

## SB4200 User Guide





## **Declaration of Conformity**

We,

Motorola, Inc. Broadband Communications Sector 6450 Sequence Drive San Diego, CA, U.S.A.

declare under our sole responsibility that the

SURFboard Cable Modem

Model SB4200i

to which the declaration relates is in conformity with the following standards:

| EN55022  | EN55024  | EN60950                                 |
|----------|----------|---|
| CISPR 22 | CISPR 24 | IEC950 : 1991 + A1 : 1992 + A2 : 1993 + |
|          |          | A3:1995 + A4:1996                       |

following the provisions of the Directive(s) of the Council of the European Union:

EMC Directive 89/336/EEC Low Voltage Directive 73/23/EEC

## Caution

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.

Use only an ac line cord that complies with the country's product safety requirements.

To ensure regulatory and safety compliance, use only the provided Ethernet, USB, and power cables.

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## **Table of Contents**

| Introduction  | 1  |
|---|----|
| Top and Front Panel                                 | 2  |
| Rear Panel  |    |
| Before You Begin                                    | 5  |
| Precautions   | 6  |
| System Requirements                                 |    |
| Installation and Configuration                      | 9  |
| Installation and Configuration Tasks                | 9  |
| Cabling and Startup for a Single User               | 10 |
| Setting Up a USB Driver in Windows 98               | 13 |
| Setting Up a USB Driver in Windows 2000 and Me      |    |
| Configuring for TCP/IP in Windows 95, 98, and Me    | 23 |
| Configuring for TCP/IP in Windows 2000              |    |
| Verifying Your IP Address in Windows 95, 98, and Me |    |
| Verifying Your IP Address in Windows 2000           |    |
| Cabling for Multiple Users                          |    |



## Table of Contents (cont'd)

| Troubleshooting   | . 35 |
|---|------|
| Problems and Possible Solutions                                     | 35   |
| Removing the SB4200 Device Listing from Windows 98                  | 38   |
| Removing the USB Driver from Windows 98                             | 40   |
| Removing the SB4200 Device Listing from Windows 2000 and Windows Me | 42   |
| Removing the USB Driver from Windows 2000 and Windows Me            | 46   |
| Recovery after Installation Errors with Win98_SE and Windows 98     | 48   |
| Contact Us  | . 52 |
| Glossary  | . 53 |
| FAQs  | . 55 |
| Software License  | . 59 |
| Warranty Information  | . 62 |





| Introduction        | Before You Begin        | Installation  | Configuration   | Troubleshooting   | Legal                                   |  |  |
|---------------------|-------------------------|---|---|---|---|--|--|
| Easier!             | *                       | <b>⊧ J</b> ust op   | en your brov  | wser and <i>surf!</i>   |   |  |  |
| Always on, always   | connected               | Congratulations<br>high-speed, up   | s, you have a new state-of-t<br>gradeable modem enables                         | he-art SB4200 cable modem! This<br>you to connect your home or busi                                 | s<br>iness                              |  |  |
| Faster!             | * *                     | computer to a DOCSIS-compliant data network. The SB4200 transmits and receives data at much higher speeds than traditional telephone or ISDN modems.                    |   |   |   |  |  |
| Up to 100 times fas | ster than a phone modem | It provides high  | -speed access to the Intern   | et and other online services.   |   |  |  |
| Better!***          |                         | A Universal Serial Bus (USB) port is available for a single-user direct connection to USB-equipped computers. The standard Ethernet connection provides network service |   |   |   |  |  |
| A great choice for  | Internet access         | to single or mul  | tiple users.  |   |   |  |  |
|                     |                         | Unlike a telepho<br>surf.   | one modem, the SB4200 is  | always online. Just open your bro   | owser and                               |  |  |
|                     |                         |   |   |   |   |  |  |
|                     |                         | * Unlike analog<br>** Actual spee<br>*** SURFboard  | g phone modems and ISD<br>d will vary. Many network<br>I is made by the company | N, you're always on, always co<br>and other factors affect downlo<br>with over 50 years of cable TV | nnected.<br>oad speeds.<br>' expertise. |  |  |







| Introduction | Before You Begin   | Installat        | tion                         | Configuration  | Troubleshooting  | Legal                                       |
|--------------|--|------------------|------------------------------|--|--|---|
|              |  | > To             | p and                        | Front Pane   | l i i i i i i i i i i i i i i i i i i i  |   |
|              |  | The st<br>inform | tandby butto<br>nation about | on suspends your Internet power, communications,   | service. The six front-panel light and errors.   | ts provide                                  |
| 1            | _ ~ / ////   |                  | Item                         | Description  |  |   |
| 2<br>3<br>4  |  | 1                | Standby<br>Switch            | Press this switch to disa<br>SB4200. No data is tran<br>to transmit and receive<br>Internet security. When<br>lights turn off. | able the Ethernet and USB ports<br>smitted or received. Press this su<br>data. The Standby button offers<br>the standby switch is activated,   | on the<br>witch again<br>added<br>all other |
| 6            |  | 2                | Power<br>LED                 | When the light is flashin<br>A solid light indicates th  | g, startup diagnostics are being e SB4200 is powered on.   | performed.                                  |
|              |  | 3                | Receive<br>LED               | When the light is flashir<br>channel connection. A s<br>is acquired.   | ng, the SB4200 is scanning for a solid light indicates the channel of  | receive<br>connection                       |
|              | Within A Strategy Str | 4                | Send<br>LED                  | When the light is flashir<br>channel connection. A s<br>is acquired.   | ng, the SB4200 is scanning for the solid light indicates the channel of the solid light indicates the channel of the solid light indicates the channel of the solid light indicates the solid light indi | e send                                      |
|              |  | _                |                              | 2  |  |   |





| Introduction Before You Beg | gin Installatior | n Configuration  | Troubleshooting   | Legal  |
|-----------------------------|------------------|--|---|--|
|                             | Тор              | and Front Par  | nel   |  |
|                             | Ite              | em Description   |   |  |
| 1                           | 5 Oi<br>LE       | nline When the light is fla<br>ED configuration serve<br>connection is acqu  | ashing, the SB4200 is scanning for<br>r connection. A solid light indicates<br>ired.  | the network<br>the network                           |
| 2                           | 6 Ac             | ctivity When the light is flat<br>data. When the ligh<br>receiving data.   | ashing, the SB4200 is transmitting on<br>t is off, the SB4200 is not transmitt  | or receiving<br>ing or                               |
|                             | 7 St             | tandby After pressing the S<br>Standby light turns<br>disabled (not receiv<br>interrupted until the<br>button offers added | Standby button on the top of the SB<br>on indicating the Ethernet and USE<br>ving or transmitting data). Internet s<br>Standby button is pressed again.<br>Internet security. | 4200, the<br>3 ports are<br>ervice is<br>The Standby |







| Introduction Before You Begin | Installation   | Configuration                                       | Troubleshooting   | Legal        |
|-------------------------------|----------------|---|---|--------------|
|                               | Par Pa         | anel  |   |              |
| _                             | The rear panel | provides cabling connector                          | rs, status lights, and the power rea                    | ceptacle.    |
| (A)                           | Item           | Description   |   |              |
| 1, 9                          | 1 LINK/ACT     | When the light is on, the light indicates data is b | e Ethernet connection is available<br>eing transferred. | . A blinking |
|                               | ² (]           | This port is the Etherne<br>your computer.          | et connector that transfers data to                     | and from     |
|                               | 3 100          | The light is on when a 10Base-T link is establ      | 100Base-T link is established and ished.                | off when a   |
| 6 6 chara                     | 4 USB          | This port provides a di                             | rect connection to USB equipped                         | computers.   |
|                               | 5•             | This is the recessed re                             | set button.   |              |
|                               | 6 CABLE        | This port transfers data                            | a to and from the service provider.                     |              |
|                               | 7 POWER        | This connector provide                              | s power to the SB4200.                                  |              |
| 7                             | _              |   |   |              |







X

Exit

Print

Home

| Introduction                   | Before You Begin | Installation   | Configuration   | Troubleshooting   | Legal   |
|--------------------------------|------------------|--|---|---|---|
|                                |                  | Before Yo  | ou Begin  |   |   |
|                                | Power cord       | Before you begin the   | e installation, check the   | at you have:  |   |
|                                |                  | Item   | Descript  | ion   |   |
| 10/100Base<br>shielded         | e-T              | Power cord   | Required electrical of  | for connecting the SB4200 to the<br>putlet.   | AC  |
| Ethernet ca                    | able             | One 10/100Base-<br>shielded Etherne  | <b>F</b> Required to the second sec | for connecting to the Ethernet po   | rt.   |
|                                | USB cable        | One USB cable  | Required  | or connecting to the USB port.  |   |
|                                |                  | SB4200 User Gui<br>CD-ROM  | de Contains t<br>for connec   | he User Guide and USB drivers sting to USB port.  | necessary   |
| SB4200<br>User Guide<br>CD-ROM |                  | You need to purchas<br>your SB4200 to the<br>you may need a 5-9<br>cable and the RF sp | se a 75-ohm coaxial ca<br>nearest cable outlet. If<br>00 MHz splitter to use<br>litter are readily availa   | able with F-type connectors for co<br>you have a TV attached to the c<br>both the TV and the SB4200. Bot<br>ble at consumer electronic stores | onnecting<br>able outlet,<br>th the coaxial<br>s. |





| Introduction Bei   | ore You Begin                               | Install   | ation                       | Configuration                        | Troubleshooting                    | Legal |  |
|--|---|---|-----------------------------|--------------------------------------|------------------------------------|-------|--|
| You must call your servic<br>your service. You need to   | e provider to activate<br>provide the media | > Pr  | ecaut                       | ions                                 |                                    |       |  |
| your service. You need to provide the media<br>access control (MAC) address. This address is<br>found on the SB4200 bar code label marked<br>HFC MAC ID on the rear panel. The address<br>format is 00:20:40:xx:xx:xx or<br>00:04:db:xx:xx:xx. |   | Postpone SB4200 installation until there is no risk of thunderstorm or lightning<br>activity in the area. Avoid damaging the SB4200 with static by touching the coaxial<br>cable connector when it is attached to the earth grounded coaxial cable TV wall<br>outlet. Always first touch the coaxial cable connector on the SB4200 when you are<br>disconnecting or re-connecting your USB or Ethernet cable from the SB4200 or your<br>PC. |                             |                                      |                                    |       |  |
|  |   | •   | Do not block<br>overheating | the ventilation holes on the SB4200. | the sides of the cable modem to pr | event |  |

- Do not open the SB4200 cable modem. Refer all service to your local service provider.
- Wipe the 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.







| Introduction  | Before You Begin | Installation   | Configuration                | Troubleshooting                  | Legal    |  |
|---|------------------|--|------------------------------|----------------------------------|----------|--|
| System Requi  | rements Summary  | System   | n Requiremer                 | nts                              |          |  |
| <ul><li>Service Provid</li><li>Computer</li></ul>             | ler              | You need the f   | ollowing to use the SB4200   | with your computer system:       |          |  |
| HTML Browse   |                  | Service Provider   |                              |                                  |          |  |
| Ethernet card or SB4200 CD-ROM<br>containing the USB software |                  | You must sign up with a data service provider for access to the Internet and other online services. You should ask your data service provider the following questions: |                              |                                  |          |  |
|   |                  | Do you ha  | ve any special system requi  | rements?                         |          |  |
|   |                  | When can   | I begin to use my cable mod  | dem?                             |          |  |
|   |                  | Are there  | any files I need to download | once I'm connected?              |          |  |
|   |                  | Do I need  | a user name or password to   | access the Internet or use Ema   | il?      |  |
|   |                  | Compute  | r                            |                                  |          |  |
|   |                  | Your computer  | must be equipped with a US   | SB or Ethernet port and the Tran | smission |  |

Your computer must be equipped with a USB or Ethernet port and the Transmission Control Protocol/Internet Protocol (TCP/IP) to access the SB4200. The SB4200 is compatible with Microsoft<sup>®</sup>, Macintosh<sup>®</sup> and UNIX<sup>®</sup> operating systems. Computers using Windows<sup>®</sup> 95, UNIX, or Macintosh systems must use the Ethernet connection.





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|--|------------------|--|---------------|-----------------|-------|--|
| Introduction   | Before You Begin | Installation   | Configuration | Troubleshooting | Legal |  |
| The Ethernet card must be installed before the<br>SB4200. If it isn't, follow the installation<br>instructions that came with your Ethernet<br>card. |                  | System Requirements                                    |               |                 |       |  |
|  |                  | HTML Browser   |               |                 |       |  |
|  |                  | Any standard HTML (web) browser works with the SB4200. |               |                 |       |  |
|  |                  |  |               |                 |       |  |

## Ethernet Card or SB4200 CD-ROM Containing the USB Software

Any standard 10/100Base-T Ethernet card operates with the SB4200. This is not needed if connecting to the USB port. The Ethernet card must be installed before the SB4200. If it is not, follow the installation instructions included with your Ethernet card.

The USB connection is supported by Windows 98, Windows 2000, and Windows Me and requires special software to operate. The USB driver software files are on the CD-ROM supplied with your SB4200.

The USB drivers can be upgraded from the Internet. Check our website for information, http://www.motorola.com/broadband.

Your computer must be configured for TCP/IP and have an IP address for the SB4200 to operate. Your service provider furnishes the IP address.







| Introduction          | Before You Begin             | Installation   | Configuration   | Troubleshooting                               | Legal |
|-----------------------|------------------------------|--|---|---|-------|
| Avoid d<br>or your Po | The seconnector on the modem | <ul> <li>Installation</li> <li>Install cable</li> <li>Install cable</li> <li>Set up USI</li> <li>Configure</li> <li>Verify IP and</li> <li>There are two sets</li> <li>Windows Sets</li> <li>Windows Sets</li> </ul> | ation<br>on and Configura<br>es<br>B in Windows if you are usin<br>TCP/IP<br>ddress<br>sections for USB installation<br>98<br>2000 and Windows Me | <b>tion Tasks</b><br>ng a USB port on your PC |       |
| before connecting     | g or disconnecting           |  |   |   |       |

the USB or Ethernet cables.







To electrical

Home

outlet

| ntroduction           | Before You Begin | Installation  | Configuration   | Troubleshooting   | Legal  |
|-----------------------|------------------|---|---|---|--|
|                       | Ethernet         | You must allo<br>and lock on t  | <b>g and Startu</b><br>w 5 to 30 minutes to power u<br>ne appropriate channels for c  | p for a Single U<br>p the first time because the SB4<br>ommunications.  | <b>Ser</b><br>200 must find                      |
| To Ethernet<br>or USB |                  | <ol> <li>Be sure</li> <li>Connect<br/>SB4200<br/>them. Yo<br/>you have</li> </ol> | that your computer is on and<br>the coaxial TV cable to the c<br>connector marked CABLE. H<br>u may need a 5-900 MHz spl<br>a TV connected to the cable | the SB4200 is unplugged.<br>able outlet or splitter and the oth<br>and-tighten the connectors to av<br>itter and an additional 75-ohm co<br>outlet. | er end to the<br>oid damaging<br>paxial cable if |
| outlet                | CABLE            | <ol> <li>Insert the</li> <li>Plug the to the ele</li> </ol>                       | e SB4200 CD-ROM into your power cord into the SB4200 ectrical outlet.   | CD-ROM drive.<br>connector marked POWER and   | the other end                                    |

#### Caution



POWER O

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Exit

Print

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



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|--|---|-------------------------|---|---|---------------|
| Introduction                             | Before You Begin  | Installation            | Configuration   | Troubleshooting   | Legal         |
| To turn on your SE<br>not necessary to u | 34200, simply plug it in. It is<br>Inplug it when not in use. | Cabling                 | g and Startup   | o for a Single U  | ser           |
|  |   | 5 Check tha<br>sequence | t the lights on the front of the                              | e SB4200 cycle through the follo                                  | owing         |
|  |   | Power<br>light is       | flashes during a self-test. W<br>solid green.                 | hen the self-test is successfully o                               | complete, the |
|  |   | Receive<br>receive      | e flashes while the SB4200<br>channel is locked, the light    | scans for the receive channel. V is solid green.                  | Vhen the      |
|  |   | Send fl<br>channe       | ashes while the SB4200 sca<br>I is locked, the light is solid | ans for the send channel. When green.                             | the send      |
|  |   | Online<br>the cor       | flashes while the SB4200 is figuration information is obt     | obtaining configuration information and the light is solid green. | tion. When    |
|  |   |                         |   |   |               |
|  |   |                         |   |   |               |







| Introduction | Before You Begin | Installation   | Configuration   | Troubleshooting  | Legal                 |
|--------------|------------------|--|---|--|-----------------------|
|              |                  | Cabling  | g and Startup   | o for a Single U   | ser                   |
|              |                  | 6 Connect ye   | our computer to the SB4200  | ) using one of the following meth  | ods:                  |
|              |                  | USB  |   |  |                       |
|              |                  | Ensure the must be in                                | e SB4200 CD-ROM is insert<br>the drive before plugging in   | ed into your CD-ROM drive. The<br>the USB cable.   | CD-ROM                |
|              |                  | Connect th<br>USB port o                             | ne USB cable to the SB4200<br>on the back of your compute   | ) port marked USB and the other<br>r.  | r end to the          |
|              |                  | For Windo  | ws 98 USB users, go to the  | next page.   |                       |
|              |                  | For Windo  | ws 2000 and Windows Me l  | JSB users, go to page 18.  |                       |
|              |                  | Ethernet   |   |  |                       |
|              |                  | Connect th<br>connector<br>an Etherne<br>"Configurir | ne 10/100Base-T shielded E<br>and the other end to the Eth<br>et connection, skip over the<br>ng for TCP/IP." | thernet cable to the SB4200 Eth<br>hernet jack on the back of your c<br>USB instructions and go to | ernet<br>omputer. For |
|              |                  | During nor<br>the Activity<br>computer.              | mal operation, the Power, F<br>/ light flashes when transfer  | leceive, Send, and Online lights<br>ring data between the SB4200 a                                 | are on and<br>nd your |







| Introduction         | Before You Begin  | Installation   | Configuration  | Troubleshooting  | Legal           |
|----------------------|---|--|--|--|-----------------|
| Add New Hardware Wiz | and This wizard searches for new drivers for: USB Composite Device A device driver is a software program that makes a hardware device work. | Setting<br>After plugging<br>Ensure the SE<br>be in the drive<br>1 Click Nex | <b>g Up a USB D</b><br>in the USB connector, the w<br>34200 CD-ROM is inserted in<br>before plugging in the USB<br>rt. | vindow on the left is displayed.<br>nto your CD-ROM drive. The CD-<br>cable. | <b>ROM must</b> |







| ntroduction             | Before You Begin   | Installation   | Configuration  | Troubleshooting  | Legal   |
|-------------------------|--|--|--|--|---|
| Add New Hardware Wizord | What do you want Windows to do?   Search for the best driver for your device.  (Recommended).   Display a list of all the drivers in a specific location, so you can select the driver you want. | 2 Be sure the<br>displayed<br>on the left<br>If your con | g Up a USB<br>ne text that reads "Search<br>in the upper window on th<br>t is displayed showing a lo<br>mputer successfully locate | Driver in Window<br>for the best driver for your device"<br>he left. Then, click Next, and the lo<br>ocation.<br>es the driver, proceed to step 4. | <b>NS 98</b><br>is selected as<br>ower window |
| Add New Hardware Wizar  | < <u>Back</u> Next> Cancel   |  |  |  |   |







| ntroduction           | Before You Begin   | Installation   | Configuration   | Troubleshooting   | Legal  |
|-----------------------|--|--|---|---|--|
| Add New Hardware Wizz | ard Vindows will search for new drivers in its driver database on you hand drive, and in any of the following selected locations: Click Next to start the search.  Eloopy disk drives  Double drives  Microsoft Windows Update  Specify a Jocation:  Double drives  Eloopy and drives Eloopy and drives  Eloopy and drives  Eloopy and drives  Eloopy and drives  Eloopy and drives  E | Setting<br>If your cor<br>You shoul<br>drive as s<br>3 Click Nex<br>Note: If the wir<br>CD-ROM is in<br>cancel the inst<br>Example 2 fou<br>Win98_SE and | <b>B</b> Up a USB D<br>nputer does not locate the d<br>d select <b>Specify a location</b><br>hown in the upper window.<br>t.<br>ndow on the lower left of this<br>the drive and accessible. If y<br>allation and remove invalid o<br>nd under the heading called<br>d Windows 98" starting on par | river in Window<br>river, the previous window is disp<br>and type in the location of your of<br>page is not displayed, verify that<br>you still cannot find the correct du<br>entries as described in Example<br>"Recovery After Installation Erro<br>age 48. | vs 98<br>blayed again.<br>CD-ROM<br>the Motorola<br>tiver file, then<br>1 and/or<br>brs with |
|                       | Wholewe has found an updated driver for this device, and<br>also some other drivers that should work with this device.<br>What do you want to install?<br>The updated driver [Recommended]<br>Motorola SurfBoard USB Cable Modem SB4100<br>C . One of the other drivers.   | 4 Select Th  | e updated driver and the  | en click <b>Next.</b>   |  |



< <u>B</u>ack

Next > Cancel





Introduction

**Before You Begin** 

Installation

Configuration

Troubleshooting

Legal

#### 



The SB4200 uses the same driver as the SB4100.



## **Setting Up a USB Driver in Windows 98**

Note: If the window on the upper left of this page is not displayed with text stating that the NET4100.INF file was found, then verify that the Motorola CD-ROM is in the drive and accessible. If the correct driver file is still not listed, then cancel the installation and remove invalid entries as described in Example 1 and/or Example 2 found under the heading called "Recovery After Installation Errors with Win98\_SE and Windows 98" starting on page 48 of this user guide.

5 After the window on the left is displayed, click **Next**.

**Note**: In some installations, a window with the message *Copying Files...* may display and prompt you to specify your CD-ROM drive. If this window displays, enter your CD-ROM drive letter (for example, "D:") and then click **OK**.

6 At this point, Windows 98 may need additional system files loaded to complete the installation. These files are located on your Windows 98 CD-ROM.Be sure your Windows 98 CD-ROM is in the CD-ROM Drive and click **OK** to install System Files.





| ntroduction  | Before You Begin  | Installation   | Configuration   | Troubleshooting   | Legal                |  |
|--|---|--|---|---|----------------------|--|
|  |   | Setting  | Up a USB D  | river in Window   | /s 98                |  |
| Add New Hardware Wizard  | Motorola SurfBoard USB Cable Modern SB4100  | 7 After all of t<br>the left is d  | he necessary Windows 98<br>splayed confirming a succ        | files have been loaded, the uppe<br>essful installation.                | r window on          |  |
|  | Windows has finished installing the software that your new<br>hardware device requires. | 8 Click Finis  | n and the lower window is                                   | displayed.  |                      |  |
| ی کې   |   | 9 Click <b>Yes</b> to restart your computer.   |   |   |                      |  |
| **   |   | Refer to "Verifying Your IP Address in Windows 95, 98, and Me" on page 30 to verify your TCP/IP setup. |   |   |                      |  |
|  | < <u>B</u> ack Finish Cancel  | If you have any<br>"Removing the   | difficulties with the installat<br>JSB Driver from a Window | tion process, please follow the ins<br>s 98" computer that begin on pag | tructions for je 40. |  |
| System Settings Change<br>To finish setting up<br>Do you want to res | vour new hardware, you must restart your computer.       start your computer now?       |  |   |   |                      |  |







*The SB4200 uses the same driver as the SB4100.* 

After making the USB connection, the Found New Hardware window is displayed.











Exit



Legal









| Introduction   | Before You Begin   | Installation   | Configuration  | Troubleshooting   | Legal                        |
|--|--|--|--|---|------------------------------|
| Insert Disk<br>Please insert the DC<br>your CD-RDM drive<br>You can also click<br>from an alternate lor<br>network server. | Minpact Disc labeled 'USBCM' into D:) and then click OK. DK if you want files to be copied abion, such as a floppy disk or a | Settin<br>Windo<br>7 On the I<br>CD-ROM                      | g Up a USB D<br>ws 2000 and<br>nsert Disk window, D:\ repres<br>I drive on your computer, en | Driver in<br>Windows Me<br>sents the CD-ROM drive. If D:\ is<br>ter the drive letter for your CD-RC                 | not the<br>DM drive.         |
| Files Needed<br>Some files on USBC<br>Insert USBCM into t<br>click DK.   | M are needed.  | <ul><li>8 Click OF</li><li>9 Select E<br/>Motorola</li></ul> | C and the lower window on th<br>rowse and then locate a file<br>a SB4200 CD-ROM root direc   | e left is displayed.<br>called <i>Net4100.sys</i> . This file is lo<br>ctory. Double-click the file called <i>N</i> | cated on the<br>Vet4100.sys. |
| Copy files from:   | Browse   |  |  |   |                              |







| Introduction   | Before You Begin  | Installation   | Configuration  | Troubleshooting                   | Legal       |
|--|---|--|--|-----------------------------------|-------------|
| Files Needed<br>Some files on USBCN<br>Insert USBCM into the<br>click. OK.<br>Copy files from: | t are needed.  Cancel  e drive selected below, and then  Browse   | Settin<br>Windo<br>10 On the F<br>window i<br>11 Click Fin<br>If you have au | g Up a USB D<br>ws 2000 and<br>iles Needed window, click Of<br>s displayed.<br>ish to complete the installation<br>by difficulties with the installa | A and the Found New Hardware Non. | Wizard      |
| Found New Hardware Wizard  | Impleting the Found New<br>Induced Wizard         Motorola SuriBoard USB Cable Modern SB4100         Jows has finished installing the software for this device.         Iose this wizard, click Finish. | on page 46.  | e USB Driver from a window   | s 2000 or Windows Me Compute      | r mat begin |







| Introduction  | Before You Begin   | Installation  | Configuration  | Troubleshooting   | Lega            |
|---|--|---|--|---|-----------------|
| The SB4200 conta<br>You don't need to<br>you must configu   | ains all necessary software.<br>configure the SB4200, but<br>re your computer for TCP/IP | Configu<br>98, and                                      | uring for TCP<br>I Me  | /IP in Windows  | s 95,           |
| (software protocol developed for<br>communication between computers) and<br>check for an IP address. Your service provider<br>may provide additional instructions for setting |  | The following b<br>configuration in<br>system, refer to | asic instructions are for Wir<br>structions begin on page 26<br>your user guide. | dows 95, 98 and Me. Windows<br>6. If you are using a different op | 2000<br>erating |
| up your compute   | ?   ×  | 1 On the Wir  | ndows Desktop, click Start.  |   |                 |
| Configuration Ident   | itication Access Control   | 2 Select Set  | tings and then Control Par   | el from the pop-up menus.   |                 |

| htiguration   Identification   Access Control    Instruction gretwork components are installed: Client for Microsoft Networks Okal Addate Ohren Vic (SCS Okal Addate Ohren Vic (SCS Okal Addate Addat. Bernove Parosettes  Trimary Network Logon: Client for Microsoft Networks Ele and Print Shaing. Description   | · · · · · · · · · · · · · · · · · · ·           |
|---|---|
| he following getwork components are installed:<br>Client for Microsoft Networks<br>9:00m Part Ethernel NK 10:100Mb TXE Ethernel NIC (3C3)<br>DikHU USB Cable Modern Adapter<br>DixTU USB Cable Modern SB4100<br>Add. Benove Properties<br>himary Network Logon:<br>Client for Microsoft Networks<br>Elle and Phint Shaing.<br>Description   | nfiguration Identification Access Control       |
| Clerk for Microsoft Networks Control State Control (Control (Contro) (Cont | The following network components are installed: |
| Sum Far Etherick XL 10700Mb TX Ethernet NIC (3C3 DikHy Adapter DikHy Adapter Motorola SumBoard USB Cable Modem Adapter Motorola SumBoard USB Cable Modem SB4100  Add Bemove Firosether Finany Network Logon: Ether for Microsoft Networks Ether and Print Shating Description   | Clear for Manage Manage                         |
| Description     Elle and Dirit Staring.   | Clent for Microsoft Networks                    |
| OPX110 USB Cable Modern Adapter     Morcios SurBoard USB Cable Modern SB4100     Add     Betrove Properties     Properties     Primary Network Legon:     Clent for Microsoft Networks     Ele and Print Sharing     Description  | Dial In Adapter                                 |
| Motorola SurBeard USB Cable Modem SB4100  Add. Bernove Firoperties  Add. Bernove Firoperties  Ele and Print Sharing. Description  | B DPX110 USB Cable Modern Adapter               |
| Add. Benove Properties  Add. Benove Properties  Primary Network Logon:  Client for Microsoft Networks  Ele and Print Sharing.  Description  | B Motorola SurfBoard USB Cable Modern SB4100    |
| Add Benove Properties   |   |
| Add Berrove Erroperties  Virinary Network Legon:  Client for Microsoft Networks  Elie and Print Sharing  Description  |   |
| himay Network Logon:<br>Client for Microsoft Networks   | Add Remove Properties                           |
| Timby revore, poor:   | Piece Natural Learn                             |
| Ele and Print Sharing Description   | Primary Network Logon:                          |
| Ele and Pint Sharing  |   |
| Description   | File and Print Sharing                          |
| Description   | The state interview Bit.                        |
|   | Description                                     |
|   |   |
|   |   |
|   |   |
|   |   |
| OK Cancel   |   |

3 Double-click the **Network** icon on the Control Panel window.

4 Select the **Configuration** tab on the Network window.

- 5 Check to see if TCP/IP has been installed for the device being used (Ethernet card or USB). If TCP/IP is displayed in the list of network components, it is installed and you can proceed to step 10. If TCP/IP is not displayed on the list, continue with step 6.
- 6 Click Add.







| Introduction  | Before You Begin   | Installation                 | Configuration   | Troubleshooting   | Legal       |
|---|--|------------------------------|---|---|-------------|
| Select Network Compo                                | ment Type 💽 🔀  | Configu<br>98, and           | Iring for TCP   | /IP in Windows  | 95,         |
| Client<br>Adapter<br>Protocol                       | Add  | 7 Double-clic                | k the <b>Protocol</b> option on Se                                | elect Network Component Type                              | window.     |
| Protocol is a 'language'<br>must use the same proto | a computer uses. Computers<br>ocol to communicate.   | 8 Click Micro<br>Protocol se | <b>soft</b> in the Manufacturers s<br>ction of Select Network Pro | ection and then click <b>TCP/IP</b> in t<br>tocol window. | the Network |
|   |  | 9 Click OK.                  |   |   |             |
| Calact Natwork Protocol                             | V  |                              |   |   |             |
| Click the Network Protocol                          | rotocol that you want to install, then click DK. If you have<br>or this device, click Have Disk. |                              |   |   |             |
| Manufacturers:                                      | Network Protocols:   |                              |   |   |             |



OK

Microsoft DLC 🐨 NetBEUI WAN support for ATM

Microsoft Novel

-Have Disk...

Cancel





| Introduction                                | Before You Begin   | Installation                            | Configuration  | Troubleshooting   | Legal                     |
|---|--|---|--|---|---------------------------|
| Network<br>Configuration Identifica         | ation Access Control   | Configu<br>98, and                      | uring for TCP  | IP in Windows   | 95,                       |
| The following network                       | : components are installed:<br>ble Modem Adapter<br>rd USB Cable Modem SB4100<br>Fast EtherLink XL 10/100Mb TX Ethems<br>o Adapter | 10 Click TCP/I<br>choose the<br>SB4200. | P on the Network window. I one associated with the Eth | f you have more than one TCP/<br>nernet card or USB device conn | IP entry,<br>ected to the |
| <u>≜</u> dd                                 | Remove Properties  | 11 Click Prop                           | erties.  |   |                           |
| Primary Network Logo                        | n:<br>etworks  | 12 Select the                           | IP Address tab on the TCP                              | IP window.  |                           |
| Eile and Print Shar                         | ring   | 13 Click Obtai                          | in an IP address automatio                             | ally.   |                           |
| TCP/IP is the protoc<br>wide-area networks. | col you use to connect to the Internet and   | 14 Click OK to                          | accept the TCP/IP settings                             |   |                           |
|   | OK Cancel  | 15 Click OK to                          | close the Network window.                              |   |                           |
|   |  | 16 Click OK w                           | hen prompted to restart you                            | r computer and then click <b>OK</b> a                           | gain.                     |
|   |  |   |  |   |                           |







| troduction | Before You Begin | Installation | Configuration | Troubleshooting | Legal |
|------------|------------------|--------------|---------------|-----------------|-------|
|            |                  |              |               |                 |       |

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| File Edit View Favorites Tools Advanced Help      | <b>1</b> |
|---|----------|
| ⊨Bad: • → · 白 微Seach 凸Folders ③Hotory 階 哈 X zh 田• |          |
| Reference And Dial-up Connections                 | • (PG)   |
| a 🖡   |          |
| ter Lag   |          |
| enection Connection 2                             |          |
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|   |          |



## Configuring for TCP/IP in Windows 2000

The following basic instructions are for Windows 2000 users. Windows 95, 98, and Me instructions begin on page 23. If you are using a different operating system, refer to your user guide.

- 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 #. The value of this number (#) varies from system to system, but usually is 2. The Local Area Connection # Status window is displayed as shown at the top of the next page.





## Introduction Before You Begin Installation Configuration Troubleshooting Legal

- 5 Click **Properties** and information similar to that shown in the lower window is displayed.
- 6 If Internet Protocol (TCP/IP) is displayed in the list of network components, TCP/IP is installed and you can proceed to step 10. If TCP/IP is not displayed on the list, continue with step 7 by clicking **Install**. This causes the Select Network Component Type window to be displayed as shown at the top of the next page.



|  | UICD C LL M I                              | 60.4100              |
|--|--|----------------------|
| Motorola SurrBo                              | ard USB Cable Moo                          | em 564100            |
|  |  | Configure            |
| omponents checked                            | are used by this con                       | nection:             |
| 🗹 🔜 Client for Micro                         | soft Networks                              |                      |
| 🗹 🚚 File and Printer                         | Sharing for Microso                        | ft Networks          |
| 🗹 🥡 Internet Protoc                          | ol (TCP/IP)                                |                      |
|  |  |                      |
|  |  |                      |
| Instal                                       | Uninstall                                  | Properties           |
| Description                                  |  |                      |
| Transmission Control                         | Protocol/Internet P                        | rotocol. The default |
| wide area network p<br>across diverse interc | rotocol that provide:<br>onnected networks | s communication      |
|  |  |                      |
|  |  |                      |







| Introductior | Before You Begin   | Installation                         | Configuration  | Troubleshooting   | Legal                              |
|--------------|--|--------------------------------------|--|---|------------------------------------|
| g            | elect Network Component Type   | Config                               | juring for TCP   | /IP in Windows  | 2000                               |
|              | Click the type of network component you want to install Clink Service For Forecool   | 7 Click Pro<br>The Sele<br>lower lef | otocol on the Select Network (<br>ect Network Protocol window i<br>t of this page. | Component Type window and the samp displayed similar to the examp | en click <b>Add</b> .<br>le on the |
|              | Description<br>A protocol is a language your computer uses to<br>communicate with other computers.   | 8 Click Inte<br>Protocol             | ernet Protocol (TCP/IP) in the window.   | e Network Protocol section of Se                                  | ect Network                        |
|              | Add Cancel   | 9 Click <b>OK</b><br>shown a         | and the Local Area Connecti the top of the next page.                              | on # Properties window is re-dis                                  | played as                          |
| s            | Sect Network Protocol X  |                                      |  |   |                                    |
|              | Network Protocol<br>Apple Tail Protocol<br>OUC Protocol<br>Marcel Brococol (102417)<br>NeESUL Prococol<br>NetWork Monto Dover<br>WolLink (PV/SP/NeEBIDS Compatible Tramport Protocol |                                      |  |   |                                    |
|              | Here Dak.  |                                      |  |   |                                    |







| Introduction  | Before You Begin   | Installation  | Configuration   | Troubleshooting   | Legal   |
|---|--|---|---|---|---|
| Local Area Connec<br>General ]<br>Comed Luing<br>IP Motorola S<br>Components chec<br>또 좋 Telanaet<br>또 한 Telanaet | Ition 2 Properties ? X<br>IFBoard USB Cable Modern SB4100<br>Corrligue<br>ked are used by this connection:<br>Microsoft Hetworks<br>Inter Sharing for Microsoft Networks<br>Inter Sharing for Microsoft Networks<br>Inter Sharing for Microsoft Networks | Conf<br>10 On the<br>the bo<br>(TCP/<br>Make<br>auton | E Local Area Connection # Prox next to Internet Protocol (<br>IP) Properties windows is dis<br>sure that Obtain IP address<br>natically are selected. | P/IP in Windows<br>roperties window, make sure a che<br>TCP/IP). Click Properties. The Inte<br>played as shown on the lower left<br>automatically and Obtain DNS se | ck mark is in<br>ernet Protocol<br>of this page.<br>erver address |
| Description<br>Transmission C<br>wide area netw<br>across diverse   | ontrol Protocol/Internet Protocol. The default<br>rolk protocol that provides communication<br>interconnected networks.  | 11 Click  | OK to accept the TCP/IP sett  | ings.   |   |
| Show icon in I  | taskbar when connected   | 12 Click  | <b>OK</b> to close the Local Area C   | onnection # Properties window.  |   |
| Internet Protocol (           General             You can get IP set<br>that capacity (bh)                        | (CP/IP) Properties 2 ( ) ×<br>trop: anigined automatically i your network, supports<br>mmon, you need to ask your network, addinization for  | 13 Click  | <b>DK</b> when prompted to restart  | your computer and then click <b>OK</b> a  | again.  |



Advanced...
OK Cancel

Obtain an IP address automatically
 O Use the following IP address:

Obtain DNS server address automatically
 Use the following DNS server addresses:





| Introduction                                       | Before You E   | Begin | Installation   | Configuration   | Troubleshooting   | Lega                                     |
|--|--|-------|--|---|---|--|
| P Configuration<br>- Ethernet Adapter Information  | on<br>PCI Bus Master Adapter   |       | Verifyir<br>Windov   | n <mark>g Your IP Ac</mark><br>vs 95, 98, an  | ldress in<br>Id Me  |  |
| Adapter Add<br>IP Add<br>Subnet M<br>Default Gates | tress 00-80-C6-E7-59-E6<br>tress 206.19.86.132<br>ask 255.255.255.224<br>way 206.19.86.129 |       | The following ba<br>verifying your IF<br>operating system<br>verification. | asic instructions are for Wir<br>P address for Windows 200<br>m, please refer to your spe | ndows 95, 98, and Me. The instr<br>0 are found on the next page. Fo<br>cific operating system guide for | uctions for<br>or any othe<br>IP address |
| COK<br>Rele <u>a</u> se All                        | Release     Renew       Renew All     More Info >  | »     | To check the IP<br>1 On the Win  | address:<br>ndows Desktop, click <b>Start</b> .   |   |  |

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

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

If autoconfiguration is displayed before IP Address in Windows 98, call your service provider.



- Select Run. 2
- 3 Type winipcfg.exe and click OK. A window similar to the example shown on this page is displayed.
- Select your adapter name-the Ethernet card or USB device. 4
- 5 Click Renew.
- 6 Click **OK** after the system displays an IP address.

If after performing this procedure your computer does not access the Internet, call your service provider. They will assist in your configuration.





Connection-specific DNS Suffix IP Address. Subnet Mask Default Gateway

Media State . . . . . . . . . : Cable Disconnected

Ethernet adapter Local Area Connection:

| Introduction   | Before You Begin  | Installat                              | ion  | Configuration  | Troubleshooting   | Legal                                    |
|--|---|--|--|--|---|--|
| Run  | <u>? X</u>  | ≯Ve<br>Wii                             | rifying<br>ndows   | y Your IP A<br>3 2000  | ddress in   |  |
| Open: C  | of a program, folder, document, or<br>ce, and Windows will open it for you. | The fo<br>IP add<br>operat<br>verifica | llowing basion<br>Iress for Wir<br>ing system,<br>ation. | c instructions are for W<br>dows 95, and Me are<br>please refer to your sp | /indows 2000. The instructions for v<br>found on the previous page. For a<br>pecific operating system guide for I | verifying your<br>ny other<br>IP address |
|  |   | To che                                 | ck the IP ac   | ldress:  |   |  |
|  |   | <b>1</b> O                             | n the Windo  | ws Desktop, click <b>Star</b>  | rt.   |  |
|  |   | <b>2</b> Se                            | elect <b>Run</b> .                                       |  |   |  |
| CLUMINI (SYREM32 (ondexe<br>Hicrosoft Vindows 2000 (Uersion 1<br>(C) Copyright 1985-2000 Microsoft<br>C:\)ipconfig<br>Windows 2000 IP Configuration<br>Ethemast adapter Local Ama Coop | 5.00.21951  | <b>3</b> Ту<br>di                      | /pe <b>cmd</b> and<br>splayed.                           | d click <b>OK.</b> A window I  | ike the one on the upper left of this   | s page is                                |

- 4 Type **ipconfig** and press **ENTER** to display your IP configuration.
- 5 Type **exit** and press **ENTER** to return to the Windows operating system.



surfboard.com
206.19.86.174
255.255.255.224
206.19.86.161





cmd

<>\_

G:∖>ipconfig /renew Windows 2000 IP Configuration Ethernet adapter Local Area Connection 2:

icrosoft Windows 2000 [Version 5.00.2195] >> Copyright 1985-2000 Microsoft Corp.

| millouuciion  | Belore fou Begin  | Installation   | Configuration   | Housieshooting   | Leya                                  |
|---|---|--|---|--|---------------------------------------|
| ©.cmd<br>Microsoft Vindous 2000 (Version<br>(C) Copyright 1985-2000 Microso<br>C:>Jipconfig<br>Vindous 2000 IP Configuration                              | n 5.00.2195]<br>A Si Ode Corp.                                  | Verifyir<br>Window   | ig Your IP Ac<br>vs 2000  | dress in   |                                       |
| Winnows reado in configuration<br>Ethernet adapter hocal Area Gro<br>Connection-specific DMG<br>Autoconfiguration 1 P A<br>Submet Fack<br>Default Gateway | nnection 2:<br>8 Suffs: :<br>4 : 169.254.45.20<br>: 255.255.0.0 | Improper conne<br>are indicated wh<br>displayed on the<br>your regular cab | ctions between your PC ar<br>nen you receive an Autoco<br>e upper left of this page. Ch<br>ole-TV channels on your te | nd the SB4200 and cable netwo<br>nfiguration IP Address. An exam<br>neck your cabling and whether y<br>levision. | rk problems<br>Iple is<br>rou can see |
|   | ×   | After verifying yellooking at the ch                                       | our cable connections and<br>nannels on your TV, you ca   | proper operation of the cable-T<br>n attempt to renew your IP add  | V system by<br>ress.                  |

To renew your IP address:

1 Type **ipconfig /renew** and then press **ENTER**. If a valid IP address is displayed, then Internet access should be available.

Legal

2 Type exit and then press ENTER to return to Windows.

If after performing this procedure your computer does not access the Internet, call your service provider. They will assist in your configuration.







| Introduction | Before You Begin                           | Installation                     | Configuration   | Troubleshooting                    | Legal        |
|--------------|--|----------------------------------|---|------------------------------------|--------------|
|              |  | > Cablin                         | g for Multiple  | Users                              |              |
| S            | ervice provider                            | Your service p<br>service provid | rovider must configure your me<br>er for availability and instruction | odem for multiple user service.    | Contact your |
|              | SB4200<br>Standard                         | The SB4200 s<br>gateway to the   | upports many multiple user co<br>Internet for up to 32 users.         | onfigurations. It can easily serve | e as a       |
|              | cable                                      | Ethernet                         |   |                                    |              |
|              | Ethernet hub Standard<br>Ethernet<br>cable | Multiple users<br>SB4200.        | must be connected to an Ethe  | ernet hub, which should be atta    | ached to the |
| Computer     | Computer Computer                          | Caution                          |   |                                    |              |
|              |  | Do n                             | ot connect both the Ethernet a  | and USB cables to the same co      | omputer.     |
|              |  |                                  |   |                                    |              |

Multiple computers cannot be connected to the SB4200 through the USB port.











## Introduction Before You Begin Installation Configuration Troubleshooting Legal

## Troubleshooting

This information helps you solve a problem quickly. Before calling your service provider, try pressing the reset button on the rear panel. Resetting the SB4200 may take 5 to 30 minutes. Your service provider may need to know the status of the front-panel lights.

### Problem

Green POWER light is off

## **Possible Solutions**

- Check that the power cord is properly plugged into the wall outlet and the rear panel of the SB4200.
- Check that the electrical outlet is working.
- If the Standby LED is on, the cable modem is in Standby mode. Press the Standby button to reconnect Internet service.
- Press the **Reset** button.
- Call your service provider.







| Introduction      | Before You Begin | Installation  | Configuration  | Troubleshooting   | Legal                       |  |  |
|-------------------|------------------|---|--|---|-----------------------------|--|--|
| Troubles          | hooting          |   |  |   |                             |  |  |
| Problem           |                  | Possible  | e Solutions  |   |                             |  |  |
| Cannot send or re | ceive data       | Check the Che | Check the lights on the front panel. Note the first light from top to bottom that is off.<br>This light indicates where the error occurred. If the first light that is off is: |   |                             |  |  |
|                   |                  | Light   | Turns off under the f  | ollowing error condition(   | s):                         |  |  |
|                   |                  | Receiv  | <ul> <li>During startup, the receiv</li> <li>During normal operation,</li> </ul>   | ve channel is not acquired.<br>, the receive channel is lost.     |                             |  |  |
|                   |                  | Send  | During startup, the send<br>During normal operation,   | channel is not acquired.<br>, the send channel is lost.           |                             |  |  |
|                   |                  | Online  | During startup, the IP rec<br>During normal operations   | gistration was not successful.<br>s, the IP registration is lost. |                             |  |  |
|                   |                  | Power   | The modem may be in st   | andby mode, press the Stand                                       | by button.                  |  |  |
|                   |                  | If all ligh<br>and you  | ts are off except the Standby LE<br>need to press the <b>Standby</b> butt  | ED, the cable modem is in Star<br>ton to reconnect to your Intern | ndby mode<br>et service.    |  |  |
|                   |                  | Check the picture.<br>function  | nat your TV is working if you hav<br>If you are not receiving your reg   | ve cable, and that you have a dular TV channels, your data se     | clear TV<br>ervice will not |  |  |
| Home              | Print Exit       |   | ◀ 36 ►   |   |                             |  |  |



| Introduction               | Before You Begin           | Instal | lation   | Configuration               | Troubleshooting                   | Legal      |  |
|----------------------------|----------------------------|--------|--|-----------------------------|-----------------------------------|------------|--|
| Troublesh                  | ooting                     |        |  |                             |                                   |            |  |
| Problem Possible Solutions |                            |        |  |                             |                                   |            |  |
| Cannot send or rece        | e <b>ive data</b> (cont'd) |        | Check the coax   | xial cable at the modem and | wall outlet and hand-tighten if r | necessary. |  |
|                            |                            | •      | <ul> <li>Check the IP address (follow the steps in "Verifying Your IP Address" on page 30);<br/>call your service provider if you need an IP address.</li> </ul> |                             |                                   |            |  |
|                            |                            |        | Check that the   | USB or Ethernet cable is at | tached at the modem and your      | computer.  |  |

- Check that Acrobat Reader 4.0 is installed and selected.
- Remove the USB driver using the instructions for a Windows 98 or Windows 2000/Windows Me computer that appear on the following pages.



Cannot view User Guide CD video





| Introduction   | Before You Begin  | Installatio  | n Configuration   | Troubleshooting  | Legal                                      |
|--|---|--|---|--|--|
| Network Configuration [16] Configuration [16] The following ag  (16] Configuration (17) C | Pitfolder     Access Control       etwork components as installed:     Concord Networks       Ethod, HX, UD100Mb TX, Ethern HNI (253)     Access Control       address Control     Response       Store Fast Ethod, HX, UD100Mb TX, Ethern HNI (253)     Bit Montrol       address Control     Response       Store Fast Ethod, HX, UD100Mb TX, Ethern HNI (253)     Bit Montrol       address Control     Response       Store Fast Ethod, HX, UD100Mb TX, Ethern HNI (253)     Bit Montrol       Address Control     Response       Address Control     Response       Mit Shoreg     Mit Montrol | Rem<br>from <ol> <li>On y<br/>Prop</li> <li>Sele<br/>wind</li> </ol> | your Windows Desktop, right-click the Noterties. The Network window is display<br>the the two the | Device List<br>Network Neighborhood i<br>yed.<br>odem SB4200, as illustrat | ting<br>con and select<br>ted in the lower |
| Network         Configuration [iii]         Image: Configuration [iiii]         Image: Configuration [iiii   | Concel      CK Concel   | This pro<br>removes  | cedure does not remove the USB di<br>s the device listing from your systen  | river from your system, i<br>n.  | it only                                    |
| <b>h</b><br>Home   | Print Exit  |  | ◀ 38 ►  |  |  |



| Introduction   | Before You Begin  | Insta   | llation            | Configuration             | Troubleshooting                | Legal        |  |
|--|---|---|--------------------|---------------------------|--------------------------------|--------------|--|
| Network<br>Conjuzation   Ide<br>The following pe<br>Stars for M  | Trification Access Control  www.components are installed  consolt Hencels   | R<br>fr   | emovi<br>om W      | ng the SB420<br>indows 98 | 00 Device Listi                | ng           |  |
| ₩20ia-Ua Ada<br>67 NeiBEU ><br>167 TCP/IP > 3<br>1   | geler<br>Scom Fast EtherLink XL 10/100Mb TX Ethern-<br>Scom Fast EtherLink XL 10/100Mb TX Ethern ¥                        | 3   | SurfBoard          | USB Cable Modem in the    | ist.                           | otorola      |  |
| Add.     Denove Page Network (pager      Det for Memory Network (pager      Det for Memory Network (pager) |   | 4 Click <b>OK</b> , and the System Settings Change window is displayed. |                    |                           |                                |              |  |
| Ele and Pint Description   | V Sharing.  | 5   | Click <b>No</b> an | d go to "Removing the USE | Driver from Windows 98" on the | e next page. |  |
| System Settings Chang<br>You muit reata<br>Do you went to<br>[   | pe ⊠<br>tt your computer before the new settings will take effect<br>o restart your computer new?<br><u>¥es</u> <u>No</u> |   |                    |                           |                                |              |  |







| Introduction   | Before You Begin   | Instal                              | llation   | Configuration  |   | Troubleshooting  | Lega  |
|--|--|-------------------------------------|---|--|---|--|---|
| Emploring - D.\     For Edit Yew @ Favorete: I onit     Back | Beb       Image: Computer State         Copy Parte Undo Debrie Properties Views       Image: Copy Copy Copy Copy Copy Copy Copy Copy | F R<br>You<br>selv<br>win<br>1<br>2 | emov<br>lindov<br>u now need<br>ecting Run.<br>idow is disp<br>Be sure th<br>modem.<br>Select you<br>CD-ROM | ing the USE<br>vs 98<br>to start Windows Explore<br>In the Run window, type of<br>layed as shown on the lef<br>at the USB cable has been<br>or CD-ROM drive. Run the<br>by double clicking the Rer | r. Start I<br>explore<br>t.<br>en remo<br>e Remo<br>move ic | Explorer by clicking State<br>ar and then click OK. The<br>ved from your PC or State<br>ve utility from the Motor<br>on. | rt and then<br>ne Exploring<br>34200 cable<br>rola SB4200 |
| SB4100.  | uie saille ulivel as lile  |                                     |   |  |   |  |   |







| Introduction   | Before You Begin   | Installation   | Configuration   | Troubleshooting  | Legal               |
|--|--|--|---|--|---------------------|
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| The can check to the base of the<br>the second secon  | Advances Model and Model and Suble Sociel Lade Moderni<br>Advances Models and Advances Lade Moderni<br>Advances Models and Advances Lade Moderni<br>(Interview Constraints Models and Constra | installa<br>5 After yo<br>procedu<br>If you h                    | ntion. The status messages you<br>bu have removed the USB devic<br>ure to reinstall the SB4200 with<br>ave problems, please contact y                                     | ou receive are informational of<br>re, repeat the Windows 98 USB<br>a USB device.<br>our service provider. | n <b>stallation</b> |

http://www.Motorola.com/broadband



41 🕨



| Introduction   | Before You   | Begin     | Installati  | on Co  | onfiguration   | Troubleshooting   | Legal                 |
|--|--|-----------|---|--|--|---|-----------------------|
| Control Panel  File Edit View Pavorites T  Address Control Panel  Address Control Panel  Address Control Panel  Address Add/Remove Add/Remove Address Add/Remove Address Frograms Toc  Folder Options Fonts Gat Option Fonts Gat Network and Phone and Power Control  Network and Phone | ools Help<br>h Constant<br>trative CSNW Date/Time<br>CSNW Date/Time<br>trative CSNW Date/Time<br>Date/Time<br>CSNW Date/Time<br>Particle CSNW Date/Time<br>Particl | L Cameras | <ul> <li>Rer<br/>fron</li> <li>1 Fron</li> <li>2 Cli</li> <li>3 Cli</li> <li>4 Doo<br/>Hat</li> </ul> | moving f<br>m Window<br>om your Window<br>ick Settings.<br>ick the Control F<br>puble-click the Ad<br>ardware Wizard a | the SB42<br>bws 2000<br>s 2000 or Windows<br>Panel icon and the w<br>dd/Remove Hardwa<br>is illustrated in the u | <b>OO Device Listi</b><br><b>and Windows</b><br>Me desktop, click <b>Start</b> .<br>vindow on the left is displayed.<br><b>are</b> icon. This action starts the A<br>upper window on the next page. | ng<br>Me<br>dd/Remove |
| Scheduled Sounds and Syst<br>Tasks Multimedia  | Leen and<br>Passwords<br>ardware   | <u> </u>  | This pi<br>remove   | rocedure does i<br>es the device lis   | not remove the US<br>sting from your sy  | B driver from your system, it o<br>stem.  | only                  |











Legal



#### Add/Remove Hardware Wizard Installed Devices on Your Computer The following hardware is installed on your computer. Select the device you want to uninstall. Devices ٠ 💻 Intel(R) 82801BA PCI Bridge - 244E Primary IDE Channel Secondary IDE Channel 🔜 Logical Disk Manager Revealed Class Enumerator 🚭 USB Root Hub Motorola SurfBoard USB Cable Modem SB4100 Show hidden devices < Back Next> Cancel

Next>

Cancel

< Back



## **Removing the SB4200 Device Listing** from Windows 2000 and Windows Me

Configuration

Installation

7 Select **Uninstall a device** and click **Next.** The Installed Devices on Your Computer window is displayed.

Troubleshooting

Legal

8 If you unplugged the USB cable from the SB4200 (and saw the Unsafe Removal of a Device window), then the SB4200 will probably not be listed as illustrated in the lower window.

If the device is not listed, then click **Cancel**. If it is listed, highlight the SB4200 and click **Next**.

┥ 44 📂







## **Removing the SB4200 Device Listing** from Windows 2000 and Windows Me

Configuration

9 On the upper window on the left, select "Yes, I want to uninstall this device" and click Next.

Troubleshooting

Legal

- **10** On the lower window, click **Finish**.
- 11 Close the Control Panel Window.





| Introduction  | Before You Begin   | Installation  | Configuration   | Troubleshooting  | Legal        |
|---|--|---|---|--|--------------|
| Motorola (D2)     Edk Yew Fgoraftes Tools     Head to the second of | Lob<br>Folders Contactory Contactors<br>Acrobal Quidame USD Device X7as Agree.dr<br>Drives<br>Acrobal Quidame USD Device X7as Agree.dr<br>Acrobal Quidame US | <ul> <li>Remove Window</li> <li>1 Start Window</li> <li>1 Start Window</li> <li>2 In the Run</li> <li>3 Double-cli</li> <li>4 Double-cli</li> <li>5 Double-cli</li> </ul> | ing the USB<br>ws 2000 and<br>lows Explorer. Click Start ar<br>window, type explorer and<br>ck My Computer.<br>ck the Motorola (D:) CD loc<br>ck the REMOVE OUT USB | Driver from<br>Windows Me<br>ad then select Run.<br>then click OK.<br>n.<br>Icon, as illustrated in the window | on the left. |
| Type: Application Size: 280 KB  | 280 KB 📃 My Computer   |   |   |  |              |
| The SB4200 use<br>SB4100.   | es the same driver as the  |   |   |  |              |







П

Home

Print

| troduction  | Before You  | u Begin                                 | Insta  | llation  | Configuration  | Troubleshooting  | Legal   |
|---|---|---|--------|--|--|--|---|
| 584100 USB Driver Removal   | LA  | X<br>Remove Driver                      | R<br>V | emov<br>lindov   | ing the USB I<br>ws 2000 and '   | Driver from<br>Windows Me  |   |
| Motorola Inc. USB Driver Removal L<br>This utility will remove the USB driv<br>not removed by the Device Manag<br>remove the driver using the "Devic  | Utility<br>ver files and registry entries that are<br>gers uninstall process. Be sure to<br>ce Manager'' first. | Cancel About                            | 6      | The windo<br><i>disconnec</i>                                    | w on the left is displayed. <i>Be</i><br><i>ted.</i> Click <b>Remove Driver.</b>   | e sure that the USB Cable Model  | m is  |
| Ensure your USB Cable Modem is<br>Operating System is Microsoft Win<br>Operations<br>Remove Net4100.sys File (Syster<br>Remove Net4100.inf File (Inform<br>Remove Digital Signature File (Di<br>Remove Digital Signature File (Di | disconnected.<br>dows 2000<br>m)<br>ation)<br>jgital Catalog)   | SURFboard<br>SB4100 USB<br>Cable Modern |        | Depending<br>may not be<br>displayed<br>Windows I<br>this de-ins | g on how the device was ren<br>e shown as Successfully Re<br>as Not Found. If a file displa<br>Me removed the file during th<br>tallation procedure. | noved early on in the process, all<br>moved and some of the files may<br>ys a status of Not Found, Windo<br>ne Add/Remove Hardware Wizar | of the files<br>be<br>ws 2000 or<br>rd portion of |
| atus<br>ess "Remove Driver" to start th   | e Removal Process.  |   | 7      | Once you<br>Installatior   | have removed the USB devi<br>a procedure to reinstall the S  | ce, repeat the Windows 2000 US<br>B4200 with a USB device.   | SB  |
| Need New Drivers or more Informa<br>You can check for the latest Inforr<br>here.  | ation?<br>mation about your Motorola SURFboa<br>www.Motorola.com/broadband                                      | rd Cable Modern                         | lf y   | ou have pro  | blems, please contact your s   | service provider.  |   |





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|----------------------------|------------------------|---------------------------------------|--|--|-------------------------|
| Introduction               | Before You Begin       | Installation                          | Configuration  | Troubleshooting  | Legal                   |
| The SB4200 uses<br>SB4100. | the same driver as the | Recove<br>Win98_                      | ery After Insta<br>SE and Windo                                  | allation Errors<br>ows 98  | with                    |
|                            |                        | If you are unab<br>installation of tl | le to properly install the SB42<br>his driver, then there may be | 200 USB driver or receive an err<br>invalid entries in the Windows D | or during the<br>Device |

installation of this driver, then there may be invalid entries in the Windows Device Manager. Depending on where the error occurred, follow the procedures described in Example 1 or Example 2 on the pages that follow.

### **Example 1**

Leave the USB cable plugged into the SB4200 and your computer.

- From the Windows Desktop, right-click the My Computer icon to display a list of options.
- 2 Highlight and then click **Properties** at the bottom of the list, and the System Properties window is displayed.







| Introduction   | Before You Begin  | Installation   | Configuration  | Troubleshooting   | Legal   |
|--|---|--|--|---|---|
| System Properties General Device Manager Ha Ciview devices by type Giview devices Giview devie | C View devices by connection  View devices by connection  ble Modem  S Sportster 56000 Voice Internal ame controllers controllers D PCI to USD Universal Host Controller  ch  Remove Print  OK Cancel | <ul> <li>Recovery Win98</li> <li>On the Sy</li> <li>On the Sy</li> <li>Expand the USB Complisted as Section to the entries are autom</li> <li>Highlight the EXTREMELY IN USB cable from the instructions stated as Section to the entries are autom</li> </ul> | stem Properties window, clic<br>e Universal Serial Bus contra<br>posite Device. Windows 98<br>B4100 USB Cable Modem<br>s as Unknown Devices und<br>atically removed when the U<br>he USB Composite Device<br>IMPORTANT: After removal<br>n the SB4200 and reboot yo<br>arting on page 10 of this Use | allation Errors<br>ows 98<br>ek the Device Manager tab.<br>ollers branch and see if there is<br>Second Edition may also have<br>under Other Devices. Windows<br>ler Other Devices. These additi<br>ISB Composite Device is remov<br>and click Remove.<br>of the USB Composite Device, i<br>ur computer. Follow the installar<br>r Guide to reinstall the SB4200 | an entry for<br>two entries<br>s 98 may list<br>ional entries<br>red.<br>remove the<br>tion<br>USB drivers. |

The SB4200 uses the same driver as the SB4100.







| Introduction  | Before You Begin                         | Installation                      | Configuration  | Troubleshooting   | Legal                      |
|---|--|-----------------------------------|--|---|----------------------------|
| Network<br>Configuration Identification   | Access Control                           | Recove<br>Win98                   | ery After Inst<br>SE and Wind  | allation Errors<br>ows 98   | with                       |
| Client for Microsoft No     Soft State     Sof | etworks XL 10/100Mb TX Ethernet NIC (3C3 | Example                           | 2  |   |                            |
| Motorola SurfBoard U<br>TCP/IP -> 3Com Fast   | ISB Cable Modem SB4100                   | The SB4200 d<br>if this is the ca | rivers may have loaded, but<br>se:                                     | no protocol was bound to the ada                                  | apter. To see              |
| Add   | Bemove Properties                        | 1 Remove t                        | he USB cable from the SB42   | 200.  |                            |
| Primary Network Logon:<br>Client for Microsoft Netw   | ngmere i japoneo                         | 2 From the<br>a list of op        | Windows Desktop, right-click<br>tions.                                 | the <b>Network Neighborhood</b> ice                               | on <mark>to</mark> display |
| Eile and Print Sharing  | ]  | 3 Highlight a<br>displayed        | and then click <b>Properties</b> at                                    | the bottom of the list. The Netwo                                 | rk window is               |
|   |  | 4 Click the 0<br>SB4100 e         | Configuration tab, highlight t<br>ntry, and then click <b>Properti</b> | the Motorola Surfboard USB Ca<br>es.                              | able Modem                 |
|   | OK Cancel                                | 5 Click the<br>or remove          | Bindings tab. If TCP/IP is no<br>the entry for Motorola Surf           | t listed, either add the protocol to<br>board USB Cable Modem SB4 | the adapter <b>100</b> .   |

To remove the entry: In the Network window, highlight **Motorola Surfboard USB Cable Modem SB4100** and then press **Remove**.





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|---|------------------|--|---|---|---|--|--|
| Introduction  | Before You Begin | Installation   | Configuration   | Troubleshooting   | Legal   |  |  |
| <i>The SB4200 uses the same driver as the SB4100.</i> |                  | <b>Recovery After Installation Errors with<br/>Win98_SE and Windows 98</b>   |   |   |   |  |  |
|   |                  | <b>EXTREMELY IMPORTANT:</b> After removal of the device, restart your computer. Follow the installation instructions starting on page 10 of this User Guide to reinstall the SB4200 USB drivers.   |   |   |   |  |  |
|   |                  | <b>Note:</b> The Motorola Remove program deletes improper Windows<br>Second Edition, Windows ME, and Windows 2000 entries that ma<br>installation process. The Remove program and the latest drivers<br>download from the website <u>ftp.surfboard.com</u> . The files are in the<br>pub/Downloads/SB_USB_Driver in the file called <i>USB Instruction</i> |   | etes improper Windows 98, Windows 2000 entries that may have o<br>and the latest drivers are availa<br>om. The files are in the following<br>called USB Instructions.zip. | Jows 98<br>ccurred in the<br>able for<br>g directory: |  |  |
|   |                  | Prior to running<br>Remove progra<br>Example 1 and   | the Remove program, unp<br>am performs the same funct<br>Example 2 above. | lug the USB cable from the SB4<br>ion as the removal of devices po  | 200. The erformed in                                  |  |  |







| Introduction | Before You Begin | Installation  | Configuration | Troubleshooting | Legal |  |
|--------------|------------------|---|---------------|-----------------|-------|--|
| Contact Us   |                  |   |               |                 |       |  |
|              |                  | For Motorola cable modem customer service, technical support, warranty claims, or questions about your Internet service connection, contact your cable service provider |               |                 |       |  |

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







| Introduction         | Before You Begin | Installation  | Configuration                  | Troubleshooting                  | Legal      |  |  |
|----------------------|------------------|---|--------------------------------|----------------------------------|------------|--|--|
| • Glossary           | ,                |   |                                |                                  |            |  |  |
| Coaxial cable (coax) |                  | A type of wire that consists of a center wire surrounded by insulation and then a grounded shield of braided wire. The shield minimizes electrical and radio frequency interference. The coaxial cable is the primary type of cabling used by the cable television industry and is also widely used for computer networks.            |                                |                                  |            |  |  |
| DOCSIS               |                  | The Data-Over-Cable Service Interface Specifications defines interface standards for cable modems and supporting equipment.   |                                |                                  |            |  |  |
| Expansion slot       |                  | An opening in a computer where a circuit board can be inserted to add new capabilities to the computer. Expansion slots for PCs come in half- and full-size. Half-size slots are also called 8-bit slots, and full-size slots are called 16-bit slots. PCI expansions slots are always full-size and connect directly to the PCI bus. |                                |                                  |            |  |  |
| F-type connecto      | r                | A connector used ir   | n the cable television industr | y that connects coaxial cable to | equipment. |  |  |
| IP address           |                  | An identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol route messages based on the IP address of the destination.   |                                |                                  |            |  |  |
| MAC address          |                  | Media Access Control address. A hardware address that uniquely identifies each node of a network. The MAC address is used to forward information through a network to its final destination.  |                                |                                  |            |  |  |







| Introduction | Before You Begin | Installation  | Configuration  | Troubleshooting                            | Legal   |  |  |
|--------------|------------------|---|--|--|---------|--|--|
| Glossary     |                  |   |  |  |         |  |  |
| MHz          |                  | Mega Hertz. A measure of radio frequency - millions of cycles per second. One MHz represents one million cycles per second.   |  |  |         |  |  |
| PCI          |                  | Peripheral Component Interconnect. Most PCs today include a PCI bus in addition to a more general ISA expansion bus.  |  |  |         |  |  |
| Splitter     |                  | A splitter is a devic<br>two or more signal   | plitter is a device that divides the signal power from an input cable equally between or more signals, each carrying a selected frequency range. |  |         |  |  |
| TCP/IP       |                  | Transmission Control Protocol/Internet Protocol. A set of protocols that provides the standards and rules for controlling and managing communications between networks. |  |  |         |  |  |
| VGA          |                  | Video Graphics Ar<br>VGA, and possibly  | ray. A graphics display system<br>some other more advanced s   | n for PCs. All PCs made today<br>standard. | support |  |  |







# Introduction Before You Begin Installation Configuration Troubleshooting Legal

Got a question? We've put together a list of questions customers frequently ask.

#### **Q** What is high-speed cable Internet access?

A Cable Internet access uses cable television wires instead of telephone lines to tap into the information on the Internet. It's extremely fast and affordable, and it doesn't tie up phone lines for incoming or outgoing calls and faxes.

#### Q How fast are cable modems?

A Cable modems offer Internet access at speeds up to 100 times faster\* than a traditional phone modem. A cable modem user can experience speeds of over 1,000 Kbps. Due to network conditions, such as traffic and the speed of the site you're visiting, actual download rates may vary.

#### Q Can I still watch cable TV while I'm using my cable modem?

A Yes, cable television lines are capable of handling the cable TV signal as well as sending and receiving information on the Internet - at the same time.

\* Actual speed will vary. Many network and other factors affect download speeds.







| Introduction | Before You Begin | Installation | Configuration | Troubleshooting | Legal |
|--------------|------------------|--------------|---------------|-----------------|-------|
| FAQs         |                  |              |               |                 |       |

- Q What is DOCSIS?
- A DOCSIS is the industry standard for cable Internet access. This standard is intended to ensure that all DOCSIS cable modems interface with all DOCSIS-compliant cable systems. Motorola's SB4200 cable modem is DOCSIS compliant.

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

A Sure! 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 computer modem?

A No, not if your computers are connected via a network. The SB4200 is capable of supporting current Internet Connection Sharing technologies. Internet Connection Sharing software enables the user to connect more PCs to the Internet by using the PC containing the SB4200 as a gateway.

#### **Q** Do I need to change my Internet Service Provider (ISP)?

A Currently most Internet Service Providers are not set up to handle cable Internet access. Check with your local cable company for your specific information.







| Introduction | Before You Begin | Installation | Configuration | Troubleshooting | Legal |
|--------------|------------------|--------------|---------------|-----------------|-------|
| FAQs         |                  |              |               |                 |       |

- 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 cable modem. Check with your local cable company for specific information.

#### Q What does the SB4200 limited warranty cover?

- A Contact your service provider.
- Q What type of technical support is available?
- A For questions about your Internet service, connection, or cable modem call your cable service provider.
- Q What do I do if my modem stops working?
- A Refer to the *Troubleshooting* section of this User Guide. It has quick tips for diagnosing problems, as well as simple solutions. If you continue to have problems, call your cable service provider.









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Introduction

**Before You Begin** 

Installation

Configuration

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#### SURFboard SB4200 CABLE MODEM Motorola, Inc., Broadband Communications Sector ("Motorola") Cable Modem Division 101 Tournament Drive Horsham, PA 19044

What is my warranty? A warranty for this cable modem product ("Cable Modem") and all accompanying application and USB driver software ("Application Software") is provided by Motorola to your distributor, cable operator or Internet service provider, as applicable. Please contact your cable operator or Internet service provider ("Service Provider") for details. Motorola does not warrant that any Application Software will perform error free or without bugs. Motorola's warranty shall not apply: (i) to any Cable Modem or Application Software (collectively, "Product") subjected to accident, misuse, neglect, alteration, Acts of God, improper handling, improper transport, improper storage, improper use or application, improper installation, improper testing or unauthorized repair; or (ii) to cosmetic problems or defects which result from normal wear and tear under ordinary use, and do not affect the performance or use of the Product. Motorola's warranty applies only to a Product that is manufactured by Motorola and identified by the General Instrument ("GI") or Motorola trademark, trade name or product identification logo affixed to the Product. MOTOROLA DOES NOT WARRANT THIS PRODUCT DIRECTLY TO YOU, THE END USER. EXCEPT AS DESCRIBED IN THIS SECTION "WARRANTY INFORMATION", THERE ARE NO WARRANTIES OR REPRESENTATIONS OF ANY KIND RELATING TO THE PRODUCT, EXPRESS, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY AGAINST INFRINGEMENT. MOTOROLA IS NOT RESPONSIBLE FOR, AND PROVIDES "AS IS" ANY SOFTWARE SUPPLIED BY 3RD PARTIES.







Introduction

**Before You Begin** 

Installation

Configuration

Troubleshooting

Legal

## **Warranty Information**

What additional provisions should I be aware of? Because it is impossible for Motorola to know the purposes for which you acquired this Product or the uses to which you will put this Product, you assume full responsibility for the selection of the Product for its installation and use. While every reasonable effort has been made to insure that you will receive a Product that you can use and enjoy, Motorola does not warrant that the functions of the Product will meet your requirements or that the operation of the Product will be uninterrupted or error-free. Motorola is not responsible for problems caused by the interaction of the Product with any other software or hardware.

How long does this Limited Warranty last? Contact your Service Provider for details.

What must I do to obtain warranty service? For Motorola Cable Modem customer service, technical support, warranty claims, questions about your Internet service or connection, contact your Service Provider. ALL WARRANTIES ARE VOID IF THE PRODUCT IS DAMAGED.

THESE ARE YOUR SOLE AND EXCLUSIVE REMEDIES FOR ANY AND ALL CLAIMS THAT YOU MAY HAVE ARISING OUT OF OR IN CONNECTION WITH THIS PRODUCT, WHETHER MADE OR SUFFERED BY YOU OR ANOTHER PERSON AND WHETHER BASED IN CONTRACT OR TORT.

IN NO EVENT SHALL MOTOROLA BE LIABLE TO YOU OR ANY OTHER PARTY FOR ANY DIRECT, INDIRECT, GENERAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR OTHER DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF INFORMATION OR ANY OTHER PECUNIARY LOSS), OR FROM ANY BREACH OF WARRANTY, EVEN IF MOTOROLA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO CASE SHALL MOTOROLA'S LIABILITY EXCEED THE AMOUNT YOU PAID FOR THE PRODUCT.

Motorola's warranty is governed by the laws of the Commonwealth of Pennsylvania, excluding its conflict of laws principles and excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods.









