

# LINKSYS®

A Division of Cisco Systems, Inc.



## Cable Modem with USB and Ethernet Connections

## User Guide



Model No. **BEFCM U10**

CISCO SYSTEMS



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## How to Use this Guide

Your guide to the Cable Modem has been designed to make understanding networking with the Cable Modem easier than ever. Look for the following items when reading this guide:



This checkmark means there is a Note of interest and is something you should pay special attention to while using the Cable Modem.



This exclamation point means there is a Caution or warning and is something that could damage your property or the Cable Modem.



This question mark provides you with a reminder about something you might need to do while using the Cable Modem.

In addition to these symbols, there are definitions for technical terms that are presented like this:

***word: definition.***

Also, each figure (diagram, screenshot, or other image) is provided with a figure number and description, like this:

**Figure 0-1: Sample Figure Description**

Figure numbers and descriptions can also be found in the “List of Figures” section in the “Table of Contents”.

# Table of Contents

Chapter 1: Introduction	1
Welcome	1
What's in this Guide?	1
Chapter 2: Getting to Know the Cable Modem	3
Back Panel Ports	3
Front Panel LEDs	4
Chapter 3: Connecting the Cable Modem	5
Overview	5
Connection Using the Ethernet Port	5
Connection Using the USB Port	6
Chapter 4: Installing the USB Driver for Windows XP	7
Overview	7
Instructions for Installing the Driver	7
Chapter 5: Installing the Driver for Windows 2000	8
Overview	8
Instructions for Installing the Driver	8
Chapter 6: Installing the Driver for Windows Millennium	10
Overview	10
Instructions for Installing the Driver	10
Chapter 7: Installing the Driver for Windows 98	11
Overview	11
Instructions for Installing the Driver	11
Appendix A: Troubleshooting	13
Common Problems and Solutions	13
Appendix B: Windows Help	15
Appendix C: Glossary	16
Appendix D: Specifications	22
Appendix E: Warranty Information	23
Appendix F: Regulatory Information	24
Appendix G: Contact Information	25

# List of Figures

Figure 2-1: Back Panel	3
Figure 2-2: Front Panel	4
Figure 3-1: Connect the Coaxial Cable	5
Figure 3-2: Connect the Ethernet Network Cable	5
Figure 3-3: Connect the Coaxial Cable	6
Figure 3-4: Connect the USB Cable	6
Figure 4-1: Welcome	7
Figure 4-2: Please wait...	7
Figure 5-1: Welcome	8
Figure 5-2: Install Hardware Device Drivers	8
Figure 5-3: Locate Driver Files	8
Figure 5-4: Driver Files Search Results	9
Figure 5-5: Driver Installation Complete	9
Figure 6-1: Add New Hardware Wizard	10
Figure 6-2: Driver Installation Complete	10
Figure 7-1: Add New Hardware Wizard	11
Figure 7-2: Search for Driver	11
Figure 7-3: Select CD-ROM Drive	11
Figure 7-4: Select Updated Driver	12
Figure 7-5: Location of Driver	12
Figure 7-6: Driver Installation Complete	12

# Chapter 1: Introduction

## Welcome

Thank you for choosing the Cable Modem. The Linksys Cable Modem is the easiest and most affordable way to get a blazing fast connection to the Internet—far faster than a dial-up, and without tying up your phone line. The “always on” connection eliminates dial-up wait time and busy signals. Web surfing and your e-mail are instantly available, anytime.

Installation is quick and simple. Connect it directly to any PC with an available USB or Ethernet port, and you’re ready to surf the Internet. Or connect it to a Linksys router and share that high-speed Internet access with everyone on your home network.

The Linksys Cable Modem is fully compliant with all industry standards—DOCSIS 1.0, 1.1, and 2.0—so you know it’ll work with any cable Internet service provider.

With the Linksys Cable Modem, you’ll avoid monthly rent charges, and make the most of your high-speed cable Internet connection.

## What’s in this Guide?

This user guide covers the steps for installing the Cable Modem and installing its USB driver if you are using its USB connection.

- Chapter 1: Introduction  
This chapter describes the Cable Modem’s applications and this User Guide.
- Chapter 2: Getting to Know the Cable Modem  
This chapter describes the physical features of the Cable Modem.
- Chapter 3: Connecting the Cable Modem  
This chapter instructs you on how to connect the Cable Modem using its Ethernet or USB port.
- Chapter 4: Installing the USB Driver for Windows XP  
This chapter explains how to install the Windows XP driver required for a USB connection to the Cable Modem.

## Cable Modem with USB and Ethernet Connections

- **Chapter 5: Installing the USB Driver for Windows 2000**  
This chapter explains how to install the Windows 2000 driver required for a USB connection to the Cable Modem.
- **Chapter 6: Installing the USB Driver for Windows Millennium**  
This chapter explains how to install the Windows Millennium driver required for a USB connection to the Cable Modem.
- **Chapter 7: Installing the USB Driver for Windows 98**  
This chapter explains how to install the Windows 98 driver required for a USB connection to the Cable Modem.
- **Appendix A: Troubleshooting**  
This appendix describes some potential problems and solutions regarding use of the Cable Modem.
- **Appendix B: Windows Help**  
This appendix describes how you can use Windows Help for instructions about networking, such as installing the TCP/IP protocol.
- **Appendix C: Glossary**  
This appendix gives a brief glossary of terms frequently used in networking.
- **Appendix D: Specifications**  
This appendix provides the technical specifications for the Cable Modem.
- **Appendix E: Warranty Information**  
This appendix supplies the warranty information for the Cable Modem.
- **Appendix F: Regulatory Information**  
This appendix supplies the regulatory information regarding the Cable Modem.
- **Appendix G: Contact Information**  
This appendix provides contact information for a variety of Linksys resources, including Technical Support.

# Chapter 2: Getting to Know the Cable Modem

## Back Panel Ports

The Cable Modem's ports are located on the back panel.



Figure 2-1: Back Panel

- Power Port**      The **Power** port is where you will connect the included power adapter.
- Reset Button**      The **Reset** button allows you to clear the Cable Modem's connections and set the Cable Modem to the factory defaults.
- Ethernet Port**      The **Ethernet** port allows you to connect the Cable Modem to your PC or other Ethernet network device using a Category 5 (or better) Ethernet network cable.
- USB Port**      The **USB** port allows you to connect the Cable Modem to your PC using the included USB cable.
- Cable Port**      The **Cable** port is where you will connect the cable from your Internet Service Provider (ISP). This is a round coaxial cable, like the one that connects to the back of your cable box or television.

## Front Panel LEDs

The Cable Modem's LEDs are located on the front panel.



Figure 2-2: Front Panel

- Power LED** Green. The **Power** LED lights up when the Cable Modem is powered on.
- Internet**
- Cable LED** Green. The **Cable** LED flashes when the Cable Modem is establishing a connection to your cable ISP. It is solidly lit when the Cable Modem is synchronized with your cable ISP.
- Activity LED** Green. The **Activity** LED lights up and flashes when the Cable Modem is sending or receiving data transmissions.
- Ethernet LED** Green. The **Ethernet** LED lights up when the Cable Modem is connected to your computer or network through the Ethernet port. It flashes when there is activity on the Ethernet port.
- USB LED** Green. The **USB** LED lights up when the Cable Modem is connected to your computer or network through the USB port. It flashes when there is activity on the USB port.

# Chapter 3: Connecting the Cable Modem

## Overview

You can connect the Cable Modem to your PC using either the Ethernet port or the USB port. If you use the USB port, you will also have to install a USB driver on your PC. If you are using the Cable Modem's Ethernet port, proceed to the "Connection Using the Ethernet Port" section. If you are using the Cable Modem's USB port, proceed to the "Connection Using the USB Port" section.



**NOTE:** Make sure that you have TCP/IP installed on your computer. For more information, refer to "Appendix B: Windows Help."

## Connection Using the Ethernet Port

1. Power off your PC. If you have an existing cable modem that you are replacing, disconnect it at this time.
2. Connect the coaxial cable from your Internet Service Provider (ISP) or cable company to the Cable port on the back panel of the Cable Modem. (The other end of the coaxial cable should be connected according to the ISP or cable company's instructions.)
3. Connect the included Ethernet network cable to the Ethernet port on the back panel of the Cable Modem.
4. Connect the other end of the Ethernet network cable to the RJ-45 port of your PC's Ethernet network adapter or a network device, such as a router, switch, or hub.
5. Connect the included power adapter to the Power port on the back panel of the Cable Modem. Connect the other end to a standard electrical outlet.
6. The Power LED on the front panel of the Cable Modem should light up and remain lit.
7. Power on your PC.
8. Contact your cable ISP to activate your account. Your cable ISP will need the MAC address for the Cable Modem in order to set up your account. The 12-digit MAC address is printed on a bar code label on the bottom of the Cable Modem. Once you have given them this number, your cable ISP should be able to activate your account.

Congratulations! The installation of the Cable Modem is complete.



Figure 3-1: Connect the Coaxial Cable



Figure 3-2: Connect the Ethernet Network Cable



**NOTE:** To activate your high-speed Internet account, you must contact your cable ISP after you have connected the Cable Modem.

## Connection Using the USB Port

1. Power off your PC. If you have an existing cable modem that you are replacing, disconnect it at this time.
2. Connect the coaxial cable from your Internet Service Provider (ISP) or cable company to the Cable port on the back panel of the Cable Modem. (The other end of the coaxial cable should be connected according to the ISP or cable company's instructions.)
3. Connect the included power adapter to the Power port on the back panel of the Cable Modem. Connect the other end to a standard electrical outlet.
4. The Power LED on the front panel of the Cable Modem should light up and remain lit.
5. Connect the square end of the included USB cable to the USB port on the back panel of the Cable Modem.
6. Connect the rectangular end of the USB cable to your PC's USB port.
7. Power on your PC. During the boot-up process, your computer should recognize the Cable Modem and request to install the Cable Modem's driver. Proceed to the appropriate chapter for instructions on how to install the USB driver.
  - If your PC runs Windows XP, proceed to "Chapter 4: Installing the USB Driver for Windows XP"
  - If your PC runs Windows 2000, proceed to "Chapter 5: Installing the USB Driver for Windows 2000."
  - If your PC runs Windows Millennium, proceed to "Chapter 6: Installing the USB Driver for Windows Millennium."
  - If your PC runs Windows 98, proceed to "Chapter 7: Installing the USB Driver for Windows 98."



Figure 3-3: Connect the Coaxial Cable



Figure 3-4: Connect the USB Cable

# Chapter 4: Installing the USB Driver for Windows XP

## Overview

If you are connecting the Cable Modem to your computer using the USB port, follow these instructions to install the USB driver required for Windows XP.

## Instructions for Installing the Driver

1. Power on your computer. Make sure you have administrative rights on your computer; otherwise you cannot install the driver.
2. Windows XP will automatically detect the Cable Modem. Insert the User Guide and USB Drivers CD-ROM into your computer's CD-ROM drive.
3. On the *Welcome* screen of the Found New Hardware Wizard, select **Install the software automatically (Recommended)**, and click the **Next** button.
4. Please wait while Windows XP finds and automatically installs the driver. When Windows XP has finished installing the driver, the screen shown in Figure 4-2 will disappear.
5. The Windows XP driver installation is complete. Contact your cable ISP to activate your account. Your cable ISP will need the MAC address for the Cable Modem in order to set up your account. The 12-digit MAC address is printed on a bar code label on the bottom of the Cable Modem. Once you have given them this number, your cable ISP should be able to activate your account.

Congratulations! The installation of the Cable Modem is complete.



Figure 4-1: Welcome

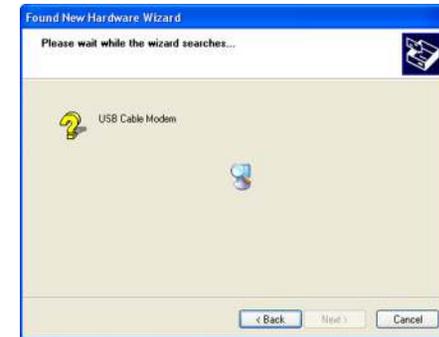


Figure 4-2: Please wait...



**NOTE:** To activate your high-speed Internet account, you must contact your cable ISP after you have connected the Cable Modem.

# Chapter 5: Installing the Driver for Windows 2000

## Overview

If you are connecting the Cable Modem to your computer using the USB port, follow these instructions to install the USB driver required for Windows 2000.

## Instructions for Installing the Driver

1. Power on your computer. Make sure you have administrative rights on your computer; otherwise you cannot install the driver.
2. Windows 2000 will automatically detect the Cable Modem. Insert the User Guide and USB Drivers CD-ROM into your computer's CD-ROM drive.
3. On the *Welcome* screen of the Found New Hardware Wizard, click the **Next** button.
4. On the *Install Hardware Device Drivers* screen, select **Search for a suitable driver for my device (recommended)**. Then click the **Next** button.
5. On the *Locate Driver Files* screen, select **CD-ROM drives**, and click the **Next** button.



Figure 5-1: Welcome



Figure 5-2: Install Hardware Device Drivers



Figure 5-3: Locate Driver Files

## Cable Modem with USB and Ethernet Connections

6. On the *Driver Files Search Results* screen, click the **Next** button.
7. When Windows 2000 has finished installing the driver, the *Completing the Found New Hardware Wizard* screen will appear. Click the **Finish** button.
8. The Windows 2000 driver installation is complete. Contact your cable ISP to activate your account. Your cable ISP will need the MAC address for the Cable Modem in order to set up your account. The 12-digit MAC address is printed on a bar code label on the bottom of the Cable Modem. Once you have given them this number, your cable ISP should be able to activate your account.

Congratulations! The installation of the Cable Modem is complete.



Figure 5-4: Driver Files Search Results



Figure 5-5: Driver Installation Complete



**NOTE:** To activate your high-speed Internet account, you must contact your cable ISP after you have connected the Cable Modem.

# Chapter 6: Installing the Driver for Windows Millennium

## Overview

If you are connecting the Cable Modem to your computer using the USB port, follow these instructions to install the USB driver required for Windows Millennium.

## Instructions for Installing the Driver

1. Power on your computer. Make sure you have administrative rights on your computer; otherwise you cannot install the driver.
2. Windows Millennium will automatically detect the Cable Modem. Insert the User Guide and USB Drivers CD-ROM into your computer's CD-ROM drive.
3. On the first screen of the Add New Hardware Wizard, select **Automatic search for a better driver (Recommended)**. Then click the **Next** button.
4. Please wait while Windows Millennium finds and automatically installs the driver. When Windows Millennium has finished installing the driver, click the **Finish** button.
5. The Windows Millennium driver installation is complete. Contact your cable ISP to activate your account. Your cable ISP will need the MAC address for the Cable Modem in order to set up your account. The 12-digit MAC address is printed on a bar code label on the bottom of the Cable Modem. Once you have given them this number, your cable ISP should be able to activate your account.

Congratulations! The installation of the Cable Modem is complete.



Figure 6-1: Add New Hardware Wizard



Figure 6-2: Driver Installation Complete



**NOTE:** To activate your high-speed Internet account, you must contact your cable ISP after you have connected the Cable Modem.

# Chapter 7: Installing the Driver for Windows 98

## Overview

If you are connecting the Cable Modem to your computer using the USB port, follow these instructions to install the USB driver required for Windows 98.

## Instructions for Installing the Driver

1. Power on your computer. Make sure you have administrative rights on your computer; otherwise you cannot install the driver.
2. Windows 98 will automatically detect the Cable Modem. Insert the User Guide and USB Drivers CD-ROM into your computer's CD-ROM drive.
3. On the first screen of the Add New Hardware Wizard, click the **Next** button.
4. Select **Search for the best driver for your device (Recommended)**. Then click the **Next** button.
5. Select **CD-ROM drive**. Then click the **Next** button.



Figure 7-1: Add New Hardware Wizard



Figure 7-2: Search for Driver



Figure 7-3: Select CD-ROM Drive

## Cable Modem with USB and Ethernet Connections

6. Select **The updated driver (Recommended)**. Then click the **Next** button.
7. After Windows has found the driver, click the **Next** button.
8. When Windows 98 has finished installing the driver, click the **Finish** button.
9. The Windows 98 driver installation is complete. Contact your cable ISP to activate your account. Your cable ISP will need the MAC address for the Cable Modem in order to set up your account. The 12-digit MAC address is printed on a bar code label on the bottom of the Cable Modem. Once you have given them this number, your cable ISP should be able to activate your account.

Congratulations! The installation of the Cable Modem is complete.



Figure 7-4: Select Updated Driver



Figure 7-5: Location of Driver



Figure 7-6: Driver Installation Complete



**NOTE:** To activate your high-speed Internet account, you must contact your cable ISP after you have connected the Cable Modem.

# Appendix A: Troubleshooting

This appendix provides solutions to problems that may occur during the installation and operation of the Cable Modem. Read the description below to solve your problems. If you can't find an answer here, check the Linksys website at [www.linksys.com](http://www.linksys.com).

## Common Problems and Solutions

### 1. *I cannot access my e-mail or Internet service.*

Go through this checklist until your problem is solved:

- Make sure all of your connections are secure.
  1. The Ethernet cable should be inserted completely into both the computer's network adapter and the Ethernet port on the back panel of the Cable Modem.
  2. If you are using the Cable Modem's USB port, check the USB connections to the Cable Modem and your PC.
  3. Check all cables between your computer and the Cable Modem for frays, breaks, or exposed wiring.
  4. Make sure your power adapter is properly plugged into both the Cable Modem and the electrical outlet or surge protector. If the Cable Modem is properly connected, the Power and Cable LEDs on the Cable Modem should be solidly lit. The Activity LED should be solid or flashing.
- Press the Reset button on the back panel of the Cable Modem. Using an object with a small tip, such as a pen, push the button until you feel it click. Then try reconnecting to the Internet.
- Call your cable ISP to verify that their service is two-way. This Cable Modem is designed for use with two-way cable networks.
- If you installed the Cable Modem using the Ethernet port, make sure the computer's network adapter is operating correctly. Make sure the adapter is listed in the Windows Device Manager and has no conflicts. For more information, refer to Windows Help.
- Make sure TCP/IP is the default protocol used by your computer. For more information, refer to "Appendix B: Windows Help."
- If you are using a cable line splitter so you can connect the Cable Modem and a television at the same time, remove the splitter and reconnect your cables so that the Cable Modem is connected directly to the cable wall jack. Then try reconnecting to the Internet.

### 2. *The Cable LED never stops flashing.*

Go through this checklist until your problem is solved:

- Make sure the Cable Modem's MAC address has been registered with your cable ISP. In order for the Cable Modem to work, you must call and have the ISP activate the Cable Modem by registering its MAC address. You can find the MAC address on a label located on the Cable Modem's bottom panel.
- Make sure the coaxial cable is firmly attached between the Cable Modem and the wall jack.

## Cable Modem with USB and Ethernet Connections

- The signal from your cable company's equipment may be too weak or the cable line may not be properly attached to the Cable Modem. If the cable line is properly connected to the Cable Modem, then call your cable company to verify whether a weak signal may be the problem.

### **3. All of the LEDs on the Cable Modem indicate that the Cable Modem is functioning properly, but I still can't access the Internet.**

Go through this checklist until your problem is solved:

- If the Power and Cable LEDs are lit but not flashing, then the Cable Modem is operating properly. Power your computer off and back on again. This will cause your computer to re-establish communications with your cable ISP.
- Press the Reset button on the back panel of the Cable Modem. Using an object with a small tip, such as a pen, push the button until you feel it click. Then try reconnecting to the Internet.
- Make sure TCP/IP is the default protocol used by your computer. For more information, refer to "Appendix B: Windows Help."

### **4. The power on the Cable Modem goes on and off sporadically.**

You may be using the wrong power adapter. Make sure the power adapter you are using is the one included with the Cable Modem.

# Appendix B: Windows Help

Most Linksys products require Microsoft Windows. Windows is the most used operating system in the world and comes with many features that help make networking easier. These features can be accessed through Windows Help and are described in this appendix.

## TCP/IP

Before a computer can communicate with a network router, TCP/IP must be enabled. TCP/IP is a set of instructions, or protocol, all PCs follow to communicate over a network. This is true for wireless networks as well. Your PCs will not be able to utilize wireless networking without having TCP/IP enabled. Windows Help provides complete instructions on enabling TCP/IP.

## Shared Resources

If you wish to share printers, folder, or files over your network, Windows Help provides complete instructions on utilizing shared resources.

## Network Neighborhood/My Network Places

Other PCs on your network will appear under Network Neighborhood or My Network Places (depending upon the version of Windows you're running). Windows Help provides complete instructions on adding PCs to your network.

# Appendix C: Glossary

**802.11a** - An IEEE wireless networking standard that specifies a maximum data transfer rate of 54Mbps and an operating frequency of 5GHz.

**802.11b** - An IEEE wireless networking standard that specifies a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

**802.11g** - An IEEE wireless networking standard that specifies a maximum data transfer rate of 54Mbps, an operating frequency of 2.4GHz, and backward compatibility with 802.11b devices.

**Access Point** - Device that allows wireless-equipped computers and other devices to communicate with a wired network. Also used to expand the range of a wireless network.

**Adapter** - This is a device that adds network functionality to your PC.

**Ad-hoc** - A group of wireless devices communicating directly with each other (peer-to-peer) without the use of an access point.

**Backbone** - The part of a network that connects most of the systems and networks together, and handles the most data.

**Bandwidth** - The transmission capacity of a given device or network.

**Beacon Interval** - The frequency interval of the beacon, which is a packet broadcast by a router to synchronize a wireless network.

**Bit** - A binary digit.

**Boot** - To start a device and cause it to start executing instructions.

**Bridge** - A device that connects two different kinds of local networks, such as a wireless network to a wired Ethernet network.

**Broadband** - An always-on, fast Internet connection.

**Browser** - A browser is an application program that provides a way to look at and interact with all the information on the World Wide Web.

## Cable Modem with USB and Ethernet Connections

**Buffer** - A block of memory that temporarily holds data to be worked on later when a device is currently too busy to accept the data.

**Cable Modem** - A device that connects a computer to the cable television network, which in turn connects to the Internet.

**CSMA/CA** (Carrier Sense Multiple Access/Collision Avoidance) - A method of data transfer that is used to prevent data loss in a network.

**CTS** (Clear To Send) - A signal sent by a device to indicate that it is ready to receive data.

**Daisy Chain** - A method used to connect devices in a series, one after the other.

**Database** - A collection of data that is organized so that its contents can easily be accessed, managed, and updated.

**DDNS** (Dynamic Domain Name System) - The capability of having a website, FTP, or e-mail server-with a dynamic IP address-use a fixed domain name.

**Default Gateway** - A device that forwards Internet traffic from your local area network.

**DHCP** (Dynamic Host Configuration Protocol) - A protocol that lets one device on a local network, known as a DHCP server, assign temporary IP addresses to the other network devices, typically computers.

**DMZ** (Demilitarized Zone) - Removes the Router's firewall protection from one PC, allowing it to be "seen" from the Internet.

**DNS** (Domain Name Server) - The IP address of your ISP's server, which translates the names of websites into IP addresses.

**Domain** - A specific name for a network of computers.

**Download** - To receive a file transmitted over a network.

**DSL** (Digital Subscriber Line) - An always-on broadband connection over traditional phone lines.

**DSSS** (Direct-Sequence Spread-Spectrum) - A type of radio transmission technology that includes a redundant bit pattern to lessen the probability of data lost during transmission. Used in 802.11b networking.

**DTIM** (Delivery Traffic Indication Message) - A message included in data packets that can increase wireless efficiency.

## Cable Modem with USB and Ethernet Connections

**Dynamic IP Address** - A temporary IP address assigned by a DHCP server.

**Encryption** - Encoding data to prevent it from being read by unauthorized people.

**Ethernet** - An IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium.

**Finger** - A program that tells you the name associated with an e-mail address.

**Firewall** - Security measures that protect the resources of a local network from intruders.

**Firmware** - 1. In network devices, the programming that runs the device. 2. Programming loaded into read-only memory (ROM) or programmable read-only memory (PROM) that cannot be altered by end-users.

**Fragmentation** - Breaking a packet into smaller units when transmitting over a network medium that cannot support the original size of the packet.

**FTP** (File Transfer Protocol) - A standard protocol for sending files between computers over a TCP/IP network and the Internet.

**Full Duplex** - The ability of a networking device to receive and transmit data simultaneously.

**Gateway** - A system that interconnects networks.

**Half Duplex** - Data transmission that can occur in two directions over a single line, but only one direction at a time.

**Hardware** - The physical aspect of computers, telecommunications, and other information technology devices.

**HTTP** (HyperText Transport Protocol) - The communications protocol used to connect to servers on the World Wide Web.

**IEEE** (The Institute of Electrical and Electronics Engineers) - An independent institute that develops networking standards.

**Infrastructure** - Currently installed computing and networking equipment.

**Infrastructure Mode** - Configuration in which a wireless network is bridged to a wired network via an access point.

**IP** (Internet Protocol) - A protocol used to send data over a network.

**IP Address** - The address used to identify a computer or device on a network.

## Cable Modem with USB and Ethernet Connections

**IPCONFIG** - A Windows 2000 and XP utility that displays the IP address for a particular networking device.

**IPSec** (Internet Protocol Security) - A VPN protocol used to implement secure exchange of packets at the IP layer.

**ISM band** - Radio band used in wireless networking transmissions.

**ISP** (Internet Service Provider) - A company that provides access to the Internet.

**LAN** (Local Area Network) - The computers and networking products that make up the network in your home or office.

**MAC** (Media Access Control) Address - The unique address that a manufacturer assigns to each networking device.

**Mbps** (Megabits Per Second) - One million bits per second; a unit of measurement for data transmission.

**Multicasting** - Sending data to a group of destinations at once.

**NAT** (Network Address Translation) - NAT technology translates IP addresses of a local area network to a different IP address for the Internet.

**Network** - A series of computers or devices connected for the purpose of data sharing, storage, and/or transmission between users.

**NNTP** (Network News Transfer Protocol) - The protocol used to connect to Usenet groups on the Internet.

**Node** - A network junction or connection point, typically a computer or work station.

**OFDM** (Orthogonal Frequency Division Multiplexing) - A type of modulation technology that separates the data stream into a number of lower-speed data streams, which are then transmitted in parallel. Used in 802.11a, 802.11g, and powerline networking.

**Packet** - A unit of data sent over a network.

**Passphrase** - Used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption keys for Linksys products.

**Ping** (Packet INternet Groper) - An Internet utility used to determine whether a particular IP address is online.

**POP3** (Post Office Protocol 3) - A standard protocol used to retrieve e-mail stored on a mail server.

**Port** - 1. The connection point on a computer or networking device used for plugging in a cable or an adapter. 2. The virtual connection point through which a computer uses a specific application on a server.

## Cable Modem with USB and Ethernet Connections

**PPPoE** (Point to Point Protocol over Ethernet) - A type of broadband connection that provides authentication (username and password) in addition to data transport.

**PPTP** (Point-to-Point Tunneling Protocol) - A VPN protocol that allows the Point to Point Protocol (PPP) to be tunneled through an IP network. This protocol is also used as a type of broadband connection in Europe.

**Preamble** - Part of the wireless signal that synchronizes network traffic.

**RJ-45** (Registered Jack-45) - An Ethernet connector that holds up to eight wires.

**Roaming** - The ability to take a wireless device from one access point's range to another without losing the connection.

**Router** - A networking device that connects multiple networks together, such as a local network and the Internet.

**RTS** (Request To Send) - A packet sent when a computer has data to transmit. The computer will wait for a CTS (Clear To Send) message before sending data.

**Server** - Any computer whose function in a network is to provide user access to files, printing, communications, and other services.

**SMTP** (Simple Mail Transfer Protocol) - The standard e-mail protocol on the Internet.

**SNMP** (Simple Network Management Protocol) - A widely used network monitoring and control protocol.

**Software** - Instructions for the computer. A series of instructions that performs a particular task is called a "program".

**Spread Spectrum** - Wideband radio frequency technique used for more reliable and secure data transmission.

**SSID** (Service Set Identifier) - Your wireless network's name.

**Static IP Address** - A fixed address assigned to a computer or device that is connected to a network.

**Static Routing** - Forwarding data in a network via a fixed path.

**Subnet Mask** - An address code that determines the size of the network.

**Switch** - 1. Device that is the central point of connection for computers and other devices in a network, so data can be shared at full transmission speeds. 2. A device for making, breaking, or changing the connections in an electrical circuit.

## Cable Modem with USB and Ethernet Connections

**TCP/IP** (Transmission Control Protocol/Internet Protocol) - A network protocol for transmitting data that requires acknowledgement from the recipient of data sent.

**Telnet** - A user command and TCP/IP protocol used for accessing remote PCs.

**TFTP** (Trivial File Transfer Protocol) - A version of the TCP/IP FTP protocol that uses UDP and has no directory or password capability.

**Throughput** - The amount of data moved successfully from one node to another in a given time period.

**Topology** - The physical layout of a network.

**TX Rate** - Transmission Rate.

**UDP** (User Datagram Protocol) - A network protocol for transmitting data that does not require acknowledgement from the recipient of the data that is sent.

**Upgrade** - To replace existing software or firmware with a newer version.

**Upload** - To transmit a file over a network.

**URL** (Uniform Resource Locator) - The address of a file located on the Internet.

**VPN** (Virtual Private Network) - A security measure to protect data as it leaves one network and goes to another over the Internet.

**WAN** (Wide Area Network) - The Internet.

**WEP** (Wired Equivalent Privacy) - A method of encrypting data transmitted on a wireless network for greater security.

**WINIPCFG** - A Windows 98 and Millennium utility that displays the IP address for a particular networking device.

**WLAN** (Wireless Local Area Network) - A group of computers and associated devices that communicate with each other wirelessly.

## Appendix D: Specifications

Model	BEFCMU10 v3
Standards	DOCSIS 1.0, DOCSIS 1.1 Certified, DOCSIS 2.0, IEEE 802.3, IEEE 802.3u, USB 1.1
Ports	Ethernet, USB, Cable
Buttons	Reset
Cabling Type	Cable: F-type female 75 ohm Ethernet: 10/100 RJ-45 Port USB: USB Type B Port
LEDs	Power, Internet Cable, Internet Activity, Ethernet USB
Dimensions (W x H x D)	7.32" x 1.89" x 6.50" (186 mm x 48 mm x 165 mm)
Unit Weight	14.46 oz. (0.41 kg)
Power	12VDC, 1A
Certifications	DOCSIS 1.1, DOCSIS 2.0, FCC Part 15 Class B, UL 1950, CE
Operating Temp.	32°F to 104°F (0°C to 40°C)
Storage Temp.	-4°F to 158°F (-20°C to 70°C)
Operating Humidity	20% to 90%, Non-Condensing
Storage Humidity	20% to 90%, Non-Condensing

## Appendix E: Warranty Information

### LIMITED WARRANTY

Linksys warrants to You that, for a period of one year (the “Warranty Period”), your Linksys Product will be substantially free of defects in materials and workmanship under normal use. Your exclusive remedy and Linksys' entire liability under this warranty will be for Linksys at its option to repair or replace the Product or refund Your purchase price less any rebates. This limited warranty extends only to the original purchaser.

If the Product proves defective during the Warranty Period call Linksys Technical Support in order to obtain a Return Authorization Number, if applicable. **BE SURE TO HAVE YOUR PROOF OF PURCHASE ON HAND WHEN CALLING.** If You are requested to return the Product, mark the Return Authorization Number clearly on the outside of the package and include a copy of your original proof of purchase. **RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE.** You are responsible for shipping defective Products to Linksys. Linksys pays for UPS Ground shipping from Linksys back to You only. Customers located outside of the United States of America and Canada are responsible for all shipping and handling charges.

ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THE WARRANTY PERIOD. ALL OTHER EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF NON-INFRINGEMENT, ARE DISCLAIMED. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to You. This warranty gives You specific legal rights, and You may also have other rights which vary by jurisdiction.

This warranty does not apply if the Product (a) has been altered, except by Linksys, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Linksys, or (c) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident. In addition, due to the continual development of new techniques for intruding upon and attacking networks, Linksys does not warrant that the Product will be free of vulnerability to intrusion or attack.

TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL LINKSYS BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, REGARDLESS OF THE THEORY OF LIABILITY (INCLUDING NEGLIGENCE), ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT (INCLUDING ANY SOFTWARE), EVEN IF LINKSYS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL LINKSYS' LIABILITY EXCEED THE AMOUNT PAID BY YOU FOR THE PRODUCT. The foregoing limitations will apply even if any warranty or remedy provided under this Agreement fails of its essential purpose. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to You.

Please direct all inquiries to: Linksys, P.O. Box 18558, Irvine, CA 92623.

# Appendix F: Regulatory Information

## FCC STATEMENT

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, 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 is found 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 or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

## INDUSTRY CANADA (CANADA)

This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## EC DECLARATION OF CONFORMITY (EUROPE)

In compliance with the EMC Directive 89/336/EEC, Low Voltage Directive 73/23/EEC, and Amendment Directive 93/68/EEC, this product meets the requirements of the following standards:

- EN55022 Emission
- EN55024 Immunity

## Appendix G: Contact Information

Need to contact Linksys?

Visit us online for information on the latest products and updates to your existing products at:

<http://www.linksys.com> or  
[ftp.linksys.com](ftp://ftp.linksys.com)

Can't find information about a product you want to buy on the web? Do you want to know more about networking with Linksys products? Give our advice line a call at:  
Or fax your request in to:

800-546-5797 (LINKSYS)  
949-261-8868

If you experience problems with any Linksys product, you can call us at:  
Don't wish to call? You can e-mail us at:

800-326-7114  
[support@linksys.com](mailto:support@linksys.com)

If any Linksys product proves defective during its warranty period, you can call the Linksys Return Merchandise Authorization department for obtaining a Return Authorization Number at:  
(Details on Warranty and RMA issues can be found in the Warranty Information section in this Guide.)

949-261-1288