



Troubleshooting

This chapter provides troubleshooting procedures for basic problems with the access point. For the most up-to-date, detailed troubleshooting information, refer to the Cisco TAC website at the following URL (select **Top Issues** and then select **Wireless Technologies**):

<http://www.cisco.com/tac>

Sections in this chapter include:

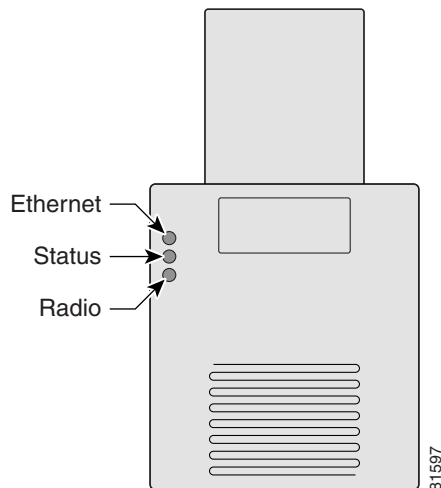
- [Checking the Top Panel Indicators, page 22-2](#)
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Checking the Top Panel Indicators

If your access point is not communicating, check the three LED indicators on the top panel. You can use them to quickly assess the unit's status. [Figure 22-1](#) shows the indicators on the 1200 series access point. [Figure 22-2](#) shows the indicators on the 1100 series access point.

Figure 22-1 Indicators on the 1200 Series Access Point

Figure 22-2 Indicators on the 1100 Series Access Point



The indicators signals have the following meanings (for additional details refer to [Table 22-1](#)):

- The Ethernet indicator signals traffic on the wired LAN, or Ethernet infrastructure. This indicator is normally green when an Ethernet cable is connected, and blinks green when a packet is received or transmitted over the Ethernet infrastructure. The indicator is off when the Ethernet cable is not connected.
- The status indicator signals operational status. Steady green indicates that the access point is associated with at least one wireless client. Blinking green indicates that the access point is operating normally but is not associated with any wireless devices.
- The radio indicator blinks green to indicate radio traffic activity. The light is normally off, but it blinks green whenever a packet is received or transmitted over the access point's radio.

Table 22-1 Top Panel Indicator Signals

Message type	Ethernet indicator	Status indicator	Radio indicator	Meaning
Boot loader status	Green	–	Green	DRAM memory test.
	–	Amber	Red	Board initialization test
	–	Blinking green	Blinking green	Flash memory test.
	Amber	Green	–	Ethernet initialization test.
	Green	Green	Green	Starting IOS.
Association status	–	Green	–	At least one wireless client device is associated with the unit.
	–	Blinking green	–	No client devices are associated; check the unit's SSID and WEP settings.
Operating status	–	Green	Blinking green	Transmitting/receiving radio packets.
	Green	–	–	Ethernet link is operational.
	Blinking green	–	–	Transmitting/receiving Ethernet packets.
Boot Loader Errors	Red	–	Red	DRAM memory test failure.
	–	Red	Red	File system failure.
	Red	Red	–	Ethernet failure during image recovery.
	Amber	Green	Amber	Boot environment error.
	Red	Green	Red	No IOS image file.
	Amber	Amber	Amber	Boot failure.
Operation Errors	–	Green	Blinking amber	Maximum retries or buffer full occurred on the radio.
	Blinking amber	–	–	Transmit/receive Ethernet errors.
	–	Blinking amber	–	General warning.
Configuration Reset	–	Amber	–	Resetting the configuration options to factory defaults.

Table 22-1 Top Panel Indicator Signals (continued)

Message type	Ethernet indicator	Status indicator	Radio indicator	Meaning
Failure	Red	Red	Red	Firmware failure; try disconnecting and reconnecting unit power.
Firmware Upgrade	–	Red	–	Loading new firmware image.

Checking Basic Settings

Mismatched basic settings are the most common causes of lost connectivity with wireless clients. If the access point does not communicate with client devices, check the following areas.

SSID

Wireless clients attempting to associate with the access point must use the same SSID as the access point. If a client device's SSID does not match the SSID of an access point in radio range, the client device will not associate. The access point default SSID is *tsunami*.

WEP Keys

The WEP key you use to transmit data must be set up exactly the same on your access point and any wireless devices with which it associates. For example, if you set WEP Key 3 on your client adapter to 0987654321 and select it as the transmit key, you must also set WEP Key 3 on the access point to exactly the same value. The access point does not need to use Key 3 as its transmit key, however.

Refer to [Chapter 9, “Configuring Cipher Suites and WEP,”](#) for instructions on setting the access point's WEP keys.

Security Settings

Wireless clients attempting to authenticate with your access point must support the same security options configured in the access point, such as EAP or LEAP, MAC address authentication, Message Integrity Check (MIC), WEP key hashing, and 802.1X protocol versions.

If a wireless client is unable to authenticate with your access point, contact the system administrator for proper security settings in the client adapter and for the client adapter driver and firmware versions that are compatible with the access point settings.



Note

The access point MAC address that appears on the Status page in the Aironet Client Utility (ACU) is the MAC address for the access point radio. The MAC address for the access point Ethernet port is printed on the label on the back of the access point.

Resetting to the Default Configuration

If you forget the password that allows you to configure the access point, you may need to completely reset the configuration. You can use the MODE button on the access point or the web-browser interface.

**Note**

The following steps reset *all* configuration settings to factory defaults, including passwords, WEP keys, the IP address, and the SSID.

Using the MODE Button

Follow these steps to delete the current configuration and return all access point settings to the factory defaults using the MODE button:

- Step 1** Disconnect power (the power jack for external power or the Ethernet cable for in-line power) from the access point.
- Step 2** Press and hold the MODE button while you reconnect power to the access point.
- Step 3** Hold the MODE button until the Status LED turns amber (approximately 1 to 2 seconds), and release the button.
- Step 4** After the access point reboots, you must reconfigure the access point by using the Web browser interface, the Telnet interface, or IOS commands.

**Note**

The access point is configured with the factory default values including the IP address (set to receive an IP address using DHCP).

Using the Web Browser Interface

Follow the steps below to delete the current configuration and return all access point settings to the factory defaults using the web browser interface.

- Step 1** Open your Internet browser. You must use Microsoft Internet Explorer (version 5.x or later) or Netscape Navigator (version 4.x).
- Step 2** Enter the access point's IP address in the browser address line and press **Enter**. An Enter Network Password screen appears.
- Step 3** Enter your username in the User Name field.
- Step 4** Enter the access point password in the Password field and press **Enter**. The Summary Status page appears.
- Step 5** Click **System Software** and the System Software screen appears.
- Step 6** Click **System Configuration** and the System Configuration screen appears.
- Step 7** Click the **Reset to Defaults** button.



Note If the access point is configured with a static IP address, the IP address does not change.

Step 8 After the access point reboots, you must reconfigure the access point by using the Web browser interface, the Telnet interface, or IOS commands.

Reloading the Access Point Image

If your access point has a firmware failure, you must reload the complete access point image file using the Web browser interface or by pressing and holding the MODE button for around 30 seconds. You can use the browser interface if the access point firmware is still fully operational and you want to upgrade the firmware image. However, you can use the MODE button when the access point has a corrupt firmware image.

Using the MODE button

You can use the MODE button on the access point to reload the access point image file from an active Trivial File Transfer Protocol (TFTP) server on your network or on a PC connected to the access point Ethernet port.



Note If your access point experiences a firmware failure or a corrupt firmware image, indicated by three red LED indicators, you must reload the image from a connected TFTP server.



Note This process resets *all* configuration settings to factory defaults, including passwords, WEP keys, the access point IP address, and SSIDs.

Follow the steps below to reload the access point image file:

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- Step 1** The PC you intend to use must be configured with a static IP address in the range of 10.0.0.2 to 10.0.0.30.
 - Step 2** Place a copy of the access point image file (such as *c1100-k9w7-tar.122-11.JA.tar* for an 1100 series access point or *c1200-k9w7-tar.122-11.JA.tar* for a 1200 series access point) in the TFTP server folder on your PC. For additional information, refer to the [“Obtaining the Access Point Image File”](#) and [“Obtaining TFTP Server Software”](#) sections.
 - Step 3** Rename the access point image file in the TFTP server folder to **c1100-k9w7-tar.default** for an 1100 series access point or **c1200-k9w7-tar.default** for a 1200 series access point.
 - Step 4** Activate the TFTP server.
 - Step 5** Connect the PC to the access point using a Category 5 (CAT5) Ethernet cable.
 - Step 6** Disconnect power (the power jack for external power or the Ethernet cable for in-line power) from the access point.
 - Step 7** Press and hold the MODE button while you reconnect power to the access point.
 - Step 8** Hold the MODE button until the status LED turns red (approximately 20 to 30 seconds), and release the MODE button.

- Step 9** Wait until the access point reboots as indicated by all LEDs turning green followed by the Status LED blinking green.
- Step 10** After the access point reboots, you must reconfigure the access point by using the Web interface, the Telnet interface, or IOS commands.
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Web Browser Interface

You can also use the Web browser interface to reload the access point image file. The Web browser interface supports loading the image file using HTTP or TFTP interfaces.



Note Your access point configuration is not changed when using the browser to reload the image file.

Browser HTTP Interface

The HTTP interface enables you to browse to the access point image file on your PC and download the image to the access point. Follow the instructions below to use the HTTP interface:

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- Step 1** Open your Internet browser. You must use Microsoft Internet Explorer (version 5.x or later) or Netscape Navigator (version 4.x).
- Step 2** Enter the access point's IP address in the browser address line and press **Enter**. An Enter Network Password screen appears.
- Step 3** Enter your username in the User Name field.
- Step 4** Enter the access point password in the Password field and press **Enter**. The Summary Status page appears.
- Step 5** Click the **System Software** tab and then click **Software Upgrade**. The HTTP Upgrade screen appears.
- Step 6** Click the **Browse** button to locate the image file on your PC, such as *c1100-k9w7-tar.122-11.JA.tar* for an 1100 series access point or *c1200-k9w7-tar.122-11.JA.tar* for a 1200 series access point.
- Step 7** Click the **Upload** button.

For additional information, click the **Help** icon on the Software Upgrade screen.

Browser TFTP Interface

The TFTP interface allows you to use a TFTP server on a network device to load the access point image file. Follow the instructions below to use a TFTP server:

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- Step 1** Open your Internet browser. You must use Microsoft Internet Explorer (version 5.x or later) or Netscape Navigator (version 4.x).
- Step 2** Enter the access point's IP address in the browser address line and press **Enter**. An Enter Network Password screen appears.
- Step 3** Enter your username in the User Name field.

- Step 4** Enter the access point password in the Password field and press **Enter**. The Summary Status page appears.
 - Step 5** Click the **System Software** tab and then click **Software Upgrade**. The HTTP Upgrade screen appears.
 - Step 6** Click the **TFTP Upgrade** tab.
 - Step 7** Enter the IP address for the TFTP server in the TFTP Server field.
 - Step 8** Enter the file name for the access point image file (such as *c1100-k9w7-tar.122-11.JA.tar* for an 1100 series access point or *c1200-k9w7-tar.122-11.JA.tar* for a 1200 series access point) in the Upload New System Image Tar File field. If the file is located in a subdirectory of the TFTP server root directory, include the relative path of the TFTP server root directory with the filename. If the file is located in the TFTP root directory, enter only the filename.
 - Step 9** Click the **Upload** button.
 - Step 10** When a message appears that indicates the upgrade is complete, click **OK**.
For additional information click the Help icon on the Software Upgrade screen.
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Obtaining the Access Point Image File

The access point image file can be obtained from the Cisco.com software center using the following steps:

- Step 1** Use your Internet browser to access the Cisco Software Center at the following URL:
<http://www.cisco.com/public/sw-center/sw-wireless.shtml>
 - Step 2** Locate the access point firmware and utilities section and click on the link for the 1100 or 1200 series access point.
 - Step 3** Double-click the latest firmware image file, such as *c1100-k9w7-tar.122-11.JA.tar* for 1100 series access points or *c1200-k9w7-tar.122-11.JA.tar* for 1200 series access points.
 - Step 4** Download the access point image file to a directory on your PC hard drive.
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Obtaining TFTP Server Software

You can download TFTP server software from several websites. Cisco recommends the shareware TFTP utility available at this URL:

<http://tftpd32.jounin.net>

Follow the instructions on the website for installing and using the utility.