum Power Save Mode (Max PSP)</td> <td> <p>Causes the access point to buffer incoming messages for the client adapter, which wakes up periodically and polls the access point to see if any buffered messages are waiting for it. The adapter can request each message and then go back to sleep.</p> <p>Conserves the most power but offers the lowest throughput. Recommended for devices for which power consumption is the ultimate concern (such as small battery-powered devices).</p> </td> </tr> </tbody> </table>	Power Save Mode	Description	Constant Awake Mode (CAM)	<p>Keeps the client adapter powered up continuously so there is little lag in message response time.</p> <p>Consumes the most power but offers the highest throughput. Recommended for desktop computers and devices that use AC power.</p>	Power Save Mode (PSP)	<p>Switches between a PSP mode and CAM mode, depending on network traffic. This mode switches to CAM when retrieving a large number of packets and switches back to PSP after the packets have been retrieved.</p> <p>Recommended when power consumption is a concern but you need greater throughput than that allowed by Max PSP.</p>	Maximum Power Save Mode (Max PSP)	<p>Causes the access point to buffer incoming messages for the client adapter, which wakes up periodically and polls the access point to see if any buffered messages are waiting for it. The adapter can request each message and then go back to sleep.</p> <p>Conserves the most power but offers the lowest throughput. Recommended for devices for which power consumption is the ultimate concern (such as small battery-powered devices).</p>
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Table 6-6 Client Utility Advanced RF Settings Screen Parameters (continued)

Parameter	Description						
Authentication	<p>Defines how your client adapter attempts to authenticate to an access point.</p> <p>Range: Open Authentication or Shared Authentication</p> <p>Default: Open Authentication</p>						
	<table border="1"> <thead> <tr> <th>Authentication</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Open</td> <td>Allows your client adapter, regardless of its WEP settings, to authenticate and attempt to communicate with an access point.</td> </tr> <tr> <td>Shared</td> <td> <p>Allows your client adapter to communicate only with access points that have the same WEP keys.</p> <p>The access point sends a known unencrypted “challenge packet” to the client adapter, which encrypts the packet and sends it back to the access point. The access point attempts to decrypt the encrypted packet and sends an authentication response packet indicating the success or failure of the decryption back to the client adapter.</p> </td> </tr> </tbody> </table>	Authentication	Description	Open	Allows your client adapter, regardless of its WEP settings, to authenticate and attempt to communicate with an access point.	Shared	<p>Allows your client adapter to communicate only with access points that have the same WEP keys.</p> <p>The access point sends a known unencrypted “challenge packet” to the client adapter, which encrypts the packet and sends it back to the access point. The access point attempts to decrypt the encrypted packet and sends an authentication response packet indicating the success or failure of the decryption back to the client adapter.</p>
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	<p>Note If LEAP is enabled on your client adapter, Open is the only available option.</p> <p>Note The Shared Authentication option is available only if the client adapter has been assigned a WEP key and WEP is enabled. Refer to the Chapter 4 for instructions on setting a WEP key and enabling WEP.</p>						
Transmit Power	<p>Defines the level at which your client adapter transmits power. This value must not be higher than that allowed by your country’s regulatory agency (FCC in the U.S., DOC in Canada, ETSI in Europe, MKK in Japan, etc.). When World Mode is enabled, only the transmit power levels supported by the country of operation’s regulatory agency are available (refer to Appendix D, “Channels and Antenna Settings”).</p> <p>Range: 1, 5, 15, 30 mW (340 series client adapters) 1, 5, 20, 30, 50, or 100 mW (350 series client adapters)</p> <p>Default: The minimum level allowed by your country’s regulatory agency</p> <p>Note Reducing the transmit power level conserves battery power but decreases radio range.</p>						

Table 6-6 Client Utility Advanced RF Settings Screen Parameters (continued)

Parameter	Description
World Mode	<p>Selecting this check box enables the client adapter to assume the legal transmit power level and channel set of the access point to which it is associated. This parameter is available only in computer to access point (infrastructure) mode and is designed for users who travel between countries because it allows the adapter to be used in different regulatory domains.</p> <p>Default: Deselected</p> <p>Note When World Mode is enabled, only the transmit power levels supported by the country of operation's regulatory agency are available.</p>
Allow Association To Mixed Cells	<p>If your network's access points are set to communicate with either WEP-enabled or WEP-disabled clients (that is, if the Use of Data Encryption by Stations parameter on the AP Radio Data Encryption screen is set to Optional), you must select this check box, even if your client adapter is not using WEP. If this setting is not enabled, your client adapter cannot establish a connection with the access point.</p> <p>Default: Deselected</p> <p>Note For security reasons, Cisco recommends that both WEP-enabled and WEP-disabled clients not be allowed in the same cell because broadcast packets will be sent unencrypted, even to clients running WEP.</p>

Turning Your Client Adapter Radio On or Off

Your client adapter radio can be turned on or off. Turning the radio off prevents the adapter from transmitting RF energy. You might want to turn off the client adapter radio when you are not transmitting data and want to conserve battery power or when you are using a laptop on an airplane and want to prevent the adapter's transmissions from potentially interfering with electronic devices.

If the radio is not turned off, it periodically sends out inquiry packets even if it is not associated to an access point, as required by the 802.11 specification. Therefore, it is important to turn it off around devices that are susceptible to RF interference.

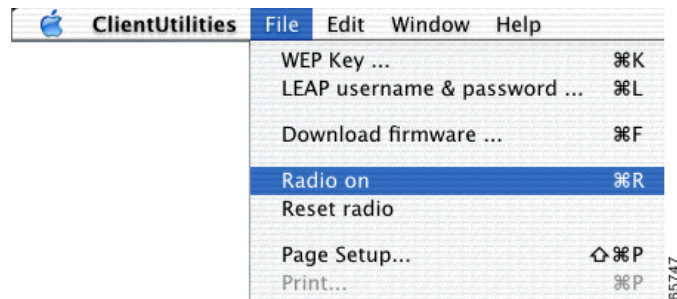


Note Your client adapter is not associated while the radio is off.

Follow the steps below to turn the client adapter's radio on or off.

- Step 1** To turn your radio on, perform one of the following steps:
- a. Select **Radio On** from the File pull-down menu (see [Figure 6-10](#)).

Figure 6-10 File Pull-Down Menu

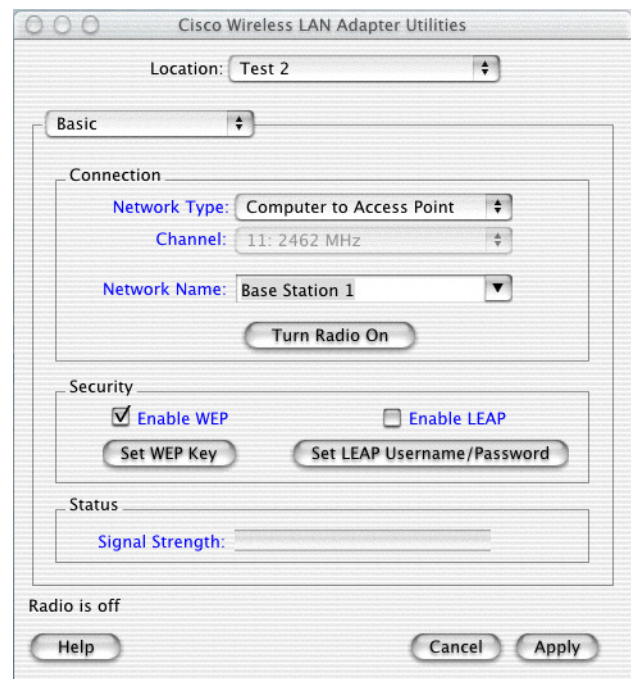


Note

The menu option changes to Radio Off when the radio is powered up.

- b. Click the **Turn Radio On** button on the basic properties screen (see [Figure 6-11](#)).

Figure 6-11 Client Utility Basic Properties Screen

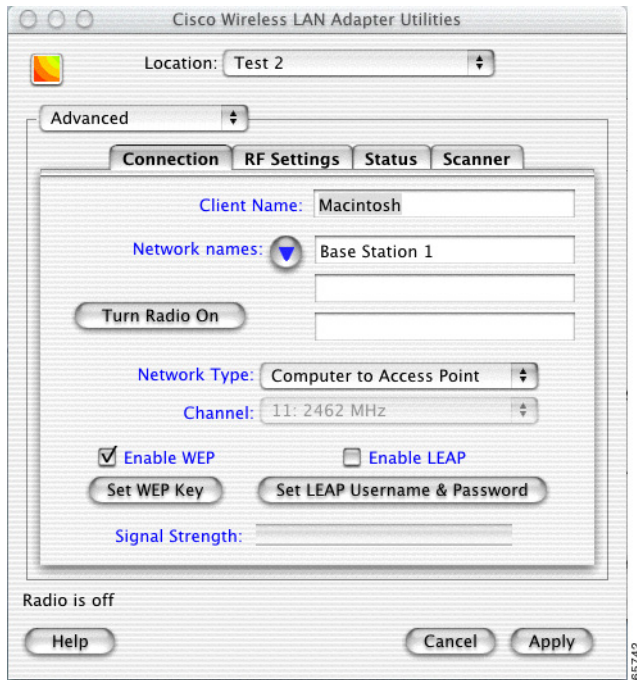


Note

The Turn Radio On button changes to Turn Radio Off when the radio is powered up.

- c. Click the **Turn Radio On** button on the advanced properties screen (see [Figure 6-12](#)).

Figure 6-12 Client Utility Advanced Properties Connection Screen



Note

The Turn Radio On button changes to Turn Radio Off when the radio is powered up.

Step 2

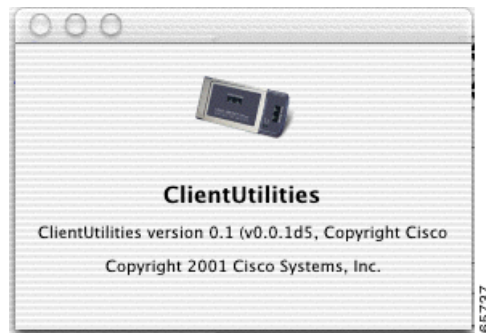
To turn your radio off, perform one of the following steps:

- a. Select **Radio Off** from the File pull-down menu
- b. Click the **Turn Radio Off** button on the basic properties screen
- c. Click the **Turn Radio Off** button on the advanced properties screen.

Obtaining Software Version Information

To obtain your client utility version, click **Client Utility** on the main menu bar and select **About Aironet Client Utility** from the pull-down menu. The Client Utility About screen displays and contains the client utility version number (see [Figure 6-13](#)).

Figure 6-13 Client Utility About Screen



To obtain your radio firmware version, click the **Status** tab on the advanced properties screen. The status screen (see [Figure 6-14](#)) appears and displays your client adapter radio firmware version number plus other information.

Figure 6-14 Client Utility Advanced Properties Status Screen

