

SURFboard™



SURFboard® SBV3202 DOCSIS® 3.0 Telephony Modem for Xfinity® Customers

User Guide

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Other patents pending.

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Safety requirements

Read all safety and regulatory information before installing your telephony modem and setting up your home network connection. This ARRIS Telephony Modem complies with the applicable requirements for performance, construction, labeling, and information when used as outlined below:



CAUTION

■ Potential equipment damage

Potential loss of service

Connecting the Telephony Modem to existing telephone wiring should only be performed by a professional installer. Physical connections to the previous telephone provider must be removed and the wiring must be checked; there must not be any voltages. Cancellation of telephone service is not adequate. Failure to do so may result in loss of service and/or permanent damage to the Telephony Modem.

■ Risk of shock

Mains voltages inside this unit. No user serviceable parts inside. Refer service to qualified personnel only!

■ Risk of explosion

Replacing the battery with an incorrect type, heating a battery above 75°C, or incinerating a battery, can cause product failure and a risk of fire or battery explosion. Do not dispose of in fire. Recycle or dispose of used batteries responsibly and in accordance with local ordinances. See [Caring for the environment by recycling your ARRIS equipment](#) (page 7) for more information.

- The Telephony Modem is designed to be connected directly to a telephone.
- Connecting the Telephony Modem to the home's existing telephone wiring should only be performed by a professional installer.
- Do not use product near water (i.e. wet basement, bathtub, sink or near a swimming pool, etc.), to avoid risk of electrocution.
- Do not use the telephone to report a gas leak near the leak.
- The product shall be cleaned using only a damp, lint-free, cloth. No solvents or cleaning agents shall be used.
- Do not use spray cleaners or aerosols on the device.
- Avoid using and/or connecting the equipment during an electrical storm, to avoid risk of electrocution.
- Do not locate the equipment within 6 feet (1.9 m) of a flame or ignition source (i.e. heat registers, space heaters, fireplaces, etc.).

- Use only the AC power adapter (if provided) and power cord included with the equipment.
- Equipment should be installed near the power outlet and should be easily accessible.
- The shield of the coaxial cable must be connected to earth (grounded) at the entrance to the building in accordance with applicable national electrical installation codes. In the U.S., this is required by NFPA 70 (National Electrical Code) Article 820. In the European Union and in certain other countries, CATV installation equipotential bonding requirements are specified in IEC 60728-11, *Cable networks for television signals, sound signals and interactive services*, Part 11: Safety. This equipment is intended to be installed in accordance with the requirements of IEC 60728-11 for safe operation.
- If the equipment is to be installed in an area serviced by an IT power line network, as is found in many areas of Norway, special attention should be given that the installation is in accordance with IEC 60728-11, in particular Annex B and Figure B.4.
- In areas of high surge events or poor grounding situations and areas prone to lightning strikes, additional surge protection may be required (i.e. PF11VNT3 from American Power Conversion) on the AC, RF, Ethernet and Phone lines.
- When the Telephony Modem is connected to a local computer through Ethernet cables, the computer must be properly grounded to the building/residence AC ground network. All plug-in cards within the computer must be properly installed and grounded to the computer frame per the manufacturer's specifications.
- Ensure proper ventilation. Position the Telephony Modem so that air flows freely around it and the ventilation holes on the unit are not blocked.
- Do not mount the Telephony Modem on surfaces that are sensitive to heat and/or which may be damaged by the heat generated by the modem, its power supply, or other accessories.

FCC Part 15

This equipment has been tested and found to comply with the requirements for a Class B digital device under Part 15 of the Federal Communications Commission (FCC) rules. These requirements are intended to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The operation of this equipment is subject to the following two conditions: (1) This equipment or device cannot cause harmful interference and (2) this equipment or device must accept any interference, including interference that may cause some unwanted operation of the equipment.



CAUTION

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 11.8 inches (30 cm) between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Caring for the environment by recycling your ARRIS equipment



Please do not dispose of this product or any included electronic accessories, i.e., power supply or battery, with your residential or commercial waste. ARRIS devices may be disposed of through the ARRIS Product Recycling program, further described at www.arris.com/corporateresponsibility. You may also contact your local community authorities for information regarding where you may dispose of your ARRIS devices.

Product overview

Get ready to experience the Internet's express lane! Whether you're checking out streaming media, downloading new software, checking your email, or talking with friends on the phone, the SBV3202 Telephony Modem brings it all to you faster and more reliably. All while providing high quality Voice over IP telephone service. It also provides Lithium-Ion battery backup capability to provide continued telephone service during power outages.

The SBV3202 provides an Ethernet connection for use with either a single computer or home/office Local Area Network (LAN). In addition, the SBV3202 provides for up to two separate lines of telephone service.



Get support

For technical support, FAQs, product documentation, and additional ARRIS product information:

- Visit the ARRIS Support website: www.arris.com/selfhelp
- Call ARRIS Technical Support: **1-877-466-8646**

Getting started

About your new SBV3202

The SURFboard SBV3202 Telephony Modem is DOCSIS 3.0 compliant with the following features:

- **Speed:** much faster than dialup or ISDN service; up to eight times faster than DOCSIS 2.0 cable modems.
- **Connectivity:** supports Ethernet connection.
- **Flexibility:** provides two independent lines of telephone service as well as high speed data.
- **Compatibility:**
 - Data services: DOCSIS 3.0 compliant and backward-compatible with DOCSIS 2.0 or 1.1; supports tiered data services (if offered by your service provider).
 - Telephony services: PacketCable™ 2.0 compliant.

What's in the box

Check that the following items are included in the box before installing the SBV3202:

- SBV3202 telephony modem
- Power cord
- Ethernet cable (CAT5e)
- SBV3202 Quick Start Guide
- Software License & Warranty Card

Items you need

If you are installing the SBV3202, make sure you have the following items on hand before continuing:

- **SBV3202 package:** see **What's in the box** (above) for the list of items included in the SBV3202 box.
- **Coaxial cable (coax):** This is a round cable with a connector on each end. It is the same kind of wire used to connect to your television for cable TV. You can buy coax from any electronics retailer and many discount stores; make sure it has connectors on both ends. Be sure that the coax cable you choose has screw-on connectors. The coax should be long enough to reach from your SBV3202 to the nearest cable outlet.



Note: For best performance, use high-quality RG-6 type coax cable and minimize or eliminate splitters between the cable jack and your SBV3202.



- **Phone cable:** This is a standard phone cable with standard phone connectors (RJ11 type) on both ends. You can buy phone cables from any electronics retailer and many discount stores.



- **Splitter (optional):** provides an extra cable connection by splitting a single outlet into two. You may need a splitter if you have a TV already connected to the cable outlet that you want to use. You can buy a splitter from any electronics retailer and most discount stores; you may also need a short piece of coax cable (with connectors); use it to connect the splitter to the cable outlet and then connect the SBV3202 and TV to the splitter.



Note: Using several splitters in a line may deteriorate the quality of your television, telephone, and/or internet connection.

- **Wall-mounting hardware (optional):** if you want to wall-mount your SBV3202, you need to obtain two drywall anchors or wood screws.
- **Information packet:** your service provider should furnish you with a packet containing information about your service and how to set it up. Read this information carefully and contact your service provider if you have any questions.

Set up service

Before you can use your new SBV3202, visit xfinity.com/activate to establish an Internet account and telephone service. You will need the following information to activate your account:

- SBV3202 serial number (see the telephony modem label affixed on the bottom of the SBV3202)

- Cable MAC addresses of the unit (printed on a sticker affixed to the SBV3202)
- SBV3202 model number

If you cannot activate your account online, call Comcast at **1-800-Xfinity (1-800-934-6489)**. Check that you have the following information before calling:

- your XFINITY account number
- phone number associated with your account
- your user name and password

System requirements

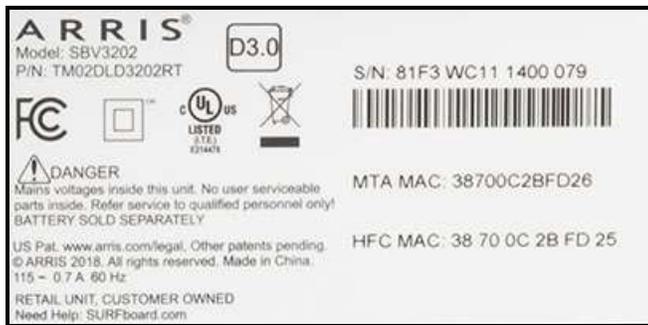
- High-speed Internet access account
- Web browser access: Internet Explorer, Google Chrome, Firefox, or Safari
- Compatible operating systems:
 - Windows 10
 - Windows 8
 - Windows 8.1
 - Windows 7 Service Pack 1 (SP1)

***Note:** Although older versions of Microsoft Windows operating systems are no longer specifically supported, they should still function with this model.*

- macOS 10.4 or later
- UNIX
- Linux

About this manual

This manual covers the ARRIS SURFboard SBV3202 Telephony Modem. The model number is on the label affixed to the bottom of the SBV3202.



What about security?

Having a high-speed, always-on connection to the Internet requires a certain amount of responsibility to other Internet users—including the need to maintain a reasonably secure system. While no system is 100% secure, you can use the following tips to enhance your system’s security:

- Keep the operating system of your computer updated with the latest security patches. Run the system update utility at least weekly.
- Keep your email program updated with the latest security patches. In addition, avoid opening email containing attachments, or opening files sent through chat rooms, whenever possible.
- Install a virus checker and keep it updated.
- Avoid providing web or file-sharing services over your SBV3202. Besides certain vulnerability problems, most cable companies prohibit running servers on consumer-level accounts and may suspend your account for violating your terms of service.
- Use the service provider’s mail servers for sending email.
- Avoid using proxy software unless you are certain that it is not open for abuse by other Internet users (some are shipped open by default). Criminals can take advantage of open proxies to hide their identity when breaking into other computers or sending spam. If you have an open proxy, your service provider may suspend your account to protect the rest of the network.

Ethernet connection

Ethernet is a standard method of connecting two or more computers into a Local Area Network (LAN). You can use the Ethernet connection if your computer has built-in Ethernet hardware.

The SBV3202 package comes with one Ethernet cable (the connectors look like wide telephone connectors); you can purchase more cables if necessary at a computer retailer. If you are connecting the SBV3202 directly to a computer or to a wireless router (with the Ethernet connection from the SBV3202 connected to the WAN input on the router), ask for Category 5e (CAT5e) straight-through cable. CAT5e cable is required for gigabit Ethernet (Gig-E), not regular CAT5 cable.



Battery installation and removal

Introduction

Your service provider may include a backup battery with your SBV3202. If you wish, you can purchase an additional battery at shop.surfboard.com. The website will list the recommended battery type for your SBV3202.

The SBV3202 supports a Lithium-Ion backup battery to provide continued telephone service during power outages. The battery backup is not intended to take the place of AC power.



Note: The battery is intended only to provide emergency telephone service in the case of a power outage. LED operation is reduced when the SBV3202 is operating on battery power.



Note: Batteries are sold separately.

The SBV3202 supports the following battery models:

- **Basic backup battery:** provides up to 6 hours (black) or 8 hours (green) of backup time, depending on your SBV3202 model and usage. It may be green or black.



Basic Backup Battery (Green)



Basic Backup Battery (Black)

Refer to [Basic Battery Installation and Replacement](#) (page 15).

- **Extended backup battery:** provides up to 12 hours of backup time, depending on model and usage. It has a strap between the battery guides. It may be light gray or black.



Extended Backup Battery

Refer to [Extended Battery Installation and Replacement](#) (page 17).

- **Maximum backup battery:** provides up to 18 hours (6-cell) or 24 hours (8-cell) of backup time, depending on model and usage. It replaces the battery door and increases the height of the SBV3202 by about 5/8" (16 mm).



Maximum backup battery

Refer to [Maximum Battery Installation and Replacement](#) (page 19)



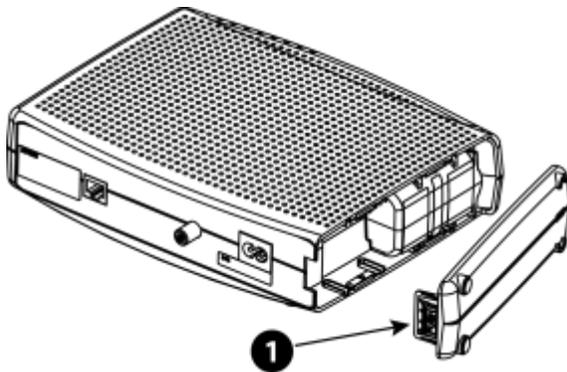
Note: The backup times shown here are only an estimate and assume that your battery is fully charged. If your battery is partially discharged (for example, if it is in the middle of a self-test or is not yet fully charged), then your backup time will be reduced.

Basic battery installation and replacement

This model of the SBV3202 provides continued telephone service during power outages. The battery backup is not intended to take the place of AC power.

Use this procedure to install and to replace the backup battery.

1. Press down and pull back on the latch holding the battery door (on the bottom of the SBV3202). Pull the door toward you. Set the door aside in a safe place.



1 - Latch End

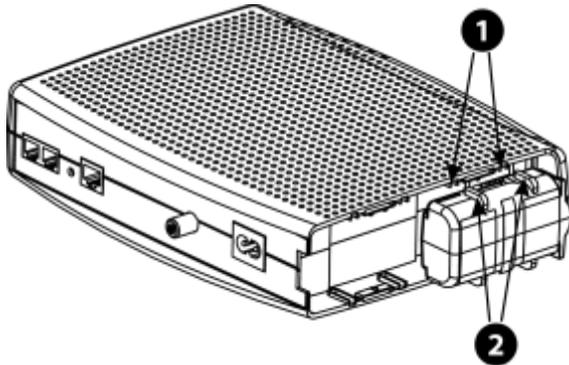


CAUTION

Risk of equipment damage

Improperly inserting the battery may damage the battery connector in the SBV3202. Carefully follow the instructions in the next step to avoid damage.

2. Hold the battery pack so that the guides on the battery align with the slots on the SBV3202 and slide the battery into the bay.



- 1 - Battery Slots
- 2 - Battery Guides

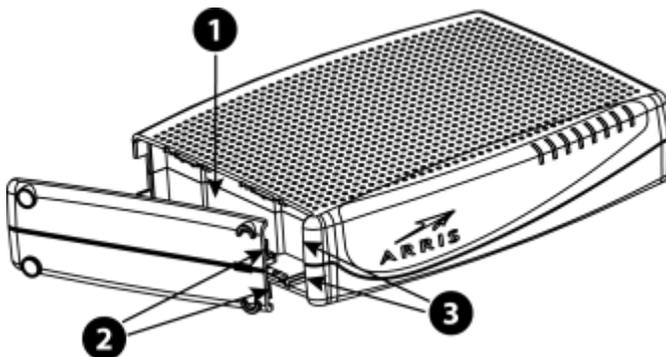
i **Note:** Batteries will not insert completely into the SBV3202 if not oriented correctly. The battery should slide into the bay without significant force. Line up the guides on the battery with the slots in the battery bay.

3. Push the battery pack into the bay until it seats into place.

If you are taking the battery out of the SBV302, position your finger in the battery opening area and use leverage to dislodge the battery while pulling it straight back.

i **Note:** The SBV3202 will not begin operating until you apply AC power.

4. Replace the door. To do so, place the hinge tabs of the battery door into the receiver slots inside the SBV3202 battery compartment on the -opposite end of the battery opening. Rotate the door toward the unit until the latch snaps back into place.



- 1 - Battery Compartment
- 2 - Hinge Tabs
- 3 - Receiver Slots



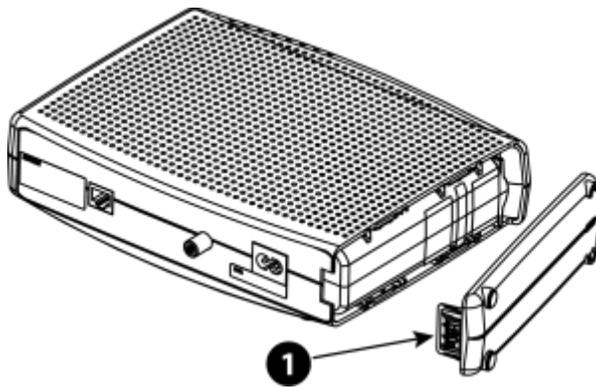
Note: The SBV302 uses a Lithium-Ion battery pack. Please recycle or dispose of the battery responsibly and in accordance with local ordinances, see [Caring for the environment by recycling your ARRIS equipment](#) for more information (page 7).

Extended battery installation and replacement

This model of the SBV3202 provides continued telephone service during power outages. The battery backup is not intended to take the place of AC power.

Use this procedure to install or replace the backup battery.

1. Press down and pull back on the latch holding the battery door (on the bottom of the SBV3202).
2. Pull the door toward you and set the door aside in a safe place.



1 - Latch End

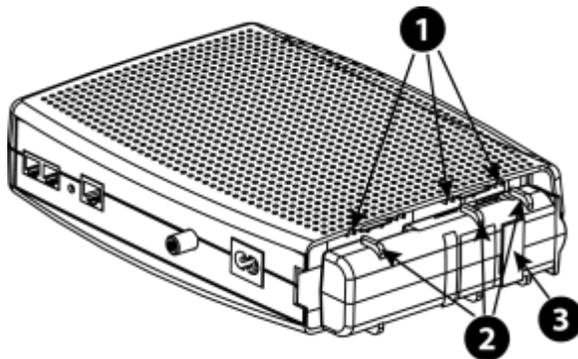


CAUTION

Risk of equipment damage

Improperly inserting the battery may damage the battery connector in the SBV3202. Carefully follow the instructions in the next step to avoid damage.

3. Hold the battery pack so that the guides on the battery align with the slots on the SBV3202 and slide the battery into the bay.



- 1 - Battery Slots
- 2 - Battery Guides
- 3 - Battery Pull Strap



Note: Batteries will not insert completely into the SBV3202 if not oriented correctly. The battery should slide into the bay without significant force. Line up the slots in the battery bay with the guides on the battery and apply even pressure on both ends of the battery.



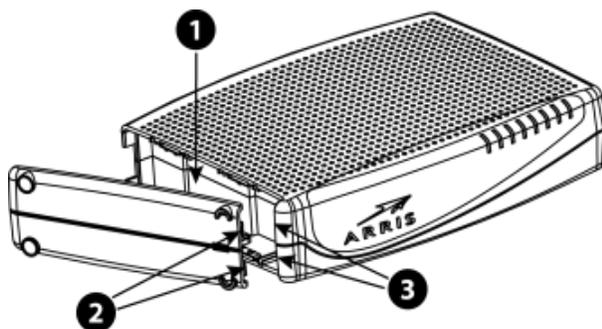
4. Push the battery pack into the bay until it latches into place.

If you are taking the battery out of the SBV3202, use the battery pull strap to dislodge the battery.



Note: The SBV3202 will not begin operating until you apply AC power.

5. Replace the door:
 - a. Place the tabs of the battery door into the slot inside the SBV3202 battery compartment.
 - b. Rotate the door toward the front of the SBV3202 until the latch snaps back into place.



- 1 - Battery Compartment
- 2 - Hinge Tabs
- 3 - Receiver Slots



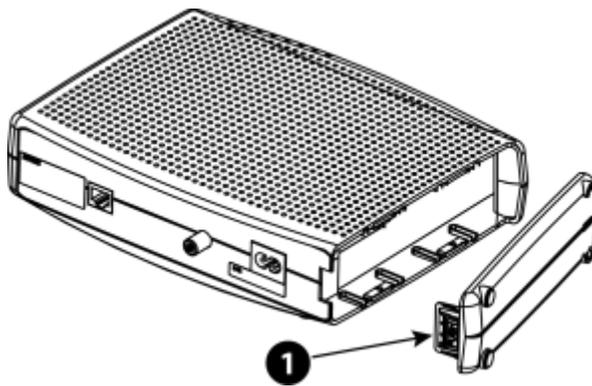
Note: The SBV3202 uses a Lithium-Ion battery pack. Please recycle or dispose of the battery responsibly and in accordance with local ordinances, see [Caring for the environment by recycling your ARRIS equipment](#) (page 7)

Maximum battery installation and replacement

This model of the SBV3202 provides continued telephone service during power outages. The battery backup is not intended to take the place of AC power.

Use this procedure to install and to replace the backup battery.

1. Press down and pull back on the latch holding the battery door (on the bottom of the SBV3202). Pull the door toward you.
2. Set the door aside in a safe place.

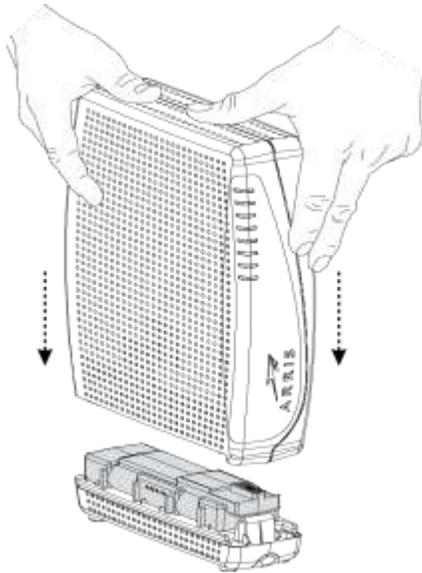


1 - Latch End

3. Place the battery on a firm horizontal surface.
4. Position the SBV3202 over the battery, aligning the slots on the battery bay with the tabs on the battery.
5. Push straight down on the SBV3202 until the battery latch clicks into place.



Note: You may need to push down gently on the front of the SBV3202 to latch the battery into place. The SBV3202 will not begin operating until you apply AC power.



6. To remove the battery, grasp the battery and pull back on the latch at the front of the battery.
7. Gently rock the battery out of the bay.



Note: The SBV3202 uses a Lithium-Ion battery pack. Please recycle or dispose of the battery responsibly and in accordance with local ordinances, see [Caring for the environment by recycling your ARRIS equipment](#) page 7) for more information.

Battery usage and storage conditions

- The life expectancy of your battery should be several years, provided that it was purchased from an approved source.
- Your battery goes through a calibration procedure when it is first installed or replaced. This procedure can take up to 72 hours to complete and is repeated every six months.
- If your battery becomes fully drained during a power outage, the calibration procedure will need to be repeated.
- The battery should be installed in your SBV3202 and kept there at all times.
- Do not store the battery separately from the SBV3202 for any prolonged period of time.

Battery disposal guidelines

To ensure compliance with current and future rechargeable battery take-back laws, ARRIS has joined Call2Recycle, a collection program for rechargeable batteries throughout North America. US and Canadian customers should visit www.call2recycle.org to properly recycle your lithium-ion battery backup units (BBUs).

Getting battery status

To assess if the battery needs to be replaced, the SBV3202 charges, discharges, and recharges the battery pack as part of a battery test. The SBV3202 re-tests the battery periodically afterwards, usually every 180 days. The Battery LED and the Registration Status screen indicate the status of the battery. The SBV3202 will transmit a two-second stutter tone when the battery level is low.

To view the Registration Status screen:

1. Using a web browser, access **192.168.100.1**.
You may have to manually adjust your computer's IP address, for example, **192.168.100.6** to access the HSD pages.
2. Click the **CM State** link below the ARRIS banner.
3. Scroll down, if necessary, to see the Power Supply Telemetry and Battery Test State information at the bottom of the page.

The expected states are:

- Power Supply Telemetry: **TELEMETRY NORMAL**
- Battery Test State: **Not Currently Under Battery Test**

Install and connect your telephony modem

Before you start, make sure of the following:

- You have all the [items you need](#) (page 9).
- You have [Set up service](#) (page 10)
- Cable, phone, and power outlets are available near the computer.

If a cable outlet is not conveniently located, your service provider can install a new one.



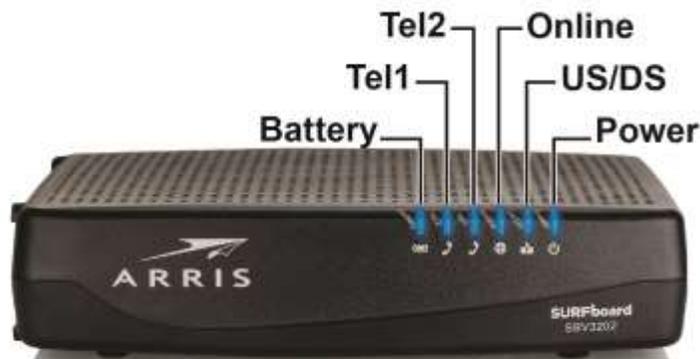
CAUTION

Risk of equipment damage

Only qualified installation technicians should connect the Telephony Modem to house wiring. Incumbent telephone service must be physically disconnected at the outside interface box before making any connections.

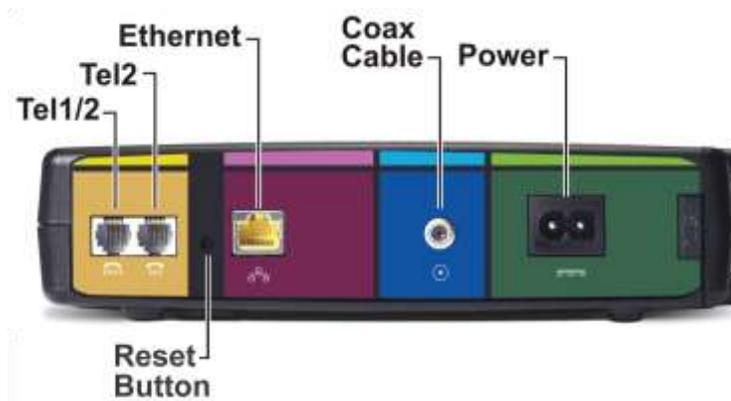
Front panel

The SBV3202 has the following front panel LEDs:



- **Battery:** indicates the battery status.
- **Tel1:** indicates the status of telephone line 1.
- **Tel2:** indicates the status of telephone line 2.
- **Online:** indicates internet data transmission status.
- **US/DS:** indicates upstream and downstream connectivity.
- **Power:** indicates whether AC power is available to the unit.

Rear panel



The rear of the SBV3202 has the following connectors and controls:

- **Tel 1/2:** connector for the first phone line (or both lines of a 2-line phone).
- **Tel 2:** connector for the second phone line.
- **Ethernet:** connector for use with a computer LAN port.
- **Coax Cable:** connector for the coaxial cable.
- **Power:** connector for the power cord.
- **Reset button:** resets the SBV3202 as if you power cycled the unit.

Use a pointed non-metallic object to press this button.

Selecting an installation location

There are several factors to consider when choosing a location to install your Telephony Modem:

- Is an AC outlet available nearby? For best results, the outlet should not be switched and should be close enough to the Telephony Modem that extension cords are not required.
- Is a cable jack available? For best performance, keep the number of splitters between the jack and cable drop to a minimum. Each splitter attenuates (reduces) the signal available to the Telephony Modem. A large number of splitters can slow down the Internet connection and even affect your telephone service.
- Can you easily run cables between the Telephony Modem's location and the phones?
- If you are connecting devices to an Ethernet port, can you easily run cables between the Telephony Modem's location and those devices?
- If you want to mount the Telephony Modem on a wall, does the location provide a solid surface for secure attachment? For best results when mounting the Telephony Modem on drywall, position the Telephony Modem so at least one of the screws are fastened to a stud. This may prevent the Telephony Modem from pulling out of the wall in the future.
- If you want to install the Telephony Modem on a desktop, is there enough space on either side to keep the vents clear? Blocking the vents may cause overheating.

Mount the Telephony Modem

You can either mount the SBV3202 on a wall or place it on a desktop. For wall-mount applications, you can mount the SBV3202 with the indicators facing upward (vertical) or to the side (horizontal).

Tools and materials

For wall-mounted installations, make sure you have the following tools and materials before proceeding:

- for mounting on drywall: Two 1/4" (6mm) drywall anchors (not included), two #6 x 1.5" (38.1 mm) self-tapping panhead screws (not included), and a drill with 1/4" (6mm) bit (not included).
- for mounting on plywood or studs: two #6 x 1.5" (38.1 mm) self-tapping panhead wood screws (not included).
- screwdriver (flat-blade or Phillips, depending on what kind of screws you use).
- wall-mount template (included with the SBV3202 Quick Installation Guide).
- transparent tape: for temporarily securing the mounting template to the wall (not included).

Location

Always position the SBV3202:

- within reach of an AC outlet. The power cord must reach the outlet without stretching and without adding extension cords.
- near a cable outlet (to avoid long cable runs).

Wall mounting instructions



Note: When mounting the SBV3202 on drywall, try to position the SBV3202 so at least one of the screws is fastened to a stud. This may prevent the SBV3202 from pulling out of the wall in the future. To prevent overheating of the SBV3202, do not block the ventilation holes on the sides of the unit.

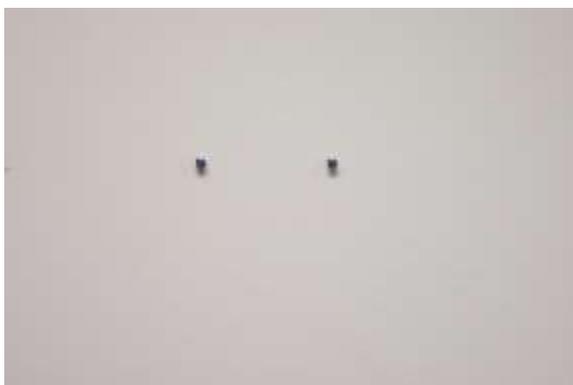
1. Position the mounting template on the surface where you intend to mount the SBV3202 and secure in place with transparent tape.



2. Drill holes through the template in the specified locations for the mounting screws. After drilling holes, remove the template from the service.



3. If using drywall anchors, set them into the wall. Then, drive the screws into the wall leaving a gap of about 1/8" (3 mm) between the screw head and the wall. If not using anchors, just drive the screws.



4. Slip both mounting slots in the back of the SBV3202 over the screws, then slide the case down until the narrow end of the keyhole slot contacts the screw shaft.



5. Proceed to [Connecting the SBV3202](#) (see below).

Desktop mounting instructions

1. Position the SBV3202 so that:
 - air flows freely around it
 - the back faces the nearest wall
 - it will not fall to the floor if bumped or moved
 - the ventilation holes on the sides of the unit are not blocked
2. Proceed to [Connecting the SBV3202](#) below.

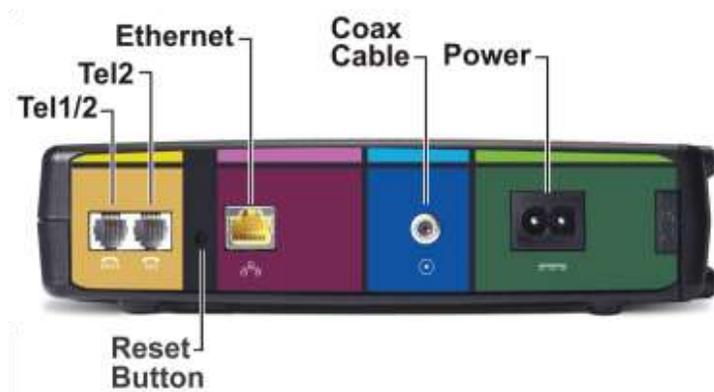
Connecting the SBV3202



WARNING

Risk of injury or equipment damage

Connecting the SBV3202 to the home's existing telephone wiring should only be performed by a professional installer. Physical connections to the previous telephone provider must be removed and the wiring must be checked; there must not be any voltage. Cancellation of telephone service is not adequate. Failure to do so may result in loss of service and/or permanent damage to the SBV3202.



1. Connect one end of the coax cable to the cable outlet or splitter, and the other end to the SBV3202 Cable connector.
2. Tighten the connections by hand, then tighten an additional 1/8 turn with a wrench.



Note: For best performance, use high-quality coax cable and minimize or eliminate splitters between the cable jack and the SBV3202.

3. Insert the plug from the power cord into the Power connector on the back of the SBV3202 and insert the power cord into a convenient AC outlet.
The Power light on the front of the SBV3202 lights up, then flashes once (refer to the LED tables shown in [Using the Telephony Modem](#) (page 28)). See [Troubleshooting](#) (page 35) if the Power light does not turn on.
4. Connect one end of the Ethernet cable to the Ethernet port on the back of the SBV3202, and the other end to the Ethernet port on a computer, hub, or broadband router.



Note: If you are connecting to a computer, use the Ethernet cable included in the SBV3202 package.

5. Connect one end of the telephone cable to the telephone port on the back of the SBV3202.
6. Connect the other end of the telephone cable to the telephone.

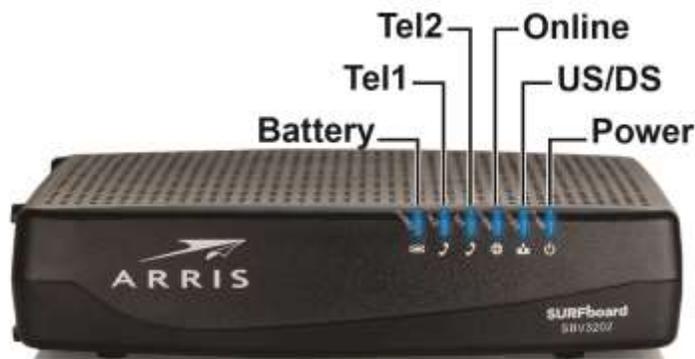
Using the Telephony Modem

This chapter describes the controls and features available on the SBV3202 and covers basic troubleshooting procedures.

- [Set Up Your Computer to Use the SBV3202](#) (page 28)
- [Indicator Lights for the SBV3202](#) (page 28)
- [Using the Reset Button](#) (page 30)
- [Booting from Battery](#) (page 30)

Indicator lights for the SBV3202

The SBV3202 has LED indicator lights to assist in troubleshooting.



Battery mismatch

If the SBV3202 alternates flashing the Battery light and all other lights, the installed battery is incompatible with the SBV3202. Remove the battery and install one of the batteries described in [Battery Installation and Removal](#) (page 14).

Wiring problems

If the SBV3202 begins flashing all its lights for more than 10 seconds, this indicates a problem with the telephone wiring — the red and green wires may be shorted (touching), or there may be undesired voltage on the lines. If this pattern persists for more than 10 seconds, disconnect the telephone lines from the SBV3202, replace the telephone cable, or contact a wiring technician for assistance.

Patterns: normal operation

The following table shows light patterns during normal operation.

Mode	Power	US/DS	Online	Tel 1 / Tel 2	Battery
AC power	On	On = Connected to the Internet (ultra-high speed) Flash = Not connected to the Internet	On = Internet available Off = Internet not available	On = On-hook Flash = Off-hook Off = disabled	On = Battery charging Off = Battery fully charged <i>OR</i> battery missing <i>OR</i> MTA not registered Flash = Battery bad
Battery mode (no AC power; battery installed)	Flash	Off	Off	On = On-hook Flash = Off-hook Off = disabled	Off = Battery good Flash = Battery bad or low
No AC power; no battery	Off	Off	Off	Off	Off
Firmware upgrade	On	Flash	On	(normal operation)	(normal operation)

Patterns: startup sequence

The following tables show the SBV3202 light patterns during each phase of the startup sequence. There are two phases of startup; the telephony phase and the cable modem phase. Both are outlined below.

Telephony startup sequence

Power, US/DS, Online	Telephone 1	Telephone 2	Description
Off	Off	Off	No power to modem

Power, US/DS, Online	Telephone 1	Telephone 2	Description
Flash	Flash	Flash	Power-On Self-Test
See Cable modem startup sequence (page 30)			
On	Flash	Off	Retrieving telephone network information
On	Off	Flash	Retrieving telephone network information
On	Flash	Flash	Activating telephone service
Normal Operation			

Cable modem startup sequence

DS/US	Online	Description
Flash	Off	Downstream or upstream search
On	Flash	Downstream and upstream found; retrieving setup information from service provider
On	On	Ready for service

Using the Reset button

Use the **Reset** button, on the back of the SBV3202, to reset the modem and perform initialization as if you power cycled the unit. You may need to reset the SBV3202 if you are having problems connecting to the Internet. Using this button will be rare.

Use a pointed **non-metallic** object to press this button. The **Reset** button is recessed to prevent accidental resets.

Booting from the battery

The SBV3202 supports a “Boot from Battery” feature that allows the SBV3202 to provide continued telephone service during power outages.

To start the SBV3202 from its battery, follow these steps:

1. If a battery is already installed in the SBV3202, remove it.

2. Re-insert the battery into the SBV3202. See [Battery Installation and Removal](#) (page 14) for details.
3. Press the **Reset** button; the Power light should turn on immediately.



Note: If the SBV3202 does not turn on, the battery may not be charged.

Using the Telephony Modem Web Manager

Use the SBV3202 Web Manager to view and monitor the network configuration settings and operational status of your SBV3202. Follow these steps to open the SBV3202 Web Manager:

1. Open a web browser (such as Internet Explorer, Google Chrome, Firefox, or Safari) on the device connected to the SBV3202.
2. In the address bar, type **192.168.100.1** and then press **Enter** to open the SBV3202 Web Manager. The Status screen appears.

ARRIS Status

[Status](#)
[HW/FW Versions](#)
[Event Log](#)
[CM State](#)
[ISP Use Only](#)

RF Parameters

Downstream

	DCID	Freq	Power	SNR	Modulation	Octets	Correcteds	Uncorrectables
Downstream 1	0	739.00 MHz	----	----	----	----	----	----

[Reset FEC Counters](#)

Upstream

	UCID	Freq	Power	Channel Type	Symbol Rate	Modulation
Upstream 1	----	----	----	----	----	----

Status

System Uptime: 0 d: 0 h: 27 m
 Computers Detected: staticCPE(0), dynamicCPE(0)
 CM Status: NOT_SYNCHRONIZED
 Time and Date: Thu 1970-01-01 00:27:47

Interface Parameters

Interface Name	Provisioned	State	Speed (Mbps)	MAC address
LAN	Enabled	Up	1000(Full)	38:70:0C:2C:C7:38
CABLE	Enabled	Down	----	38:70:0C:2C:C7:39
MTA	NotInitiated	Down	----	38:70:0C:2C:C7:3A

SBV3202 Web Manager menu links

The SBV3202 main menu links and related submenu option links are displayed along the top of the SBV3202 Web Manager screen. Click on the main menu link to view any of the other available screens.

Status screen

The screenshot shows the ARRIS Status screen. At the top, there is a navigation bar with tabs for Status, HW/FW Versions, Event Log, CM State, and ISP Use Only. The main content is divided into three sections: RF Parameters, Status, and Interface Parameters.

RF Parameters

Downstream

	DCID	Freq	Power	SNR	Modulation	Octets	Correcteds	Uncorrectables
Downstream 1	0	739.00 MHz	----	----	----	----	----	----

[Reset FEC Counters](#)

Upstream

	UCID	Freq	Power	Channel Type	Symbol Rate	Modulation
Upstream 1	----	----	----	----	----	----

Status

System Uptime: 0 d, 0 h, 27 m
 Computers Detected: staticCPE(0), dynamicCPE(0)
 CM Status: NOT SYNCHRONIZED
 Time and Date: Thu 1970-01-01 00:27:47

Interface Parameters

Interface Name	Provisioned	State	Speed (Mbps)	MAC address
LAN	Enabled	Up	1000(Full)	38:70:0C:2C:C7:38
CABLE	Enabled	Down	----	38:70:0C:2C:C7:39
MTA	NotInitiated	Down	----	38:70:0C:2C:C7:3A

The Status Screen shows the current status of the upstream and downstream channels for the SBV3202, including the MAC addresses for various ports.

HW/FW versions screen

The screenshot shows the ARRIS HW/FW Versions screen. At the top, there is a navigation bar with tabs for Status, HW/FW Versions, Event Log, CM State, and ISP Use Only. The main content is divided into two sections: Hardware Information and Firmware Build and Revisions.

Hardware Information

System: ARRIS DOCSIS 3.0 / PacketCable 2.0 Telephony Modem / Retail
 HW_REV: 4
 VENDOR: ARRIS Group, Inc.
 BOOTR: 2.2.0.45
 SW_REV: 9.1.103AA40.SIP.PC20.CT
 MODEL: SBV3202
 Serial Number: 83A3WC111400042
 Battery Charger FW Rev: 01.03
 Options:

Firmware Build and Revisions

Firmware Name: TS0901103AA40_030118_1602.TM_PC20_CT

The HW/FW Versions screen includes release and model information for the SBV3202 hardware and firmware. This information includes the serial number for your SBV3202.

Event log screen

The screenshot shows the ARRIS Event Log interface. At the top, there is a navigation bar with tabs for Status, HW/FW Versions, Event Log (selected), CM State, and ISP Use Only. Below this is a section for DOCSIS(CM) Events, which contains a table with columns for Date Time, Event ID, Event Level, and Description. The table lists several events, including 'No Ranging Response received - T3 time-out', 'SW Download INIT - Via Config file', and 'RCS Partial Service'. Below the DOCSIS(CM) Events section is a section for PacketCable(MTA) Events, which is currently empty.

Date Time	Event ID	Event Level	Description
1/1/1970 0:01	82000200	3	No Ranging Response received - T3 time-out;CM-MAC=38:70:0c:2e:c7:39;CMTS-MAC=00:01:5c:87:a2:46;CM-QOS=1.1;CM-VER=3.0;
3/26/2018 10:52	69010200	6	SW Download INIT - Via Config file
3/26/2018 10:53	69011200	6	SW download Successful - Via Config file
1/1/1970 0:01	82000200	3	No Ranging Response received - T3 time-out;CM-MAC=38:70:0c:2e:c7:39;CMTS-MAC=00:01:5c:87:a2:46;CM-QOS=1.1;CM-VER=3.0;
3/26/2018 11:21	84000700	5	RCS Partial Service;CM-MAC=38:70:0c:2e:c7:39;CMTS-MAC=00:01:5c:87:a2:46;CM-QOS=1.1;CM-VER=3.0;
3/26/2018 11:21	84000500	3	SYNC Tuning Synchronization failure - Loss of Sync;CM-MAC=38:70:0c:2e:c7:39;CMTS-MAC=00:01:5c:87:a2:46;CM-QOS=1.1;CM-VER=3.0;
3/26/2018 11:21	84000700	5	RCS Partial Service;CM-MAC=38:70:0c:2e:c7:39;CMTS-MAC=00:01:5c:87:a2:46;CM-QOS=1.1;CM-VER=3.0;
3/26/2018 11:21	84000500	3	SYNC Tuning Synchronization failure - Loss of Sync;CM-MAC=38:70:0c:2e:c7:39;CMTS-MAC=00:01:5c:87:a2:46;CM-QOS=1.1;CM-VER=3.0;
3/26/2018 11:21	84000700	5	RCS Partial Service;CM-MAC=38:70:0c:2e:c7:39;CMTS-MAC=00:01:5c:87:a2:46;CM-QOS=1.1;CM-VER=3.0;

Date Time	Event ID	Description
MTA Events List Empty		

The Event Log screen includes a list of events that have been detected by your SBV3202, including the date and time of the event, the event ID, and the event level.

Registration status (CM state)

ARRIS		Registration Status	
Status	HW/FW Versions	Event Log	CM State
CM State:Docsis-Downstream Scanning			
Docsis-Downstream Scanning			In Progress
Docsis-Downstream Ranging			Not Started
Docsis-Upstream Ranging			Not Started
Docsis-DHCP			Not Started
Docsis-TFTP			Not Started
Docsis-Data Reg Complete			Not Started
Telephony-DHCP			Not Started
Telephony-TFTP			Not Started
Telephony-Reg with Call Server			Not Started
Telephony-Reg Complete			Not Started
TOD State:			
Time of Day			Not Provisioned
BPI State:			
BPI Status			*****
DHCP Attempts to obtain CM IP Address:			
IPv4 Attempt(s)			0
IPv6 Attempt(s)			0
Power Supply Telemetry:			
Battery Operation Status	Battery Serial Number	Battery Part Number	
BATTERY MISSING	*****	*****	
Battery Test State:Not Currently Under Battery Test			

The Registration Status screen shows the current operating status of SBV3202 with regards to DOCSIS and telephony connections. It also indicates the test state of the battery, if present.

Troubleshooting

The SBV3202 is plugged in, but the power light is off

Check all power connections. Is the power cord plugged in firmly at both ends?

If you plugged the power cord into a power strip, make sure the strip is switched on.

Try to plug the power cord into a different outlet. If the outlet is controlled by a wall switch, make sure the switch is on.

Finally, check the fuse or circuit breaker panel.

I'm not getting on the Internet

It may take over 30 minutes to establish a connection the first time you power up your SBV3202, especially when many people are online. Always leave your SBV3202 plugged into AC power and connected to the cable system.

Check the front panel lights:

- The **Power** and **Online** lights should be on.
- The **Link** light should either be on or blinking.
- If the **Power** light blinks for more than 30 minutes, call your service provider for assistance.

Check your cable connections. Connectors should be tight. The coax cable should not be pinched, kinked, or bent sharply—any of these can cause a break or short in the cable (you may have to replace the cable). If you have one or more splitters between the SBV3202 and CATV outlet, remove the splitters and connect the SBV3202 directly to the outlet.

Proceed to the Ethernet solution if necessary.

I'm not getting on the Internet (Ethernet)

If you are using a hub, is the hub turned on?

Are you using the right type of Ethernet cable? Use the supplied cable for direct connection to a computer; use a cross-over cable for connection to a hub.

Press the **Reset** button on the back of the SBV3202.

I can get on the Internet, but everything is slow

If the Web site you are visiting is very popular, that site may be having trouble servicing all the requests. If other sites download quickly, wait for a few minutes and try again. Usage during peak hours may also affect the connection speed.

Other communications on the LAN may slow down the connection.

I don't have a dial tone when I pick up the phone

For telephone service to be functional on the SBV3202, the service must have been purchased from your service provider and configured on your SBV3202. The following steps should help in identifying the source of the problem:

1. Is the Power LED lit?
 - If not, check to make sure the SBV3202 is plugged in and the outlet has power. Use only the external AC power adapter (if provided) and power cord included with the equipment.
 - If the LED is lit, go to the next step.
2. Is the Online LED lit?
 - If not, check the coax connection at the SBV3202 and the wall. Ensure they are connected and tight. If they are and you do not have dial tone, contact your service provider.
 - If the Online LED is lit, go to the next step.
3. Is the Telephone (Tel 1 or Tel 2) LED lit?
 - If not, phone service has not been set up on that line. Contact your service provider.
 - If it is blinking, there is a phone off hook somewhere in the house. Find that phone and hang it up.
 - If it is lit, go to the next step.
4. Is the phone plugged directly into the SBV3202?
 - Make sure the phone is plugged into the port on the back of the SBV3202 labeled "Tel 1" for line 1, and "Tel 2" for line 2.
 - If so, try a different phone. Make sure the new phone is a working phone.
 - If a known good phone is used and you still don't have dial tone, try a different phone cable. If a new phone and cable do not restore dial tone, call your service provider.
5. Is the SBV3202 plugged into a wall outlet?
 - If so, unplug the phone connector at the back of the SBV3202 and plug in a known working phone. If you now have dial tone, the problem is with the house wiring. Contact your service provider or a qualified wiring technician to correct the house wiring. If you still do not have dial tone, contact your service provider.

Contact ARRIS consumer support

For technical support, FAQs, product documentation, and additional ARRIS product information:

- Visit ARRIS Support website: www.arris.com/selfhelp
- Call: **1-877-466-8646**
- Email: ARRIS Technical Support
- SBV3202 product information: shop.surfboard.com/categories/xfinity-subscribers.html
- Battery purchase: shop.surfboard.com/arris-telephony-modem-back-up-batteries

Warranty Information

SURFboard SBV3202 Telephony Modem

ARRIS Enterprises, LLC ("ARRIS")

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Glossary

A

Amp-Hour

A measure of battery capacity. For example, a 1.0Ah battery can nominally supply one Ampere of current for one hour.

C

Category 5e (Cat5e)

A high-quality type of cable, used for gigabit Ethernet (1000BaseT) connections. When purchasing Ethernet cables, always look for Category 5e cable or higher.

Coaxial cable (coax)

A thin wire, used to connect your television and SBV3202 to the cable TV system. You can buy coax from any electronics retailer and many discount stores.

CPE

Customer Premise Equipment. This is the equipment that is plugged in to the SBV3202; typically, a computer or hub.

Cross-over

An Ethernet cable used to connect two hubs (or a hub and a cable modem) together. Also, some Ethernet hubs may have built-in cross-over on one or more ports (which eliminates the need for a cross-over cable).

D

DHCP

Dynamic Host Configuration Protocol. An IP protocol used to provide an IP address and location of services (such as DNS and TFTP) needed by a device connecting to the network. DHCP allows the service provider to configure your computer's networking software for you.

DNS

Domain Name Service (Server). An IP service that associates a domain name (such as www.example.com) with an IP address.

DOCSIS

Data Over Cable System Interface Specification. The interoperability standards used for data communications equipment on an HFC network.

Downstream

In an HFC network, the direction from the head-end to the subscriber. Some older cable documentation may refer to this as the forward path.

E

EMTA

Embedded Multimedia Terminal Adapter. An MTA device that is integrated with a cable modem.

Ethernet

A standard method of connecting two or more computers into a Local Area Network (LAN).

Event

An informational message used for monitoring network status.

F

F-connector

The type of connector used on coax cable. There are two common types of F-connector, slip-on and screw-on. Use coax with screw-on connectors for connecting your SBV3202.

Firewall

A hardware or software device that prevents unauthorized access to a private network from the Internet. The SBV3202 provides a built-in firewall.

G

Gateway

The device, usually a router, that connects devices on a given IP subnet to other IP subnets.

H

Headend

The “central office” in an HFC network. The headend houses both video and data equipment. In larger cable networks, a “master” headend often feeds several “remote” headends to provide distributed services.

HTTP

HyperText Transfer Protocol.

HTTP

HyperText Transfer Protocol.

Hub

A box with several Ethernet connectors. Ethernet hubs provide a common point of contact for all connected devices.

I

IP address

A number assigned to your computer by your service provider, used to identify your computer to other systems on the Internet.

ISDN

Integrated Services Digital Network. A digital telephony standard that provides communication speeds about twice as fast as standard dialup.

L

LAN

Local Area Network. A network that allows computers in a single location (such as a building) to communicate with one another.

LED

Light Emitting Diode. A semi-conductor diode that emits light when current is passed through it.

M

MAC address

A number that uniquely identifies any device connected to a network. Your service provider uses your SBV3202 MAC address to authorize access to the Internet. The MAC address is printed on a label affixed to your SBV3202.

P

Protocol

A set of rules and formats that determines the communication behavior of network entities at a given layer.

Proxy

A device or program that stands in between a server (for example, a web site) and a client (your browser), providing a way to relieve some of the burden from the server. For example, your service provider may have a web proxy that keeps copies of popular web pages; the proxy can send you those pages instead of fetching them directly from the web site, resulting in faster page loading and less network congestion.

R

RF

Abbreviation for Radio Frequency. Some literature refers to coax as “RF cable” and the connectors as “RF connectors.”

RJ-11

A standard 2-conductor modular connector, commonly used in North America for connecting telephones.

RJ-45

A standard 8-conductor modular connector, commonly used on Ethernet cable. An RJ-45 connector looks like a wide RJ-11 (telephone) connector.

S

Splitter

A small box with three cable connectors: one input and two outputs. You may need a splitter if you have a TV already connected to the cable outlet that you want to use for your SBV3202.

You can buy a splitter from any electronics retailer and most discount stores.

Switched outlet

A power outlet that may be turned on and off using a wall switch. Usually intended for lamps. Avoid plugging your computer or SBV3202 into a switched outlet to avoid disruptions.

T

TCP/IP

Transmission Control Protocol/Internet Protocol. The protocols used to facilitate communications across one or more connected networks.

TDMA

Time Division Multiple Access. A method used by DOCSIS-compliant cable modems for sending upstream data with minimal interference.

U

Upstream

The path from a subscriber device to the headend. Some older cable documentation may refer to this as the return path or reverse path.

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