



User Guide



Linksys DPC3008/EPC3008 | Cable Modem

Contents

Notices

About this guide	1
Where to find more help	1
Software and firmware use	1

Important Safety Instructions

Notice to installers	1
Important safety instructions	3
Regulatory compliance statements	5
CE compliance	6

Product Overview

Introduction	8
Package contents	8
Features	8
DOCSIS	8
Connections	8
Design and function	8
Management	9
Front panel	9
Back panel	9

Installing Your Modem

Requirements	10
System requirements for Internet service	10
Getting a high-speed Internet account	10
If you already have a high-speed Internet account	10
Modem information	10
Positioning your modem	10
Wall-mounting the modem (optional)	11
Installing the modem	12
Connect devices to the modem	12
Connect the modem	13

Understanding the Front Panel Indicators

Indicator charts	14
Normal operations (power up)	14
Normal operations (AC power applied)	14
Special conditions	14

FAQs and Troubleshooting

Frequently asked questions	15
Common troubleshooting issues	17
Tips for improved performance	18

Notices

About this guide

This guide provides instructions and recommendations for installing, configuring, operating, maintaining, and troubleshooting the DPC3008 and EPC3008 DOCSIS 3.0 cable modems.

All features described in this guide are standard to these models of cable modems unless otherwise noted. For the purpose of this guide, whenever a feature or option applies to only a specific model, the model number is specified. If a model number is not specified, then the feature or option applies to both of the models.

Where to find more help

In addition to this *User Guide*, you can find help at Linksys.com/support.

Software and firmware use









The software described in this document is protected by copyright law and furnished to you under a license agreement. You may only use or copy this software in accordance with the terms of your license agreement.

The firmware in this equipment is protected by copyright law. You may only use the firmware in the equipment in which it is provided. Any reproduction or distribution of this firmware, or any portion of it, without our express written consent is prohibited.

Important Safety Instructions

Notice to installers

The servicing instructions in this notice are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions, unless you are qualified to do so.

<p>Note to System Installer</p> <p>For this apparatus, the coaxial cable shield/ screen shall be grounded as close as practical to the point of entry of the cable into the building. For products sold in the US and Canada, this reminder is provided to call the system installer's attention to Article 620-93 and Article 620-100 of the NEC (or Canadian Electrical Code Part 1), which provides guidelines for proper grounding of the coaxial cable shield.</p> <p></p> <p>This symbol is intended to alert you that uninsulated voltage within this product may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this product.</p>	<table border="1"> <tr> <td></td> <td style="text-align: center;"> <p>CAUTION</p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p> </td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;"> <p>AVIS</p> <p>RISQUE DE CHOC ÉLECTRIQUE NE PAS OUVRI</p> </td> <td></td> </tr> </table> <p>CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.</p> <p>WARNING TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.</p> <p></p> <p>This symbol is intended to alert you of the presence of important operating and maintenance (servicing) instructions in the literature accompanying this product.</p>		<p>CAUTION</p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p>			<p>AVIS</p> <p>RISQUE DE CHOC ÉLECTRIQUE NE PAS OUVRI</p>	
	<p>CAUTION</p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p>						
	<p>AVIS</p> <p>RISQUE DE CHOC ÉLECTRIQUE NE PAS OUVRI</p>						

Notice à l'attention des installateurs de réseaux câblés

Les instructions relatives aux interventions d'entretien, fournies dans la présente notice, s'adressent exclusivement au personnel technique qualifié. Pour réduire les risques de chocs électriques, n'effectuer aucune intervention autre que celles décrites dans le mode d'emploi et les instructions relatives au fonctionnement, à moins que vous ne soyez qualifié pour ce faire.

Remarque à l'attention de l'installateur du système
Avec cet appareil, le blindage/écran du câble coaxial doit être mis à la terre aussi près que possible du point d'entrée du câble dans le bâtiment. En ce qui concerne les produits vendus aux États-Unis et au Canada, ce rappel est fourni pour attirer l'attention de l'installateur sur les articles 820-93 et 820-100 du Code national de l'électricité (ou Code de l'électricité canadien, Partie 1) qui fournissent des lignes directrices concernant la mise à la terre correcte du blindage (écran) du câble coaxial.



Ce symbole a pour but de vous prévenir que des tensions électriques non isolées existent à l'intérieur de ce produit, pouvant être d'une intensité suffisante pour causer des chocs électriques. Il est donc dangereux d'établir un contact quelconque avec l'une des pièces comprises à l'intérieur de ce produit.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATTENTION
DANGER ELECTRIQUE
NE PAS OUVRI

ATTENTION : Pour réduire les risques de chocs électriques, ne pas enlever le couvercle (ou le panneau arrière). Ne contient aucune pièce réparable par l'utilisateur. Confier les interventions aux techniciens d'entretien qualifiés.

AVERTISSEMENT
POUR ÉVITER LES INCENDIES OU LES CHOC ÉLECTRIQUES, NE PAS EXPOSER L'APPAREIL À LA PLUIE OU À L'HUMIDITÉ.



Ce symbole a pour but de vous prévenir de la présence d'instructions importantes relatives au fonctionnement ou à l'entretien (et aux réparations) dans la documentation accompagnant ce produit.

Mitteilung für CATV-Techniker

Die in dieser Mitteilung aufgeführten Wartungsanweisungen sind ausschließlich für qualifiziertes Fachpersonal bestimmt. Um die Gefahr eines elektrischen Schlags zu reduzieren, sollten Sie keine Wartungsarbeiten durchführen, die nicht ausdrücklich in der Bedienungsanleitung aufgeführt sind, außer Sie sind zur Durchführung solcher Arbeiten qualifiziert.

Mitteilung an den Systemtechniker
Für dieses Gerät muss der Koaxialkabelschutz/ Schirm so nahe wie möglich am Eintrittspunkt des Kabels in das Gebäude geerdet werden. Dieser Erinnerungshinweis liegt den in den USA oder Kanada verkauften Produkten bei. Er soll den Systemtechniker auf Paragraph 820-93 und Paragraph 820-100 der US-Elektrovorschrift NEC (oder der kanadischen Elektrovorschrift Canadian Electrical Code Teil 1) aufmerksam machen, in denen die Richtlinien für die ordnungsgemäße Erdung des Koaxialkabelschirms festgehalten sind.



Dieses Symbol weist den Benutzer auf das Vorhandensein von nicht isolierten gefährlichen Spannungen im Gerät hin, die Stromschläge verursachen können. Ein Kontakt mit den internen Teilen dieses Produktes ist mit Gefahren verbunden.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



ACHTUNG
STROMSCHLAGEGFAHR,
NICHT ÖFFNEN

ACHTUNG: Zur Vermeidung eines Stromschlags darf die Abdeckung (bzw. die Geräterückwand) nicht entfernt werden. Das Gerät enthält keine vom Benutzer wartbaren Teile. Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal durchgeführt werden.

WARNUNG
DAS GERÄT NICHT REGEN ODER FEUCHTIGKEIT AUSSETZEN. UM STROMSCHLAG ODER DURCH EINEN KURZSCHLUSS VERURSACHTEN BRAND ZU VERMEIDEN.



Dieses Symbol weist den Benutzer darauf hin, dass die mit diesem Produkt gelieferte Dokumentation wichtige Betriebs- und Wartungsanweisungen für das Gerät enthält.

Aviso a los instaladores de sistemas CATV

Las instrucciones de reparación contenidas en el presente aviso son para uso exclusivo por parte de personal de mantenimiento cualificado. Con el fin de reducir el riesgo de descarga eléctrica, no realice ninguna otra operación de reparación distinta a las contenidas en las instrucciones de funcionamiento, a menos que posea la cualificación necesaria para hacerlo.

Nota para el instalador del sistema
En lo que se refiere a este aparato, el blindaje del cable coaxial debe conectarse a tierra lo más cerca posible al punto por el cual el cable entra en el edificio. En el caso de los productos vendidos en los EE. UU. y Canadá, el presente aviso se suministra para llamar la atención del instalador del sistema sobre los Artículos 820-93 y 820-100 del NEC (o Código Eléctrico de Canadá, Parte 1), que proporcionan directrices para una correcta conexión a tierra del blindaje del cable coaxial.



Este símbolo tiene como fin advertirle de que una tensión sin aislamiento en el interior de este producto podría ser de una magnitud suficiente como para provocar una descarga eléctrica. Por consiguiente, resulta peligroso realizar cualquier tipo de contacto con alguno de los componentes internos de este producto.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATENCIÓN
RIESGO DE DESCARGA ELÉCTRICA NO ABRI


ATENCIÓN: con el fin de reducir el riesgo de descarga eléctrica, no retire la tapa (ni la parte posterior). No existen en el interior componentes que puedan ser reparados por el usuario. Encargue su revisión a personal de mantenimiento cualificado.

ADVERTENCIA
PARA EVITAR EL RIESGO DE INCENDIO O DESCARGA ELÉCTRICA, NO EXPOGA LA UNIDAD A LA LLUVIA O A LA HUMEDAD.



Este símbolo tiene como fin alertarlo de la presencia de importantes instrucciones de operación y mantenimiento (revisión) contenidas en la literatura que acompaña al producto.

Important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Power source warning

A label on this product indicates the correct power source for this product. Operate this product only from an electrical outlet with the voltage and frequency indicated on the product label. If you are uncertain of the type of power supply to your home or business, consult your service provider or your local power company.

The AC inlet on the unit must remain accessible and operable at all times.

Ground the product

WARNING

Avoid electric shock and fire hazard! If this product connects to coaxial cable wiring, make sure the cable system is grounded (earthed). Grounding provides some protection against voltage surges and built-up static charges.

Outdoor grounding system

If this product connects to an outdoor antenna or cable system, be sure the antenna or cable system is grounded (earthed). This provides some protection against voltage surges and built-up static charges.

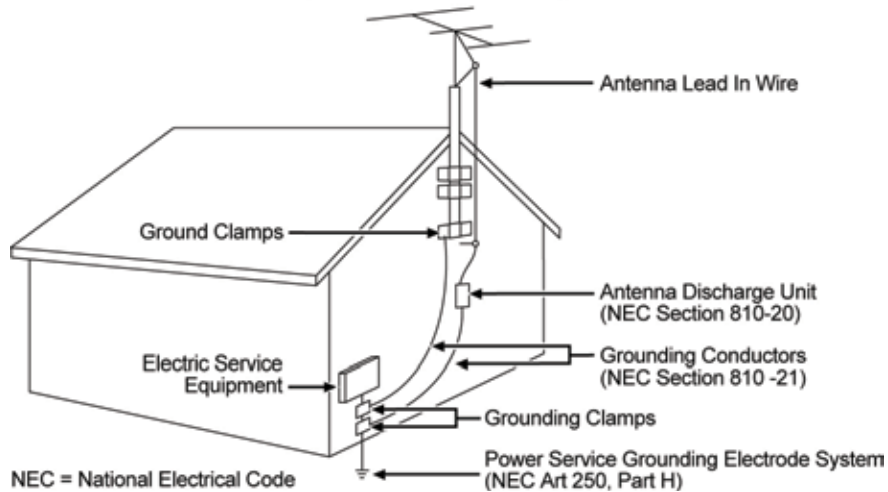
Article 810 of the National Electric Code (NEC) ANSI/NFPA No. 70-1990, provides the following information:

- Grounding of the mast and supporting structure
- Grounding the lead-in wire to an antenna discharge unit
- Size of the grounding conductors
- Location of the antenna-discharge unit
- Connection to grounding electrodes
- Requirements for the grounding electrodes (see the following antenna grounding diagram as recommended by NEC ANSI/NFPA 70)

WARNING

Avoid electric shock and fire hazard! Do not locate an outside antenna system in the vicinity of overhead power lines or power circuits. Touching power lines or circuits might be fatal.

Example Of Antenna Grounding



Eliminate AC mains overloads

WARNING

Avoid electric shock and fire hazard! Do not overload AC mains, outlets, extension cords, or integral convenience receptacles. For products that require battery power or other power sources to operate them, refer to the operating instructions for those products.

Provide ventilation and select a location

- Remove all packaging material before applying power to the product.
- Do not place this product on a bed, sofa, rug, or similar surface.
- Do not place this product on an unstable surface.
- Do not install this product in an enclosure, such as a bookcase or rack, unless the installation provides proper ventilation.
- Do not place entertainment devices (such as VCRs or DVDs), lamps, books, vases with liquids, or other objects on top of this product.
- Do not block ventilation openings.

Protect the product from lightning

In addition to disconnecting the AC power from the wall outlet, disconnect the signal inputs.

Verify the power source from the On/Off power light

When the on/off power light is not on, the modem may still be connected to the power source. The light may go out when the modem is turned off, regardless of whether it is still plugged into an AC power source.

Protect from exposure to moisture and foreign objects

WARNINGS

- Avoid electric shock and fire hazard! Do not expose this product to dripping or splashing liquids, rain, or moisture. Objects filled with liquids, such as vases, should not be placed on this apparatus.
- Avoid electric shock and fire hazard! Unplug this product before cleaning. Do not use a liquid cleaner or an aerosol cleaner. Do not use a magnetic/static cleaning device (dust remover) to clean this product
- Avoid electric shock and fire hazard! Never push objects through the openings in this product. Foreign objects can cause electrical shorts that can result in electric shock or fire.

Service warnings

WARNING

Avoid electric shock! Do not open the cover of this product. Opening or removing the cover may expose you to dangerous voltages. If you open the cover, your warranty will be void. This product contains no user-serviceable parts.

Check product safety

Upon completion of any service or repairs to this product, the service technician must perform safety checks to determine that this product is in proper operating condition.

Protect the product when moving it

Always disconnect the power source when moving the product or connecting or disconnecting cables.

Regulatory compliance statements

United States FCC compliance

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against such interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the service provider or an experienced radio/television technician for help.

Any changes or modifications not expressly approved by Cisco Systems, Inc., could void the user's authority to operate the equipment.

The information shown in the FCC Declaration of Conformity paragraph below is a requirement of the FCC and is intended to supply you with information regarding the FCC approval of this device. *The phone numbers listed are for FCC-related questions only and not intended for questions regarding the connection or operation for this device. Please contact your service provider for any questions you may have regarding the operation or installation of this device.*

FCC Declaration of Conformity

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: 1) the device may not cause harmful interference, and 2) the device must accept any interference received, including interference that may cause undesired operation.

Canada EMI regulation

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la class B est conforme à la norme NMB-003 du Canada.

RF exposure statements

NOTE

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 7.9 inches (20 cm) between the radiator and your body.

US

This system has been evaluated for RF exposure for humans in reference to ANSI C 95.1 (American National Standards Institute) limits. The evaluation was based in accordance with FCC OET Bulletin 65C rev 01.01 in compliance with Part 2.1091 and Part 15.27. The minimum separation distance from the antenna to general bystander is 7.9 inches (20 cm) to maintain compliance.

Canada

This system has been evaluated for RF exposure for humans in reference to Canada Health Code 6 (2009) limits. The evaluation was based on evaluation per RSS-102 Rev 4. The minimum separation distance from the antenna to general bystander is 7.9 inches (20 cm) to maintain compliance.

EU

This system has been evaluated for RF exposure for humans in reference to the ICNIRP (International Commission on Non-Ionizing Radiation Protection) limits. The evaluation was based on the EN 50385 Product Standard to Demonstrate Compliance of Radio Base Stations and Fixed Terminals for Wireless Telecommunications Systems with basic restrictions or reference levels related to Human Exposure to Radio Frequency Electromagnetic Fields from 300 MHz to 40 GHz. The minimum separation distance from the antenna to general bystander is 20 cm (7.9 inches).

Australia

This system has been evaluated for RF exposure for humans as referenced in the Australian Radiation Protection standard and has been evaluated to the ICNIRP (International Commission on Non-Ionizing Radiation Protection) limits. The minimum separation distance from the antenna to general bystander is 20 cm (7.9 inches).

CE compliance

Declaration of conformity with regard to the EU Directive 1999/5/EC (R&TTE Directive)

This declaration is only valid for configurations (combinations of software, firmware and hardware) supported or provided by Cisco Systems for use within the EU. The use of software or firmware not supported or provided by Cisco Systems may result in the equipment no longer being compliant with the regulatory requirements.

Български [Bulgarian]:	Това оборудване отговаря на съществените изисквания и приложими клаузи на Директива 1999/5/EC.
Cesky [Czech]:	Toto zařízení je v souladu se základními požadavky a ostatními odpovídajícími ustanoveními Směrnice 1999/5/EC.
Dansk [Danish]:	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 1999/5/EF.
Deutsch [German]:	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 1999/5/EU.
Eesti [Estonian]:	See seade vastab direktiivi 1999/5/EÜ olulistele nõuetele ja teistele asjakohastele sätetele.
English:	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]:	Este equipo cumple con los requisitos esenciales así como con otras disposiciones de la Directiva 1999/5/CE.
Ελληνική [Greek]:	Αυτός ο εξοπλισμός είναι σε συμμόρφωση με τις ουσιαστικές απαιτήσεις και άλλες σχετικές διατάξεις της Οδηγίας 1999/5/EC.
Français [French]:	Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 1999/5/EC.
Íslenska [Icelandic]:	Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 1999/5/EC.
Italiano [Italian]:	Questo apparato è conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 1999/5/CE.
Latviski [Latvian]:	Šī iekārta atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]:	Šis įrenginys tenkina 1999/5/EB Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.
Nederlands [Dutch]:	Dit apparaat voldoet aan de essentiële eisen en andere van toepassing zijnde bepalingen van de Richtlijn 1999/5/EC.
Malti [Maltese]:	Dan l-apparat huwa konformi mal-ftigiet essenzjali u l-provedimenti l-oħra rilevanti tad-Direttiva 1999/5/EC.
Magyar [Hungarian]:	Ez a készülék teljesíti az alapvető követelményeket és más 1999/5/EK irányelvben meghatározott vonatkozó rendelkezéseket.
Norsk [Norwegian]:	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 1999/5/EF.
Polski [Polish]:	Urządzenie jest zgodne z ogólnymi wymaganiami oraz z szczególnymi warunkami określonymi Dyrektywą UE: 1999/5/EC.
Português [Portuguese]:	Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 1999/5/EC.
Română [Romanian]:	Acest echipament este în conformitate cu cerințele esențiale și cu alte prevederi relevante ale Directivei 1999/5/EC.
Slovensko [Slovenian]:	Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi pogoji Direktive 1999/5/EC.
Slovensky [Slovak]:	Toto zariadenie je v zhode so základnými požiadavkami a inými príslušnými nariadeniami direktív: 1999/5/EC.
Suomi [Finnish]:	Tämä laite täyttää direktiivin 1999/5/EY olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen.
Svenska [Swedish]:	Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 1999/5/EC.

NOTE

The full declaration of conformity for this product can be found in the Declarations of Conformity and Regulatory Information section of the appropriate product hardware installation guide, which is available on Cisco.com.

The following standards were applied during the assessment of the product against the requirements of the Directive 1999/5/EC:

- EMC: EN 55022 and EN 55024
- EN 61000-3-2 and EN 61000-3-3
- Safety: EN 60950-1

This product conforms to the following European directives:

- 1999/5/EC



Product Overview

Introduction

Welcome to the exciting world of high-speed Internet. Your new cable modem meets industry standards for high-speed data connectivity. The modem delivers data and wired (Ethernet) capabilities to connect a variety of devices in the home or small office and supports high-speed data access, all in one device.

The DPC3008 and EPC3008 provide a faster connection to the Internet by incorporating eight bonded downstream channels along with four bonded upstream channels. These bonded channels deliver downstream data rates in excess of 340 Mbps, up to eight times faster than conventional single-channel DOCSIS 2.0 cable modems.

Package contents

Make sure that each item is included in the box. If any of these items are missing or damaged, please contact your service provider for help.



One DPC3008 or EPC3008 DOCSIS 3.0 cable modem



One Ethernet cable



One power adapter with power cord



One CD containing the *User Guide* and warranty information

NOTE

You will need an optional cable signal splitter and additional standard RF coaxial cables if you want to connect a VCR, a Digital Home Communications Terminal (DHCT) or a set-top converter, or a TV to the same cable connection as your modem.

Features

DOCSIS

- Eight (8) bonded downstream channels with data rates in excess of 340 Mbps (DPC) or 440 Mbps (EPC)
- Four (4) bonded upstream channels with data rates in excess of 120 Mbps
- Designed to meet DOCSIS and EuroDOCSIS 3.0 specifications as well as backward compatibility with existing DOCSIS and EuroDOCSIS 2.0, 1.1, and 1.0 networks
- Enhanced packet processing technology to maximize performance
- Expanded 88-1002 MHz tuning range

Connections

- 10/100/1000BASE-T auto-sensing/autoMDIX Ethernet port
- Support for up to 64 users (on user-supplied Ethernet hubs)

Design and function

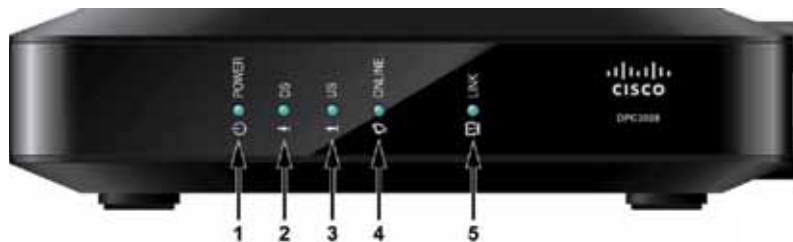
- Attractive, compact design can stand vertically, horizontally, or be mounted on a wall
- Multiple-color LED status indicators provide an easy-to-understand display
- TR-068 color-coded connectors and cables for easy installation and setup
- Rugged electronic components for long-term reliability

Management

- Software upgradeable by network download
- Remote manageability using SNMP V1/V2 and V3

Front panel

The front panel of your modem provides LED status indicators that indicate how well and at what state your modem is operating. See “Understanding the Front Panel Indicators” on page 14 for more information.

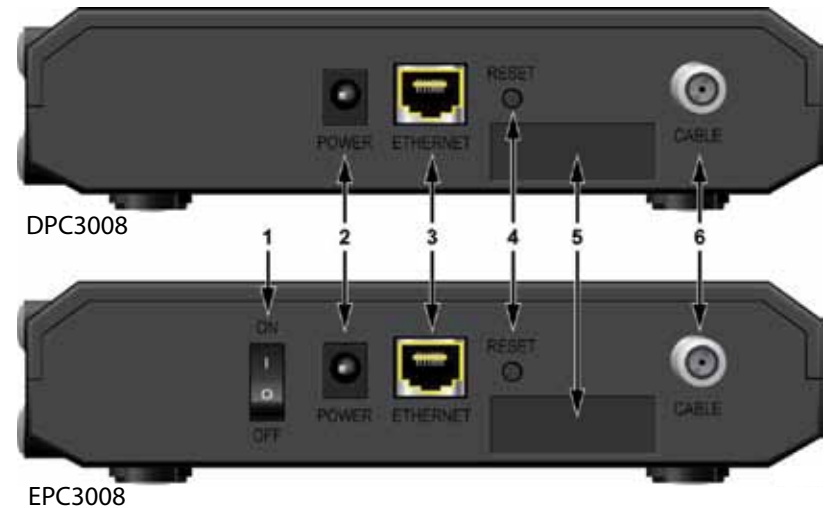


1. **POWER**—**ON**, power is applied to the modem.
2. **DS**—**ON**, the modem is receiving data from the cable network.
3. **US**—**ON**, the modem is sending data to the cable network.
4. **ONLINE**—**ON**, the modem is registered on the network and fully operational.
5. **LINK**—**ON**, the Ethernet connection is operational. **BLINKING** indicates that data is being transferred over the Ethernet connection. **OFF** indicates that the Ethernet connection is not connected or has been disabled by the user.

NOTE

After the modem is successfully registered on the network, the POWER, DS, US, and ONLINE LEDs stay on continuously to indicate that the modem is active and fully operational.

Back panel



1. **ON/OFF SWITCH** (Provided only on products that carry the CE mark)—Allows you to turn off of the modem without removing the power cord. Turning the modem off using this switch makes sure that the modem is consuming no energy.
2. **POWER**—Connects the modem to the provided AC power adapter. Use only the power supply provided with your modem.
3. **ETHERNET**—One RJ-45 Ethernet port connects to the Ethernet port on your computer or network.
4. **RESET**—Press and hold this switch for 2 seconds to restore settings to factory defaults and reboot the modem.

CAUTION

The RESET button is for maintenance purposes only. Do not use unless instructed to do so by your service provider. Doing so may cause you to lose any settings you have selected.

5. **MAC ADDRESS LABEL**—Displays the MAC address of the modem.
6. **CABLE**—**F**-connector connects to an active cable signal from your service provider.

Installing Your Modem

Requirements

Before installing the modem, make sure that your system meets the requirements listed below.

System requirements for Internet service

To make sure that your modem operates efficiently for high-speed Internet service, you must have:

- An Internet-capable computer or Internet appliance equipped with an Ethernet port
- An active cable input line
- An Internet connection

To access the user guide for this product, you must have a CD or DVD drive.

Getting a high-speed Internet account

You may need a high-speed Internet account in order to take full advantage of this modem's features. If you do not have a high-speed Internet account, your service provider will set up your account and become your Internet Service Provider (ISP).

You will need to give your service provider information about the modem in order to use the high-speed Internet features of the modem. Refer to the system label on the back of your modem for this information.

If you already have a high-speed Internet account

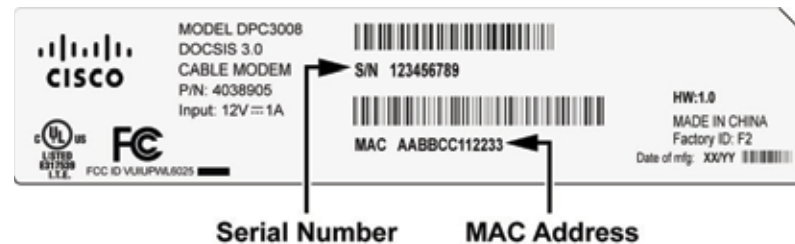
If you already have a high-speed Internet account, you will need to give your service provider the serial number and MAC address of the modem. Refer to the system label on the back of your modem for this information.

Modem information

You will need to give your service provider the following information, which is printed on the bar code label attached to the modem:

- The serial number of the modem. The serial number consists of a series of decimal characters preceded by S/N.
- The CM Media Access Control (CM MAC) address of the modem. The CM MAC address consists of a series of hexadecimal characters preceded by CM MAC.
- Other MAC address numbers as needed.

The following illustration shows a sample bar code label; the image may vary from the label on the actual product.



Write down these numbers in the spaces provided:

Serial number _____

MAC address _____

Positioning your modem

The ideal location for your modem is where it has access to outlets and other devices. Think about the layout of your home or office, and consult with your service provider to select the best location for your modem. Read this user guide thoroughly before you decide where to place your modem.

Recommendations:

- Choose a location close to your computer if you will also use the modem for high-speed Internet service.
- Choose a location that is near an existing RF coaxial connection to eliminate the need for an additional RF coaxial outlet.

- Choose a location that is relatively protected from accidental disturbance or harm, such as a closet, basement, or other protected area.
- Choose a location with plenty of room for guiding the cables away from the modem without straining or crimping them.
- Choose a location that allows adequate ventilation around the modem.

Wall-mounting the modem (optional)

Selecting a wall mount location

You can mount the modem to a wall made of cement, wood, or drywall. Consider the following recommendations:

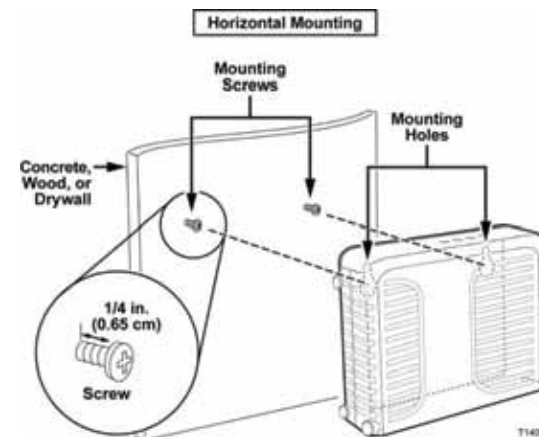
- Make sure that the mounting location is free of obstructions on all sides, and that the cables can reach the modem without strain.
- Leave enough clearance between the bottom of the modem and any flooring or shelving underneath to allow access to cabling.
- Allow enough slack in all cables so that the modem can be removed for any required maintenance without disconnecting the cables.

Equipment needed

- Two wall anchors for #8 x 1-inch screws
- Two #8 x 1-inch pan head sheet metal screws
- Drill with a 3/16-in. wood or masonry bit, as appropriate for the wall composition
- A copy of the wall-mounting illustrations shown on the following pages

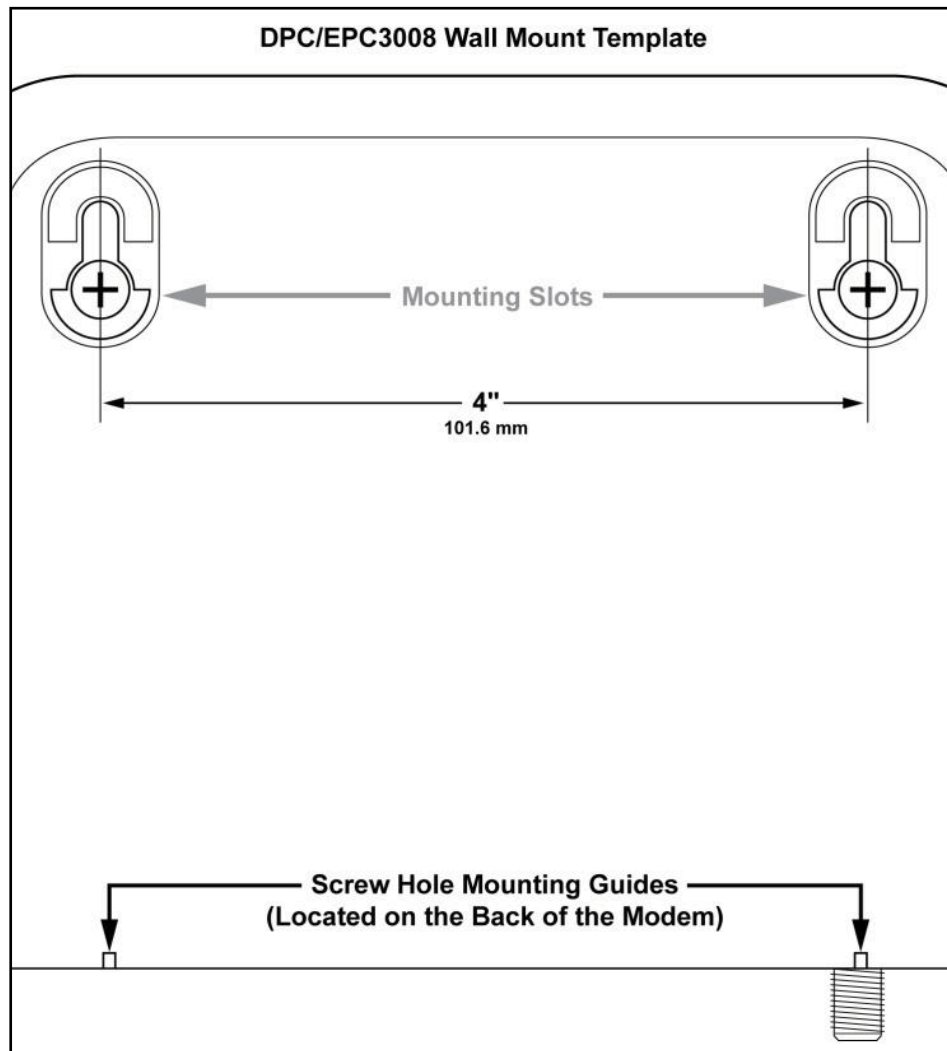
Positioning the modem

Use the following illustration to guide you in positioning the modem on the wall.



Dimensions

Use this illustration as a guide for mounting the modem to the wall. (Image not to scale)



Mounting the modem to the wall

1. Using a drill with a 3/16-inch bit, drill two holes at the same height and 4 inches apart.
2. Are you mounting the modem into a drywall or concrete surface where a wooden stud is available?
 - If **yes**, go to Step 3.
 - If **no**, drive the anchor bolts into the wall, and install the mounting screws into the anchor bolts. Leave a gap of about 1/4 inch between the screw head and the wall. Then, go to Step 4.
3. Install the mounting screws into the wall. Leave a gap of about 1/4 inch between the screw head and the wall. Then, go to Step 4.
4. Verify that no cables or wires are connected to the modem.
5. Lift the modem into position. Slip the large end of both mounting slots over the mounting screws, and then slide the modem down until the narrow end of the keyhole slot contacts the screw shaft.

IMPORTANT

Verify that the mounting screws securely support the modem before you let go of the modem.

Contact your service provider for more information about installation.

Installing the modem

This section describes how to connect your modem to support the services that the modem offers.

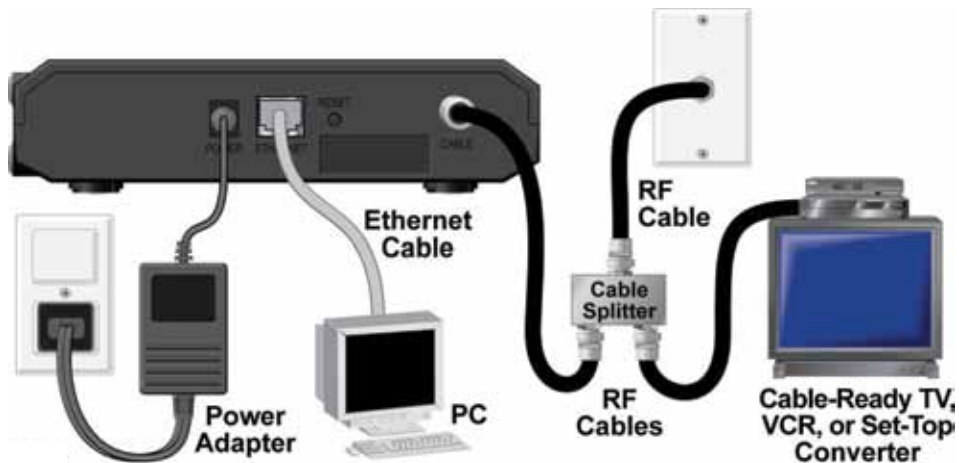
Connect devices to the modem

The following illustration shows many of the possible connections that can be made to your modem.

If your modem supports high-speed Internet service, you can share that Internet connection with other Internet devices in your home or office. Sharing one connection among many devices is called *networking*.

NOTE

Professional installation may be available. Contact your local service provider for help.



Connect the modem

To connect the modem to home devices:

1. Choose an appropriate and safe location to install the modem (close to a power source, an active cable connection, and your computer if using high-speed Internet). For help, see "Selecting a wall mount location" on page 11 .

NOTE

Hazardous electrical voltages can exist on the Ethernet or coax cable wiring. Be sure to disconnect AC power from all devices and carefully follow all instructions below.

2. Power off your computer and other networking device, then unplug them from the power source.
3. Connect the active RF coaxial cable from your service provider to the coax connector labeled **CABLE** on the back of the modem.

NOTE

To connect a TV, DHCT, set-top box, or VCR from the same cable connection, you will need to install a cable signal splitter (not included). Always check with your service provider before using a splitter, because a splitter may degrade the signal.

4. Connect your computer to the modem by connecting one end of the yellow Ethernet cable to the **Ethernet** port on your computer, and the other end to the yellow **ETHERNET** port on the back of the modem .

NOTE

To install more than one Ethernet device, use an external, multi-port Ethernet switch or a cable router (not provided).

5. Locate the AC power adapter provided with your modem. Connect the barrel connector end of the power adapter into the **POWER** input on the back of the modem. Then, plug the AC power adapter into an AC outlet to provide power to the modem.

NOTE

If your modem is equipped with a power switch (located on the back panel), make sure that the switch is in the **ON** position to provide power to the modem.

The modem will perform an automatic search to locate and sign on to the broadband data network. This process may take up to 5 minutes. The modem will be ready for use when the **POWER, DS, US** and **ONLINE LEDs** on the front panel of the modem stop blinking and remain on.

6. Plug in and turn on your computer and other home network devices. The **LINK** LED on the modem should be on or blinking.

At this point, the installation is complete and you can begin surfing the Internet.

NOTE

If your computer does not have Internet access, see "Q. How do I configure TCP/IP protocol?" on page 15 for information on how to configure your computer for TCP/IP. For Internet devices other than computers, see to the *DHCP* or *IP Address configuration* section of the *User Guide* for those devices.

Understanding the Front Panel Indicators

Indicator charts

Normal operations (power up)

The following chart illustrates the sequence of steps and the corresponding appearance of the modem front panel LED status indicators during power up, calibration, and registration on the network when AC power is applied to the modem. Use this chart to troubleshoot the power up, calibration, and registration process of your modem.

NOTE

After the modem completes Step 7 (Data Network Registration Complete), the modem proceeds immediately to Normal Operations. See *Normal Operations* below.

Front panel LED status indicators during initial power-up, calibration, and registration							
		High-speed data registration					
Step		1	2	3	4	5	6
Front panel indicator		Self test	Downstream scan	Downstream signal lock	Ranging	Requesting IP address	Request high-speed data provisioning file
1	POWER	On	On	On	On	On	On
2	DS	On	Blinking	On	On	On	On
3	US	On	Off	Off	Blinking	On	On
4	ONLINE	On	Off	Off	Off	Off	Blinking
5	LINK	On	On or blinking	On or blinking	On or blinking	On or blinking	On or blinking

Normal operations (AC power applied)

The following chart illustrates the appearance of the modem front panel LED status indicators during normal operations when AC power is applied to the gateway.

Front panel LED status indicators during normal conditions		
Front panel indicator		Normal operations
1	POWER	On
2	DS	On
3	US	On
4	ONLINE	On
5	LINK	<p>ON - When a single device is connected to the Ethernet port and no data is being sent to or from the modem.</p> <p>BLINKS - When only one Ethernet device is connected and data is being transferred between the consumer premise equipment (CPE) and wireless home gateway.</p> <p>OFF - When no devices are connected to the Ethernet ports</p>

NOTE

In addition to the above indicators, some service providers use color-coded LEDs to indicate detailed channel bonding and data link status. For additional information about color-coded LEDs, check with your service provider.

Special conditions

The following table describes the appearance of the modem front panel LED status indicators during special conditions to show that you have been denied network access.

Front panel LED status indicators during special conditions		
Front Panel Indicator		Network Access Denied
1	POWER	Slow blinking (once per second)
2	DS	Slow blinking (once per second)
3	US	Slow blinking (once per second)
4	ONLINE	Slow blinking (once per second)
5	LINK	Slow blinking (once per second)

FAQs and Troubleshooting

Frequently asked questions

Q. How do I configure TCP/IP protocol?

To configure TCP/IP protocol, you need to have an Ethernet Network Interface Card (NIC) with TCP/IP communications protocol installed on your system. TCP/IP is a communications protocol used to access the Internet. This section contains instructions for configuring TCP/IP on your Internet devices to operate with the modem in Microsoft Windows or Macintosh environments.

TCP/IP protocol in a Microsoft Windows environment is different for each operating system. Follow the appropriate instructions in this section for your operating system.

To configure TCP/IP on Windows 7 systems

1. Open *Network Connections* by clicking **Start**, then clicking **Control Panel**.
2. In the **Search** box, type **adapter**, and then, under *Network and Sharing Center*, click **View network connections**.
3. Right-click the connection that you want to change, and then click **Properties**. If you are prompted for an administrator password or confirmation, type the password or provide confirmation. The *Local Area Connection Properties* window opens.
4. Click the **Networking** tab.
5. Under *This connection uses the following items*, click either **Internet Protocol Version 4 (TCP/IPv4)** or **Internet Protocol Version 6 (TCP/IPv6)**, and then click **Properties**.
6. To specify IPv4 IP address settings, do one of the following:
 - To get IP settings automatically using DHCP, click **Obtain an IP address automatically**, and then click **OK**.

- To specify an IP address, click **Use the following IP address**, and then, in the *IP address*, *Subnet mask*, and *Default gateway* boxes, type the IP address settings.
7. To specify IPv6 IP address settings, do one of the following:
 - To get IP settings automatically using DHCP, click **Obtain an IPv6 address automatically**, and then click **OK**.
 - To specify an IP address, click **Use the following IPv6 address**, and then, in the *IPv6 address*, *Subnet prefix length*, and the *Default gateway* boxes, type the IP address settings.
 8. To specify DNS server address settings, do one of the following:
 - To get a DNS server address automatically using DHCP, click **Obtain DNS server address automatically**, and then click **OK**.
 - To specify a DNS server address, click **Use the following DNS server addresses**, and then, in the *Preferred DNS server* and *Alternate DNS server* boxes, type the addresses of the primary and secondary DNS servers.
 9. To change advanced DNS, WINS, and IP settings, click **Advanced**.
 10. When you are finished, click **OK**.
 11. Try to access the Internet. If you cannot access the Internet, contact your service provider for further assistance.

To configure TCP/IP on Windows XP Systems

1. Click **Start**, and depending on your Start menu setup, choose one of the following options:
 - If you are using the Windows XP default Start Menu, select **Connect to**, choose **Show all connections**, and then go to Step 2.
 - If you are using the Windows XP Classic Start Menu, select **Settings**, choose **Network Connections**, click **Local Area Connection**, and then go to Step 3.
2. Double-click the **Local Area Connection** icon in the *LAN or High-Speed Internet* section of the *Network Connections* window.
3. Click **Properties** in the *Local Area Connection Status* window.
4. Click **Internet Protocol (TCP/IP)**, and then click **Properties** in the *Local Area Connection Properties* window.

5. Select both **Obtain an IP address automatically** and **Obtain DNS server address automatically** in the *Internet Protocol (TCP/IP) Properties* window, and then click **OK**.
6. Click **Yes** to restart your computer when the *Local Network* window opens. The computer restarts. The TCP/IP protocol is now configured on your computer, and your Ethernet devices are ready for use.
7. Try to access the Internet. If you cannot access the Internet, contact your service provider for further assistance.

To configure TCP/IP on Macintosh systems

1. Click the **Apple** icon in the upper-left corner of the *Finder*. Scroll down to **Control Panels**, and then click **TCP/IP**.
2. Click **Edit** on the *Finder* at the top of the screen. Scroll down to the bottom of the menu, and then click **User Mode**.
3. Click **Advanced** in the *User Mode* window, and then click **OK**.
4. Click the up/down selector arrows located to the right of the *Connect Via* section of the TCP/IP window, and then click **Using DHCP Server**.
5. Click **Options** in the *TCP/IP* window, and then click **Active** in the *TCP/IP Options* window.

NOTE

Make sure that the *Load only when needed* option is unchecked.

6. Verify that the Use 802.3 option located in the upper-right corner of the TCP/IP window is unchecked. If there is a check mark in the option, uncheck the option, and then click Info in the lower-left corner.
7. Is there a *Hardware Address* listed in this window?
 - If **yes**, click **OK**. To close the *TCP/IP Control Panel* window, click **File**, and then scroll down to click **Close**. You have completed this procedure.
 - If **no**, you must power off your Macintosh.
8. With the power off, simultaneously press and hold down the **Command** (Apple), **Option**, **P**, and **R** keys on your keyboard. Keeping those keys pressed down, power on your Macintosh but do not release these keys until you hear the Apple chime at least three times, then release the keys and let the computer restart.

9. When your computer fully reboots, repeat Steps 1 through 7 to verify that all TCP/IP settings are correct. If your computer still does not have a hardware address, contact your authorized Apple dealer or Apple technical support center for further assistance.

Q. How do I renew the IP address on my computer?

If your computer cannot access the Internet after the modem is online, it is possible that your computer did not renew its IP address. Follow the appropriate instructions in this section for your operating system to renew the IP address on your computer.

To renew the IP address on Windows 7 systems

1. Click the Windows **Start** button.
2. Type **cmd** in the **Search** box. The *cmd* window opens.
3. Type **ipconfig /renew** and press **Enter** to renew the IP address of the computer.

NOTE

If you cannot access the Internet, contact your service provider for further assistance.

To renew the IP address on Windows XP systems:

1. Click **Start**, and then click **Run**. The *Run* window opens.
2. Type **cmd** in the *Open* field and click **OK**. A window with a command prompt opens.
3. Type **ipconfig/release** at the **C:/** prompt and press **Enter**. The system releases the IP address.
4. Type **ipconfig/renew** at the **C:/** prompt and press **Enter**. The system displays a new IP address.
5. Click the **X** in the upper-right corner of the window to close the *Command Prompt* window. You have completed this procedure.

NOTE

If you cannot access the Internet, contact your service provider for further assistance.

Renewing the IP address on Macintosh systems

1. Close all open programs.
2. Open your *Preferences* folder.
3. Drag the **tcp/ip preferences** file to the **Trash**.
4. Close all open windows and empty the **Trash**.
5. Restart your computer.
6. As your computer starts, simultaneously press and hold down the **Command** (Apple), **Option**, **P**, and **R** keys on your keyboard. Keeping those keys pressed down, power on your Macintosh but do not release these keys until you hear the Apple chime at least three times; then, release the keys and let the computer restart.
7. When your computer fully reboots, click the **Apple** icon in the upper-left corner of the *Finder*. Scroll down to **Control Panels**, and then click **TCP/IP**.
8. Click **Edit** on the *Finder* at the top of the screen. Scroll down to the bottom of the menu, and then click **User Mode**.
9. Click **Advanced** in the *User Mode* window, and then click **OK**.
10. Click the up/down selector arrows located to the right of the *Connect Via* section of the *TCP/IP* window, and then click **Using DHCP Server**.
11. Click **Options** in the *TCP/IP* window, and then click **Active** in the *TCP/IP Options* window.

NOTE

In some cases, the *Load only when needed* option does not appear. If it appears, select the option. A check mark appears in the option.

12. Verify that the *Use 802.3* option located in the upper-right corner of the *TCP/IP* window is not selected. If there is a check mark in the option, select the option to clear the check mark, and then click **Info** in the lower-left corner.
13. Is there a *Hardware Address* listed in this window?
 - If **yes**, click **OK**. To close the *TCP/IP Control Panel* window, click **File**, and then scroll down to click **Close**.
 - If **no**, repeat these instructions from Step 6.
14. Reboot your computer.

Q. What if I don't subscribe to cable TV?

If cable TV is available in your area, data service may be made available with or without subscribing to cable TV service. Contact your local service provider for complete information on cable services, including high-speed Internet access.

Q. How do I arrange for installation?

Call your service provider to inquire about professional installation. A professional installation ensures proper cable connection to the modem and to your computer, and it ensures the proper configuration of all hardware and software settings. Contact your service provider for more information about installation.

Q. How does the modem connect to my computer?

The modem connects to the 1000/100BASE-T Ethernet port on your computer. For best performance over an Ethernet connection, your computer should be equipped with a Gigabit Ethernet port.

Q. After my modem is connected, how do I access the Internet?

Your local service provider becomes your Internet Service Provider (ISP). They offer a wide range of services including e-mail, chat, news, and information services. Your service provider will provide the software you will need.

Q. Can I watch TV and surf the Internet at the same time?

Yes. If you subscribe to cable television service, you can watch TV and use your modem at the same time by connecting your TV and your modem to the cable network using an optional cable signal splitter.

Common troubleshooting issues

I don't understand the front panel status indicators

See "Understanding the Front Panel Indicators" on page 14 for more detailed information on front panel LED status indicator operation and functions.

The modem does not register an Ethernet connection

- Verify that your computer has an Ethernet card and that the Ethernet driver software is properly installed. If you purchase and install an Ethernet card, follow the installation instructions.
- Verify the status of the front panel status indicator lights.

The modem does not register an Ethernet connection after connecting to a hub

If you are connecting multiple computers to the modem, you should first connect the modem to the uplink port of the hub using the correct crossover cable. The **LINK** LED of the hub will illuminate continuously.

The modem does not register a cable connection

- The modem works with a standard, 75-ohm RF coaxial cable. If you are using a different cable, your modem will not function properly. Contact your service provider to determine whether you are using the correct cable.

Tips for improved performance

Check and correct

If your modem does not perform as expected, the following tips may help. If you need more help, contact your service provider.

- Verify that the plug to your modem's AC power is properly inserted into an electrical outlet.
- Verify that your modem's AC power cord is not plugged into an electrical outlet that is controlled by a wall switch. If a wall switch controls the electrical outlet, make sure the switch is turned on.
- Verify that the modem's **ONLINE** LED status indicator is on.
- Verify that your cable service is active and that it supports two-way service.
- Verify that all cables are properly connected and that you are using the correct cables.
- If you are using the Ethernet connection, verify that your TCP/IP is properly installed and configured.

- Verify that you have called your service provider and given them the serial number and MAC address of your modem.
- If you are using a cable signal splitter so that you can connect the modem to other devices, remove the splitter and reconnect the cables so that the modem is connected directly to the cable input. If the modem now functions properly, the cable signal splitter may be defective and may need to be replaced.
- If you are connected to your computer with an Ethernet connection, your computer should be equipped with a Gigabit Ethernet card for best performance.

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