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## **Certification Exhibit**

**FCC ID: EW780-6044-02**  
**IC: 1135B-80604402**

**FCC Rule Part: 15.323**  
**IC Radio Standards Specification: RSS-213**

**ACS Report Number: 08-0466 - 15D**

**Model(s): DTM602G**

## **Installation Guide**

## Touchstone<sup>®</sup> DTM602G Telephony Modem Setup 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 DTM602G Telephony Modem brings it all to you faster and more reliably. All while providing toll quality Voice over IP telephone service, whether you are using the provided cordless DECT 6.0 handset or your regular home phone. Some models even provide a lithium-ion battery backup to provide continued telephone service during power outages.

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

Built-in Digital Enhanced Cordless Telecommunications (DECT) Base station functionality allows you to connect up to five cordless DECT 6.0 handsets to line 1 of your Telephony Modem. The advanced features of the DECT handset allow you to access news, weather and other information on your phone screen without being at your computer.

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](#)

[Battery Installation and Replacement](#)

[Installing and Connecting Your Telephony Modem](#)

[Handset Installation](#)

[Configuring Your Ethernet Connection](#)

[Using the Telephony Modem](#)

[About the Handset](#)

[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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ARRIS, Touchstone, and the ARRIS logo are trademarks or registered trademarks of ARRIS. All other trademarks and registered trademarks are the property of their respective holders.

Protected under one or more of the following U.S. patents: 7,031,453; 7,100,011. Other patents pending.

## Safety Requirements

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



### CAUTION

#### Risk of shock

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



### 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.



### CAUTION

#### Risk of explosion

Replacing the battery with an incorrect type can cause product failure and a risk of battery explosion. Dispose of used batteries according to the instructions.

- 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 spray cleaners or aerosols on the Telephony Modem.
- Avoid using and/or connecting the equipment during an electrical storm, to avoid risk of electrocution.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- 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 power supply 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 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 is designed to meet 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).



As indicated by this symbol, 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.

This product complies with directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.

**ARRIS**  
RoHS Compliant  
**GREEN**

## 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.

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.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Privacy of communications may not be ensured when using this telephone.

To ensure safety of users, the FCC has established criteria for the amount of radio frequency energy that can be safely absorbed by a user or bystander according to the intended usage of the product. This product has been tested and found to comply with the FCC criteria. The handset may be safely held against the ear of the user. The telephone base shall be installed and used such that parts of the user's body

other than the hands are maintained at a distance of approximately 20 cm (8 inches) or more.

This Class B digital apparatus complies with Canadian ICES-003.

## Industry Canada

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference, including interference that may cause undesired operation.

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met.



## CAUTION (Handset Battery)

**Rechargeable batteries:** This product contains nickel-cadmium, nickel-metal hydride or lithium-ion rechargeable batteries. Exercise care in handling batteries in order not to create a short circuit with conductive material such as rings, bracelets, and keys. The battery or conductor may overheat and cause harm. Observe proper polarity between the battery and the battery charger.

**Lithium-ion rechargeable batteries:** Dispose of these batteries in a safe manner. Do not burn or puncture. Like other batteries of this type, if burned or punctured, they could release caustic material which could cause injury.



The RBRC™ Seal means that the manufacturer is voluntarily participating in an industry program to collect and recycle lithium-ion rechargeable batteries when taken out of service within the United States. These batteries may be taken to a participating local retailer of replacement batteries or recycling center. Or you may call 1-800-8-BATTERY for locations accepting spent Li-ion batteries.

## CAUTION

- Use only the batteries provided or their equivalent.
- Change this product's batteries only in accordance with the instructions and limitations specified in this manual.
- As with any batteries, do not allow conductive materials such as rings, bracelets, or keys to come in contact with the metallic parts of the battery. The battery or conductor may overheat and cause harm.
- Do not open or damage the batteries. Released electrolyte is corrosive and may cause injury to the eyes or skin. The electrolyte may be toxic if swallowed.
- Do not dispose of the batteries in a fire. Check with local waste management codes for special disposal instructions.



## Getting Started

### About Your New Telephony Modem

The Touchstone DTM602G Telephony Modem is DOCSIS<sup>®</sup> compliant with the following features:

- Speed: much faster than dialup or ISDN service
- Convenience: supports Ethernet
- Flexibility: provides two independent lines of telephone service as well as high speed data
- Compatibility: supports tiered data services (if offered by your cable company)
- Embedded DECT 6.0 cordless telephone

### 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 Install Guide
- Ethernet Cable
- CD-ROM
- DECT 6.0 Cordless Handset
- Charger
- Power Adapter for Handset Charger
- Battery (optional)
- Battery Compartment Cover





## What's on the CD?

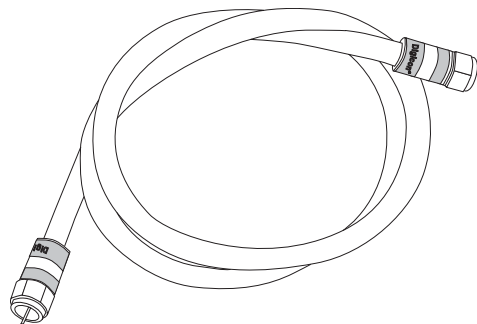
The CD provides the following items:

- DTM602G Handset User Guide
- Touchstone<sup>®</sup> DTM602G Telephony Modem Setup Guide

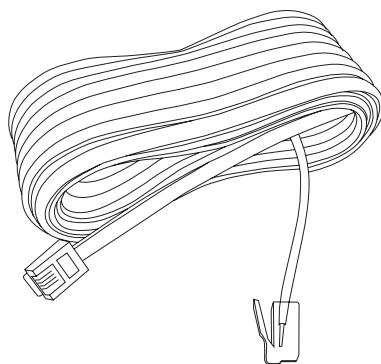


## Items You Need

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



**Coax Cable**



**Phone Cable**

- **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.

## 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

Ethernet connection: Windows 98, Windows 98 SE (Second Edition), Windows ME, Windows 2000, Windows XP, or Windows Vista.

### MacOS

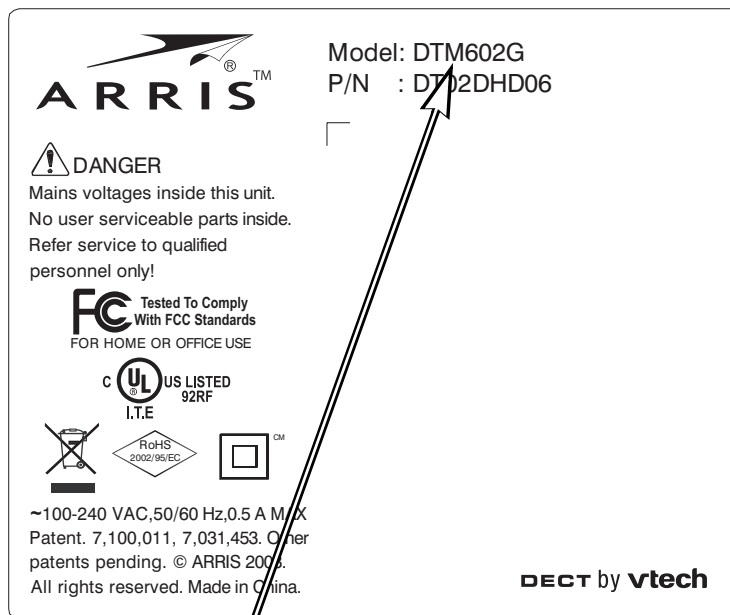
System 7.5 to MacOS 9.2 (Open Transport recommended) or MacOS X.

### Linux/other Unix

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

## About this Manual

This manual covers all of the different DTM602 models. Your model 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.

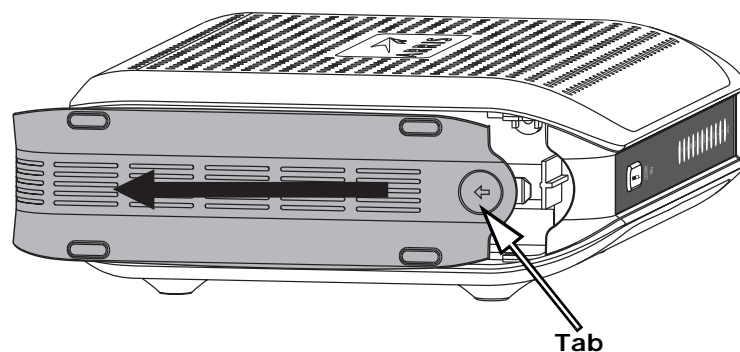
## Battery Installation and Replacement

For safety and regulatory purposes, batteries are shipped outside of the Telephony Modem and must be installed.

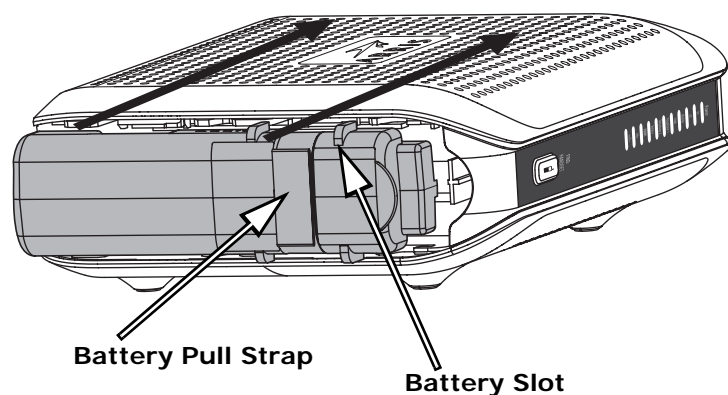
This model of the Telephony Modem has the ability to provide battery backup in the event of a local power loss. The battery backup is not intended to take the place of AC power. Use this procedure to install and to replace the backup batteries.



4-cell Battery

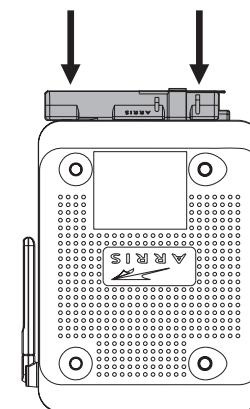


Tab



Battery Pull Strap

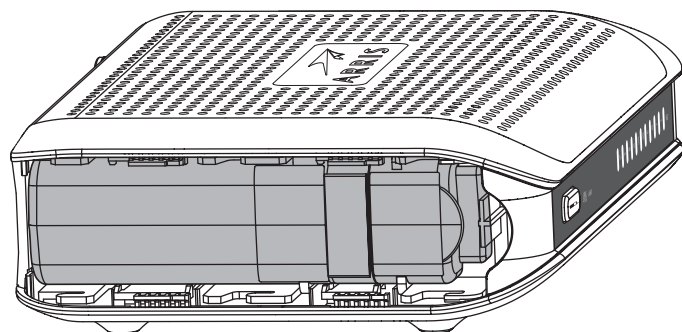
Battery Slot



### Actions

1. Press the tab and slide the door. Pull the door toward the back of the Telephony Modem until it detaches. Set the door aside in a safe place.
2. Hold the battery pack so that the guides on the battery align with the slots on the Telephony Modem and slide the battery into the bay. The diagram on the left shows the proper orientation.

**Note:** Batteries will not insert completely into the Telephony Modem 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.

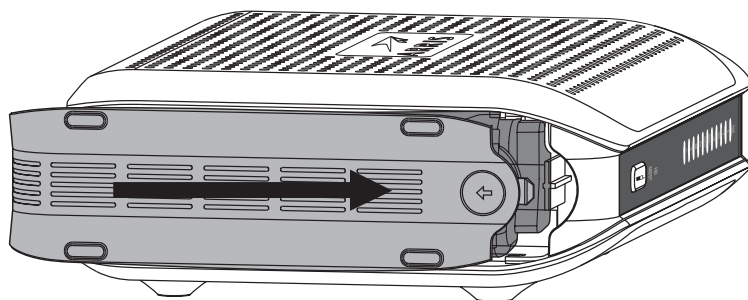


3. Push the battery pack into the bay until it seats into place. The following diagram shows a Telephony Modem with a 4-cell battery pack installed. **If you are taking the battery out of the unit, use the battery pull strap to dislodge the battery.**

**NOTE:** The Telephony Modem 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 Telephony Modem battery compartment on the opposite end of the battery opening slot. Slide the door toward the unit until the latch snaps back into place.

**NOTE:** Please recycle or dispose of the battery responsibly and in accordance with local ordinances.



## 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.

If you have ordered service, your cable company should configure the Telephony Modem automatically. You need only follow the instructions in this section to install and connect the Telephony Modem.



### CAUTION

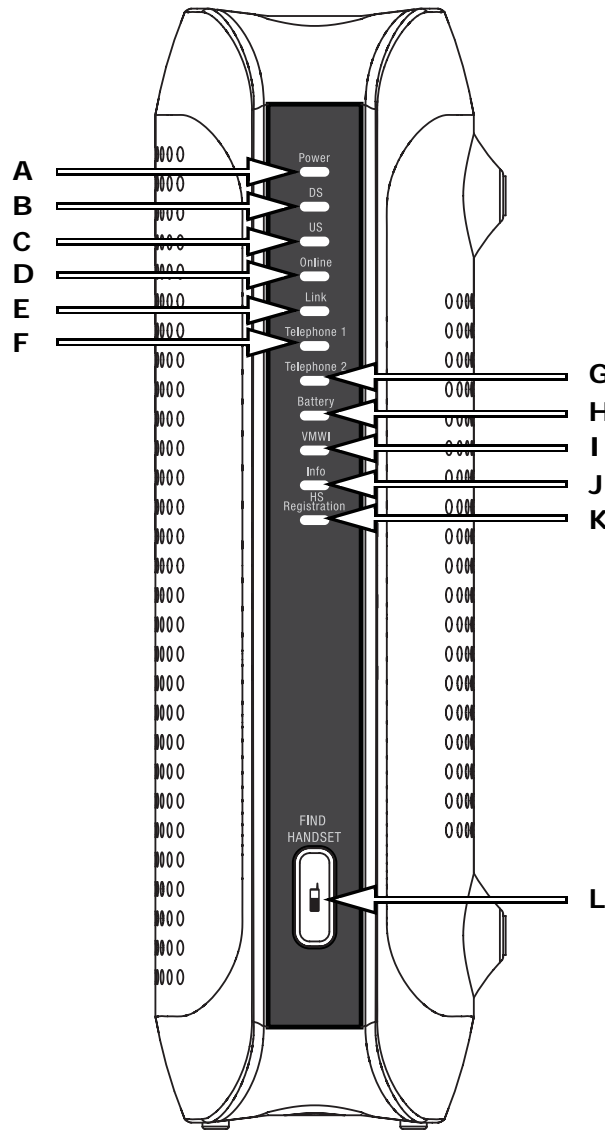
#### Risk of equipment damage

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.

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## DTM602G



## Front Panel DTM602G

The front of the Telephony Modem has the following indicators:

- A Power:** indicates whether AC power is available to the unit
- B DS:** indicates downstream connectivity
- C US:** indicates upstream connectivity
- D Online:** indicates internet data transmission status
- E Link:** indicates Ethernet connectivity between the Telephony Modem and computer
- F Telephone 1:** indicates status of line 1
- G Telephone 2:** indicates status of line 2
- H Battery:** indicates status of the battery in the Telephony Modem
- I VMWI:** indicates one or more new voice mail messages
- J Info:** indicates connectivity with data server
- K HS Registration:** used during registration of handset
- L Find Handset:** Press this button to make the handset ring.

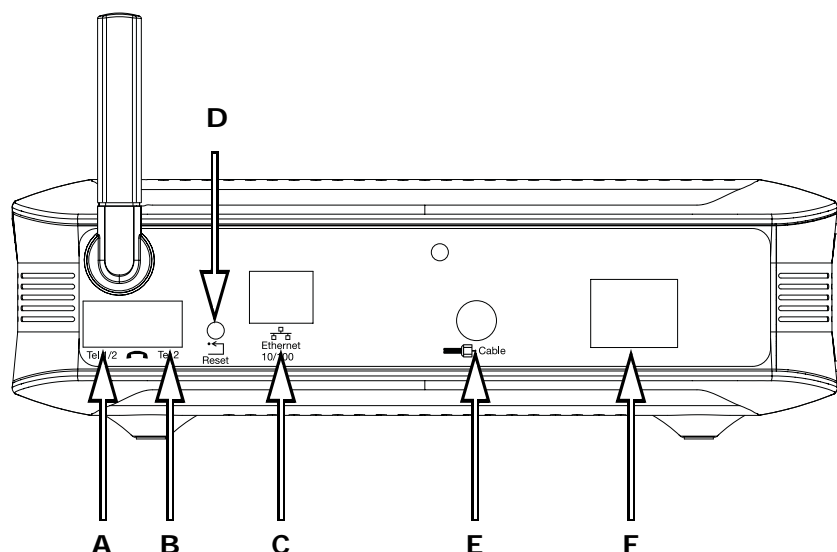
## Rear Panel

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

### DTM602G Rear Panel

- A** Tel 1/2: connector for the first phone line (or both lines of a 2-line phone).
- B** Tel 2: connector for the second phone line.
- C** [Ethernet connector](#) (yellow): for use with a computer or home network LAN connection.
- 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](#).
- F** Power: connector for the power cord

### DTM602G



## Mounting 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](#).

### Location

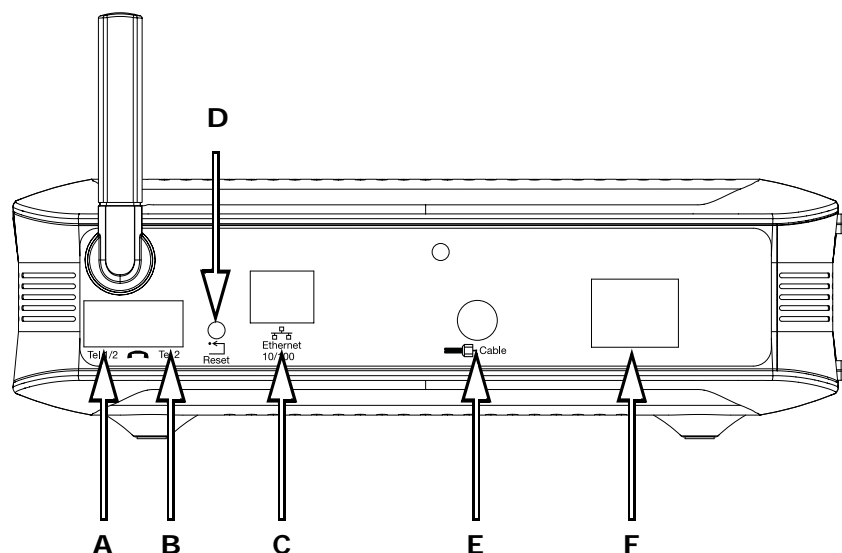
Always position the Telephony Modem:

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



## DTM602G



## 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 voltage. 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 RG-6 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 (F) 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 45). See [Troubleshooting](#) if the Power light does not turn on.*

3. Connect one end of the Ethernet cable to the yellow 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.

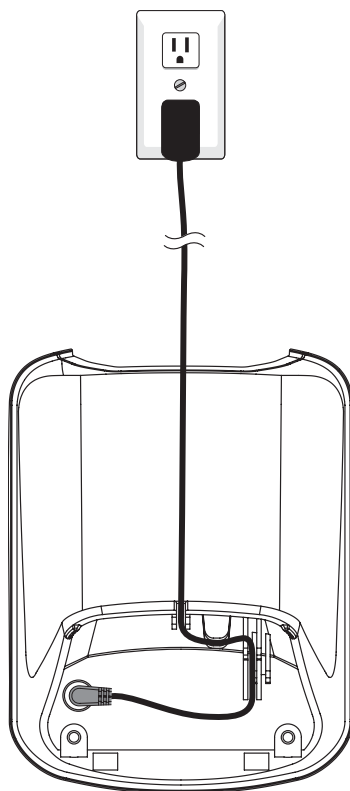
4. Proceed to [Handset Installation](#).

## Handset Installation

### Handset Charger Installation

Plug the power adapter into the power port on the bottom of the charger. Route the cord through the slots and plug the other end into the electrical outlet as shown below. Make sure the electrical outlet is not controlled by a wall switch.

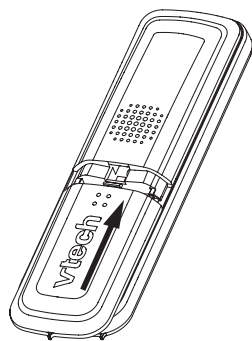
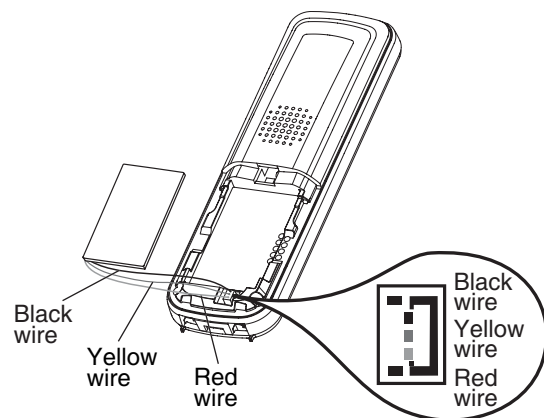
**NOTE:** Use only the AC power adapter supplied with this telephone. This power adapter is intended to be correctly oriented when placed on a horizontal surface.



## Install Handset Battery

1. Align the three holes of the battery plug with the socket pins in the handset battery compartment, matching the red, yellow and black wires of the color-coded label.
2. Place the battery in the compartment with the wires in the bottom left corner.
3. Position the battery compartment cover and slide it up until it clicks into place.

**NOTE:** To purchase replacement batteries, visit us on the web at [www.yourbroadbandstore.com](http://www.yourbroadbandstore.com).



## Charge Handset Battery

After battery installation, there may be enough power for some short calls. For optimal performance, we recommend that you place the handset in the charger and allow the battery to charge for 16 hours before use. The **CHARGE** light on the handset charger will be lit to indicate that the handset is charging. You can keep the battery charged by returning the handset to the charger after each use. When the battery power is completely depleted, a full recharge takes about 16 hours. If the handset will not be used for a long period, remove the battery to prevent possible leakage.

After the battery is fully charged, you can expect the following performance:

	Operating time
While in use (handset/headset)	7 hours
While in use (Speakerphone)	5 hours
While in use (Internet browsing)	3 hours
While not in use (standby*)	100 hours <sup>#</sup>

\* Handset is off the charger but not in use.

<sup>#</sup> The operation time in standby mode decreases to approximately 50 hours if the keypad is blinking to indicate you have new voicemail.

The battery needs charging when:

- A new battery is installed in the handset.
- The battery indicator on the handset display is flashing and empty.

## 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, Windows XP, Windows Vista or MacOS X
  - 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 Vista](#)
- [TCP/IP Configuration for MacOS X](#)



## TCP/IP Configuration for Windows 98SE

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

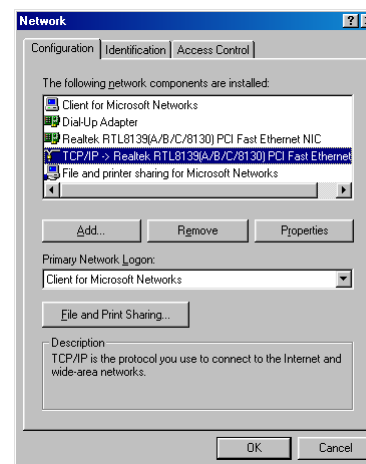
**NOTE:** Dialog boxes shown on your computer may differ slightly from those shown in this procedure.

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

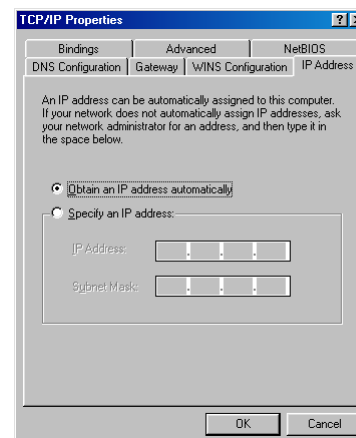


3. Click the **Configuration** tab in the Network window to display the list of Network Adapters.

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.



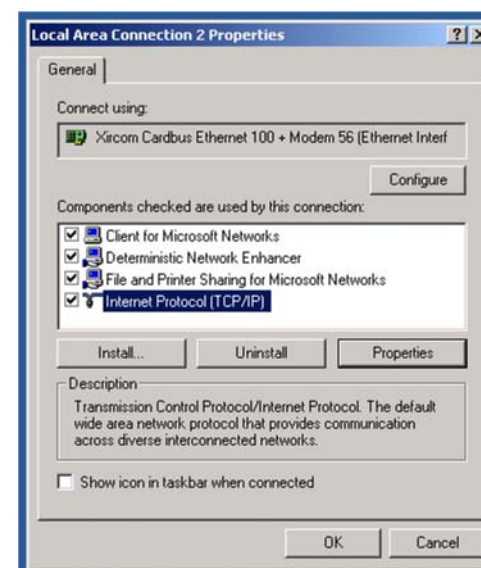
## TCP/IP Configuration for Windows 2000

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

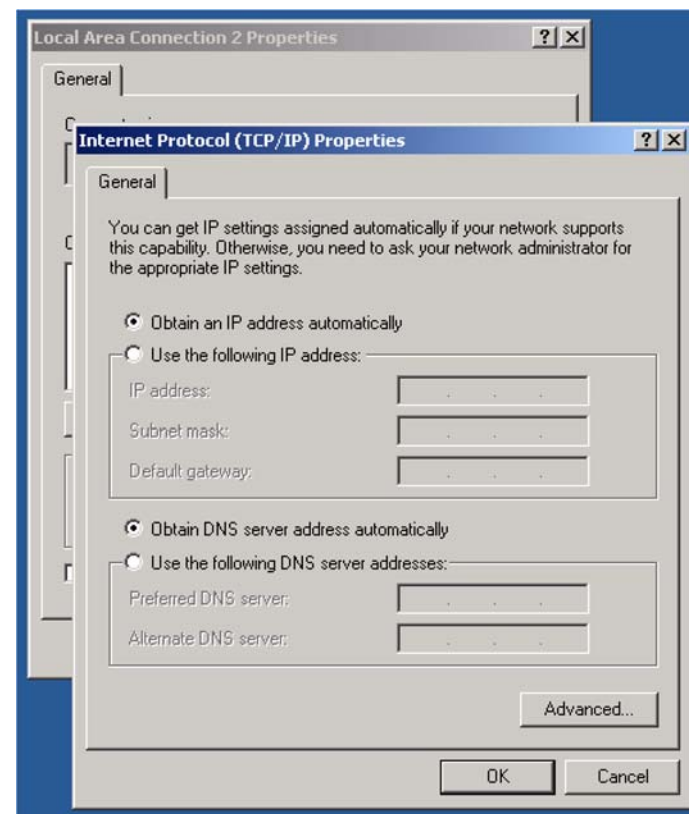
**NOTE:** Dialog boxes shown on your computer may differ slightly from those shown in this procedure.

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.

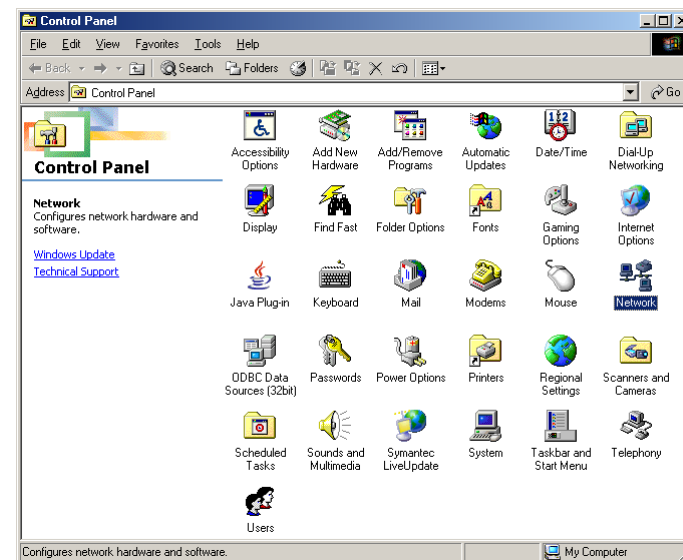
—end—

## TCP/IP Configuration for Windows ME

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

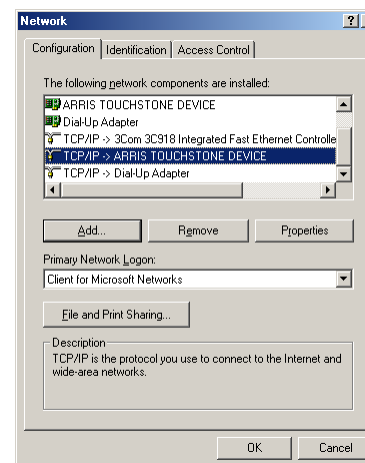
**NOTE:** Dialog boxes shown on your computer may differ slightly from those shown in this procedure.

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

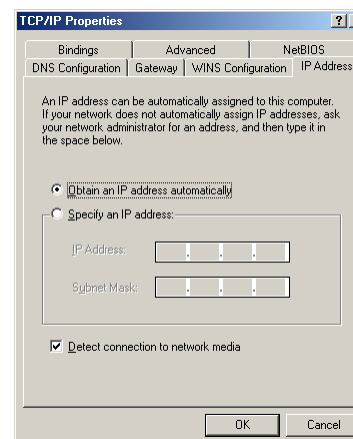


3. Click the **Configuration** tab in the Network window to display the list of Network Adapters.

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—



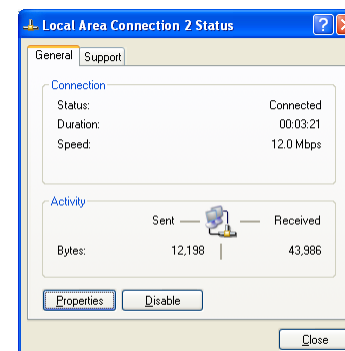


## TCP/IP Configuration for Windows XP

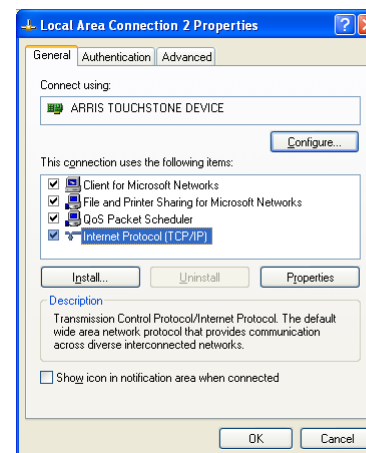
Follow these steps to configure the TCP/IP settings on a Windows XP operating system.

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

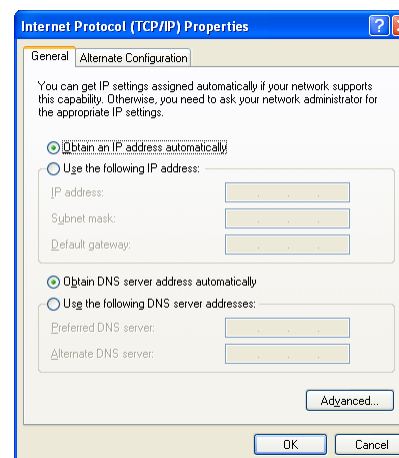
1. From the computer, select **Start > Settings > Control Panel** and double click on the **Network Connections** icon in the Control Panel.
2. Click the **Configuration** tab in the Network window to display the list of Network Adapters.



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**.



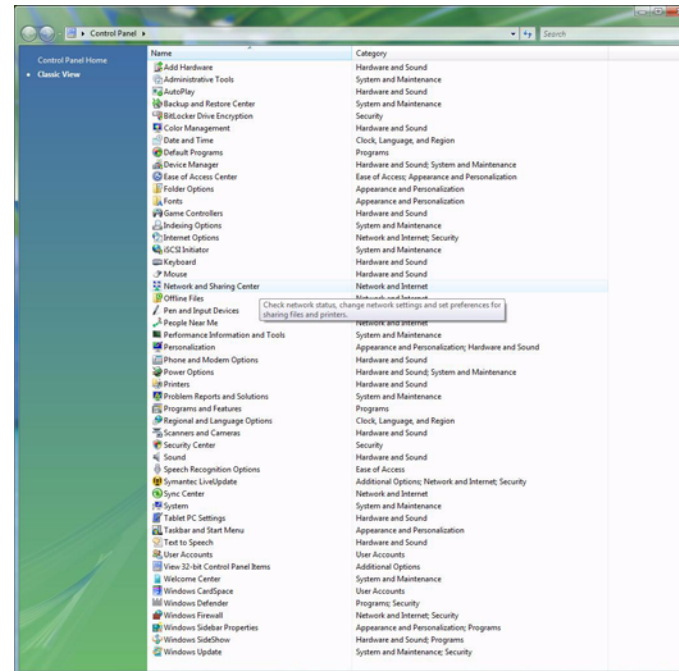
5. Click **OK** to accept the new settings, and **OK** again to close the Configuration window.
6. You may have to restart your computer in order for your computer to obtain a new IP address from the network.



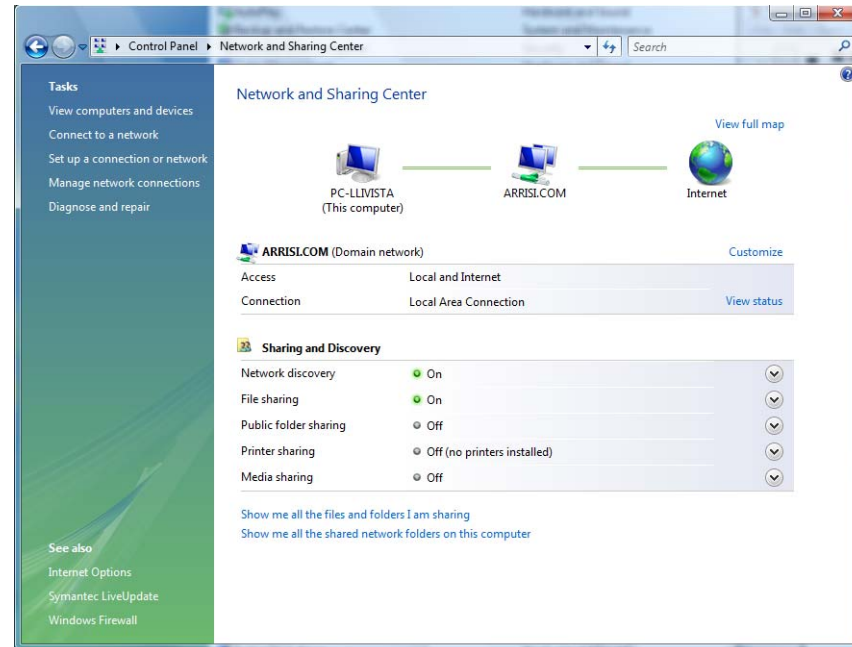
## TCP/IP Configuration for Windows Vista

Follow these steps to configure the Ethernet interface for use with Touchstone products.

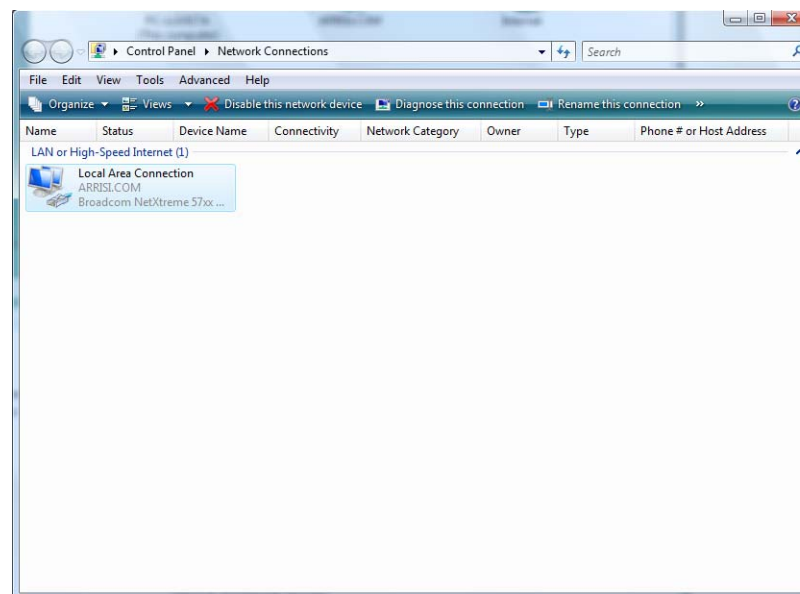
1. Open the Vista Control Panel.



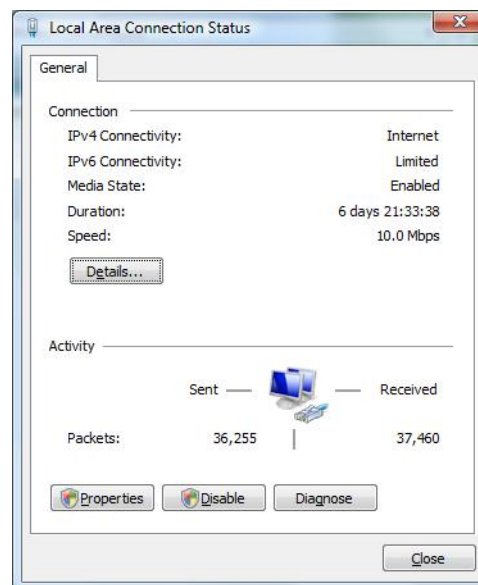
## 2. Double-click **Network and Sharing Center**.



3. Click **Manage network connections**. If prompted for a connection, choose **Local Area Connection**.

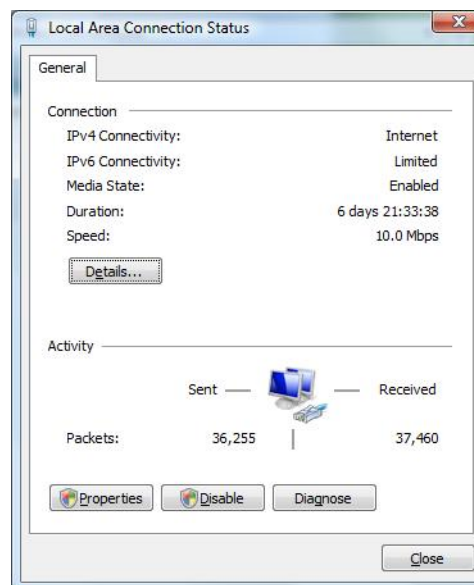


4. Double-click the **Local Area Connection** to open the Status window:



5. If Windows requests permission to continue, click **Continue**.
6. Click **Properties**.

7. Double-click **Internet Protocol Version 4 (TCP/IPv4)**.



8. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**, unless instructed otherwise by your cable provider.
9. Click **OK** to close the Properties windows.



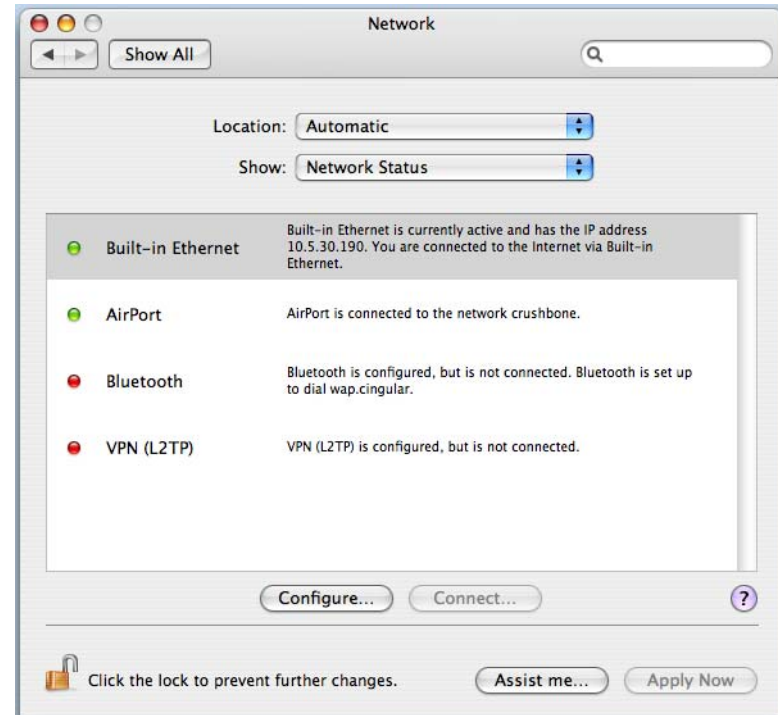
## TCP/IP Configuration for MacOS X

Follow these steps to configure the Ethernet interface for use with Touchstone products.

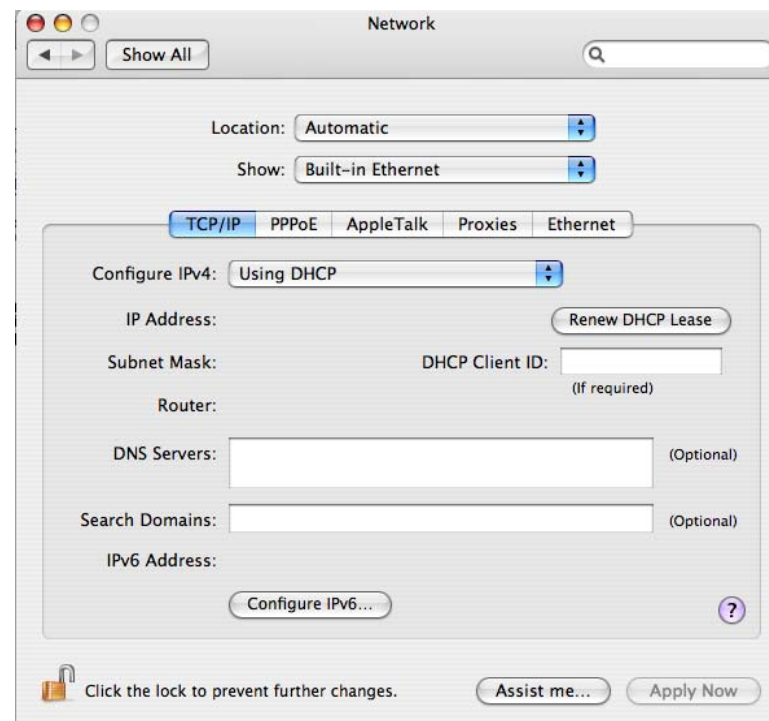
1. Open System Preferences, either by choosing **System Preferences** from the Apple menu or by clicking the **System Preferences** icon in the dock.



2. Click the **Network** icon.



3. Choose **Automatic** from the Location drop-down menu, and **Built-in Ethernet** from the Show drop-down menu.



4. Choose the **TCP/IP** tab, if necessary.
5. Choose **Using DHCP** from the Configure IPv4 menu.
6. If necessary, click the **Renew DHCP Lease** button.
7. Close the System Properties application.

## Using the Telephony Modem

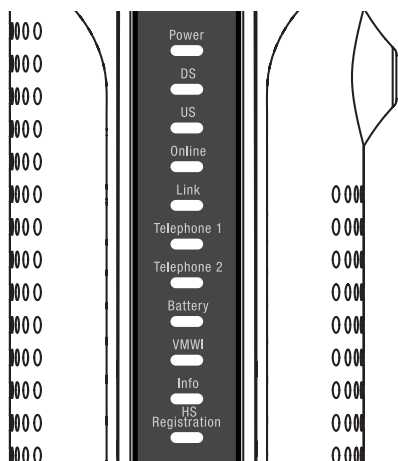
This chapter describes the controls and features available on the Touchstone Telephony Modem, and covers basic troubleshooting procedures.

- [Setting up Your Computer to Use the Telephony Modem](#)
- [Indicator Lights for the DTM602G Models](#)
- [Using the Reset Button](#)

**Remote software upgrades:** Occasionally, we may send upgrades and enhancements to your phone over the Internet. The upgrade starts at 2 a.m local time; during the upgrade process, your phone cannot make or receive calls for about five minutes. A software upgrade does not interfere with an active call.

### 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 for the DTM602G Models

The Touchstone Telephony Modem has eleven indicator lights to assist in troubleshooting.

### Battery Mismatch

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

### Wiring Problems

If the Telephony Modem flashes 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 Telephony Modem, then call a wiring technician for assistance.

### Indicator Lights: Normal Operation

The following table shows light patterns during normal operation.

Mode	Power	DS	US	Online	Link	Telephone 1/2	Battery	VMWI	Info	HS Registration
AC Power Good	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	On = Battery good or low Off = Battery missing or MTA not registered Flash = Battery bad	Flash = There is a new voicemail.	On = Info service available Flash = Connecting to Info service.	Flash = Registering HS
No AC Power Battery Installed	Flash	Off	Off	Off	Off	On = On-hook Flash = Off-hook Off = disabled	Off = Battery power Flash = Battery bad or low	Off = There is no new voicemail.	Off = Info service not available	Off
No AC Power No Battery	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Firmware Upgrade	On	Flash	Flash	On	(normal operation)	(normal operation)	(normal operation)	(normal operation)	(normal operation)	(normal operation)

## 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.

Power, DS, US, Online	Link	Telephone		Battery	Description
		1	2		
Off	Off	Off	Off	Off	No power to Cable Modem
Flash	Flash	Flash	Flash	Flash	Power-on Self Test
See "Cable Modem Start Up Sequence" Below					
<b>On</b>	<b>On</b>	Flash	Off	Off	Retrieving telephone network information
<b>On</b>	<b>On</b>	Off	Flash	Off	Retrieving telephone line information
<b>On</b>	<b>On</b>	Flash	Flash	Off	Activating telephone service

### Cable Modem Start Up Sequence

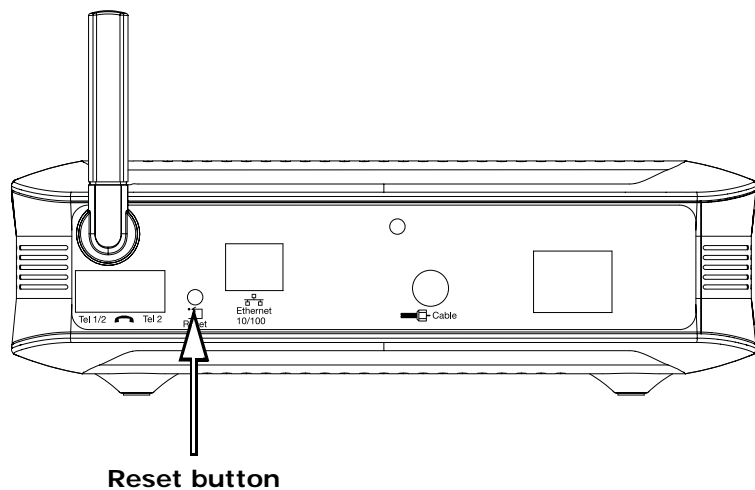
DS	US	Online	Link	Description
Flash	Off	Off	Off	Downstream search
<b>On</b>	Flash	Off	Off	Downstream found; upstream search
<b>On</b>	<b>On</b>	Flash	Off	Downstream and Upstream found; retrieving setup information from cable operator

## 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. Using this button will be rare.

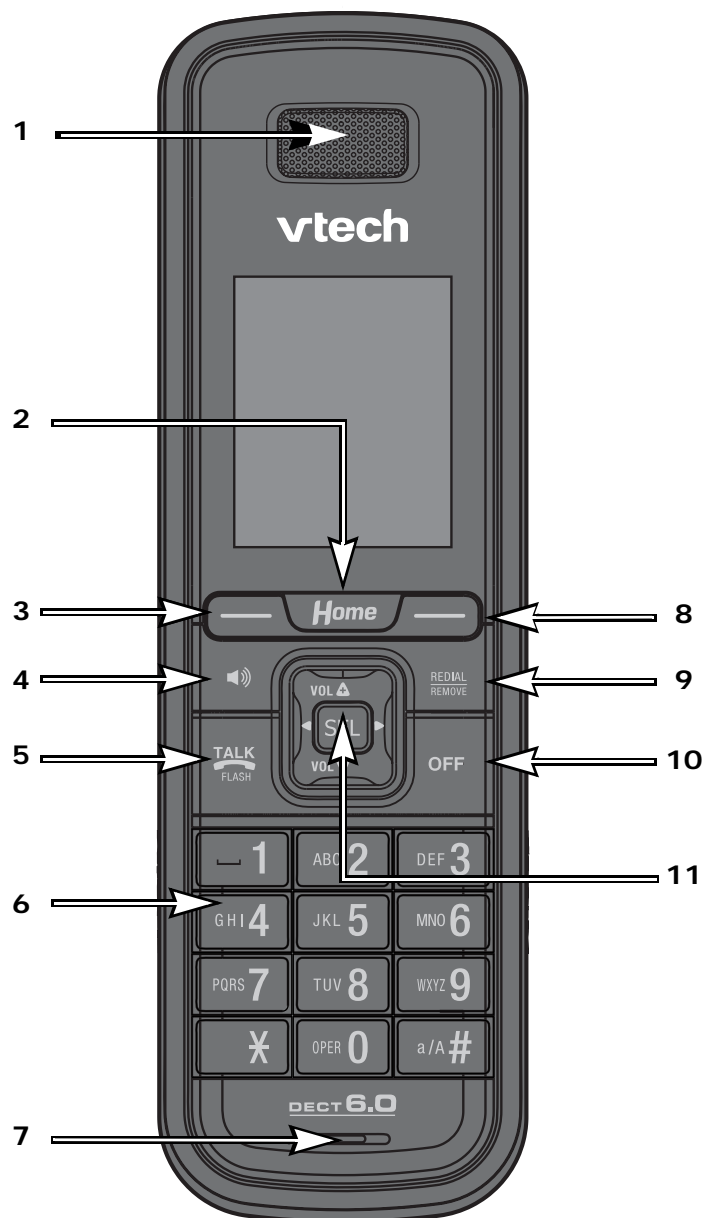
Use a pointed **non-metallic** object to press this button. The photo to the left shows the location of the **Reset** button.

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



## About the Handset

### Handset Layout



#### 1. Earpiece

Audio output for telephone calls.

#### 2. HOME

Press this key to access Internet, Contacts or telephone menu.

#### 3. Left softkey

Press this key to select the action shown on the bottom left of the screen.

#### 4. (speaker)

Press this key to turn the speakerphone on or off.

#### 5. TALK FLASH

Press this key to get a dial tone. After pre-dialing a number, press this key to make a call.

Press this key to answer call waiting.

#### 6. Keypad

These keys are used for dialing phone numbers, or entering text.

#### 7. Microphone

Audio input for telephone calls.

#### 8. Right softkey

Press this key to select the action shown on the bottom right of the screen.

#### 9. REDIAL/REMOVE

Press this key to bring up a list of recently dialed numbers, or to delete characters when entering text.

#### 10. OFF

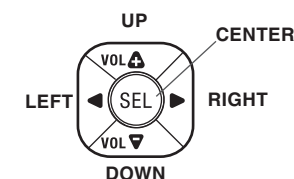
Press this key to end a call. Press this key from any menu or submenu to return to the idle screen.

#### 11. NavKey (navigation key)

Use this key for navigating menu screens and for positioning the cursor when editing text.

While on a call, press the up or down NavKey to adjust the listening volume.

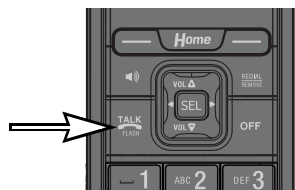
Press the center **NavKey/SEL** to select the highlighted item.





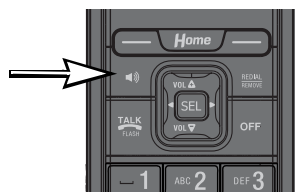
## Making a Call

- To make a standard telephone call, press **TALK FLASH** and then dial the number. If you want to use the speakerphone, press **Speakerphone** and then dial the number.
- To preview numbers before dialing, enter the numbers first. If you make a mistake when dialing, use the left or right NavKey **Left** or **Right** to move the cursor to the place you want to delete and press **REDIAL/REMOVE**. After entering the number, press **TALK FLASH** or the **Call** softkey. If you want to use the speakerphone, pre-dial and then press **Speakerphone**.



## Receive a Call

- When the telephone is ringing, press **TALK FLASH** or the **Answer** softkey to answer the call. Press **Speakerphone** if you want to answer using the speakerphone.

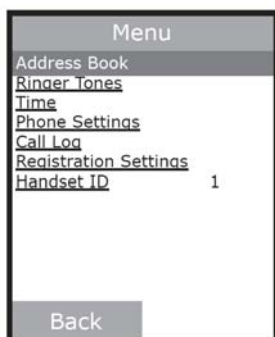


## End a Call

- Press **OFF** to end a call.

## Use Standard Telephone Functions

- From the idle screen, press the Menu softkey to enter the telephone feature menu.
- The items on the screen represent different telephone functions such as call history, ring tones, phone settings, registration settings, date and time. Use the **Left**, **Right**, **Up** or **Down** NavKeys to scroll through the menu. Press the center NavKey/**SEL**/**Enter** to select the highlighted item.
- Press **OFF** to exit the telephone feature menu.



**NOTE:** See the Handset User Guide in the same CD for more instructions on using the feature menu.

## Operating Range of the DECT Handset

The DECT handset operates at the maximum power level allowed by the Federal Communications Commission (FCC). The operating range can vary based on the location of the Telephony Modem and handset, weather conditions, and the layout of your home or office.

When the handset is out of range, it displays **Searching**. You can access the handset directory, and certain parts of the menu system such as handset settings and registration, but not the time or base settings. The handset displays **Not possible** if you try to access disabled functions.

When the handset is out of range, it may not recognize an incoming call; if it rings, the connection may be noisy or drop. Moving out of range during an active call may also result in noise or dropping the call. To improve reception, move closer to the base.

## Maintenance of Cordless Handset

Your cordless telephone contains sophisticated electronic parts, so it must be treated with care. Save the original packing materials to protect your telephone if you ever need to ship it to a repair center.

### Avoid Rough Treatment

Place the handset down gently. Avoid dropping the handset or leaving it where it could be damaged.

### Avoid Water

Your handset can be damaged if it gets wet. Do not use the handset outdoors in the rain, or handle it with wet hands. Do not install the Telephony Modem or handset near a sink, bathtub or shower.

Remember that electrical appliances can cause serious injury if used when you are wet or standing in water. If your telephone base should fall into water, **do not retrieve it until you unplug the power cord and telephone line cords from the wall**. Then pull the unit out of the water by the unplugged cords.

### Electrical Storms

Electrical storms can cause power surges harmful to electronic equipment. For your own safety, use caution when using the handset or other electric appliances during storms.

### Cleaning Your Telephone

Clean the handset only with a soft cloth slightly dampened with water or a mild soap. Do not use excess water or cleaning solvents of any kind.

## Cordless Telephone Considerations

The same features that make a cordless telephone convenient create some limitations.

**Privacy:** Telephone calls are transmitted between the base and the cordless handset by radio waves, so there is a possibility that your conversations could be intercepted by radio receiving equipment within range of the cordless handset. For this reason, you should not think of cordless telephone conversations as being as private as those on corded telephones.

**Electrical Power:** The Telephony Modem and handset base must be connected to a working electrical outlet. The electrical outlet should not be controlled by a wall switch. Frequent loss of power to the Telephony Modem reduces backup battery life.

**Potential TV Interference:** Some cordless telephones operate at frequencies that may cause interference to televisions and VCRs. To minimize or prevent such interference, do not place the Telephony Modem or the handset near or on top of a TV or VCR. If interference is experienced, move the handset or Telephony Modem farther away from the TV or VCR to reduce or eliminate the interference.

**Rechargeable Batteries:** The Telephony Modem contains a Lithium-Ion rechargeable battery. The handset contains a Nickel-Metal Hydride rechargeable battery. Exercise care in handling batteries to avoid shorting the battery with conducting material such as rings, bracelets, and keys. The battery or conductor may overheat and cause harm. Observe proper polarity between the battery and the battery charger.

Recycle all batteries. Do not burn or puncture. Any battery, if burned or punctured, could release caustic material which can cause injury.



# 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.

Check the outlet by plugging in another device (such as a lamp).

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 outlet.

Proceed to the [Configuring Your Ethernet Connection](#) if necessary.

**I'm not getting on the Internet.**

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.

To test your network speed, try an online test such as [http://reviews.cnet.com/Bandwidth\\_meter/7004-7254\\_7-0.html](http://reviews.cnet.com/Bandwidth_meter/7004-7254_7-0.html)

**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 handset properly installed and fully charged?

- Is the handset within range of the Telephony Modem? Move close to the Telephony Modem and try again.
- 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 (Telephone 1 or Telephone 2) 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
- If you are using an external phone, 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 1/2" (DTM602G).
  - 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.

### Amp-hour (Ah)

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

### 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 round cable 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).

### DECT

Digital Enhanced Cordless Telecommunications. A standard for portable telephones. DECT operates on a different frequency band from 2.4GHz cordless phones, so it does not interfere with other cordless phones or with wireless LANs (WiFi).

### 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](http://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).

**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. Hubs provide a common point of contact for all connected devices.

**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 4-pin modular connector, commonly used in North America for connecting telephones.

**RJ-45**

A standard 6-pin modular connector, commonly used on 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.



## **Touchstone<sup>®</sup> DTM602G Telephony Modem Setup Guide**

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