

# Clear Modem Series G User Guide



**Model: WIXB-175**

**Manual Version: 1.3**

**Manual Date: July. 16 2009**

# Overview

Thank you for purchasing the Clearwire CPE Indoor (WIXB-175) desktop device. The Desktop CPE allows you to connect to the wireless world easily and seamlessly without complicated installation and setup procedures. In addition it offers you the ability to make Voice over Internet Protocol (VoIP) calls.

The Desktop CPE indoor device provides the user:

- Convenience — with easy plug and play functionality.
- Performance — High gain antennas supply diversity technology. Best in Class range and indoor penetration.
- Control — remote management capability allows easy detection and authentication once the unit is setup.
- VoIP - One RJ11 port allow for Voice over IP calls using your CPE.

## Powerful Features in a Single Unit

The CPE device provides the following features:

- WiMAX Authentication
- WAN DHCP Client
- LAN DHCP Server
- Home Gateway Functions

## Front of CPE

The Front of the CPE units contains LED Link/Activity indicators. The LEDs provide the status of the unit and signal strength indicators for easy adjustment during setup.

Front of Unit



## LED Indicator Interface

The Power LED shall be Blue and the other LEDs shall be Green.

- **Power Status**

The Power LED shall be on when the device is plugged in and has power.

- **Ethernet Status**

The Ethernet LED should be on when the LAN Ethernet has been established and activity has been detected.

- **Signal Strength**

Once the device has registered on the network, the Signal Strength LEDs should be on depending on different strength. Only one Signal Strength LED lit represents low signal detected and all five Signal Strength LED lit presents high signal detected.

- **Back Panel Ports Description**

Power AC Power Connector

Phone Line RJ-11 port for use with VoIP.

Ethernet Port

Reset button

**Note:** Hardware Reset Button (A paper clip is recommended for accessing this button). Before resetting the CPE, ensure the power LED is ON. Hardware Reset Button will cause PASSWORD, DEVICE NAME and LAN IP to be restored to default. If you would like to reset to default as ex-factory setting, please do it via Basic/Restore Factory Settings.

## Operating Information

Operating temperature for this unit is 0°C-40°C (32-104F).

# Installation

## Overview

To install the Desktop CPE Series, you need to review the following sections:

- **Before You Begin**

- **Easy Setup**

## Before You Begin

Before you begin installation, check that you have received the following items with your Desktop CPE:

In the box with your CPE you should have:

<b>Item</b>	<b>Description</b>
Power Adapter	Power adapter connects the Clear Modem to an AC electrical outlet.

Ethernet Cable	The Ethernet cable connects the Internet port on your Clear Modem to your PC or laptop computer.
Clear Modem	
Quick Start Guide	Provides quick installation instructions for getting your Desktop CPE up and running.
Welcome Letter	A brief introduction of the stuff inside the packaging and customer service contact window.
Regulatory letter	The FCC regulatory statement for this Clear Modem

In addition, you will also need:

- A computer
- An RJ-11 telephone cable (optional, if you would like to use VoIP function).

## Easy Setup

The CPE is easily set up in your home. Basic installation equipments needed are the power adapter, Ethernet cable and a PC or laptop computer and the CPE device. If you want to use the VoIP functionality, you will also need an RJ-11 phone cable and a telephone [external ATA is needed].

Perform the following tasks before powering up the unit:

- Stand the Clear Modem on a flat surface.
- Plug the power adapter into the power connector on the back of the unit.
- Plug the AC power cord into an AC outlet. The unit will turn on.
- Plug one end of the Ethernet cable into the Ethernet connector on the back of the unit.
- Plug the other end of the Ethernet cable into the Ethernet connector of your computer.
- To use VoIP functionality of the phone, plug one end of the phone line into the activated phone connector on the back of the unit. Phone line activation is dependent upon your service contract.
- Plug the other end of the phone line into the phone line connector of your telephone.

## Procedure to Log into the CPE

Before you Begin Configuration, some settings on your computer must be verified or changed to ensure that your computer configuration can support the Desktop CPE.

Verify that the IP addresses and DNS settings are automatically generated in your Local Area connection of your Internet Protocol (TCP/IP) properties. Refer to the chapter titled "Configuring TCP/IP" for information on how to do this.

## Logging In to the CPE

Use the following procedure to log into the Desktop CPE.

1. On a computer that is connected to the Clear Modem Series G, open a web browser.
2. In the Address or Location field, type **http://192.168.15.1** and press **ENTER** to display the login screen.

Login Screen



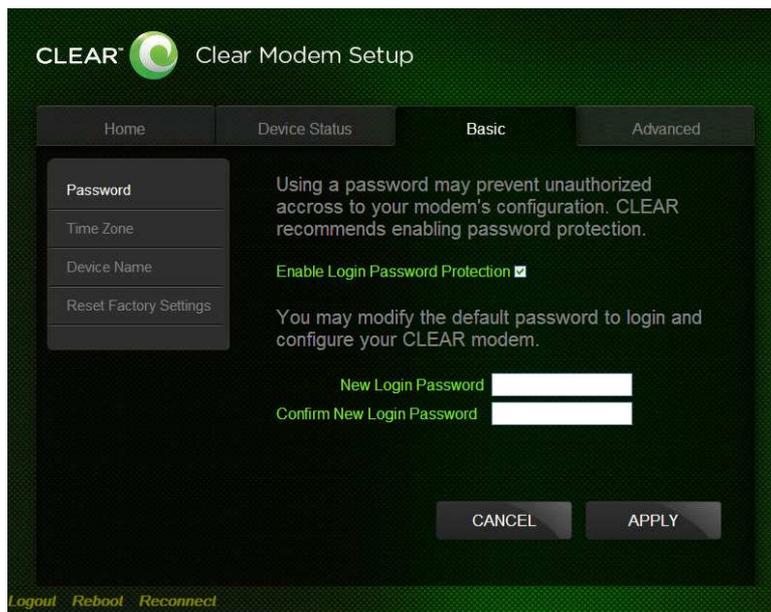
3. In the **Password** field, type the password (default is **CLEAR123**).
4. Click **Login**.

## Basic Menu

The Basic menu provides the following tabs:

- Password
- Time Zone
- Device Name
- Reset Factory Settings

## Password Tab



The password tab allows you to enable/disable password protection. You can also change your password here.

Field or Button	Description
Enable Login Password Protection	Checking this box will require login password protection.
New Login Password	Enter your new password here. Maximum 20 characters. Passwords are case-sensitive.
Confirm New Login Password	Re-enter your new password here, exactly as entered above.

Be sure to click the **Apply** button once you are finished.

## Time Zone Tab

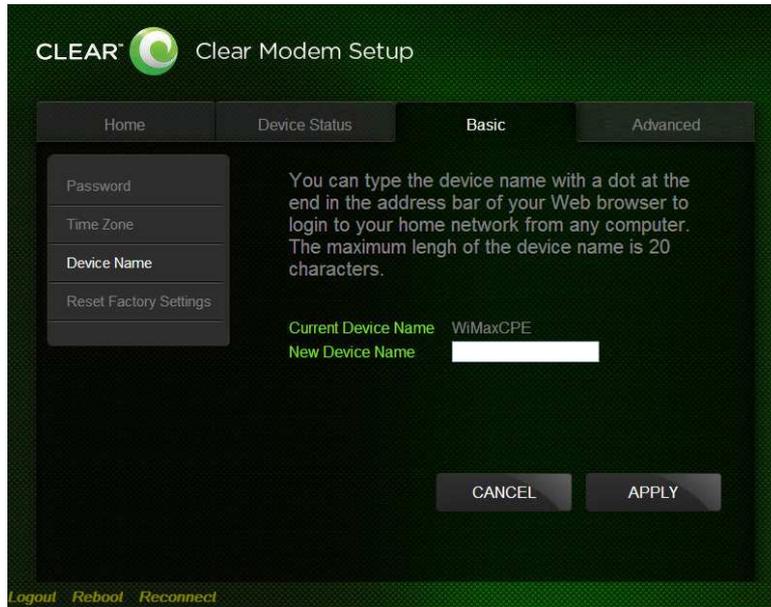


The Device Time Zone tab allows you to establish the time zone for your location. It also allows you to automatically adjust for Daylight Savings Time if necessary.

Field or Button	Description
Current Local Time	Shows the current local date and time.
Time Zone	Select your local time zone from the drop down box.
Auto Adjust for Daylight Saving Time	Check this box if your location observes Daylight Savings Time. (Default is checked)

Be sure to click the **Apply** button once you are finished.

## Device Name Tab



The Device Name tab allows you to re-name your CPE device. This is the Device Name you enter on an internet browser address bar to access your CPE device.

Field or Button	Description
New Device Name	Enter the new name for the CPE device.
Name	Maximum 20 characters.

Be sure to click the **Apply** button once you are finished.

## Restore Factory Settings Tab



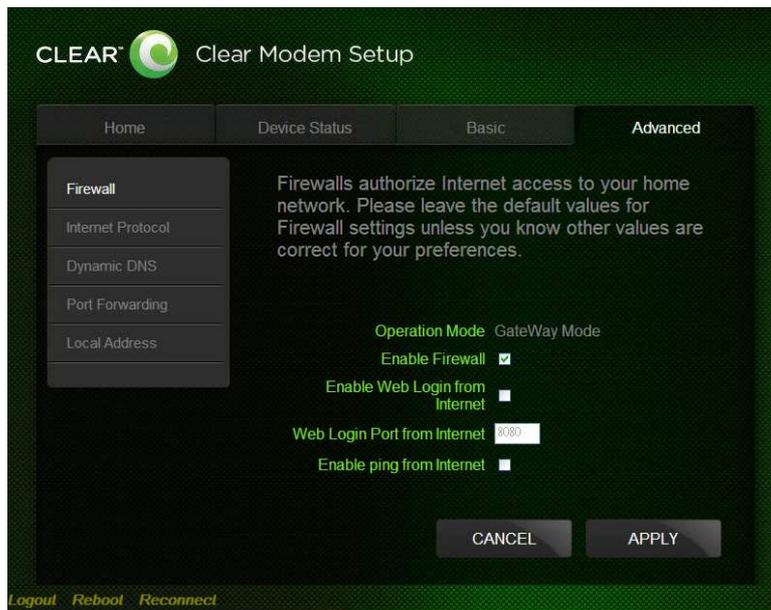
The Restore Factory Settings Tab will reset your CPE to the manufacturers default settings. Be sure to click the **GO** button if you are sure you want to reset factory settings. The CPE will reboot automatically after the GO button has been clicked.

### Advanced Menu

The Advanced Menu provides the following tabs:

- Firewall
- Internet Protocol
- Dynamic DNS
- Port Forwarding
- Local Address

## Firewall Tab

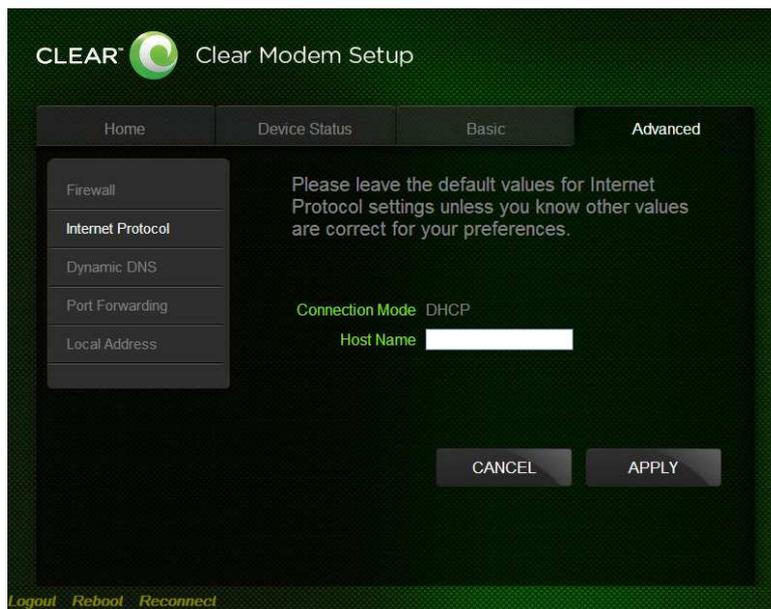


A firewall helps to protect your home network from unauthorized access. It will also help to manage authorized access from the internet to your CPE

Field or Button	Description
Enable Firewall	Check this box to enable the firewall for your home network.
Enable Web Login from Internet	(Grayed out if Enable Firewall is not selected). Check this box to enables you to access your CPE device from a network other than your own.
Web Login Port from Internet	Choose a port number to connect to when logging in from a network other than your own. The default is 8080.
Enable ping from Internet	Enables the CPE to respond to a ping from the Internet. This option would be enabled to allow testing only. Do not leave this enabled.

Be sure to click the **Apply** button once you are finished.

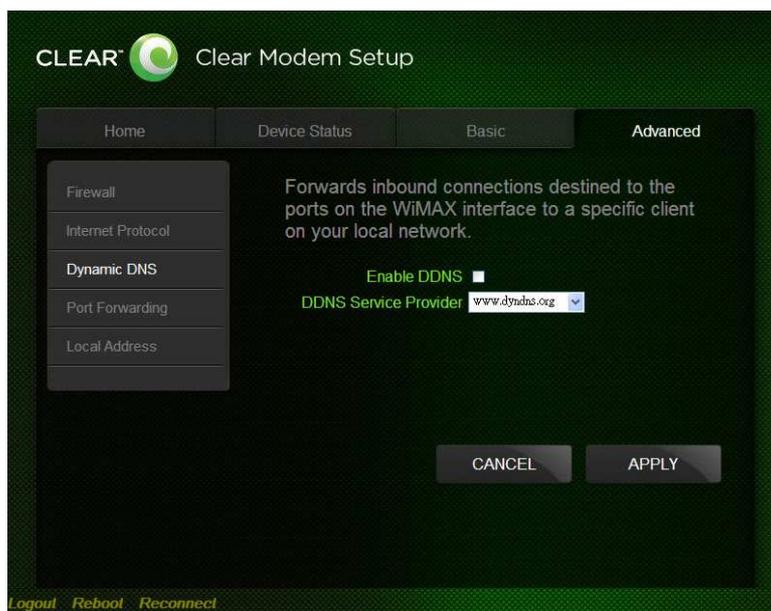
## Internet Protocol Tab



Please check with your service provider for these settings. If you are unsure of the settings, leave the default values set and click the **Apply** button

If your service provider has instructed you to change any of these settings, be sure to click the **Apply** button when you are finished.

## Dynamic DNS Tab



Dynamic Domain Name Service (DDNS) allows a user with a non-static IP address to keep

their domain name associated with an ever changing IP address. As an example, DDNS is used when you are hosting your own website

<b>Field or Button</b>	<b>Description</b>
Enable DDNS	Check this box to Enable DDNS (default is unchecked).
DDNS Service Provider	Select DDNS Service Provider that you belong to from the drop down box.
DDNS User Name	Only valid if Enable DDNS is checked. Enter your DDNS account user name.
DDNS Password	Only valid if Enable DDNS is checked. Enter your DDNS account password.
DDNS Host Name	Only valid if Enable DDNS is checked. Enter the DDNS Host Name. This is assigned by the DDNS service.

Be sure to click the **Apply** button once you are finished.

### **Port Forwarding Tab**

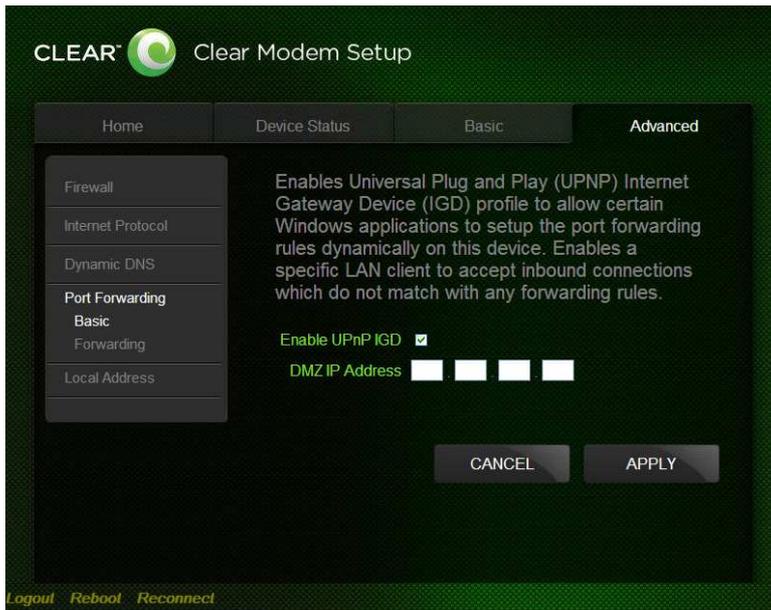
Port forwarding enables you to direct incoming traffic to specific LAN hosts (computers on your network) based on the protocol and port number. It is used to play Internet games or provide local services (such as web hosting) for a LAN group

The Port Forwarding Tab provides the following tabs:

Basic

Forwarding

Basic



Field or Button	Description
Enable UPnP IGD	Enables Universal Plug and Play (UPnP) Internet Gateway Device (IGD) profile to allow certain Windows applications to setup the port forwarding rule dynamically when NAT is enabled on this device.
DMZ (DeMilitarized Zone) IP Address	Enter the DMZ IP Address.

Be sure to click the **Apply** button once you have made changes.

## Forwarding



Forwarding Tab Click on the **ADD** button to create additional Port Forwarding rules

Field or Button	Description
Select	Select a box when you want to delete the specific row.
Protocol	Select TCP (Transmission Control Protocol) or UDP (User Datagram Protocol).
WAN Port Start	Enter the beginning port range for external network access.
WAN Port End	Enter the ending port range for external network access.
LAN IP Address	Enter the IP address to host the service.
LAN Port Start	Enter the beginning port range for internal network access.
LAN Port End	Enter the ending port range for internal network access.
Enabled	Check to enable specific port forwarding.

Be sure to click the **Apply** button once you have made changes.

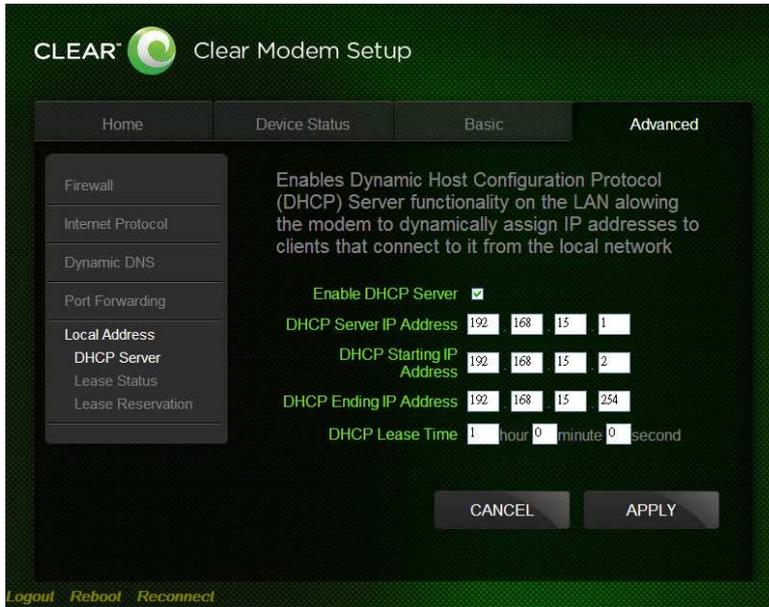
### Local Address Menu

The Local Address menu allows you to configure your Local Area Network (LAN) connections.

The Local Address menu provides the following tabs:

DHCP Server  
 Lease Status  
 Lease Reservation

DHCP Server Tab



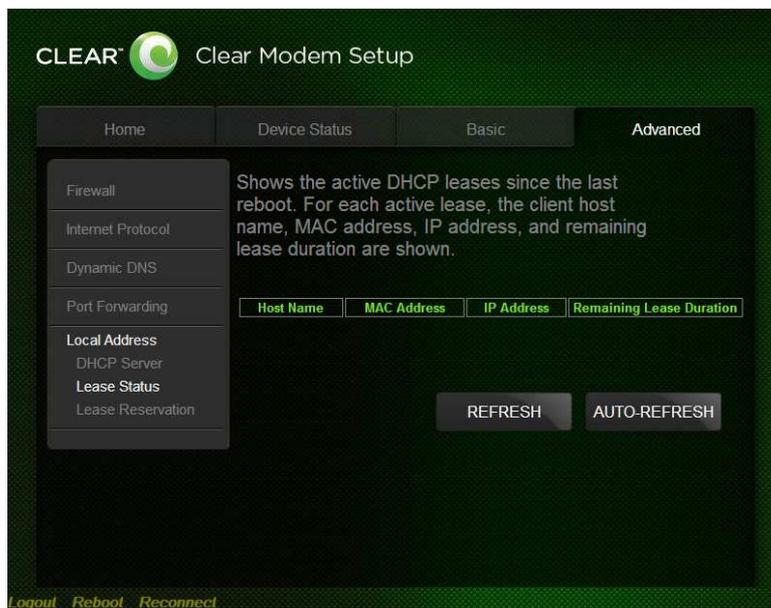
The DHCP Server tab enables Dynamic Host Configuration Protocol (DHCP) server functionality on the LAN, allowing the router to dynamically assign lease IP addresses to clients that connect to it from the local network.

Field or Button	Description
Enable DHCP Server	If selected, the DHCP server on the gateway assigns IP addresses to the computers and other hosts on your network if they have DHCP enabled. By default, the gateway server is enabled. If there is another DHCP server running on your network (on another router), you must disable one of the DHCP servers.
DHCP Server IP Address	Enter the default port forwarding LAN Client IP Address.
DHCP Starting IP Address	Sets the first IP address assigned by the DHCP server, in dotted-decimal format. It must be greater than the IP address value of the gateway. For example, if the IP address of the gateway is 192.168.15.1 (default), the starting IP address must

	be 192.168.15.2 (or higher).
DHCP Ending IP Address	Sets the final IP address assigned by the DHCP server. If the DHCP server runs out of DHCP addresses, users cannot access network resources. If this happens, increase the Ending IP or reduce the Lease Time.
DHCP Lease Time	Sets the time, in seconds, that a network computer remains connected to the gateway using its current assigned IP address. At the end of this time, the DHCP server renews the lease or assigns the computer a new IP address. The default is 3600 seconds (1 hour). The maximum is 999999 seconds (about 278 hours).

Be sure to click the **Apply** button once you have made changes.

### Lease Status

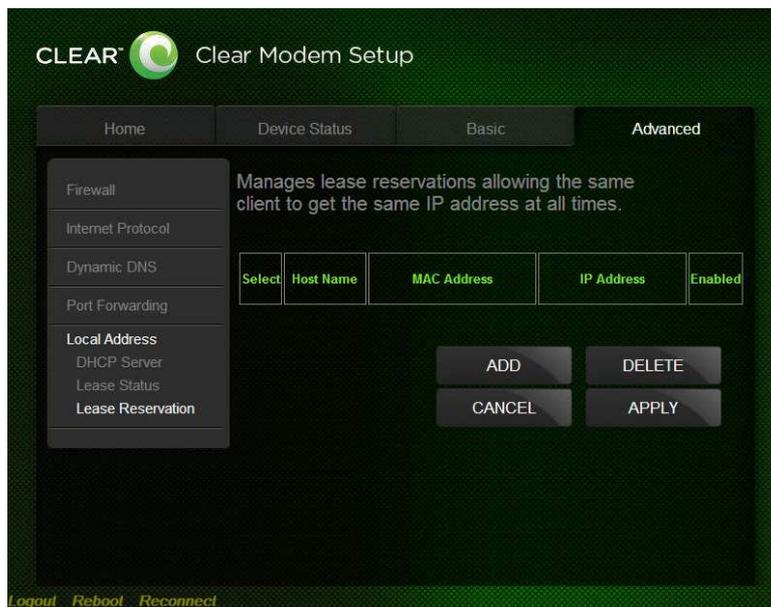


The Lease Status tab in the Local Address menu displays the active DHCP leases since the last reboot.

Field or Button	Description
Client Host Name	Displays the client host name. The Name field is limited to 20 characters (only 5 appear in display).
MAC Address	Media Access Control (MAC) address.
IP Address	Shows the IP Address for each active lease.
Remaining Lease Duration	Shows the amount of time, in seconds, remaining in the lease.

Be sure to click the **Apply** button once you have made changes.

## Lease Reservation



This tab allows you to manage the lease reservation so that the same client receives the same IP address each time.

Field or Button	Description
Select	Select this box if you want to delete an established lease reservation. Be sure to click the <b>Delete</b> button once you have selected your exception to be

	deleted.
Client Host Name	Enter the client host name. The Name field is limited to 20 characters (only 5 appear in display)
MAC Address	Media Access Control (MAC) address. Enter the MAC address of the device.
IP Address	Enter the IP address that you want assigned to the MAC Address.
Enabled	Checking this box enables the lease reservation.

Be sure to click the **Apply** button once you have made changes.

## FAQ

### What are the minimum system requirements to be able to run the Clear Modem?

- System Requirement Pentium II 300 MHz or better with minimum of 64MB RAM.

### What operating systems are supported?

- Operating Systems: Windows 2000/XP/Vista or Mac OS 8 or higher

### Why my Modem is not working?

- Make sure the modem's power adapter is plugged into an active power outlet.
- If you are using a power strip or surge protector, make sure its switch is in the "ON" position.
- Make sure the round end of the power adapter is firmly connected to the modem's power jack.
- Make sure you are using the power adapter that came with your modem. The correct adapter for the Clear Modem Series G provides output power of 12V AC at 2 Amp.
- If you still see no lights, call Clear Care at 888-888-3113.

### Why can't I log on to the Modem?

- Check that the Ethernet cable is properly connected to the Clear Modem and the computer.

### Why can't I connect to the Internet?

- Check the Clear Modem connection status from the Web Interface; refer to the Connection Status section to verify the connection status.
- If the Clear Modem connection is down, and the gateway has not received an IP for 5 to 10 minutes:
  - Reset the Clear Modem using the reset button.

**Why does my WiMAX signal vary?**

- Interference due to materials between the cell tower and the modem, including buildings and trees, could cause the signal to be weak in specific areas, even within the coverage area.

**How do I receive the strongest signal possible?**

- Use the signal strength LEDs on the modem to find the room or location with the strongest signal.

**Additional Troubleshooting Help**

- Contact your service provider for additional help via Clear Care at 888-888-3113.

# Regulatory Notices

**Model No: WIXB-175** WiMAX CPE

Operating Frequency Range: 2.5GHz~2.7GHz

Bandwidth: 5MHz/10MHz

Operation temperature: 0°C~40°C

## **Federal Communication Commission 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 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.

FCC Caution: Any changes or modifications not expressly approved by Clearwire could void the user's authority to operate this 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.

## **IMPORTANT NOTE:**

### **Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **20 cm** between the radiator & your body.

This transmitter must not be co-located or operate in conjunction with any other antenna or

transmitter.

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.