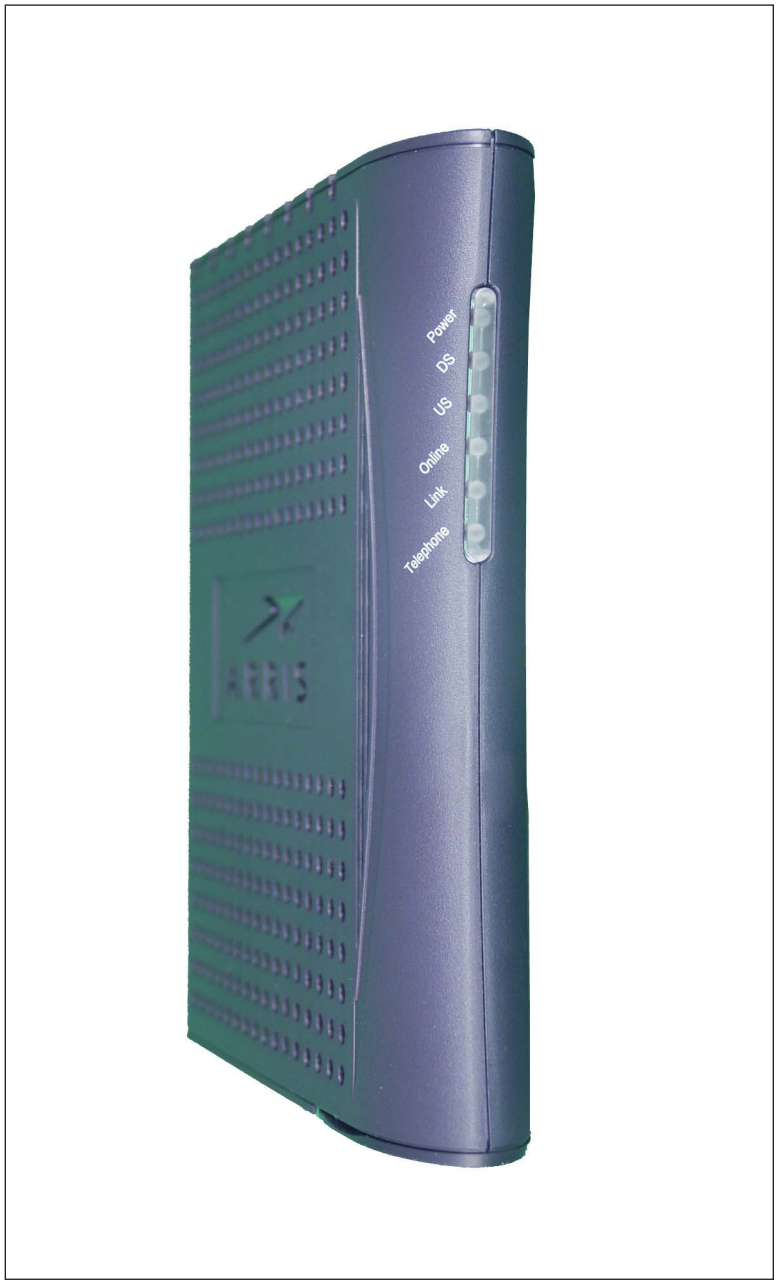

Touchstone™ TM501 Telephony Modem User's Guide

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 Touchstone TM501 Telephony Modem brings it all to you faster and more reliably. All while providing toll quality Voice over IP telephone service.

The Touchstone Telephony Modem provides an Ethernet connection for use with either a single computer or home/office Local Area Network (LAN). You can connect two separate computers at the same time using both of these connections. In addition, the Touchstone Telephony Modem provides for one line of telephone service.

Installation is simple and your cable company will provide assistance to you for any special requirements. The links below provide more detailed instructions.

Safety Requirements

Getting Started

Installing and Connecting Your Telephony Modem

Configuring Your Ethernet Connection

Using the Telephony Modem

Troubleshooting

Glossary

Export Regulations

This product may not be exported outside the U.S. and Canada without U.S. Department of Commerce, Bureau of Export Administration authorization. Any export or re-export by the purchaser, directly or indirectly, in contravention of U.S. Export Administration Regulation is prohibited.

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Release 5 Standard 1.0 October 2005

Safety Requirements

ARRIS Telephony Modems comply with the applicable requirements for performance, construction, labeling, and information when used as outlined below:

CAUTION

Connecting the Telephony Modem 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 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.

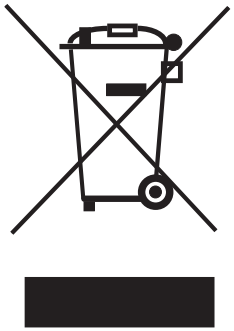
- The Telephony Modem is designed to be connected directly to a telephone.
- Connecting the Telephony Modem to the home's existing telephone wiring should only be performed by a professional installer.
- Do not use product near water (i.e. wet basement, bathtub, sink or near a swimming pool, etc.), to avoid risk of electrocution.
- Avoid using and/or connecting the equipment during an electrical storm, to avoid risk of electrocution.
- Use only power supply and power cord included with the equipment.
- Equipment should be installed near the power outlet and should be easily accessible. The coax drop cable's shield must be grounded at the building/residence either close to the point of entrance or at the point of attachment. It should be grounded as close as practical to the building/residence AC ground to minimize grounding connector length and thereby limit the potential voltage differences between the cable TV coax cable and other grounding systems. Refer to the individual country's National Electric Code for further details.
- 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 an Ethernet cable, 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.

European Compliance

This product complies with the provisions of the Electromagnetic Compatibility (EMC) Directive (89/336/EEC), the Amending Directive (92/31/EEC), the Low Voltage Directive (73/23/EEC), and the CE Marking Directive (93/68/EEC). As such, this product bears the CE marking in accordance with the above applicable Directive(s).

A copy of the Declaration of Conformity may be obtained from: ARRIS International, Inc., 3871 Lakefield Drive, Suite 300, Suwanee, GA 30024.

As indicated by the symbol below, disposal of this product or battery is governed by Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE). WEEE could potentially prove harmful to the environment; as such, upon disposal of the Telephony Modem the Directive requires that this product must not be disposed as unsorted municipal waste, but rather collected separately and disposed of in accordance with local WEEE ordinances.



End User License Agreement and Limited Warranty

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HARDWARE: ARRIS warrants the original purchaser ("Customer") that this product will be free from defects in workmanship and materials, under normal use, for one (1) year from the ship date of this product.

SOFTWARE: ARRIS warrants to Customer that the Software and any ARRIS branded software will perform in substantial conformance to its specifications for a period of ninety (90) days from the date of invoice for the product in question. ARRIS warrants the media containing the Software against failure during the warranty period. ARRIS makes no warranty or representation that the operation of the Software will be uninterrupted or error free, or that all defects in the Software will be corrected.

EXCLUSIONS

This warranty excludes (1) physical damage to the surface of the product, including cracks or scratches on the casing; (2) damage caused by misuse, neglect, improper installation or testing, unauthorized attempts to open, repair or modify the product, or any other cause beyond the range of the intended use; (3) damage caused by accident , fire, power changes, other hazards, or acts of God; or (4) use of the product with any non-ARRIS approved device or service if such device or service causes the problem.

Any non-ARRIS provided or non-ARRIS approved third party products, including software, are not covered by this ARRIS warranty and ARRIS makes no representations or warranties on behalf of such third party software or product. Any warranty on such products is from the supplier and licensor of the product.

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OBTAINING WARRANTY SERVICE: Customer may contact the ARRIS Repair Services center within the applicable warranty period to obtain warranty service authorization number by sending an email to support@arrisi.com. Dated proof of original purchase will be required. Product or parts shipped by Customer to ARRIS must be sent postage paid and packaged appropriately for safe shipment. ARRIS is not responsible for Customer products received without a warranty service authorization and may be rejected. Repaired or replacement products will be shipped to Customer at ARRIS' expense. All products or parts

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GOVERNING LAW: This Limited Warranty shall be governed by the laws of the State of Georgia, U.S.A. and by the laws of the United States, excluding their conflicts of laws principles. The United Nations Convention on Contracts for the International Sale of Goods is hereby excluded in its entirety from the application to this Limited Warranty.

Getting Started

About Your New Telephony Modem

The Touchstone TM501 Telephony Modem is DOCSIS or EuroDOCSIS compliant with the following features:

- Speed: much faster than dialup or ISDN service
- Convenience: supports Ethernet connections
- Flexibility: provides telephone service as well as high speed data
- Compatibility: supports tiered data services (if offered by your cable company)

What's in the Box?

Make sure you have the following items before proceeding. Call your cable company for assistance if anything is missing.

- Telephony Modem
- Power Cord
- Quick Installation Guide
- Ethernet Cable
- CD-ROM
- Screws for Wall Mounting the Unit
- End User License Agreement

What's on the CD?

The CD provides the following items:

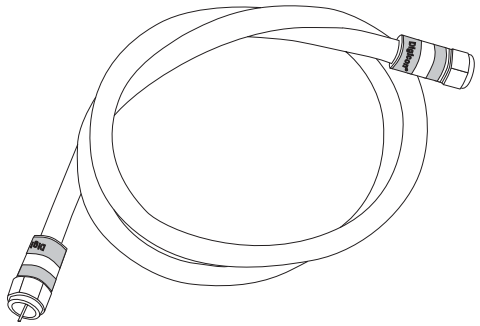
- Quick Install Guide
- User's Guide

Items You Need

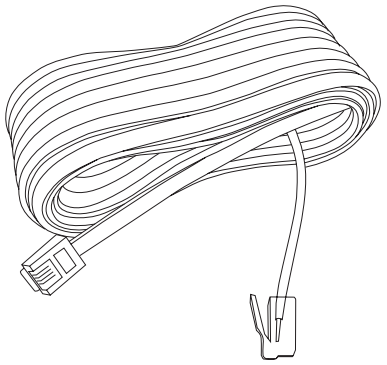
If you are installing the Telephony Modem yourself, make sure you have the following items on hand before continuing:

- **Telephony modem package**: see What's in the Box? for a list of items in the package.
- **Coaxial cable (coax)**: as shown in the image to the left, this is a thin 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. There are two types of connectors, slip-on and screw-on; the screw-on connectors are best for use with your Telephony Modem. The coax should be long enough to reach from your Telephony Modem to the nearest cable outlet.
- **Phone Cable**: as shown in the image to the left, 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 Telephony Modem and TV to the splitter.

  Note: A splitter effectively cuts the signal in half and sends each half to its two outputs. Using several splitters in a line may deteriorate the quality of your television, telephone, and/or internet connection.
- **Information packet**: your cable company should furnish you with a packet containing information about your service and how to set it up. Read this information carefully and contact your cable company if you have any questions.



Coax Cable



Phone Cable

Getting Service

Before trying to use your new Telephony Modem, contact your local cable company to establish an Internet account and telephone service. When you call, have the following information ready:

- the Telephony Modem serial number and MAC addresses of the unit (printed on a sticker on the bottom of the Telephony Modem)
- the model number of the Telephony Modem

Save this information for future use. In addition, you should ask your cable company the following questions:

- Do you have any special system requirements or files that I need to download after I am connected?
- When can I start using my Telephony Modem?
- Do I need a user ID or password to access the Internet or my e-mail?
- Will my phone number(s) change?
- What new calling features will I have and how do I use them?

System Requirements

The Touchstone Telephony Modem operates with most computers. The following describes requirements for each operating system; see the documentation for your system for details on enabling and configuring networking.

To use the Telephony Modem, you need DOCSIS high-speed Internet service from your cable company.

Windows

Windows 95, Windows 98, Windows 98 SE (Second Edition), Windows ME, Windows 2000, or Windows XP

MacOS

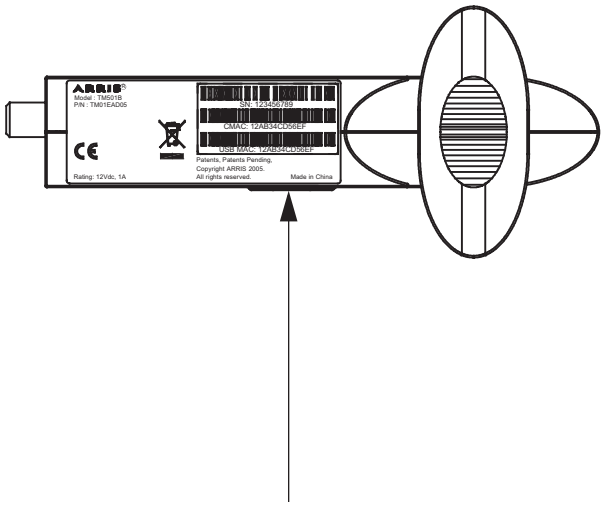
System 7.5 to MacOS 9.2 (Open Transport recommended) or MacOS X

Linux/other Unix

Hardware drivers, TCP/IP, and DHCP must be enabled in the kernel

About this Manual

This manual is written to cover all of the different TM501 models. Your model may or may not have all of the capabilities outlined in this manual. To determine which model you have purchased, refer to the image at the left. The model number is on the label affixed to the Telephony Modem.



Model Number

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:

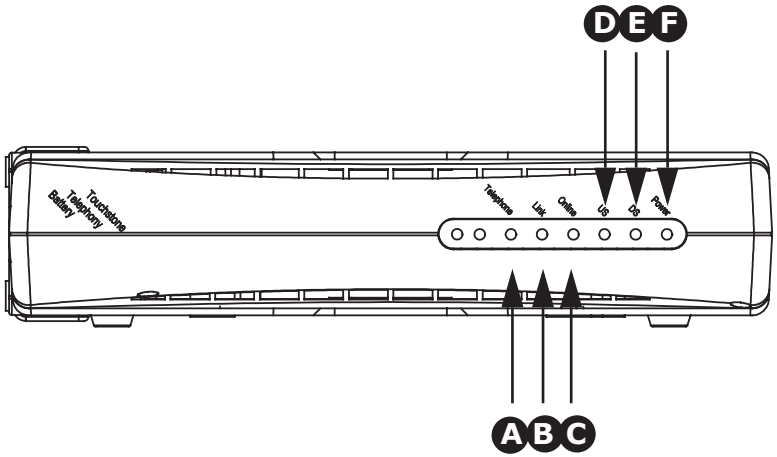
- Keep your operating system updated with the latest security patches. Run the system update utility at least weekly.
- Keep your email program updated with the latest security patches. In addition, avoid opening email containing attachments, or opening files sent through chat rooms, whenever possible.
- Install a virus checker and keep it updated.
- Avoid providing web or file-sharing services over your Telephony Modem. 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 cable company'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 cable company may suspend your account to protect the rest of the network.
- If you connect your Telephony Modem to a wireless LAN, make sure you enable security and encryption on the wireless hub (for the same reasons that you should run only secured proxies). Consult the documentation and technical support of the wireless equipment provider for help.

Installing and Connecting Your Telephony Modem

Before you start, make sure that:

- You have contacted your cable company and verified that they provide data and telephone service using standard DOCSIS technology.
- You have all the Items You Need.
- Cable, phone, and power outlets are available near the computer. If a cable outlet is not conveniently located, your cable company can install a new one.

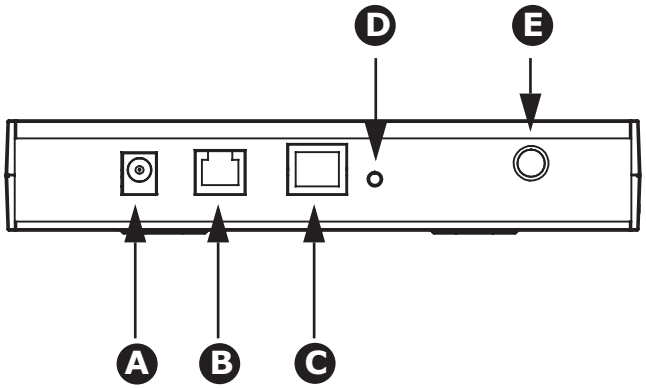
CAUTION
Risk of equipment damage
Only qualified installation technicians should connect the Telephony Modem to house wiring. Incumbent telephone service must be *physically* disconnected at the outside interface box before making any connections.



Front Panel

The front of the Telephony Modem has the following indicators:

- **A** **Telephone**: indicates the status of the telephone line
- **B** **Link**: indicates Ethernet connectivity between the Telephony Modem and computer
- **C** **On-Line**: indicates internet data transmission status
- **D** **US**: indicates upstream connectivity
- **E** **DS**: indicates downstream connectivity
- **F** **Power:** indicates whether AC power is available to the unit



Rear Panel

The rear of the Telephony Modem has the following connectors and controls:

A Power: connector for the power cord

B Tel: connector for the phone line

C Ethernet connector: for use with a computer or home network LAN port

D Reset button: resets the Telephony Modem as if you power cycled the unit. Use a pointed **non-metallic** object to press this button.

E Cable: connector for the coax cable

Mounting the Telephony Modem

You can either mount the Telephony Modem on a wall or place it on a desktop. For wall-mount applications, you can mount the Telephony Modem with the indicators facing upward (vertical) or to the size (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 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 screws (included)
- screwdriver (flat-blade or Phillips, depending on what kind of screws you use)
- wall-mount template (included with the Telephony Modem Quick Installation Guide)
- transparent tape (for temporarily securing the mounting template to the wall)

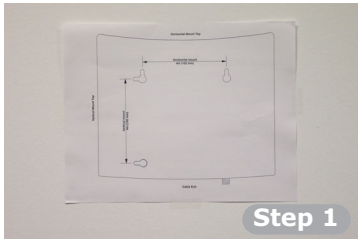
Location

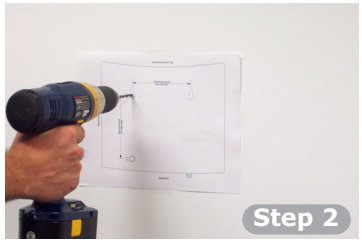
Always position the Telephony Modem:

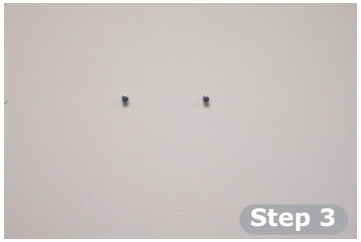
- within reach of an AC outlet. The power cord must reach the outlet without stretching and without adding extension cords.
- near a cable outlet (to avoid long cable runs).

Note: When mounting the Telephony Modem on drywall, try to 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.

To prevent overheating of the Telephony Modem, do not block the ventilation holes on the sides of the unit.







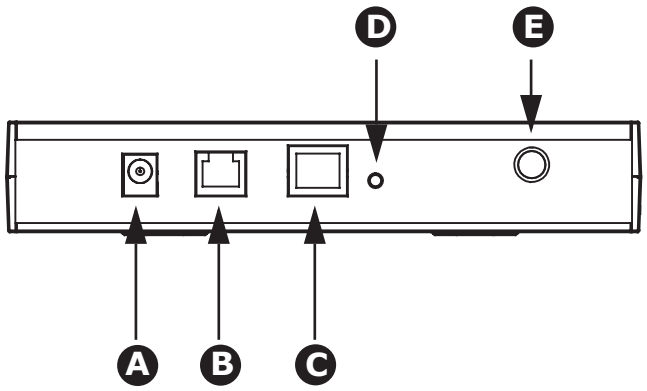
Instructions

Wall-mounting instructions

1. Position the mounting template on the surface where you intend to mount the Telephony Modem 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 surface.
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. Orient the Telephony Modem with the indicator lights facing up or right, as desired. Slip both mounting slots (in the back of the Telephony Modem) 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 Telephony Modem.

Desktop mounting instructions

1. Position the Telephony Modem so that:
   - air flows freely around it
   - the back faces the nearest wall
   - it will not fall to the floor if bumped or moved
2. Proceed to Connecting the Telephony Modem.



Connecting the Telephony Modem

WARNING: Connecting the Telephony Modem 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 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.

1. Connect one end of the coax cable to the cable outlet or splitter, and the other end to the Telephony Modem's Cable connector (**E**). 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 Telephony Modem.

2. Insert the plug from the power cord into the Power connector on the Telephony Modem (**A**) and insert the power cord into a convenient AC outlet.

   The Power light on the front of the Telephony Modem lights up, then flashes once (refer to the LED table on page 44). See Troubleshooting if the Power light does not turn on.

3. Connect one end of the Ethernet cable to the port on the back of the Telephony Modem labeled "Ethernet 10/100," (**C**) 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 Telephony Modem package.

4. Connect one end of the telephone cable to the telephone port on the back of the Telephony Modem (**B**). Connect the other end to the telephone.

Configuring Your Ethernet Connection

If your computer is equipped with a LAN card providing an Ethernet connection, you may have to configure your computer's TCP/IP settings. The steps that follow will guide you through setting your computer's TCP/IP settings to work with the Telephony Modem.

Requirements

Make sure you have the following before attempting to configure your Ethernet connection:

- Computer with:
  - one of: Windows 98SE, Windows 2000, Windows ME, or Windows XP (Windows 95 and Windows NT are not supported)
  - Ethernet interface
- Ethernet cable (supplied)
- IP address, subnet, gateway, and DNS information for installations not using DHCP

How to use this chapter

The following list shows the procedures for modifying the TCP/IP settings on the computer. The procedure is slightly different depending on the operating system that you are using. Please ensure you are using the correct steps for the operating system on your computer. Follow the links below for instructions to configure your ethernet connection on your operating system.

- TCP/IP Configuration for Windows 98SE
- TCP/IP Configuration for Windows 2000
- TCP/IP Configuration for Windows ME
- TCP/IP Configuration for Windows XP

TCP/IP Configuration for Windows 98SE

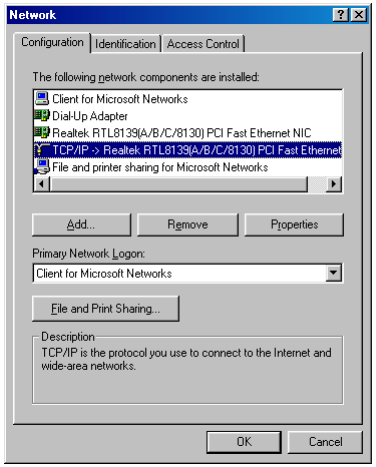
Follow these steps to configure the TCP/IP settings on a Windows 98SE operating system.

Note: Dialog boxes shown on your computer may differ slightly from those shown in this procedure.

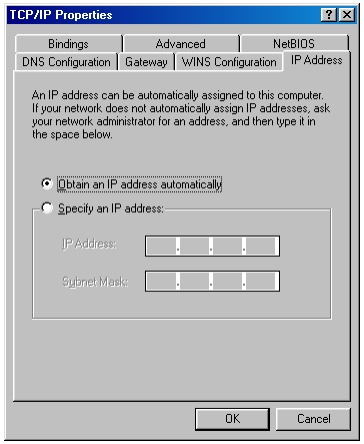
1. From the computer, select **Start > Settings > Control Panel.**
2. Double click on the **Network** icon in the Control Panel.

3. Click the **Configuration** tab in the Network window to display the list of Network Adapters.

4 Highlight **TCP/IP** by clicking on it one time, then click on **Properties.**



5 Click the **IP Address** tab, click **Obtain an IP address automatically**, then click **OK**.



6 Click **OK** to accept the new settings, and **OK** again to close the Configuration window.

7 You may have to restart your computer in order for your computer to obtain a new IP address from the network.

—end—

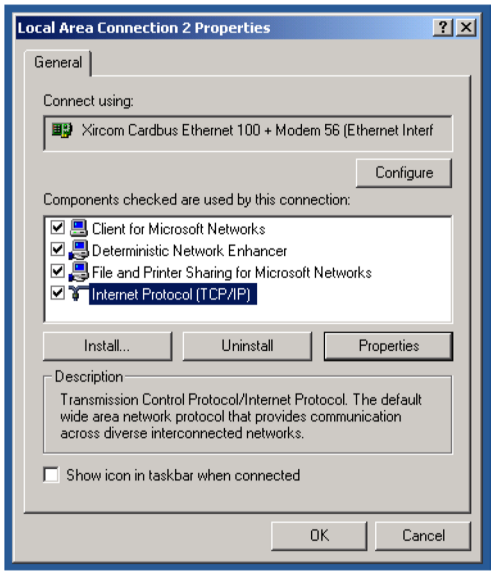
TCP/IP Configuration for Windows 2000

Follow these steps to configure the TCP/IP settings on a Windows 2000 operating system.

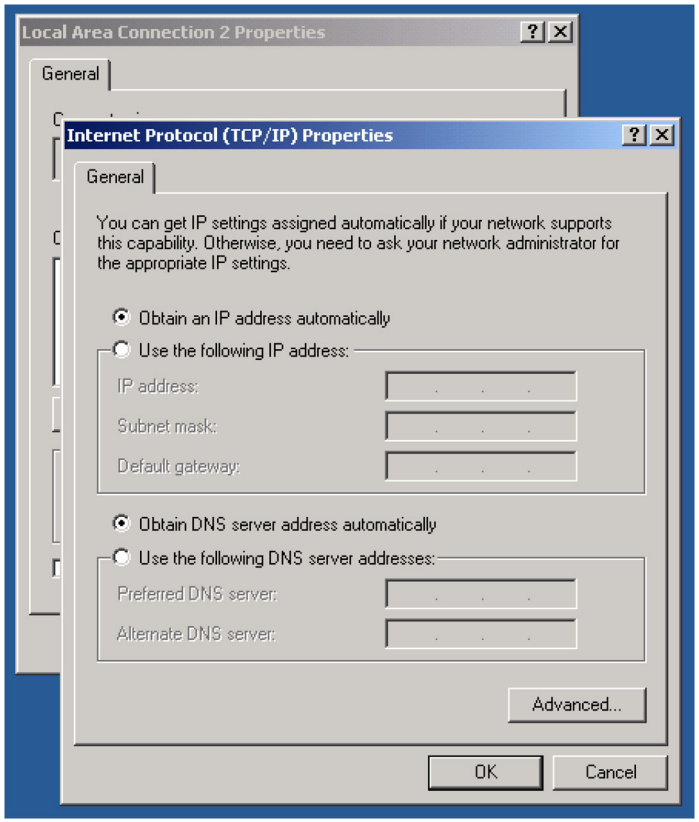
Note: Dialog boxes shown on your computer may differ slightly from those shown in this procedure.

1. From the computer, select **Start > Settings > Network and Dial-up Connections > Local Area Connection**.
2. In the Local Area Connections Properties window, highlight **TCP/IP** by clicking on it one time, then click on **Properties**.

   Note: If your computer has more than one Ethernet card, you may have to select the appropriate Ethernet card in the **Connect using:** area of the Local Area Connection Properties window.



3 Click **Obtain an IP address automatically** and **Obtain DNS server address automatically**, then click **OK**.



4 Click **OK** to accept the new settings, and **OK** again to close the Configuration window.

5 You may have to restart your computer in order for your computer to obtain a new IP address from the network.

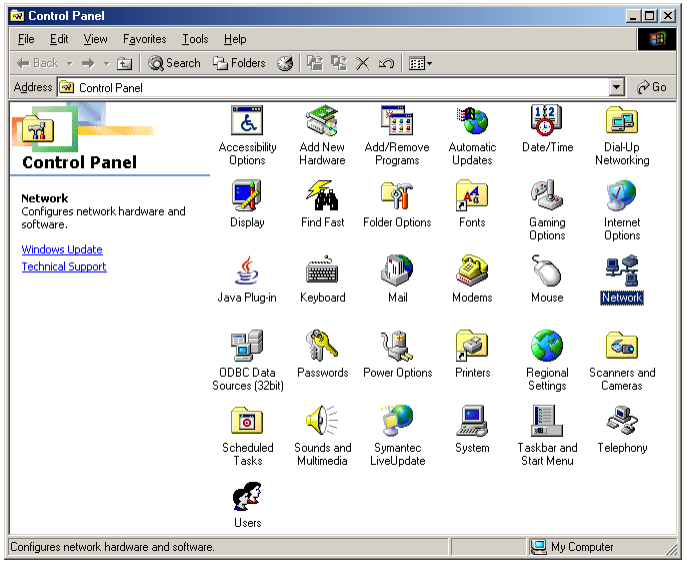
—end—

TCP/IP Configuration for Windows ME

Follow these steps to configure the TCP/IP settings on a Windows ME operating system.

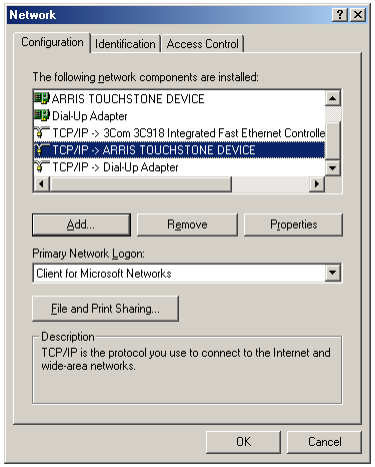
Note: Dialog boxes shown on your computer may differ slightly from those shown in this procedure.

1. From the computer, select **Start > Settings > Control Panel.**
2. Double click on the **Network** icon in the Control Panel.

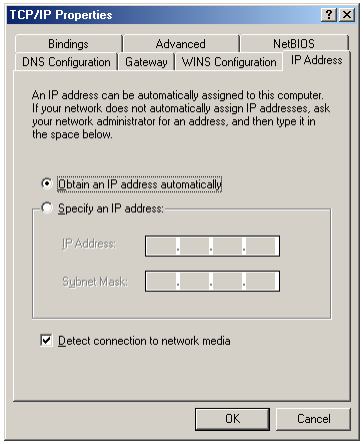


3. Click the **Configuration** tab in the Network window to display the list of Network Adapters.

4 Highlight **TCP/IP** by clicking on it one time, then click on **Properties.**



5 Click the **IP Address** tab, then click **OK**.



6 Click **OK** to accept the new settings, and **OK** again to close the Configuration window.

7 You may have to restart your computer in order for your computer to obtain a new IP address from the network.

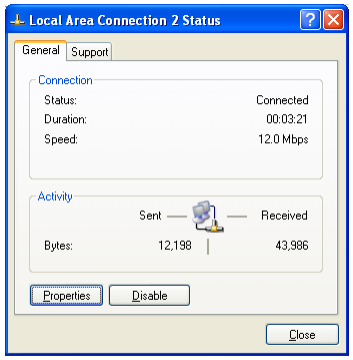
—end—

TCP/IP Configuration for Windows XP

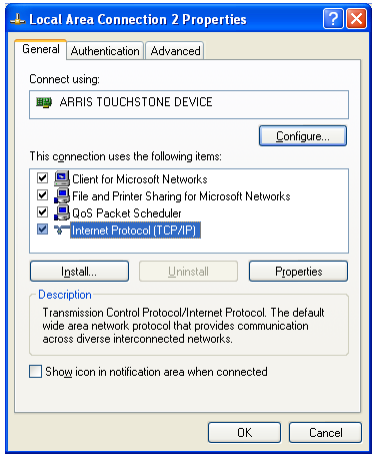
Follow these steps to configure the TCP/IP settings on a Windows XP operating system.

Note: Dialog boxes shown on your computer may differ slightly from those shown in this procedure.

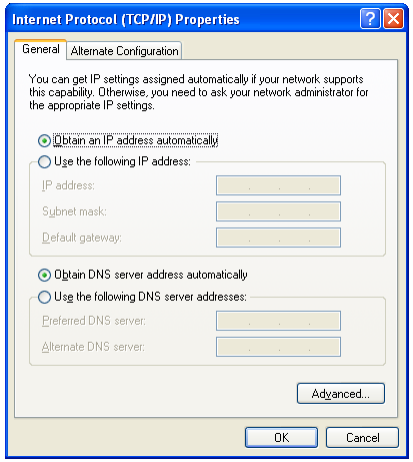
1. From the computer, select **Start > Settings > Control Panel** and double click on the **Network Connections** icon in the Control Panel.
2. Click the **Configuration** tab in the Network window to display the list of Network Adapters.



3 Highlight **TCP/IP** by clicking on it one time, then click on **Properties.**



4 Click the **IP Address** tab, click **Obtain an IP address automatically**, then click **OK**.



5 Click **OK** to accept the new settings, and **OK** again to close the Configuration window.

6 You may have to restart your computer in order for your computer to obtain a new IP address from the network.

—end—

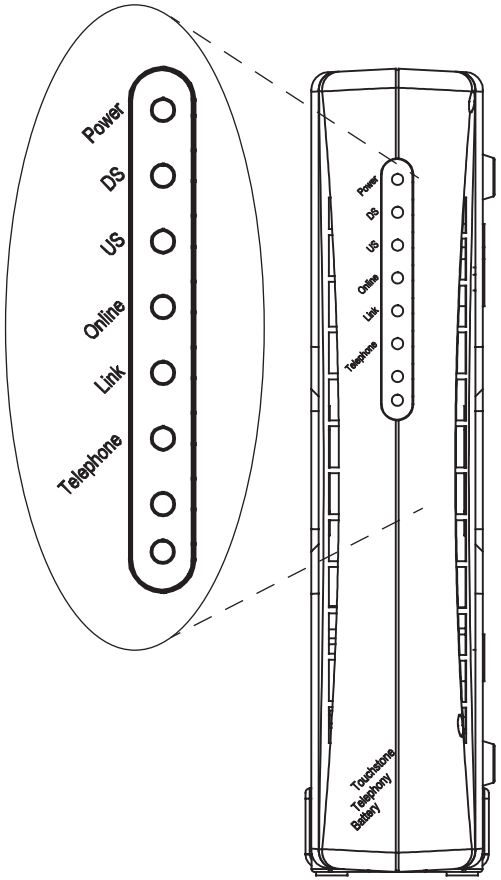
Using the Telephony Modem

This chapter describes the controls and features available on the Touchstone Telephony Modem, and covers basic troubleshooting procedures.

- Setting up Your Computer to Use the Telephony Modem
- Indicator Lights
- Using the Reset Button

Setting up Your Computer to Use the Telephony Modem

Follow the instructions in the information packet supplied by your cable company. Contact your cable company if you need help setting up your computer.



Indicator Lights

The Touchstone Telephony Modem has six LEDs to assist in troubleshooting.

Patterns: Normal Operation

The following table shows light patterns during normal operation.

Mode	Power	DS	US	Online	Link	Telephone
AC Power	**On**	**On** = Connected to the Internet Flash = Not connected to the Internet	**On** = Connected to the Internet Flash = Not connected to the Internet	**On** = Internet Available Off = Internet not available	**On** = Computer Connected Off = Computer not connected Flash = Computer Activity	**On** = On-hook Flash = Off-hook Off = disabled
No AC Power	Off	Off	Off	Off	Off	Off
Software Upgrade	**On**	Flash	Flash	**On**	(normal operation)	(normal operation)
Over Current Protection	Flash	Flash	Flash	Flash	Flash	Flash

The "Over Current Protection" mode means that the Telephony Modem has detected foreign voltage on the telephone line. Disconnect the telephone line from the Telephony Modem and correct the problem (usually a wiring fault) before re-connecting the Telephony Modem.

Indicator Lights: Startup Sequence

The following table shows the Telephony Modem 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.

Cable Modem Start Up Sequence

DS	US	Online	Link	Description
Off	Off	Off	Off	No power to Cable Modem
Flash	Flash	Flash	Flash	Power-on Self Test
Flash	Off	Off	Off	Downstream search
On	Flash	Off	Off	Downstream found; upstream search
On	**On**	Flash	Off	Downstream and Upstream found; retrieving setup information from cable operator
Telephony Start-Up				

Telephony Start-Up Sequence

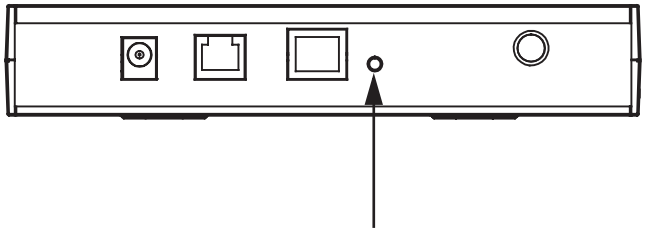
Power, DS, US, Online	Link	Telephone	Description
On	**On**	Flash	Retrieving telephone network information
On	**On**	Off	Retrieving telephone line information
On	**On**	Flash	Activating telephone service
Normal Operation			

Using the Reset Button

Use the **Reset** button, on the back of the Telephony Modem, to reset the modem as if you power cycled the unit. You may need to reset the Telephony Modem if you are having problems connecting to the Internet. This button should be used rarely.

Use a pointed **non-metallic** object to press this button. The photo to the left shows the location of the **Reset** button.

The **Reset** button is recessed to prevent accidental resets.



Reset Button

Troubleshooting

Problems and Solutions

The Telephony modem 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.

Avoid using an outlet controlled by a wall switch, if possible.

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 Telephony Modem, especially when many people are online. Always leave your Telephony Modem 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 be either on or blinking.
- If the **Power** light blinks for more than 30 minutes, call your cable company for assistance.

Check your cable connections. Connectors should be finger-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 Telephony Modem and CATV outlet, remove the splitters and connect the Telephony Modem directly to the CATV outlet.

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 or home router.

Press the **Reset** button on the back of the Telephony Modem.

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.

If your Telephony Modem is connected to a LAN (Local Area Network), either directly or through a firewall, other communications on the LAN may slow down your connection.

I have two computers connected to the Telephony Modem, but only one can get on the Internet.

Check your cable company's terms of service: they may allow only one computer to connect directly to the Telephony Modem.

I don't have dial tone when I pick up my phone, why?

In order for telephone service to be functional on the Telephony Modem, telephone service must have been purchased from the service provider and configured on your Telephony Modem. The following steps should help in identifying the source of the problem.

- Is the Power LED lit?
  - If not, check to make sure the Telephony Modem is plugged in and the outlet has power.
  - If the LED is lit, go to the next step.
- Is the Online LED lit?
  - If not, check the coax connection at the Telephony Modem 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.
- Is the Telephone LED lit?
  - If not, phone service has not been provisioned 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

- Is the Phone plugged directly into the Telephony Modem?
  - Make sure the phone is plugged into the port on the back of the Telephony Modem labeled "Tel."
  - 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.
- Is the Telephony Modem plugged into a wall outlet?
  - If so, unplug the RJ-11 connector at the back of the Telephony Port and plug in a known working phone. If you now have dial tone, the problem is with the house wiring. Contact your MSO or a qualified wiring technician to correct the house wiring. If you still do not have dial tone, contact your service provider.

Glossary

The following is a list of common cable and networking terms.

Category 5 (Cat5)
A high-quality type of cable, used for Fast Ethernet (100BaseT) connections. When purchasing Ethernet cables, always look for Category 5 cable.

Coaxial cable (coax)
A thin wire, used to connect your television and Telephony Modem 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 telephony modem; typically a computer, hub, or router.

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).

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 cable company 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.

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.

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

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).

EuroDOCSIS
The European version of DOCSIS.

Event
An informational message used for monitoring network status.

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 Telephony Modem.

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

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.

Hub
A box with several Ethernet connectors.

IP address
A number assigned to your computer by your cable company, 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.

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.

MAC address

A number that uniquely identifies any device connected to a network. Your cable company uses your Telephony Modem's MAC address to authorize access to the Internet. The MAC address is printed on a label on the bottom of your Telephony Modem.

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 cable company 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.

RF

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

RJ-11

A standard modular connector carrying two wires, commonly used in North America for connecting telephones. The same connector carrying four wires (for a two-line telephone connection) is called an RJ-14.

RJ-45

A standard modular connector carrying four wires, commonly used for Ethernet cable. An RJ-45 connector looks like a wide RJ-11 (telephone) connector.

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 Telephony Modem. 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 Telephony Modem into a switched outlet to avoid disruptions.

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.

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.

WHQL

Windows Hardware Qualification Labs. A division of Microsoft that certifies hardware as being compatible with Windows operating systems.

Touchstone

TM501 Telephony Modem User's Guide

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