

SURFboard[®] SBV4200 VoIP Cable Modem User Guide

Click your selection (there is a complete Contents on page iv):

Introduction

Introduces your SURFboard VoIP cable modem and the controls on the Top and Front Panel and Rear Panel.

Before You Begin

Lists the items needed to install your SURFboard VoIP cable modem and describes Precautions, Signing Up for Service, and Computer System Requirements.

Installation and Configuration Overview

Provides an overview and links to cable and configure your SURFboard VoIP cable modem, including Setting Up a USB Driver.

Troubleshooting

Provides suggestions to fix common problems.

Contact Us

Provides contact information.

Frequently Asked Questions

Provides answers to common questions about the SURFboard VoIP cable modem.



Next page 🕨

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. THE APPARATUS MUST NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, MUST BE PLACED ON THE APPARATUS.

CAUTION: TO PREVENT ELECTRICAL SHOCK, IF THE UNIT IS PROVIDED WITH A POLARIZED PLUG, DO NOT CONNECT THE PLUG INTO AN EXTENSION CORD, RECEPTACLE, OR OTHER OUTLET UNLESS THE PLUG CAN BE FULLY INSERTED WITH NO PART OF THE BLADES EXPOSED.

CAUTION: TO ENSURE REGULATORY AND SAFETY COMPLIANCE, USE ONLY THE PROVIDED POWER AND INTERFACE CABLES.

CAUTION: DO NOT OPEN THE UNIT. DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE INSTALLATION AND TROUBLESHOOTING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

It is recommended that the customer install an AC surge arrestor in the AC outlet to which this device is connected. This is to avoid damaging the equipment by local lightning strikes and other electrical surges.

This product was qualified under test conditions that included the use of the supplied cable between system components. To be in compliance with regulations, the user must use this cable and install it properly.

Different types of cord sets may be used for connections to the main supply circuit. Use only a main line cord that complies with all applicable product safety requirements of the country of use.

Installation of this product must be in accordance with national wiring codes.

To prevent overheating, do not block the ventilation holes on the sides of the unit or lay the unit on its side.

Wipe the unit with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the unit or use forced air to remove dust.

Postpone cable modem installation until there is no risk of thunderstorm or lightning activity in the area. Avoid damaging the cable modem with static by touching the coaxial cable connector when it is attached to the earth grounded coaxial cable TV wall outlet. Always first touch the coaxial cable connector on the cable modem when you are disconnecting or re-connecting your USB or Ethernet cable from the cable modem or your PC.



This product is provided with a separate a separate *Regulatory, Safety, Software License, and Warranty Information* card. If one is not provided with this product, please ask your service provider or point-of-purchase representative, as the case may be.

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Before You Begin

Easier!

Unlike dial-up modems or ISDN, you're always on, always connected. For easiest set-up, use the Installation Assistant on the SURFboard VoIP Cable Modem CD-ROM.

Faster!

Your VoIP cable modem is up to 100 times faster than a dial-up modem. It lets you enjoy surfing the web without the long wait. Because many network and other factors can affect performance, the actual speed will vary.

Better!

Your VoIP cable modem is made by the company with over 50 years of cable TV expertise.

Introduction

Congratulations, you have a new Motorola SURFboard Voice over Internet Protocol (VoIP) cable modem! It provides high-speed access to the Internet and other online services. This VoIP cable modem transmits and receives data much faster than traditional dial-up or ISDN modems. Unlike a dial-up modem, your SURFboard VoIP cable modem is always online. *Just open your browser and surf!*

License

You can use your high-speed, upgradeable VoIP cable modem to connect one or more computers in your home or business to the Internet. You can connect:

- A single computer equipped with a Universal Serial Bus (USB) port directly to the USB port on the SURFboard VoIP cable modem
- A single computer equipped with an Ethernet adapter directly to the Ethernet port on the SURFboard VoIP cable modem
- Two computers; one to the USB port and one to the Ethernet port
- Up to 31 computers to a single SURFboard VoIP cable modem using an Ethernet hub, as shown in "Cabling for Multiple Users" on page 39

You can connect up to two standard telephone lines using your SURFboard VoIP cable modem, which supports:

- Standard features such as caller ID, call waiting, and call forwarding
- Software upgrades over the network to provide new or improved services



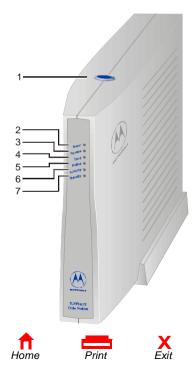




Before You Begin

License

The model number on your VoIP cable modem may be different than in the illustrations and screen images in this guide.



Top and Front Panel

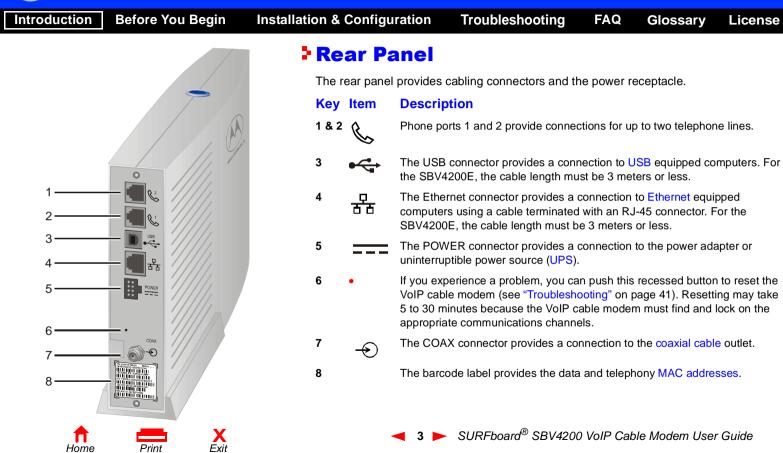
For added security, you can press the Standby button (1) to suspend your Internet connection. No data is transmitted or received from the Internet when the Standby light is on. All other front-panel lights turn off until you press the Standby button again.

The lights provide information about power, communications, and errors:

Key	Light	Flashing	On
2	Power	Startup diagnostics in progress	The VoIP cable modem is powered on
3	Receive	Scanning for a receive (downstream) channel connection	The downstream channel is connected
4	Send	Scanning for a send (upstream) channel connection	The upstream channel is connected
5	Online	Scanning for a network connection	The startup process is complete
6	PC Activity	Transmitting or receiving data	A device, such a computer or hub, is connected through USB or Ethernet
7	Standby	This light does not flash	Internet service is blocked because the Standby button was pressed. If this light is on, all other lights are off.

During normal operation, the Power, Receive, Send, and Online lights are on and the Activity light flashes when the VoIP cable modem is transferring data.







Before You Begin

SURFboard VoIP cable modem:

Caution



To comply with all national safety regulations, do not route the USB, Ethernet, or telephone cables outside of the building.

Item

Power adapter or cable

10/100Base-T

Ethernet cable USB cable

SURFboard VolP

Cable Modem CD-ROM



Description

Before you begin the installation, check that you received the following items with your

The SBV4200 is supplied with one of the following powering options:

- A power adapter to connect to the power outlet
- A power cable to connect to an UPS

Connects to the Ethernet port

Connects to the USB port

Contains the User Guide and USB drivers

You will need 75-ohm coaxial cable with F-type connectors to connect your VoIP cable modem to the nearest cable outlet. If a TV is connected to the cable outlet, you may need a 5-900 MHz RF splitter and two additional coaxial cables to use both the TV and the VoIP cable modem. The coaxial cable and RF splitter are available at consumer electronic stores.





To avoid damaging your VoIP cable modem or PC with static electricity:



Always make the wall connection first.

Before you connect or disconnect the USB or Ethernet cable, *always touch the coaxial cable connector on the VoIP cable modem*.

Fxit

Precautions

Postpone VoIP cable modem installation until there is no risk of thunderstorm or lightning activity in the area.

To avoid damaging the VoIP cable modem with static electricity:

- Always first connect the coaxial cable to the grounded cable TV wall outlet.
- Before you connect or disconnect the USB or Ethernet cable from your VoIP cable modem or PC, always touch the coaxial cable connector on the VoIP cable modem to release any static charges.

To prevent overheating the VoIP cable modem, do not block the ventilation holes on its sides.

Do not open the VoIP cable modem. Refer all service to your cable service provider.

Wipe the VoIP cable modem with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the unit or use forced air to remove dust.

Caution



Contact your cable service provider before connecting your VoIP cable modem to your existing telephone wiring. Do not connect the telephone wire to a traditional telephone (PSTN) service.







Before You Begin

Signing Up for Service

Installation & Configuration

You must sign up with a cable service provider to access the Internet and other online services.

FAQ

Glossarv

License

Troubleshooting

To activate your service, call your local cable service provider.

To receive data service, you need to provide the MAC address printed on the bar code label marked **CM HFC MAC ID** on the rear panel. You can record it here:

00 : _____ : _____ : _____ : _____ : _____

To receive telephone service, you need to provide the MAC address marked **MTA MAC ID**. You can record it here:

00 : _____ : _____ : _____ : _____ : _____

You should ask your cable service provider the following questions:

- Do you have any special system requirements?
- When can I begin to use my VoIP cable modem?
- Are there any files I need to download after I am connected?
- Do I need a user name or password to access the Internet or use e-mail?









Before You Begin

You can use any web browser such as Microsoft[®] Internet Explorer or Netscape[®] Navigator[®] with your SURFboard VoIP cable modem.

For Microsoft Windows computers, the Installation Assistant application automatically checks your system configuration. You can start the Installation Assistant from the Main Menu on the SURFboard VoIP Cable Modem CD-ROM.

Computer System Requirements

Your SURFboard VoIP cable modem is compatible with Microsoft Windows[®], Macintosh[®], and UNIX[®] computers.

Ethernet Card

You can use the Ethernet connection with any Windows, Macintosh, or UNIX computer equipped with a 10Base-T or 10/100Base-T Ethernet card.

Windows 95, UNIX, or Macintosh computers must use the Ethernet connection.

If you use an Ethernet card, it must be installed in your computer before you install the VoIP cable modem. If it is not installed, follow the installation instructions provided with your Ethernet card.

USB Connection

You can use the USB connection with any PC running Windows 98, Windows 2000, Windows Me, or Windows XP that has a USB interface. The USB connection requires special USB driver software that is supplied on the *SURFboard VoIP Cable Modem* CD-ROM.

You can upgrade the USB drivers from the Internet. For information, check our website http://www.motorola.com/broadband.





Introduction Before You Begin Installation & Configuration Troubleshooting FAQ Glossary License

To connect a single PC running Microsoft Windows to a SURFboard VoIP cable modem, we recommend using the Installation Assistant application.

You can start the Installation Assistant from the Main Menu on the *SURFboard VoIP Cable Modem* CD-ROM. In most cases, the Installation Assistant automatically configures your VoIP cable modem.

Installation and Configuration Overview

To install and configure your VoIP cable modem for a single PC running Microsoft Windows, you can use the Installation Assistant.

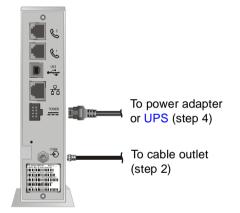
Otherwise, to install and configure your VoIP cable modem:

- Install the cables as described in one of:
 - Cabling and Startup for a Single User" on page 9
 - "Cabling for Multiple Users" on page 39
- 2 If you are using the USB port *only*, go to "Setting Up a USB Driver" on page 11. *Ethernet users can skip this step.*
- 3 Configure TCP/IP and verify the IP address for your computer following one of:
 - "Configuring TCP/IP" on page 22
 - Your Macintosh or UNIX user manual



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SURFboard VoIP cable modem



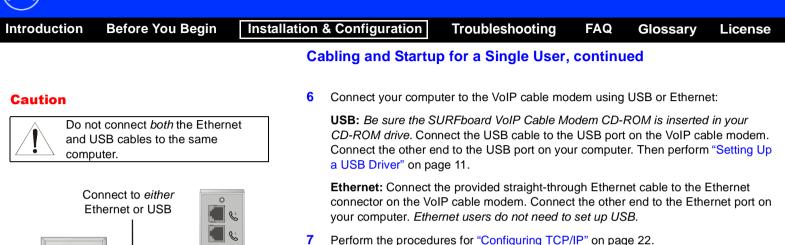


Cabling and Startup for a Single User

Allow 5 to 30 minutes to power up the first time because the SURFboard VoIP cable modem must find and lock on the appropriate channels for communications.

- Be sure your computer is on and the VoIP cable modem is unplugged.
- 2 Connect one end of the coaxial cable to the cable outlet or splitter. Connect the other end of the coaxial cable to the COAX connector on the VoIP cable modem. Hand-tighten the connectors to avoid damaging them.
- 3 Insert the SURFboard VoIP Cable Modem CD-ROM into your CD-ROM drive.
- 4 For a power adapter, plug the adapter into the POWER connector on the VoIP cable modem and the electrical outlet. For an UPS, plug the cord into the POWER connector on the VoIP cable modem and the UPS and plug the UPS into the electrical outlet. *This turns the SURFboard VoIP cable modem on. You do not need to unplug it when not in use.*
- 5 Check that the lights on the VoIP cable modem front cycle through this sequence:
 - Power flashes during the self-test and changes to solid green when the self-test is successfully complete.
 - Receive flashes while scanning for the receive (downstream) channel and changes to solid green when it is connected.
 - Send flashes while scanning for the send (upstream) channel and changes to solid green when it is connected.
 - Online flashes while the VoIP cable modem downloads configuration data and changes to solid green when the download is complete.





To connect the telephone line, plug a phone wire into the phone 1 connector. You can also connect a second telephone line to the phone 2 connector.

Caution

8



Contact your cable service provider before connecting your VoIP cable modem to your existing telephone wiring. Do not connect the telephone wire to a traditional telephone (PSTN) service.

Be sure the phone connectors are neither connected together nor connected to wall jacks on the same network.

Computer

4.) 818

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X Exit

SURFboard VolP

cable modem

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Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License	
		Setting Up a	USB Driver				

Be sure the SURFboard VoIP Cable Modem CD-ROM is inserted in your CD-ROM drive before you plug in the USB cable.

The following subsections describe setting up a USB driver. Perform the appropriate procedure for your Windows version:

- "Setting Up a USB Driver in Windows 98" on page 12
- "Setting Up a USB Driver in Windows 2000" on page 16
- "Setting Up a USB Driver in Windows Me" on page 20
- "Setting Up a USB Driver in Windows XP" on page 21

The SURFboard VoIP cable modem USB driver does not support Macintosh or UNIX computers. For those systems, you can connect through Ethernet only.





License

 Add New Hardware Wizard

 This wizard searches for new drivers for.

 USB Composite Device

 A device driver is a software program that makes a hardware device work.

 Image: Case in the image in t



Print

Setting Up a USB Driver in Windows 98

Be sure the SURFboard VoIP Cable Modem CD-ROM is inserted in your CD-ROM drive before you plug in the USB cable. This CD contains the USB drivers and must be inserted and read by the PC before you connect the VoIP cable modem to the PC.

A few seconds after you complete the USB connection, the Add New Hardware Wizard window is displayed.

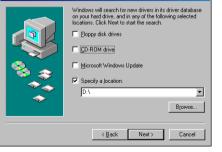
- 1 Click Next.
- 2 Be sure "Search for the best driver for your device" is selected as in the window at bottom left.
- 3 Click Next.







Introduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	License
		Se	etting Up a USB	Driver in Windows S	98, conti	nued	
Add New Hardware	Wizard	4	Be sure "CD-ROM	drive" is the only box chee	cked, as in	the window at t	op left.
	Windows will search for new drivers in its driver databas on your hard drive, and in any of the following selected locations. Click Next to start the search.	° 5	Click Next . The me this device" is disp	essage "Please wait while layed.	Windows s	earches for a n	ew driver for
	CD-RDM drive Microsoft Windows Update		If your computer su	uccessfully locates the driv	ver, skip to	step 8.	
	Specify a location: D.\netGousbinf Browse Browse	€ 	• •	bes not locate the driver, the driver, the locat			
	< Back Next> Cancel		To load the driver s NetMotCM.sys file	successfully, you may need on the CD-ROM.	l to click Bı	owse to manua	Illy select the
Add New Hardware	Wizard	7	Click Next.				



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< <u>B</u>ack

to continue.

Location of driver:

< <u>B</u>ack

Print

Windows driver file search for the device:

Motorola SurlBoard 4200 USB Cable Modem Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next

Add New Hardware Wizard

Home

Next>

Next >

Cancel

Cancel

Fxit

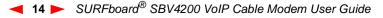
Introduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	License
		Se	etting Up a USB I	Oriver in Windows 9	8, conti	nued	
Add New Hardware Wi	sard	8	Select The updated	I driver and click Next.			
	Windows has found an updated driver for this device, and also some other drivers that should work with this device. What do you want to install? (* [[he updated driver [Recommended]] Motorola SurtBoard 4200 USB Cable Modem		CD-ROM is properly driver file, click Can	displayed, verify that the v inserted in the CD-ROM cel to cancel the installati Driver from Windows 98	drive. If yo on and pe	u still cannot fin form the procee	d the correct dure for
	C One of the other drivers.	9	After the window at	bottom left is displayed, c			

If a window with the message *Copying Files...* displays and asks for your CD-ROM drive, type your CD-ROM drive *letter* (for example, "D:") and click **OK**.

If an Insert Disk window similar to the one below is displayed, Windows 98 system files are needed to complete the installation. To install the files, insert your Windows 98 CD-ROM is in the CD-ROM drive and click **OK**.



Although your SURFboard VoIP cable modem model number may be different than in the images in this guide, the procedure is the same.





Introduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	License
		Se	etting Up a USB I	Oriver in Windows 9	8, conti	nued	
Add New Hardware Wiz		m	After all the necessa confirming a succes	ary files are loaded, the wi sful installation.	indow at u	pper left is displ	layed
	Motorola Sulfboard 4220 USB Cable Mode	10	Click Finish. The w	indow at bottom left is dis	played.		
	Windows has finished installing the software that you hardware device requires.	Ir new 11	Click Yes to restart	your computer.			
			nen you finish setting u ge 22.	up the USB driver, you can	continue	with "Configurin	g TCP/IP" on
	<bask canc<="" finish="" th=""><th>Wi</th><th>ndows 98 or Me" on p blem, see the <i>Regula</i></th><th>tting up the USB driver, pe age 44 and repeat this pr <i>atory, Safety, Software Lice</i> Fboard VoIP cable moden</th><th>ocedure. If ense, and</th><th>f that does not o <i>Warranty Inforn</i></th><th>correct your <i>mation</i> card</th></bask>	Wi	ndows 98 or Me" on p blem, see the <i>Regula</i>	tting up the USB driver, pe age 44 and repeat this pr <i>atory, Safety, Software Lice</i> Fboard VoIP cable moden	ocedure. If ense, and	f that does not o <i>Warranty Inforn</i>	correct your <i>mation</i> card



from our ard warranty service.







Introduction **Before You Begin** Installation & Configuration Troubleshooting FAQ Glossarv License Setting Up a USB Driver in Windows 2000 Be sure the SURFboard VoIP Cable Modem CD-ROM is inserted into the CD-ROM drive Found New Hardware Wizard before you plug in the USB cable. A few seconds after you complete the USB Welcome to the Found New Hardware Wizard connection, the Found New Hardware window is displayed. This wizard helps you install a device driver for a hardware device Click Next. Be sure "Search for a suitable driver for my device" is selected. 2 Click Next. 3 Although your SURFboard VoIP cable modem model number To continue, click Next may be different than in the images in this guide, the Next > Cancel procedure is the same.

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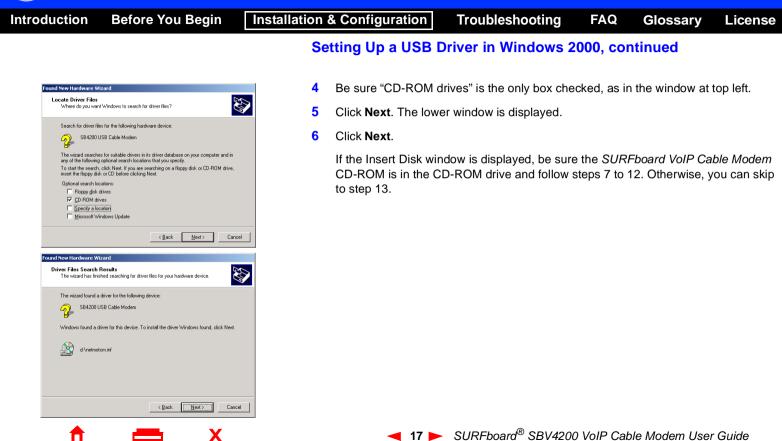




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Introductio	n Before You Beg	in Install	lation 8	& Configuration	Troubleshooting	FAQ	Glossary	License
			Set	tting Up a USB	Driver in Windows 2	000, cor	ntinued	
your C You c from a	e insert the Compact Disc labeled 'USBCM' into D-ROM drive (D:) and then click OK. an also click OK if you want files to be copied in alternate location, such as a floppy disk or a it's erver.	X OK Cancel	7 8 9 10	If necessary, select Click Browse .	vindow, click OK . The File your CD-ROM drive in the CM.sys file in the CD-ROM	e Copy file	s from list.	ayed.
			11	Double-click the Ne	tMotCM.sys file. The File	s Needed	window is displ	ayed.
	files on USBCM are needed. USBCM into the drive selected below, and then DK.	OK Cancel	12	Click OK . The Four	d New Hardware Wizard	window is	displayed.	
Copy f	files from:	Browse						





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		Setting Up a USB	Driver in Windows 2	000, coi	ntinued	
Found New Hardware Wizard		13 Click Finish to com	plete the installation.			
	Completing the Found New Hardware Wizard	When you finish setting page 22.	up the USB driver, you car	continue	with "Configurin	g TCP/IP" on
	Windows has finished installing the software for this device.		es setting up the USB driv page 48 and repeat this p	-	n "Removing the	→ USB Driver
	To close this wizard, click Finish.					
	< Back Finish Carr					











Setting Up a USB Driver in Windows Me

Be sure the *SURFboard VoIP Cable Modem* CD-ROM is inserted into the CD-ROM drive before you plug in the USB cable. A few seconds after you complete the USB connection, the Add New Hardware Wizard window is displayed.

- 1 Click **Next**. Windows automatically searches for the correct USB drivers and installs them. If the installation is successful, the window at bottom left is displayed.
- 2 If the window at bottom left is displayed, click **Finish**. Otherwise, be sure the *SURFboard VoIP Cable Modem* CD-ROM is correctly inserted in your CD-ROM drive.

When you finish setting up the USB driver, you can continue with "Configuring TCP/IP" on page 22.

Although your SURFboard VoIP cable modem model number may be different than in the images in this guide, the procedure is the same.





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Setting Up a USB Driver in Windows XP

Be sure the *SURFboard VoIP Cable Modem* CD-ROM is inserted into the CD-ROM drive before you plug in the USB cable. A few seconds after you complete the USB connection, the Found New Hardware Wizard window is displayed.

- 1 Be sure "Install the software automatically" is selected.
- 2 Click **Next**. Windows automatically searches for the correct USB drivers and installs them. If the installation is successful, the window at bottom left is displayed.
- 3 Click **Finish** to complete the installation. Otherwise, be sure the *SURFboard VoIP Cable Modem* CD-ROM is correctly inserted in your CD-ROM drive.

When you finish setting up the USB driver, you can continue with "Configuring TCP/IP" on page 22.

Although your SURFboard VoIP cable modem model number may be different than in the images in this guide, the procedure is the same.







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Configuring TCP/IP

The SURFboard VoIP cable modem contains all required software. You do not need to configure the VoIP cable modem, but you must be sure that your computer is configured for TCP/IP (a protocol for communication between computers). Perform *one* of:

- Configuring TCP/IP in Windows 95, 98, or Me" on page 23
- Configuring TCP/IP in Windows 2000" on page 26
- Configuring TCP/IP in Windows XP" on page 30
- Follow the instructions in your Macintosh or UNIX user manual

After configuring TCP/IP, perform one of the following to verify the IP address:

- "Verifying the IP Address in Windows 95, 98, or Me" on page 36
- "Verifying the IP Address in Windows 2000 or XP" on page 37
- Follow the instructions in your Macintosh or UNIX user manual

Your cable service provider may provide additional instructions to set up your computer.





Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
		Configuring	TCP/IP in Wi	ndow	c 95 98	

Configuration Identification Access Control The following getwork components are installed Client for Microsoft Networks Clien
Client for Microsoft Networks Scient for Microsoft Networks Scon Fast EtherLink XL 10/100Mb TX Ethernet NIC (3C9 Dial-Up Adapter DirX101 USB Cable Modern Adapter Monotola SurfBoard USB Cable Modern SB4100
SCom Fast EtherLink XL 10/100Mb TX Ethernet NIC [3C9 Dial-Up Adapter DPX:110 USB Cable Modem Adapter DPX:110 USB Cable Modem SB4100
Dial-Up Adapter DPX110 USB Cable Modern Adapter Motorola SurfBoard USB Cable Modern SB4100
DPX110 USB Cable Modern Adapter DPX100 SurfBoard USB Cable Modern SB4100
B Motorola SurfBoard USB Cable Modern SB4100
-
Add Remove Properties
Primary Network Logon:
Client for Microsoft Networks
File and Print Sharing
Description
OK Cancel

Configuring TCP/IP in Windows 95, 98, or Me

- 1 On the Windows Desktop, click **Start**.
- 2 Select **Settings** and then **Control Panel** from the pop-up menus.
- 3 Double-click the **Network** icon on the Control Panel window.
- 4 Select the **Configuration** tab on the Network window.
- 5 If TCP/IP is displayed in the list of network components, it is installed and you can skip to step 10. If TCP/IP is not displayed on the list, continue with step 6.

Although your SURFboard VoIP cable modem model number may be different than in the images in this guide, the procedure is the same.







Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
		Configuring TCP/IP	in Windows 95, 98,	or Me,	continued	

Select Network Component Type	? ×
Click the type of network component you want to install:	
🔜 Client	Add
B Adapter	
Protocol	Cancel
📇 Service	
Protocol is a 'language' a computer uses. Computers must use the same protocol to communicate.	

	at I I I I I I I I I I I I I I I I I I I
Manufacturers: T Banyan T IBM Microsoft	Network Protocols:
A Novell	TCP/IP WAN support for ATM Have Disk
	OK Cancel

- 6 Click Add.
- 7 Double-click the **Protocol** option on Select Network Component Type window.
- 8 Click **Microsoft** in the Manufacturers section and click **TCP/IP** in the Network Protocol section of Select Network Protocol window.
- 9 Click OK.





Introduction Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
	Configuring TCP/I	P in Windows 95, 98	, or Me,	continued	
TCP/IP Properties Bindings Advanced NetBIDS DNS Configuration Gateway WINS Configuration IP Address Jour network does not automatically assigned to this computer of an address, and then type it in the space below. Image: Comparison of the space below. Image: Comparison of Decision of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below. Image: Comparison of the space below.	the one for the Eth 11 Click Properties . T 12 Click the IP Addres 13 Click Obtain an IP 14 Click OK to accept 15 Click OK to close th 16 Click OK when pro When you complete TC Windows 95, 98, or Me	address automatically. the TCP/IP settings. he Network window. mpted to restart your com P/IP configuration, go to "	nnected to layed. buter and d	the VoIP cable click OK again.	modem.





AQ Glossary

License

Configuring TCP/IP in Windows 2000

- 1 On the Windows Desktop, click **Start**.
 - 2 Select **Settings** and then **Control Panel** from the pop-up menus.
 - 3 Double-click the **Network and Dial-up Connections** icon on the Control Panel window.
 - 4 On the Network and Dial-up Connections window, click Local Area Connection number. The value of number varies from system to system. The Local Area Connection number Status window is displayed.



Performance Image: Second Se





Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
		Configuring TCP/IF	in Windows 2000,	continu	ed	

Local Area Connection	2 Status	<u>? ×</u>
General		
Connection Status: Duration:		Connected 00:04:20
Activity Parkets	Sent — 🕮 —	750.0 Kbps Received
	lisable	
		Close

ocal Area Connection 2 Properties
General
Connect using:
Motorola SurfBoard USB Cable Modern SB4100
Configure
Components checked are used by this connection:
Clerk for Microsoft Networks Ele and Printer Sharing for Microsoft Networks Tritement Protocol (CEP/P)
Instal Uninstall Properties
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in taskbar when connected
Close Cancel



- 5 Click Properties. Information similar to the lower window is displayed.
- 6 If Internet Protocol (TCP/IP) is in the list of components, TCP/IP is installed. You can skip to step 10.

If Internet Protocol (TCP/IP) is not in the list, click Install. The Select Network Component Type window is displayed. Continue with step 7.

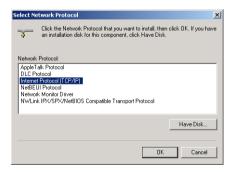


Protocol is a 'language' a computer uses. Computers must use the same protocol to communicate.

Service

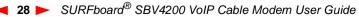
Introduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	License
		C	onfiguring TCP/IF	in Windows 2000,	continu	ed	
Select Network Com	ponent Type	<u>?×</u> 7		e Select Network Compo ocol window is displayed.	21	window and clic	ck Add . The
	ork component you want to install:	_	Select Network Flot	ocol willdow is displayed.			
Client	<u>A</u> dd	8	Click Internet Proto	col (TCP/IP) in the Netw	ork Protoco	ol section on the	e Select

- 8 Click Internet Protocol (TCP/IP) in the Network Protocol section on the Select Network Protocol window.
- 9 Click **OK**. The Local Area Connection *number* Properties window is re-displayed.



Cancel







\smile					
Introduction Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
	Configuring TCP/I	P in Windows 2000,	continu	ed	
Local Area Connection 2 Properties 2 ≥ General Connect using		Connection <i>number</i> Prope (TCP/IP) is checked.	erties windo	ow, be sure the	box next to
Motorials SurfBoard USB Cable Modern SB4100 Configure Components checked are usual by this connector Configure Controls Microsoft Networks V Sin Sin of Price Sharing Microsoft Networks	11 Click Properties. T shown at bottom le	he Internet Protocol (TCP ft.	/IP) Prope	rties window is	displayed as
Territoria Control TCS/ID Instat. Universal Properties Decoption Transmission Control Protocol/Internet Promoti. The default	12 Be sure Obtain IP automatically are	address automatically a selected.	nd Obtain	DNS server ad	dress
wide area network protocol that provides communication actions divers in Interconnected the whole.	13 Click OK to accept	the TCP/IP settings.			
CloseCarted	14 Click OK to close the	ne Local Area Connection	number Pi	roperties windov	<i>N</i> .
Internet Protocol (TCP/IP) Properties [2] X	15 Click OK when pro	mpted to restart your com	puter and o	click OK again.	
Grand You can get IP sattings antigrand automatically procenterout negacitie the capability Differences you need to ak your network administrator for the appropriate Process Pactors Pactors Sport network Control of the following IP satteres Control of the following ID following Control of the server	When you complete the Windows 2000 or XP" of	TCP/IP configuration, go on page 37.	to "Verifyir	ng the IP Addres	ss in





Advanced...



troduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ Glos	ssary License
		> C	onfiguring	TCP/IP in Win	dows XP	
		1	On the Windows de	esktop, click Start to displa	ay the Start window	w shown at left.
SURFboard	My Documents My Recent Documents	2	depending on your shown below, conti	I to display the Control Pa Windows XP view options nue with step 3. Otherwise	a. If the display is a e, skip to step 5.	a Category view as
MSN Explorer	My Pictures My Music My Computer		Ede Ede Gester Address G	Youne Yew Fayorites Iools Help Yew Fysichts Iools Help Yew Folders IIII + Cortrol Panel		
Command Prompt	Control Panel Control Panel Privides options for you to customize the appearance accurate. Provides options for you to customize the appearance accurate. Preb and Stapport Search	ce and functionality of your work connections and user	See Als	dows Update	Printers and Other Hardware	
Files and Settings Transfer Wizard All Programs	Cog Off O Turn Off Computer		(g) Hel	And Seport Provide Add or Remove Programs	Date, Time, Language, and Re Options	egional

3 Click **Network and Internet Connections** to display the Network and Internet Connections window.

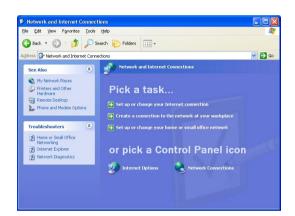
Performance and Maintenance



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Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
		Configuring TCP/IF	P in Windows XP, co	ontinued		



4 On the Network and Internet Connections Pick a task window, click **Network Connections** to display the LAN or High-speed Internet connections. Skip to step 6.



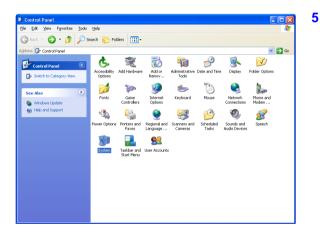
Х

Exit





Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
Configuring TCP/IP in Windows XP, continued						



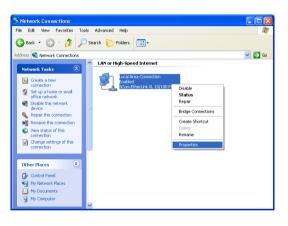
If a classic view similar to at left is displayed, click Network Connections to display the LAN or High-speed Internet connections.







Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
		Configuring TCP/IP	in Windows XP, co	ontinued		



- Right-click on your network connection. If more than one connection is displayed, be 6 sure to select the one for your network interface.
- 7 Select Properties from the pop-up menu to display the Local Area Connection Properties window.







	Defere Veu De rin	Installation	2 Configuration	Troublookeeting	FAO		
oduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	License
		C	onfiguring TCP/IF	P in Windows XP, co	ontinued	I	
		? 🗙 8	On the Local Area C is checked. If it is no	onnection Properties wind to hecked, check it.	dow, be su	re Internet Proto	ocol (TCP/IP)
General Authentic Connect using:	ation Advanced	9	Select Internet Prot Protocol (TCP/IP) P	cocol (TCP/IP) and click I roperties window.	Properties	to display the I	nternet
	Configure						
File and F	Microsoft Networks Trinter Sharing for Microsoft Networks ket Scheduler Protocol (TCP/IP)						
Description	Uninstall Properties						
wide area netwo	ontrol Protocol/Internet Protocol. The default ork protocol that provides communication nterconnected networks.						
Sho <u>w</u> icon in n	otification area when connected						
	OK Can	cel					





Introduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	Licens
Internet Protocol (T General Alternate Con You can gel IP setting this capability. Otherwi the appropriate IP setti O Uge the following IP address: Sybnet mask: Default gateway: O Obtain DNS serv	CP/IP) Properties	Co 10 11 11 12 Wh Wir	On the Internet Pro correct, as shown a Click OK to close th Click OK to close th	P in Windows XP, co tocol (TCP/IP) Properties of t left. TCP/IP Properties wind the Local Area Connection TCP/IP configuration, go to	ontinuec window, ve ow. Properties	erify that the set	tings are
	ОК	Cancel					





Introduction Before You Begin Installation & Configuration	Troubleshooting	FAQ	Glossary	License
--	-----------------	-----	----------	---------

Maile Configuration	
Ethernet Adapter Information	
	PCI Bus Master Adapter
Adapter Address	00-80-C6-E7-59-E6
IP Address	206.19.86.132
Subnet Mask	255.255.255.224
Default Gateway	206.19.86.129
	elease Re <u>n</u> ew
Rele <u>a</u> se All Re	ene <u>w</u> All <u>M</u> ore Info >>

The values for Adapter Address, IP Address, Subnet Mask, and Default Gateway on your PC will be different than in the image above.

Adapter Address	00-80-C6-E7-59-E6
IP Autoconfiguration Address	169.254.191.251

In Windows 98, if autoconfiguration is displayed before the IP Address, call your service provider.



Verifying the IP Address in Windows 95, 98, or Me

The following instructions are for Windows 95, 98, or Me. For information about Windows 2000 or XP, see "Verifying the IP Address in Windows 2000 or XP" on page 37. For a Macintosh or UNIX system, refer to your user guide.

To check the IP address:

- 1 On the Windows Desktop, click **Start**.
- 2 Select **Run**. The Run window is displayed.
- 3 Type winipcfg.exe and click OK. A window similar to the example at top left is displayed.
- 4 Select your adapter name the Ethernet card or USB device.
- 5 Click Renew.
- 6 Click **OK** after the system displays an IP address.

If after performing this procedure your computer cannot access the Internet, call your cable service provider for help.



Microsoft Windows 2000 [Version 5.00.2195] (C) Copyright 1985-2000 Microsoft Corp.

Ethernet adapter Local Area Connection 2:

Connection-specific DNS Suffix .: Autoconfiguration IP Address. . .: 169.254.45.20

Default Gateway

Windows 2000 IP Configuration

Home

rmd

C:\>

C:\>ipconfig

Introduction	Before You Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	License
			erifying the	e IP Address	in W	indows	2000
C: WINNT/System32/cmd.ex Microsoft Windows 2000 (C) Copyright 1985-200	[Version 5.00.2195]	W Pa	indows 95, 98, or Me, age 36. For a Macintos	s are for Windows 2000 o see "Verifying the IP Add h or UNIX system, refer t	ress in Wir	ndows 95, 98, o	
C:\>ipconfig			check the IP address				
Windows 2000 IP Config Ethernet adapter Local	Area Connection 2:	1	On the Windows De	esktop, click Start .			
Subnet Mask .	cific DNS Suffix .: surfboard.com 	2	Select Run . The Ru	n window is displayed.			
Ethernet adapter Local Media State .	Area Connection: : Cable Disconnect	ed 3	Type cmd and click	OK. A window like the or	ne at upper	· left is displaye	d.
C:\>		<u> </u>	Type inconfig and r	press ENTER to display vo	ur IP confi	nuration A disp	lav like the

Fxit

Type **ipconfig** and press ENTER to display your IP configuration. A display, like the 4 window at upper left, indicates a normal configuration.

If an Autoconfiguration IP Address is displayed as in the window at bottom left, there is an incorrect connection between your PC and the VoIP cable modem or there are cable network problems. Check:

- Your cable connections
- Whether you can see cable-TV channels on your television

After verifying your cable connections and proper cable-TV operation, you can renew your IP address.

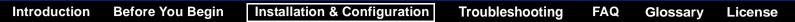


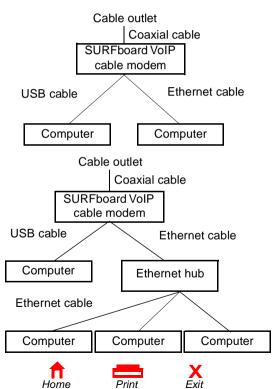
Introduction	Before You Begin	Installation & Configuration	on Troubleshooting	FAQ	Glossary	License
		Verifying the IF	Address in Windows	2000 or	XP, continu	ed
🖾 cmd Microsoft Windows 200	A Fllowsian E AA 21951	To renew your IP ad	ldress:			
(C) Copyright 1985-20 C:\>ipconfig /renew Windows 2000 IP Config	00 Microsoft Corp.		renew and press ENTER. If a access should be available.	valid IP ad	dress is display	ed as shown
Ethernet adapter Loca Connection-sp IP Address Submet Mask	1 Area Connection 2: ecific DNS Suffix . : surfboard.com 206.19.86.174 : 255.255.255.255.255.255.255.255.255.255	2 Type exit and p	press ENTER to return to Wind	ows.		
Subnet Mask 255.255.224 Default Gateway 206.19.86.161 C:\>_			nis procedure your computer ler for help.	cannot acc	ess the Internet	, call your











Cabling for Multiple Users

The SURFboard VoIP cable modem supports several multiple user configurations. Along with an optional hub or router, it can serve as an Internet gateway for up to 31 computers.

Not all service providers support multiple user service. For information about multiple user service, contact your cable service provider.

Ethernet and USB

You can connect the USB port on one computer and the Ethernet port on another computer directly to the VoIP cable modem, as shown at top left.

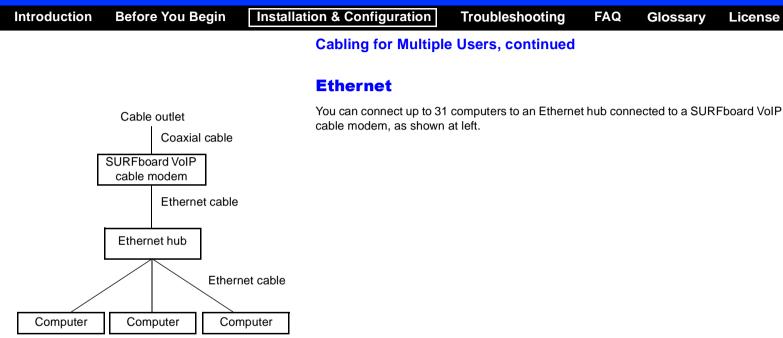
Caution



Do not connect *both* the Ethernet and USB cables to the same computer.

You can connect a single computer to the USB port and from one to 30 remaining users to an Ethernet hub, as shown at bottom left. You cannot connect more than one computer to the VoIP cable modem through the USB port.









Introduction Bef	fore You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
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Troubleshooting

If the solutions listed here do not solve your problem, contact your cable service provider. Before calling your service provider, try pressing the reset button on the rear panel. Resetting the VoIP cable moder may take 5 to 30 minutes. Your service provider may ask for the status of the front-panel lights as described in "Front-Panel Lights and Error Conditions" on page 43.

Problem

Possible Solutions

Green POWER light is off

Check that the power cord is properly plugged into the electrical outlet and the VoIP cable modem.

Check that the electrical outlet is working.

If the Standby light is on, the Internet connection is off. Press the Standby button to reconnect to the Internet. Press the Reset button.







Introduction Before You Be	egin Installation & Configuration	Troubleshooting	FAQ	Glossary	License			
Problem	Possible Solutions							
Cannot send or receive data	Check the lights on the front panel. Note the first light from top to bottom that is off. This light indicates where the error occurred as described in "Front-Panel Lights and Error Conditions" on page 43.							
	If all lights are off except the Standby light, the VoIP cable modem is in Standby mode. Press the Standby button to reconnect your Internet service.							
	If you have cable TV, check that your TV is working and the picture is clear. If you cannot receive your regular TV channels, your data service will not function.							
	Check the coaxial cable at the VoIP cable modem and wall outlet. Hand-tighten if necessary.							
	Check the IP address. Follow the steps in "Verifying the IP Address in Windows 95, 98, or Me" on page 36 or "Verifying the IP Address in Windows 2000 or XP" on page 37. Call your cable service provider if you need an IP address.							
	Check that the USB or Ethernet cable is prop	perly connected to the Voll	P cable mo	dem and your c	omputer.			
Problems related to unsuccessful	Remove the USB driver. Follow the instruction	ons in <i>one</i> of:						
USB driver installation	"Removing the USB Driver from Window	vs 98 or Me" on page 44						
	"Removing the USB Driver from Window	vs 2000" on page 48						
	"Removing the USB Driver from Window	vs XP" on page 53						





Print





Front-Panel Lights and Error Conditions

Light	Turns Off During Startup If	Turns Off During Normal Operation If
Receive	The receive channel cannot be acquired	The receive channel is lost
Send	The send channel cannot be acquired	The send channel is lost
Online	IP registration is unsuccessful	The IP registration is lost
Power	The VoIP cable modem is not properly plugged into the power outlet	The VoIP cable modem is unplugged or is in standby mode. Press the Standby button

For more information about the lights, see "Top and Front Panel" on page 2.







Network ? 🗙
Configuration Identification Access Control
The following network components are installed:
Elient for Microsoft Networks
SCom Fast EtherLink XL 10/100Mb TX Ethernet Adapter
Dial-Up Adapter Motorola SurfBoard 4100 USB Cable Modem
TCP/IP -> 3Com Fast EtherLink XL 10/100Mb TX Etherne
Add Remove Properties
Primary Network Logon:
Client for Microsoft Networks
<u>File and Print Sharing</u>
Description
A network adapter is a hardware device that physically connects your computer to a network.
connects your computer to a network.
0K Cancel

Removing the USB Driver from Windows 98 or Me

- 1 On your Windows Desktop, right-click the **Network Neighborhood** icon and select **Properties**. The Network window is displayed.
- 2 Click the Motorola SurfBoard USB Cable Modem.

Although your SURFboard VoIP cable modem model number may be different than in the images in this guide, the procedure is the same.





T Home **X** Exit

Print

Introduction Before You Begin	Installation & Configuration	Troubleshooting	FAQ Glossary	/ License
	Removing the US	B Driver from Window	vs 98 or Me, conti	nued
Network ? X Configuration Identification Access Control	3 Click Remove. The Cable Modem in th	e Network window no longer e list.	⁻ displays Motorola Sur	fBoard USB
The following getwork components are installed:	4 Click OK. The Syst	em Settings Change window	w is displayed.	
3Com Fast EtherLink XL 10/100Mb TX Ethernet NIC (3C9 Dial-Up Adapter	5 Disconnect the US	B cable from your PC or Vol	P cable modem.	
Image: Second Sector Past EtherLink XL 10/100Mb TX Ethern Image: TCP/IP > 3Com Fast EtherLink XL 10/100Mb TX Ethern Image: Second Sec	6 Click Yes to restart	your computer.		
System Settings Change Image: Change You must restart your computer before the new settings will take effect. Do you want to restart your computer now?				

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		Re	moving the USE	Driver from Windo	ws 98 o	r Me, contin	ued
ED: File Edit View Favorites Back Forward Up Address @D:	Tools Help Q Figure Constraints And	.□× 7 	short time, a window	rd VoIP Cable Modem CE v with language choices is on the keyboard to exit the	s displayed	J.	ive. After a
Folders ×	Name Size Type ❑Acrobat40 File Folder	9	To start Windows Ex	plorer, click Start and sel	ect Run.		
Lesktop Lesktop Lesktop Lesktop Lesktop Lesktop Lesktop Local Disk (C:) Lesktop Local Disk (C:) Lesktop Local Disk (C:) Lesktop Local Disk (C:) Lesktop Leskt	File Folder Folder File Folder Folder Folder Korean File Folder Todchinese File Folder Todchinese File Folder USB File Folder	10 11		type explorer and click O M drive (D: in the image a		ploring window	is displayed.
	■ Job Thermolular ■ autorun.inf 1 KB Setup Information ■ autorun.inf 1 KB Setup Information ■ Launch.ini 1 KB Configuration Set ■Intermot.icat 8 KB ■ MetMotCM.inf 8 KB Setup Information ■ NetMotCM.inf 8 KB System File ■ Intermotextex 2 68 KB Application	tings 12		e or remove.exe to run th CD-ROM. The SURFboa		-	
14 object(s) (Disk free space: 0 bytes	x) 374 KB Wy Computer			Explorer may appear sligh	2		0

ed:

- After a
- displayed.
- URFboard Removal

е on this page. There are slight variations between Windows versions and you can configure Windows Explorer as you like.





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Remove Registry entries

Press "Remove Driver" to start the Removal Process.

- Need New Drivers or more Information?-

Status

here.

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ł



You can check for the latest Information about your Motorola SURFboard Cable Modem

http://www.Motorola.com/broadband

Cable Modem





Removing the USB Driver from Windows 2000

- 1 On your Windows desktop, click Start.
- 2 Click Settings.
- 3 Click Control Panel to display the Control Panel window.
- 4 Double-click **System** to display the System Properties window.





properties of any device. Driver Signing..

- Hardware Profiles

4

Device Manager..

Hardware Profiles..

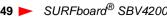
Cancel

Hardware profiles provide a way for you to set up and store different hardware configurations.

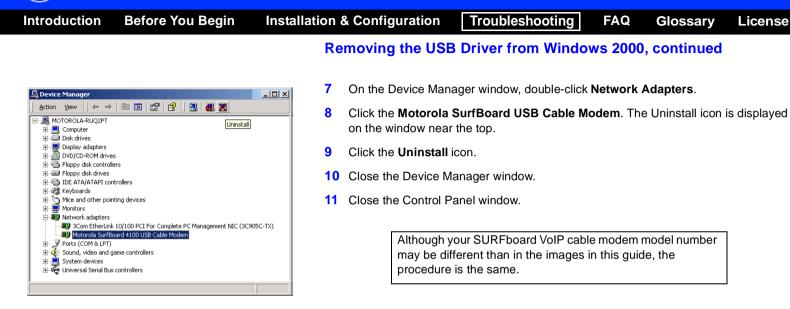
OK

Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
		Removing the USE	B Driver from Windo	ws 2000), continued	
Hardware Wizard The Hardw unplug, eje Device Manager Device Manager	Hardware User Profiles Advanced Ware wizard helps you install, uninstall, repair, .ct, and configure your hardware. Hardware Wrizard Hardware Wrizard e Manager lists all the hardware devices installed model Use the Device Manager to change the chardware to change the		perties window, click the F anager button to display t			w:











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Introduction	Before `	′ou Begin	Installation	& Configuration	Troubleshooting	FAQ	Glossary	License
			Re	emoving the USE	B Driver from Windo	ws 2000), continued	
File Edit View Favorites	Tools Help		⊡× 12 		ard VoIP Cable Modem CE w with language choices is			ive. After a
Back Forward Up Address 201	Search Folders Histor	V Move To Copy To Delete	<u>*</u> 13	Press the Esc key o	on the keyboard to exit the	start-up s	creens.	
iolders ×	Name 🛆	Size Type		To start Windows E	xplorer, click Start and sel	ect Run.		
Desktop My Computer S1½ Floppy (A:) Local Disk (C:)	Acrobat40 Bin Common English	File Folder File Folder File Folder File Folder	15		type explorer and click O			
🗄 🛃 USBCM (D.) B 🌉 My Network Places	Corean	File Folder File Folder	16	Double-click My Co	mputer.			
👸 Recycle Bin	USB autorun.inf Launch.exe	File Folder 1 KB Setup Information 76 KB Application 1 KB Configuration Sett	nas 17	Double-click the Mc	torola CD icon (D: in the	image).		
	NetMotCM.inf NetMotCM.sys	8 KB Security Catalog 8 KB Setup Information 16 KB System file 268 KB Application	18	VoIP Cable Modem	e or remove.exe to run th CD-ROM. The SURFboa		•	
Disk free space: 0 bytes	374 K	B 💭 My Computer		window is displayed	1.			

Your Windows Explorer may appear slightly different than in the image on this page. There are slight variations between Windows versions and you can configure Windows Explorer as you like.

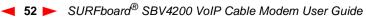


X Exit

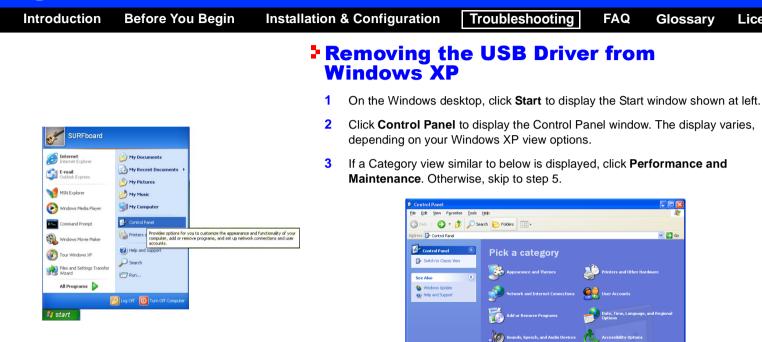


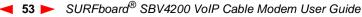
troduction Before You Begin Instal	llation & Configuration	Troubleshooting	FAQ	Glossary	License
	Removing the USE	3 Driver from Windo	ws 2000), continued	
UREboard Cable Modem USB Driver Removal Remove Driver MOTOROROLA Exit Motorola Inc. USB Driver Removal Utility Exit This utility will remove the USB driver files and registry entries that are not removed by the Device Managers uninstal process. Be sure to remove the driver using the "Device Manager" (Fist. About Ensure your USB Cable Modem is disconnected. About Operations SURFboard Remove Driver .sys file(s) (System) - Completed SURFboard Remove Driver .inf file(s) (Information) - Completed USB Remove Registry entries - Completed Cable Modem Status The SURFboard Cable Modem USB driver has been removed. Need New Drivers or more Information? Modem	20 Click Remove Drive Informational messa SURFboard Cable I After you remove the US	left is displayed. <i>Be sure a</i> er. ages similar to the ones sl Modem USB Driver Remo SB driver, re-install the US " on page 16. If you contin	nown at lef val windov B driver fo	ft are displayed ^{N.} Ilowing "Setting	on the Up a USB











Performance and Maintenance

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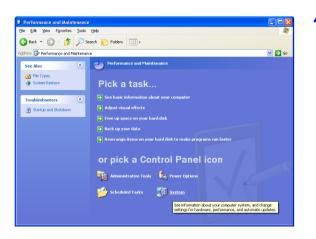


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Introduction	Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License	
Removing the USB Driver from Windows XP, continued							



On the Performance and Maintenance window, click System to display the System 4 Properties window. Skip to step 6.

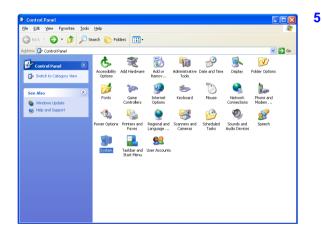








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Removing the USB Driver from Windows XP, continued							



If a classic view similar to at left is displayed, click System to display the System Properties window.







- Add Hardware Wizard

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Removing the USB Driver from Windows XP, continued								
System Properties System Restore General Co	Automatic Updates Remote mputer Name Hardware Advancer	7 Double-click the D	operties window, click the H a evice Manager button to di			r window.		

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		Add Hardware Wizard
Device N	fanager	
	The Device Manager lists all th on your computer. Use the Dev properties of any device.	
	Driver Signing	Device Manager
Hardwar	o Profiles	
Hardwar	e Profiles Hardware profiles provide a wa different hardware configuration	
Hardwar	Hardware profiles provide a wa	

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X Exit



	Troubleshooting	FAQ Glossary	License
 8 On the Device Mar 9 Click the Motorola on the window nea 10 Click the Uninstall 11 Close the Device M 12 Close the Control F Although may be d 	B Driver from Window nager window, double-click SurfBoard USB Cable Me r the top. icon. /anager window.	ws XP, continued Network adapters. odem. The Uninstall icon	is displayed







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			Re	emoving the USE	B Driver from Windo	ws XP,	continued	
D:\ File Edit View Favorites	Fools Help	-	IX 13		ard VoIP Cable Modem CE w with language choices is			ive. After a
Back Forward Up	Search Folders Histor			Press the Esc key o	on the keyboard to exit the	start-up s	screens.	
Address 🛃 D:\ Folders X	Name 🔺	Size Type	260 15	To start Windows Ex	xplorer, click Start and sel	ect Run.		
Desktop Wy Computer Josef 31/2 Floppy (A:) Desktop Local Disk (C:)	Acrobat40 Bin Common English	File Folder File Folder File Folder File Folder	16	In the Run window,	type explorer and click O	К.		
GE My Network Places Recycle Bin	Korean TradChinese	File Folder File Folder File Folder	17	Double-click My Co	mputer.			
	autorun.inf	1 KB Setup Information 76 KB Application	18	Double-click the Mo	torola CD icon (D: in the	image).		
	Launch.ini Launch.ini Launch.ini NetMotCM.inf NetMotCM.sys Uremove.exe	1 KB Configuration Setti 8 KB Security Catalog 8 KB Setup Information 16 KB System file 268 KB Application	^{ngs} 19		e or remove.exe to run th CD-ROM. The SURFboa			
Object(s) (Disk free space: 0 bytes)	374 KI	3 💭 My Computer		window is displayed	l.			

Your Windows Explorer may appear slightly different than in the image on this page. There are slight variations between Windows versions and you can configure Windows Explorer as you like.





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ntroduction Before You Begin	Installation & Configuration	Troubleshooting	FAQ	Glossary	License
	Removing the US	B Driver from Window	ws XP,	continued	
MotroRoLA Motorola Inc. USB Driver Removal Utility This utility will remove the USB driver files and registry entries that are not remove the driver using the "Device Managers uninstall process. Be sure to remove the driver using the "Device Manager" files. Ensure your USB Cable Modern is disconnected. Operating System is Microsoft Windows XP Operations Remove Driver .sys file(s) [System] - Completed Remove Driver .inf file(s) [Information] - Completed Remove Digital Signature File (Digital Catalog) - Completed	Click Remove Dri Informational mes SURFboard Cable After you remove the L Driver in Windows XP" service provider. Fboard Modem	e left is displayed. <i>Be sure t</i> ver. sages similar to the ones sh Modem USB Driver Remov JSB driver, re-install the USI on page 21. If you continue	nown at le val windov B driver fo	ft are displayed w. ollowing "Setting	on the Up a USB







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Contact Us

For information about customer service, technical support, or warranty claims, see the Regulatory, Safety, Software License, and Warranty Information card provided with your SURFboard VoIP cable modem.

For answers to typical questions, see "Frequently Asked Questions" on page 61.

For information about Motorola consumer cable products, education, and support, visit http://www.motorola.com/broadband.







Frequently Asked Questions

Here are answers to questions our customers frequently ask.

Q What is high-speed cable Internet access?

A Cable Internet access uses cable television wires instead of telephone lines to connect to the Internet. It is extremely fast and affordable and does not tie up telephone lines for incoming or outgoing calls and faxes.

Q What is Voice over Internet Protocol (VoIP)?

A VoIP uses cable television wires instead of traditional telephone lines to provide voice and fax service.

Q How fast are VoIP cable modems?

A Cable modems offer Internet access at speeds up to 100 times faster than a traditional phone modem. You can experience speeds of over 1,000 Kbps. Due to network condition such as traffic volume and the speed of the sites you visit, actual speed may vary. Many network and other factors can affect download speeds.

Q Can I still watch cable TV while using my VoIP cable modem?

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A Yes, your cable TV line can carry the TV signal while you send and receive information on the Internet.







Q What are CableLabs Certified, DOCSIS and Euro-DOCSIS?

A CableLabs Certified[™], DOCSIS, and Euro-DOCSIS are the industry standards for high-speed data distribution over cable television system networks. They are intended to ensure that all compliant VoIP cable modems interface with all compliant cable systems. Your Motorola SURFboard VoIP cable modem is DOCSIS or Euro-DOCSIS certified.

Q What is PacketCable?

A PacketCable is an evolving set of interface specifications for delivering advanced, real-time multimedia services over cable; for example VoIP, multimedia conferencing, and interactive gaming.

Q If I have a VoIP cable modem, can I still use my old 28.8 Kbps or 56 Kbps modem?

A Yes! Although once you've experienced the speed of cable Internet access, you'll never again want to wait for traditional dial-up services.

Q I have more than one computer. Do I need more than one SURFboard VoIP cable modem?

A No, not if your computers are connected on a network. The SURFboard VoIP cable modem supports current Internet connection sharing technologies to enable you to connect up to 31 computers to the Internet using a single VoIP cable modem.

Q Do I need to change my Internet service provider (ISP)?

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A Currently, most Internet service providers do not provide cable Internet access. Contact your cable company for your specific information.







Q Do I need to subscribe to cable TV to get cable Internet access?

A No, but you will need to subscribe to cable Internet service. Some systems require that you subscribe to basic service before you can get Internet access and/or offer a discount when you use your own VoIP cable modem. Check with your local cable company for specific information.

Q What type of technical support is available?

- A For questions about your Internet service, connection, or VoIP cable modem, call your cable service provider.
- Q What do I do if my SURFboard VoIP cable modem stops working?
- A "Troubleshooting" on page 41 provides tips to diagnose problems and simple solutions. If you continue to have problems, call your cable service provider.







Before You Begin

Introduction

• Glossar	y				
coaxial cable (coax)	A type of wire consisting of a center wire surrounded by insulation and a grounded shield of braided wire. The shield minimizes electrical and radio frequency interference.				
DOCSIS	The CableLabs Data-Over-Cable Service Interface Specification defines interface standards for VoIP cable modems and supporting equipment.				
download	To copy a file from one computer to another. You can use the Internet to download files from a server to your home PC. A DOCSIS VoIP cable modem downloads its configuration from a server during start-up.				
downstream	In a cable data network, downstream describes the direction of data received by your computer from the Internet.				
Ethernet	The most widely used type of local area network (LAN). The most commonly installed Ethernet networks are called 10Base-T. 10Base-T provides transmission speeds up to 10 megabits per second (Mbps), usually over twisted-pair wire. Fast Ethernet (100Base-T) provides transmission speeds up to 100 Mbps.				

Troubleshooting

Glossarv

License

FAQ

Installation & Configuration

- expansion slot An opening in a computer where a circuit board can be inserted to add new capabilities.
- F-type connector A connector used to connect coaxial cable to equipment.
- IP address An Internet Protocol address is an identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol route messages based on the destination IP address. Your cable service provider assigns your VoIP cable modem an IP address to provide a continuous Internet connection.





- MAC address The Media Access Control Address uniquely identifies each device that can be connected to an Ethernet network. It is permanently written to read-only memory (ROM) at the factory and printed on the rear panel of your SURFboard VoIP cable modem. You need to provide the MAC address to your cable service provider.
- MHz Mega Hertz. A measure of radio frequency millions of cycles per second. One MHz means one million cycles per second.
- **PSTN** The public switched telephone network is the traditional circuit-switched, voice-oriented telephone network originally invented by Alexander Graham Bell. It is sometimes referred to as plain old telephone service (POTS).
- RJ-11 The most common type of connector for household or office phones.
- RJ-45 The most common type of connector for Ethernet networks.
- **splitter** A splitter is a device that divides the signal power from an input cable equally between two or more signals, each carrying a selected frequency range.
- TCP/IP Transmission Control Protocol/Internet Protocol is a set of protocols that provides standards and rules for communication between networks.
- upstream In a cable data network, upstream describes the direction of data sent from your computer to the Internet.
- UPS An uninterruptible power source is a power supply designed to protect mission-critical networks against power outages, brownouts, surges, and spikes.
- USB Universal Serial Bus is a computer interface for add-on devices such as printers, scanners, and VoIP cable modems. When you connect your SURFboard VoIP cable modem to the USB port, Windows 98 and later versions automatically recognize the VoIP cable modem.
- VoIP Voice over Internet Protocol is a method to exchange voice, fax, and other information over the Internet. Voice and fax have traditionally been carried over traditional telephone lines using a dedicated circuit for each line. VoIP enables calls to travel as discrete data packets on shared lines. VoIP is an important part of the convergence of computers, telephones, and television into a single integrated information network.





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SURFboard Cable Modems

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