Cisco Limited Lifetime Hardware Warranty Terms

There are special terms applicable to your hardware warranty as well as services you may use during the warranty period. Your formal Warranty Statement, including the warranty applicable to Cisco software, appears in the CD which accompanies your Cisco Product. Follow these steps to access and download the *Cisco Information Packet* and your warranty document from the CD or from Cisco.com.

1. Launch your browser and go to the following URL:

   http://www.cisco.com/univercd/cc/td/doc/es_inpck/cetrans.htm

   The Warranties and License Agreement page appears.

2. To view the *Cisco Information Packet*, perform these steps:

   a. Click the **Information Packet Number** field and make sure that the part number 78-5235-02E0 is highlighted.

   b. Select the language to view the document.

   c. Click **Go**. The Information Packet page appears.

   d. From this page you can review the document online or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).

> ✎
> **Note** You must have Adobe Acrobat Reader in order to view and print a PDF file. If you do not have the viewer, click the **Get Acrobat Reader** icon at the bottom of the page to go to the Adobe.com website and download the reader.

3. To view translated and/or localized warranty information about your product, follow these steps:

   a. Enter the following part number in the **Warranty Document Number** field:
      78-6310-02C0

   b. Select the language to view the document.

   c. Click **Go**. The Cisco Warranty page appears.

From this page you can review the document online or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).

You may also contact our Service and Support website for assistance at:
http://www.cisco.com/public/Support_root.shtml.

Duration of Hardware Warranty

As long as the original End User continues to own or use the Product, provided that: fan and power supply warranty is limited to five (5) years. In the event of discontinuance of product manufacture, Cisco warranty support is limited to five (5) years from the announcement of discontinuance.

Replacement, Repair or Refund Procedure for Hardware

Cisco or its service center will use commercially reasonable efforts to ship a replacement part within ten (10) working days after receipt of the RMA request. Actual delivery times may vary depending on Customer location.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy.

To Receive a Return Materials Authorization (RMA) Number

Please contact the party from whom you purchased the product. If you purchased the product directly from Cisco, contact your Cisco Sales and Service Representative.

Complete the information below and keep for ready reference.

Product purchased from:	
Their telephone number:	
Product Model and Serial number:	
Maintenance Contract number:	

Preface

This guide will help you install and minimally configure your Cisco Aironet Wireless LAN Client Adapter on a computer running Windows 95, 98, NT, 2000, Me, XP, CE, Linux, Mac OS 9.x, or Mac OS X. Because the installation and configuration process varies with each operating system, this guide sometimes refers you to the installation and configuration guide specific to the operating system your computer is running. The installation and configuration guides can be found on Cisco.com. The following table lists the guides for each operating system and their URLs.

Operating System	Document and URL
Windows 95, 98, NT, 2000, Me, and XP	Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Windows http://cisco.com/univercd/cc/td/doc/product/wireless/airo_350/350cards/windows/index.htm
Windows CE 2.11 and 3.0	*Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Windows CE* http://cisco.com/univercd/cc/td/doc/product/wireless/airo_350/350cards/win_ce/index.htm

Operating System	Document and URL
Linux	*Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Linux* http://cisco.com/univercd/cc/td/doc/product/wireless/airo_350/350cards/linux/index.htm
Mac OS9x and X	*Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Mac OS* http://cisco.com/univercd/cc/td/doc/product/wireless/airo_350/350cards/mac/index.htm

Note These and other links in this guide can be found on the CD that shipped with your client adapter in a file called *links.htm*. The links in this file are "hot," so you can use your browser to jump to them.

Introduction to the Client Adapters

The Cisco Aironet Wireless LAN Client Adapters are radio modules that provide transparent wireless data communications between fixed, portable, or mobile devices and other wireless devices or a wired network infrastructure. The client adapters are fully compatible when used in devices supporting Plug-and-Play (PnP) technology.

The primary function of the client adapters is to transfer data packets transparently through the wireless infrastructure through an access point to a wired LAN. The adapters operate similarly to a standard network product except that the cable is replaced with a radio connection and an access point is required to make the connection to the wire. No special wireless networking functions are required, and all existing applications that operate over a network can operate using these adapters.

Types of Client Adapters

There are five types of client adapters:

- **PC card** (model number: AIR-PCM3*xx*)–An IEEE 802.11b-compliant 11-Mbps 2.4-GHz PCMCIA card radio that can be inserted into any device equipped with an *external* Type II or Type III PC card slot. Host devices can include laptops, notebook computers, personal digital assistants, and handheld or portable devices. The PC card is available in the 340 and 350 series.

- **LM card** (model number: AIR-LMC3*xx*)–An IEEE 802.11b-compliant 11-Mbps 2.4-GHz PCMCIA radio card module that is usually preinstalled in a device equipped with an *internal* Type II or Type III PC card slot. Host devices usually include handheld or portable devices. The LM card is available in the 340 and 350 series.
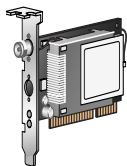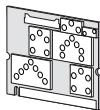
- **PCI card** (model number: AIR-PCI3*xx*)–An IEEE 802.11b-compliant 11-Mbps 2.4-GHz client adapter card radio module that can be inserted into any device equipped with an empty PCI expansion slot, such as a desktop personal computer. The PCI card is available in the 340 and 350 series.

- **Mini PCI card** (model number: AIR-MPI350)–An IEEE 802.11b-compliant 2.4-GHz client adapter card radio module that is preinstalled in a device equipped with an *internal* Type IIIA mini PCI card slot, such as a laptop computer. The mini PCI card is available in the 340 and 350 series.

- **PC-Cardbus card** (model number: AIR-CB20A)–An IEEE 802.11a-compliant 54-Mbps 5-GHz client adapter card radio module with a Cardbus interface that can be inserted into any device equipped with an *external* Type II or Type III Cardbus slot. Host devices can include laptops, notebook computers, personal digital assistants, and handheld or portable devices.
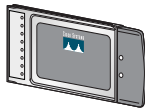
Software Components

The client adapters have three major software components: radio firmware, a driver, and one or more client utilities.

Radio Firmware

The radio firmware controls the client adapter's radio and is installed on the client adapter at the factory. However, a more recent version of the firmware may be available from Cisco.com. See the installation and configuration guide specific to your computer's operating system to determine the version of your adapter's firmware and to upgrade it if necessary.

Driver

The driver provides an interface between a computer's operating system and the client adapter, thereby enabling the operating system and the applications it runs to communicate with the adapter. The driver is provided on the CD that shipped with the adapter and on Cisco.com and must be installed before the adapter can be used.

Client Utilities

The client utilities are optional applications that interact with the radio firmware to adjust client adapter settings and display information about the adapter. The utilities are provided on the CD that shipped with the client adapter and on Cisco.com. If you use the client utilities, Cisco recommends that you install them before you install the client adapter.

Note If your computer is running Windows XP, you can configure some of the settings on your client adapter through the Windows operating system instead of through Cisco's client utility. Refer to the *Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Windows* for information.

Unpacking the Client Adapter

Each client adapter is shipped with the following items:

- Standard 2-dBi dipole antenna (PCI cards only)

- Cisco Aironet Wireless LAN Client Adapters CD (for 2.4-GHz client adapters) or Cisco Aironet 54-Mbps, 5-GHz Wireless LAN Adapters CD (for 5-GHz client adapters)

- Cisco product registration card

If any item is missing or damaged, contact your Cisco representative or reseller for support. Any remote antenna and its associated wiring are shipped separately.

Additional Requirements

In addition to the items shipped with the client adapter, you will also need the following in order to install and use the adapter:

- A computing device equipped with a Type II or Type III PC card slot, Cardbus slot, or an empty PCI expansion slot,

Note All drivers and supporting software (such as card and socket services) for the PC card slot must be loaded and configured.

- The appropriate tools for removing your computer's cover and expansion slot dust cover (for PCI cards)
- Windows NT Service Pack 3 or greater if your computer is running Windows NT
- The following information from your network system administrator:
    - The logical name for your workstation (also referred to as *client name*)

- The protocols necessary (such as TCP/IP) to bind to the client adapter

- The case-sensitive wireless service set identifier (SSID) for your radio network

- If your computer is not connected to a DHCP server, the IP address, broadcast address (if you are using Linux), subnet mask, and default gateway address of your computer

- The Wired Equivalent Privacy (WEP) keys of the access points with which your client adapter will communicate, if your wireless network uses static WEP for security

- The username and password for your network account

- The username and password for your RADIUS server account, if your wireless network uses LEAP or EAP-MD5 authentication

Installing the Client Adapter

You must perform the following procedures in order to make your client adapter operational:

1. Determine the latest version of the driver and client utilities

2. Install the driver

3. Install the client utilities

4. Verify installation

> **Note** Do not insert the client adapter until instructed to do so in the installation and configuration guide specific to your operating system.

Determining the Latest Version of the Driver and Client Utilities

The driver and client utilities are provided on the CD that shipped with the client adapter; however, a more recent version of each may be available from Cisco.com. Cisco recommends installing the most current versions.

Follow the steps below to determine the version of the driver and client utilities on your CD and Cisco.com.

1. To determine the version of the driver and client utilities on the Cisco CD, open the filelist.txt file on the CD's root directory. This file lists the version numbers of all of the software files provided on the CD.

Note If the filelist.txt file is not present on the CD's root directory, your CD is obsolete, and more recent versions of the software are available on Cisco.com.

2. To determine the latest driver and client utility versions available on Cisco.com, follow the steps below:

   a. Use your computer's web browser to access the following URL:

   http://www.cisco.com/public/sw-center/sw-wireless.shtml

   b. Locate the section for client adapters and utilities.

   c. Locate the drivers for your specific operating system and client adapter type and find the one with the greatest release number. This is the latest available version on Cisco.com.

   Note The drivers for PC, LM, and PCI cards are labeled *PCM-LMC-PCI*; the drivers for mini PCI cards and PC-Cardbus cards are labeled *MPI-CB*.

3. Go to the "Installing the Driver" section below. If the driver version on Cisco.com is greater than the version on the CD, follow the instructions for installing the driver from Cisco.com.

4. After you install the driver, go to the "Installing the Client Utilities" section on page 16. If the client utility version on Cisco.com is greater than the version on the CD, follow the instructions for installing the client utilities from Cisco.com.

Installing the Driver

The driver you install for your client adapter depends on which operating system your computer is running. To install the driver, follow the instructions in Chapter 3 of the installation and configuration guide specific to your computer's operating system.

Installing the Client Utilities

This section provides instructions for installing the Aironet Client Utility (ACU) on computers running Windows 95, 98, NT, 2000, Me, and XP.

Note The client utilities are installed with the driver on a computer running Windows CE, Linux, or Mac OS.

Note Use this procedure if ACU has never been installed on your computer or if ACU version 4.13 or greater is currently installed. If a version of ACU prior to 4.13 is installed on your computer, follow the instructions in Chapter 8 of the *Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Windows.*

Note ACU version 5.02.005 or greater must be used with PCM/LMC/PCI card driver version 8.2 or greater and PCM/LMC/PCI card firmware version 4.25.30 or greater or mini PCI card driver version 3.4 or greater and mini PCI card firmware version 5.00.03 or greater. ACU versions 5.02.006 or greater must be used with PC-Cardbus driver version 3.4 or greater and PC-Cardbus firmware version 4.99 or greater.

1. Close any Windows programs that are running.

2. If you are installing ACU from the CD that shipped with the client adapter, follow these steps; if you are installing ACU from Cisco.com, go to Step 3.

   a. Insert the CD into your computer's CD-ROM drive.

b. Select **Start > Run**, enter the following path (where *D* is the letter of your CD-ROM drive): **D:\Aironet Client Utility\setup.exe**, and click **OK**. The Aironet Client Utility Setup screen and the InstallShield Wizard appear.

c. Go to Step 4.

3. To install ACU from Cisco.com, follow these steps:

a. Use your computer's web browser to access the following URL:

http://www.cisco.com/public/sw-center/sw-wireless.shtml

b. Locate the section for client adapter drivers and utilities.

c. Click the link for individual Windows files.

d. Select the latest ACU file.

e. Read and accept the terms and conditions of the Software License Agreement.

f. Select the file to download it.

g. Save the file to your computer's hard drive.

h. Locate the file using Windows Explorer, double-click it, and extract its files to a folder.

i. Select **Start > Run**, enter or browse to the location to which you extracted the files (for example, C:\temp\setup.exe), and click **OK**. The Aironet Client Utility Setup screen and the InstallShield Wizard appear.

4. When the Welcome screen appears, click **Next**.

5. In the Select Options screen, select as many of the options in the following table as desired and click **Next**.

Option	Description
LEAP	Enables you to configure your client adapter for LEAP authentication. If you do not select this option and want to use LEAP later, you must run this installation program again, select **Modify**, and select this option.
	Default: Selected
Allow Saved LEAP User Name and Password	Enables you to configure your client adapter to use a saved (rather than temporary) username and password for LEAP authentication. When a saved username and password are used to start the LEAP authentication process, you are not prompted to enter them.
	Default: Selected
	Note This option is available only if the LEAP option is selected. The LEAP username and password may or may not be the same as the network username and password.

Option	Description
Create ACU Icon on your Desktop	Causes the installation program to add an ACU icon on your computer's desktop to provide quick access to the utility.
	Default: Deselected
Allow Non-Administrator Users to use ACU to modify profiles	Enables users without administrative rights to configure their client adapters on computers running Windows NT, 2000, or XP.
	Default: Selected
	Note This option is not available for Windows 95, 98, and Me because these versions of Windows do not support different classes of users.

6. In the Choose Destination Location screen, select a location in which to install your program files:

   • If you want the ACU program files to be installed in the default location (C:\Program Files, provided C:\Program Files is the default Windows program file folder), click **Next**.

   • If you want to specify a different destination for the ACU program files, click **Browse**, select a location, and click **Next**.

7. In the Select Program Folder screen, specify a program folder name for ACU by selecting from the list of existing folders (the default name is Cisco Aironet) or entering a new folder name; click **Next**.

   A status screen displays the progress of the installation. Then, one of two Setup Complete screens appears, depending on whether Windows needs to be restarted to complete the installation.

8. Perform one of the following:

   • If your computer does not need to be rebooted, select one of the following options and click **Finish**:

Option	Description
View the README.TXT file	Opens a read-me file containing information about ACU.
Launch the Aironet Client Utility	Opens ACU so you can configure your client adapter.

   • If your computer needs to be rebooted, select **Yes, I want to restart my computer now** or **No, I will restart my computer later**, remove the CD or floppy disk (if installed), and click **Finish**.

> **Note** If you are prompted to reboot your computer, Cisco recommends that you select the **Yes, I want to restart my computer now** option.

9. The driver and client utility installation is complete. The client adapter is installed and configured for basic operation. Go to the "Verifying Installation" section below to verify that the installation was successful.

Verifying Installation

To verify that you have installed the driver and client utilities and minimally configured your client adapter, check the adapter's LED display. If the installation was successful, the client adapter's green LED blinks.

Configuring the Client Adapter

If you want to enable security features or set advanced configuration parameters for your client adapter, refer to the installation and configuration guide specific to your computer's operating system. If you are using the PC-Cardbus card in a country other than the United States, you must adjust the card's transmit power to conform with the levels established by regulations for that country. See the next section for instructions.

In Case of Difficulty

If you followed the instructions in previous sections of this guide, you should have had no trouble getting your client adapter installed and running. However, if you did experience difficulty, help is available from Cisco. Before contacting Cisco, look for a solution to your problem in the following places:

- The troubleshooting section of the installation and configuration guide specific to your computer's operating system.

- The Technical Assistance Center's list of top wireless technology issues. To access this list, go to Cisco.com, click **Technical Support Help--Cisco TAC**, **Top Issues**. Scroll down and click **Wireless Technologies** and click on the subject that addresses the problem you are experiencing.

Documentation Feedback

You can submit feedback to this document by detaching and completing the questionnaire on the cover and mailing it to Cisco.

If you are reading Cisco product documentation on Cisco.com, you can submit technical comments electronically. Click **Leave Feedback** at the bottom of the Cisco Documentation home page. After you complete the form, print it out and fax it to Cisco at 408 527-0730.

You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, complete the reader response card (attached to the cover of this guide) and mail it to us.

We appreciate your comments.

Safety Information

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. When used with approved Cisco Aironet antennas, Cisco Aironet products meet the uncontrolled environmental limits found in OET-65 and ANSI C95.1, 1991. Proper operation of this radio device according to the instructions found in this manual and the *Installation and Configuration Guide* specific to your computer's operating system will result in user exposure that is substantially below the FCC recommended limits.

- Do not touch or move antenna(s) while the unit is transmitting or receiving.

- Do not hold any component containing a radio such that the antenna is very close to or touching any exposed parts of the body, especially the face and eyes, while transmitting.

- Do not operate the radio or attempt to transmit data unless the antenna is connected; otherwise, the radio may be damaged.

- Use in specific environments

  - The use of wireless devices in hazardous locations is limited to the constraints posed by the safety directors of such environments.

  - The use of wireless devices on airplanes is governed by the Federal Aviation Administration (FAA).

- The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.

- Antenna use

  - High-gain, wall-mount, or mast-mount antennas are designed to be professionally installed and should be located at a minimum of 12 inches (30 cm) or more from the body of all persons. Cisco recommends that you contact your professional installer, VAR, or antenna manufacturer to obtain proper installation requirements.

Warning **Do not operate your wireless network device near unshielded blasting caps or in an explosive environment unless the device has been modified to be especially qualified for such use.**

Warning **In order to comply with RF exposure limits established in the ANSI C95.1 standards, it is recommended when using a laptop with a PC card client adapter that the adapter's integrated antenna is positioned more than 2 inches (5 cm) from your body or nearby persons during extended periods of transmitting or operating time. If the antenna is positioned less than 2 inches (5 cm) from the user, it is recommended that the user limit exposure time.**

⚠️

Warning **In order to comply with FCC RF exposure limits, dipole antennas should be located at a minimum of 7.9 inches (20 cm) or more from the body of all persons.**

Compliance Information

Compliance information for Cisco wireless LAN client adapters is provided in the installation and configuration guide specific to your computer's operating system.

Glossary

802.11   The IEEE standard that specifies carrier sense media access control and physical layer specifications for 1- and 2-Mbps, 2.4-GHz wireless LANs.

802.11a   The IEEE standard that governs the deployment of 5-GHz orthogonal Frequency Division Multiplexing (OFDM) systems. It specifies the implementation of the physical layer for wireless UNII bands (see UNII, UNII 1, and UNII 2) and provides four channels per 100 MHz of bandwidth.

802.11b   The IEEE standard that specifies carrier sense media access control and physical layer specifications for 5.5- and 11-Mbps, 2.4-GHz wireless LANs.

Client Name   A logical name for your computing device with an installed client adapter. It allows an administrator to determine which devices are connected to the access point without having to memorize every MAC address.

EAP	Extensible Authentication Protocol. EAP is the protocol for the optional IEEE 802.1X wireless LAN security feature. An access point that supports 802.1X and EAP acts as the interface between a wireless client and an authentication server, such as a Remote Authentication Dial-In User Service (RADIUS) server, to which the access point communicates over the wired network.
LEAP	LEAP, or *EAP-Cisco Wireless*, is the 802.1X authentication type available for use with any Cisco Aironet client adapter. The adapter uses a supplied username and password to perform mutual authentication with a RADIUS server through an access point.
MAC Address	Media access control (MAC) address. A unique serial number assigned to a networking device by the manufacturer.
Profile	A saved configuration used by ACU to suit specific situations where a unique client adapter configuration is required (such as a remote location). Profiles can be created between which you can easily switch without having to reconfigure the adapter.

SSID   Service Set Identifier. A unique identifier that stations must use to communicate with an access point. The SSID can be up to 32 alphanumeric characters.

UNII   Unlicensed National Information Infrastructure. An FCC regulatory domain for 5-GHz wireless devices. UNII bands are 100 MHz wide and divided into four channels using 802.11a OFDM modulation.

UNII 1   A UNII band dedicated to in-building wireless LAN applications. UNII 1 is located at 5.15 to 5.25 GHz and allows for a maximum power of 40 mW (or 16 dBm) with an antenna up to a 6-dBi. UNII 1 regulations require a nonremovable, integrated antenna.

UNII 2   A UNII band dedicated to in-building wireless LAN applications. UNII 2 is located at 5.25 to 5.35 GHz and allows for a maximum power of 200 mW (or 23 dBm) with an antenna up to a 6-dBi. UNII 2 regulations allow for an auxiliary, user-installable antenna.

WEP   Wired Equivalent Privacy. An optional security mechanism defined within the 802.11 standard designed to make the link integrity of wireless devices equal to that of a cable.