XB8 / Model- CGM4981COM

SETUP AND USER GUIDE

XB8 CGM5981COM

SAFETY INSTRUCTIONS AND REGULATORY NOTICES

Before you start installation or use of this product, carefully read these instructions!

BEFORE YOU START INSTALLATION OR USE OF THIS PRODUCT, CAREFULLY READ ALL SAFETY INSTRUCTIONS

Applicability

These Safety Instructions and Regulatory Notices apply to:

• Technicolor Cable Modems & Gateways

Using equipment safely

⚠ When using this product, always follow the basic safety precautions to reduce the risk of fire, electric shock and injury to persons, including the following:

- Always install the product as described in the documentation that is included with your product.
- Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use this product to report a gas leak in the vicinity of the leak.

Directives

Product Use

You must install and use this device in strict accordance with the manufacturer's instructions as described in the user documentation included with your product.

Before you start installation or use of this product, carefully read the contents of this document for device specific constraints or rules that may apply in the country in which you want to use this product.

If you have any doubts about the installation, operation, or safety of this product, please contact your supplier.

Any change or modification made to this product that is not expressly approved by Technicolor will result in the loss of product warranty and may void the user's authority to operate this equipment. Technicolor disclaims all responsibility in the event of use that does not comply with the present instructions.

Safety instructions

- *Read these instructions.*
- *Keep these instructions.*
- *Heed all warnings and cautions.*
- *Follow all instructions.*

Climatic conditions

This product:

• Is intended for in-house stationary use; the maximum ambient temperature must not exceed 40 °C (104 °F); the relative humidity must be between 20 and 80 %.
• Must not be mounted in a location exposed to direct or excessive solar and/or heat radiation.
• Must not be exposed to heat trap conditions and must not be subjected to water or condensation.
• Must be installed in a Pollution Degree 2 environment (an environment where there is no pollution or only dry, non-conductive pollution).

If applicable, batteries (battery pack or batteries installed) must not be exposed to excessive heat such as sunshine, fire or the like.

This product is intended for indoor use only.

Ventilation and positioning

This product is intended to be used indoors in a residential or office environment.

• Remove all packaging material before applying power to the product.
• Place and use the product only in positions as described in the user documentation that is included with your product.
• Never push objects through the openings in this product.
• Do not block or cover any ventilation openings; never stand it on soft furnishings or carpets.
• Leave 7 to 10 cm (3 to 4 inches) around the product to ensure that proper ventilation gets to it.
• Do not install the product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
• Do not put anything on it which might spill or drip into it (for example, lighted candles or containers of liquids). Do not expose it to dripping or splashing, rain or moisture. If a liquid enters inside the product, or if the product has been exposed to rain or moisture, unplug it immediately and contact your supplier or customer service.

Cleaning

Unplug this product from the wall socket and disconnect from all other devices before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

Water and moisture

Do not use this product near water, for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool.

Transition of the product from a cold environment to a warm one may cause condensation on some of its internal parts. Allow it to dry by itself before using the product.

Electrical powering

The powering of the product must adhere to the power specifications indicated on the marking labels.

In case this product is powered by a power supply unit:

• *For USA*: This product is intended to be supplied by a UL listed Direct Plug-in Power Unit marked "Class 2" and rated as indicated on the label on your product.
• This power supply unit must be Class II and a Limited Power Source in accordance with the requirements of IEC 60950-1/EN 60950-1, Clause 2.5 or IEC 62368-1/EN 62368-1, Annex Q and rated as indicated on the label on your product. It must be tested and approved to national, or local standards.

> Only use the power supply unit that is supplied with this product, is supplied by your service provider or local product supplier, or a replacement power supply unit provided by your service provider or local product supplier.
> *The use of other types of power supplies is prohibited.*
> If you are not sure of the type of power supply needed, consult the user documentation that is included with your product or contact your service provider or local product supplier.

Accessibility

The plug on the power supply cord or power supply unit serves as disconnect device. Be sure that the mains supply socket outlet you use is easily accessible and located as close to the product as possible.

The power connections to the product and the mains supply socket outlet socket must be accessible at all times, so that you always can disconnect the product quickly and safely from the mains supply.

Overloading

Do not overload mains supply socket outlets and extension power cords as this increases the risk of fire or electric shock.

Handling batteries

This product may contain disposable batteries.

> CAUTION
> There is danger of explosion if the battery is mishandled or incorrectly replaced.

• Do not disassemble, crush, puncture, short the external contacts, dispose of in fire, or expose to fire, water or other liquids.
• Insert batteries correctly. There may be a risk of explosion if the batteries are incorrectly inserted.
• Do not attempt to recharge disposable or nonreusable batteries.
• Please follow instructions provided for charging rechargeable batteries.
• Replace batteries with the same or equivalent type.
• Do not expose batteries to excessive heat (such as sunlight or fire) and to temperatures above 100 °C (212 °F).

Cable Distribution

For this apparatus, the cable shield/screen shall be grounded (earthed) as close as practical to the point of entry of the cable into the building.

For products sold in the USA: This reminder is provided to call the system installer's attention to ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93, Grounding of Outer Conductive Shield of a Coaxial Cable. The cable distribution system should be grounded (earthed) in accordance with ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820,93, Grounding of outer Conductive Shield of a Coaxial Cable.

Servicing

> *To reduce the risk of electric shock or electrocution, do not disassemble this product.*

If service or repair work is required, take it to a qualified service dealer.

Damage requiring service Unplug this product from the mains supply socket outlet and refer servicing to qualified service personnel under the following conditions:

• When the power supply, power cord or its plug are damaged.

• When the attached cords are damaged or frayed.
If liquid has been spilled into the product
If the product has been exposed to rain or water.
• If the product does not operate normally.
• If the product has been dropped or damaged in any way.
• There are noticeable signs of overheating.
• If the product exhibits a distinct change in performance.
• If the product is giving off smoke or a burning smell.

Protect the product when moving it Always disconnect the power source when moving the product or connecting or disconnecting cables.

Interface classifications (upon applicability).

The external interfaces of the product are classified as follows:

• Cable (IN/OUT): TNV (Telecommunications Network Voltage) circuit, not subjected to overvoltages (TNV-1)
• Phone, FXS: TNV circuit, not subjected to overvoltages (TNV-2)
• MoCA, HPNA, RF: TNV circuit, not subjected to overvoltages (TNV-1)
• All other interface ports (e.g. Ethernet, USB), including the low voltage power input from the AC mains power supply: SELV (Safety Extra-Low Voltage) circuits.

Regulatory information

North-America - United States of America

Federal Communications Commission (FCC)
Compliancy statement

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.

Responsible Party - U.S. contact information
Technicolor Connected Home LLC, 5030 Sugarloaf Parkway, Building 6, Lawrenceville, GA 30044 USA, 317-587-5466.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Part 15B Supplier's Declaration of Conformity
The FCC Part 15B Supplier's Declaration of Conformity (SDoC) for your product is available at the following internet address: www.technicolor.com/ch_regulatory.

FCC radio frequency interference statement
This equipment has been tested and found to comply with the limits for a Class B digital device,pursuant to Part 15 of the FCC Rules. These limits are designed 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.

RF exposure statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in the product documentation. When the product is equipped with a wireless interface, then it becomes a mobile or fixed mounted modular transmitter and must have a separation distance of at least 25 cm between the antenna and the body of the user or nearby persons. In practice, this means that the user or nearby persons must have a distance of at least 25 cm from the product and must not lean on the product in case it is wall-mounted.
With a separation distance of 25 cm or more, the M(aximum) P(ermissible) E(xposure) limits are well above the potential this wireless interface is capable to produce. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Restricted frequency bands
In case this product is equipped with a wireless transceiver operating in the 2.4 GHz band, it can only use channels 1 to 11 (2412 to 2462 MHz) on U.S.A. territory.
In case this product is equipped with a wireless transceiver operating in the 5 GHz band, it meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.
In case this product is equipped with a wireless transceiver operating in the 6 GHz band, FCC regulations restrict the operation of this device to indoor use only.
The operation of this device is prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet. Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or Communications with unmanned aircraft systems.
The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Warranty Information
Unless express and prior approval by Technicolor in writing, you may not:

- Disassemble, de-compile, reverse engineer, trace or otherwise analyze the equipment, its content, operation, or functionality, or otherwise attempt to derive source code (or the underlying ideas, algorithms, structure or organization) from the equipment, or from any other information provided by Technicolor, except to the extent that this restriction is expressly prohibited by local law;
- Copy, rent, loan, re-sell, sub-license, or otherwise transfer or distribute the equipment to others;
- Modify, adapt or create a derivative work of the equipment;
- Remove from any copies of the equipment any product identification, copyright or other notices;
- Disseminate performance information or analysis (including, without limitation, benchmarks) from any source relating to the equipment.

Such acts not expressly approved by Technicolor will result in the loss of product warranty and may invalidate the user's authority to operate this equipment in accordance with FCC Rules.

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COMCAST Title: Setup and User Guide XB8 CGM4981COM

Table of Contents

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About this Setup and User Guide

In this Setup and User Guide

The goal of this Setup and User Guide is to:

- Set up your Gateway and local network
- Configure and use the main features of your Gateway.

For more advanced scenarios and features visit the documentation pages on www.technicolor.com.

Used symbols


The danger symbol indicates that there may be a possibility of physical injury.


The warning symbol indicates that there may be a possibility of equipment damage.


The caution symbol indicates that there may be a possibility of service interruption.


The note symbol indicates that the text provides additional information about a topic.

Terminology

Generally, the XB8 CGM44980COM will be referred to as Gateway in this Setup and User Guide.

Typographical convention

Following typographical convention is used throughout this manual:

- This sample text indicates a hyperlink to a Web site.
  Example: For more information, visit us at www.technicolor.com.
- This sample text indicates an internal link.
  Example: If you want to know more about the guide, see “About this Setup and User Guide”.
- This sample text indicates an important content-related word.
  Example: To enter the network, you must authenticate yourself.
- This sample text indicates a GUI element (commands on menus and buttons, dialog box elements, file names, paths and folders).
  Example: On the File menu, click Open to open a file.

1. Getting Started

Introduction

This chapter provides a brief overview of the main features and components of the Gateway. After this chapter, we will start with the installation.

Do not connect any cables to the Gateway until instructed to do so.

1.1 Features at a glance

Introduction

This section provides a brief overview of the main features of your gateway.

- DOCSIS® 3.1 Certified
- 2 DOCSIS® 3.1 OFDM downstream channels & 2 DOCSIS® 3.1 OFDM upstream channels
- DOCSIS® 3.0 Certified
- 32 x 8 bonded channels in DOCSIS 3.0 mode
- Switchable diplexer for upstream and downstream
- One IEEE 802.3 10/100/1000/2500 Base-T 2.5 Gigabit Ethernet WAN/LAN port with MacSEC
- Three IEEE 802.3 10/100/1000 Base-T Gigabit Ethernet LAN ports
- Wireless networking on-board
- IEEE 802.11ax 2.4 GHz Wi-Fi (4x4)
- IEEE 802.11ax 5 GHz Wi-Fi (4x4)
- IEEE 802.11ax 6 GHz Wi-Fi (4x4)
- MoCA 2.0
- Zigbee Radio
- BLE Capable Radio
- Two FXS ports for phone or fax
- PacketCable™ 2.0 and SIP compliant
- IPv6 DS-Lite enabled

Technical Specifications

Hardware Specifications

1. WAN Interface - 1 RF F-type
2. LAN interface - 4- port wired Ethernet RJ45, MoCA 2.0 via the F Connector
3. Power Supply – 90-135 VRMS (AC), 57-63 Hz
4. Operating Temperature 0-40 deg C

Receiver Specifications

1. Downstream Modulation - QAM,OFDM
2. Downstream Frequency Range 108-1002 MHz or 258-1218MHz
3. Input Signal level range -15/+15 dBmV
4. Input impedance 75 ohm

Transmitter Specifications

1. Upstream Modulation QPSK,QAM, OFDMA
2. Upstream Frequency Range - Sub-split (5-85 MHz), High-split (5-208 MHz)
3. Output Impedance 75 ohm

Wi-Fi Specifications

1. Wi-Fi IEEE 802.11 2.4/5/6 GHz
2. Wi-Fi IEEE 802.11a/b/g/n/ac/ax
3. Wi-Fi Protected Setup

Getting to know the Gateway

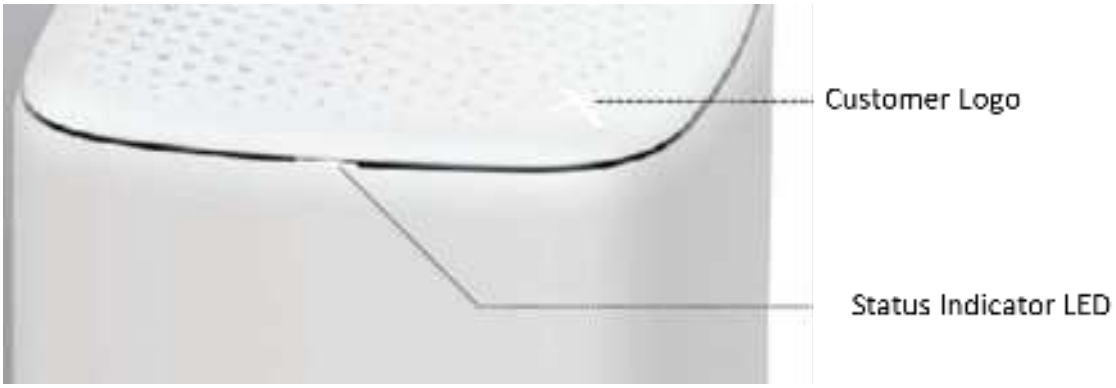
This section introduces you to the different components of the Gateway:

Front Surface

The front surface contains no indicators or buttons

Top Panel and LED Indicators

The top panel contains the single status indicator and the customer logo.
Air vents for product ventilation are also present.
There are no buttons on the top panel



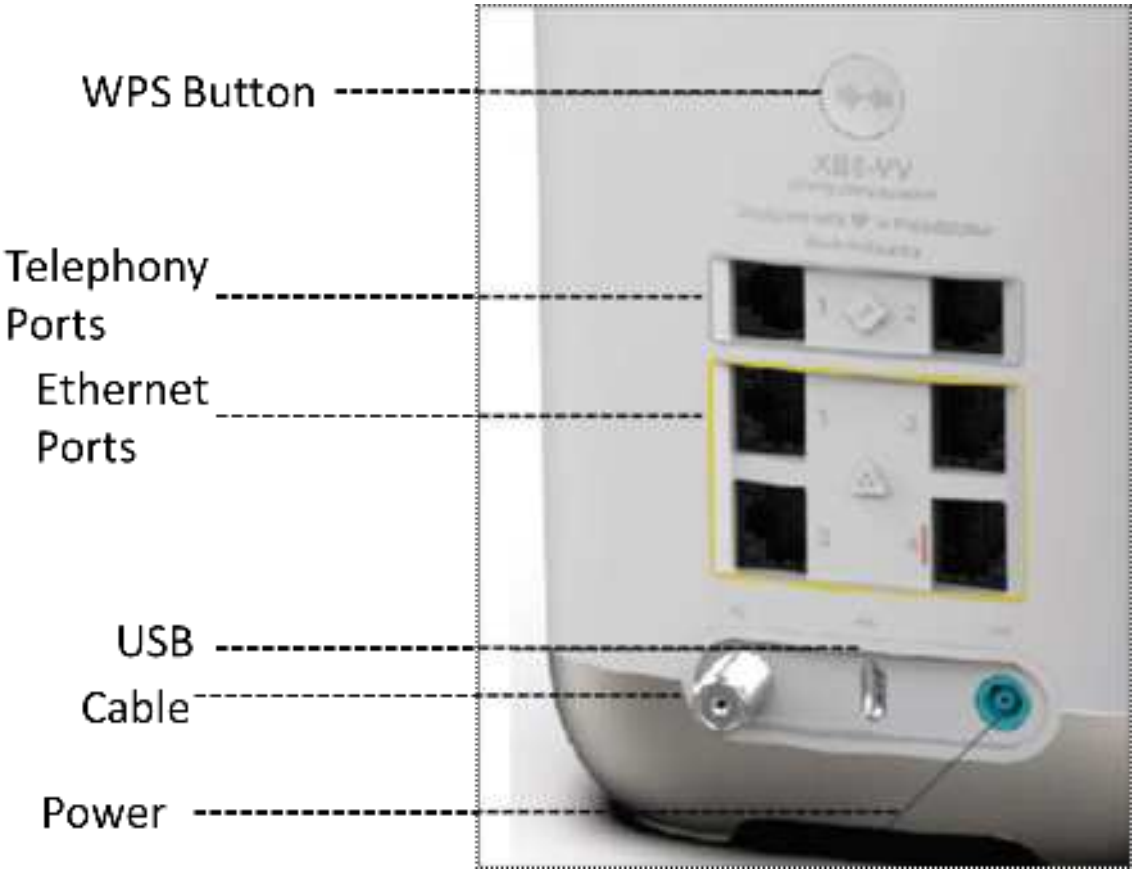
LED Indicator Table

Color	State*	Description
White	Solid on	Device is online and functioning
Orange	Solid on	Initial Power Up & Boot
Orange	Blinking	Downstream during Registration

Green	Solid on	Upstream during Registration
Alternate Orange and green	Blinking	Firmware Download in progress
Blue	Blinking	WPS Mode(Times out after 2 minutes)
Red	Solid on	No internet connectivity (has block sync)

- Solid On – Signifies steady state or no action required
- Blinking – Signifies activity in progress or action required

Back panel



Tel port

The **Tel (** **)** RJ-11 ports support up to two traditional phones or DECT base station to connect to the Gateway. Single line customers can use the Tel 2/Alarm port to connect an auto dial alarm system.

Ethernet Ports

The RJ-45 Ethernet ports **(** **)** support up to four Ethernet connections (for example, a computer) to your local network.

Three Ethernet ports on the Gateway support Gigabit Ethernet ports and have a maximum speed of 1 Gbps (Gigabit per second).

One Ethernet port (#4) on the Gateway supports 2.5 Gigabit Ethernet ports and have a maximum speed of 2.5 Gbps (Gigabits per second). Ethernet Port 6 supports WAN or LAN access.

Each Ethernet port has two LEDs with the following functionality.

Ethernet ports 1 through 3

LED	LED Status	Description
Left LED (Green)	Solid on	1000Mbps Link
	Blinking (1X/second)	1000Mbps Link – Activity in progress
	Off	No Link
Right LED (Amber)	Solid on	10/100Mbps Link
	Blinking (1X/second)	10/100Mbps Link – Activity in progress
	Off	No Link

Ethernet port 4

LED	LED Status	Description
Left LED (Green)	Solid on	2.5 Gbps Link
	Blinking (1X/second)	2.5 Gbps Link – Activity in progress
	Off	No Link
Right LED (Amber)	Solid on	10/100/1000 Mbps Link
	Blinking (1X/second)	10/100/100 Mbps Link – Activity in progress
	Off	No Link

Cable port

The **Cable** port allows you to connect to your local coax network and the broadband network of your services provider. This port also carries the MoCA signaling.

Power inlet

The power inlet (**Power**) allows you to connect 12V DC Power from the power brick. Only the EPS-6 supplied with the unit may be used with this product.

USB

The USB port uses a USB C connector and contains USB 2.0 signaling and power. The USB port is only intended to communicate with Comcast approved products.

Bottom panel

Product label

The label on the bottom of the Gateway contains key manufacturing information, such as the part number, serial number, CM MAC address, MTA MAC address and WAN MAC address.

2 Installation Notes

Local connection requirements

Wireless connection for Wi-Fi
If you want to connect your computer using a wireless connection, your computer must be equipped with a Wi-Fi Certified wireless client adapter.

Wired connection via Ethernet

If you want to connect a computer using a wired connection, your computer must be equipped with an Ethernet Network Interface Card (NIC).

2.1 Power to the Gateway

Procedure
Proceed as follows:

1. Use the power brick that is included with your Gateway.
2. Connect the small end of the power cord on the power brick to the Gateway.
3. Plug the power brick into the electrical outlet
4. Wait at least two minutes to allow the Gateway to complete the startup phase.

2.2 Connect your wired devices

Requirements

- Both your network device (for example, a computer.) and Gateway must have a free Ethernet port.
- Your network device must be configured to obtain an IP address automatically. This is the default setting.

  Ethernet ports 1 - 3 on the Gateway are Gigabit Ethernet ports and have a maximum speed of 1 Gbps (Gigabit per second). Ethernet port 4 is a 2.5 Gigabit Ethernet port and has a maximum speed of 2.5 Gbps (Gigabits per second).

Procedure
Proceed as follows:

1. It is recommended to use Category 5e or Category 6 Ethernet cables with the Gateway
2. Plug one end of the Ethernet cable into one of the RJ-45 Ethernet ports on the back of the Gateway:
3. Plug the other end of the Ethernet cable into the Ethernet port of your network device.
4. Your network device is now connected to your network. Use the same procedure to connect other Ethernet devices (computers, network printers and so on).

2.3 Connect your Wi-Fi devices

Introduction

The Gateway has supports three Wi-Fi bands that allow you to connect wireless devices to your network:

- The 6 GHz IEEE 802.11ax access point offers superior transfer rates, is less sensitive to interference and allows you to connect IEEE 802.11ax wireless clients with 6GHz capability.

- The 5 GHz IEEE 802.11ax access point offers superior transfer rates, is less sensitive to interference and allows you to connect IEEE 802.11a/n/ac/ax wireless clients.

- The 2.4 GHz IEEE 802.11ax access point allows you to connect IEEE 802.11b/g/n/ax wireless clients. Use this access point for wireless clients that do not support 5 GHz.

If you want to connect your wireless client to the 6GHz or 5 GHz access point, make sure that your wireless client supports these connections.

Requirements

- Your network device must be equipped with a WiFi Certified wireless client.
- Your network device must be configured to obtain an IP address automatically. This is the default setting.

Procedure

- If you want to connect a computer using the wireless network, configure the wireless client on your computer with the wireless settings printed on the Gateway's product label located on the bottom of the Gateway.

2.4 How to connect your phone

Introduction

This section describes how to connect the phones for single line customers.

If you have a two-line setup or a setup involving an alarm, please contact your service provider. This setup must be done by qualified technicians.

Procedure

Connect your traditional phone, external DECT base station or fax to an active RJ-11 Telephone jack on the back panel of your Gateway.

1. Plug the other end of the telephone cable into the telephone device.
2. Alarm systems must be connected to either port 1 or 2. You are responsible to ensure that Alarm system is connected to an active telephone port connected to the phone network.
3. You must verify that each phone line is active by first checking for dial tone, and then by placing a call to an active telephone number and checking that both parties can properly hear one another.