USER GUIDE

AC1900 | 24x8
CABLE MODEM ROUTER

Model CG7500
Product Overview

Front view

*From top to bottom*

**Power**—Lights up green when the modem router is powered on.

**Receive**—Light blinks green while the modem router is searching for a connection over the cable network. Light is solid green when the modem router is receiving data from the cable network. Light is solid blue during multichannel bonding.

**Send**—Light blinks green while the modem router is searching for a connection over the cable network. Light is solid green when the modem router is sending data to the cable network. Light is solid blue during multichannel bonding.

**Status**—Lights up green when the modem router has an Internet connection. Flashes green while the modem router is establishing the Internet connection.

**Ethernet**—Light is solid green when the modem router is connected to a device through the LAN port.

**2.4 GHz Wi-Fi**—Light is solid green when broadcasting 2.4 GHz signal. Light blinks when the modem router is actively sending or receiving data over the network.
**5 GHz Wi-Fi**—Light is solid green when broadcasting 5 GHz signal. Light blinks when the modem router is actively sending or receiving data over the network.

**USB**—Light is solid green when the modem router is connected to a device through the USB port.

**WPS**—Light is solid green when a Wi-Fi Protected Setup™ connection is successfully established. Light blinks slowly while WPS is setting up a connection, and blinks rapidly if an error occurs. Light is off when WPS is idle.
From top to bottom

**USB port**—Connect and share a USB drive on your network or on the internet.

**Reset button**—Press and hold for about five seconds to reset the modem router to factory defaults.

**Ethernet ports**—Connect the modem router to computers and other devices with ethernet cables (also called network cables).

**Cable port**—Connect the modem router to an active cable signal with a coaxial cable.

**Power port**—Connect to the included power adapter.
Installation

Setup

Disconnect any modems or modem routers before setting up your new modem router.

1. Connect the provided coaxial cable to the cable port on the modem router and a wall jack.

2. Connect the power adapter to the modem router and plug into a power source.
3. Connect to the secure Wi-Fi name on the sticker in the Quick Start Guide that came with your modem router. There is also a sticker on the bottom of the modem router. (You can change these details later.) Select the option to automatically connect to this network in the future. You will not have internet access until you complete modem router setup.

4. Open a web browser and type `http://192.168.1.1` in the address bar.

5. In the pop-up window, enter “admin” in the Password field. Click Log in. The web-based setup page of your modem router will appear.

6. Make sure you are on the Quick Start tab. Click Begin to start the setup wizard.

7. When your modem router is ready, the top four lights (power, receive, send, status) will be solid.
Advanced users can select “I want to skip the Setup and configure the router manually.”

Let’s get started

Setup will guide you through activating your modem router and customizing its settings.

☑️ I have read and accepted the License Terms for using this software

☑️ I want to skip the Setup and configure the modem router manually

Done
If you choose to manually set up the modem router, you will need to have the following information available for activation:

- Account number of your broadband subscription
- Phone number linked with your account
- Serial number of the modem router (on the back of the unit)
- MAC address of the modem router (on the back of the unit)

To activate:
Open a web browser from a computer that's connected directly to the modem router. This is where you will need the information above (account number of your broadband service, phone number and new modem router device identifiers).
Some service providers have additional setup steps that will automatically appear in the browser – if not, visit the appropriate link below. Follow the steps for your internet provider or call them if you are unable to get online.
Note—The modem router may reboot several times during this process and activation can take up to five minutes.
After activation, you should be able to connect to the internet wirelessly via your modem router or a wired connection between your computer and the modem router.
Helpful links:
- https://install.charter.com/
- https://activation.cox.net
- www.xfinity.com/activate
Browser-Based Utility

If you would like to change the modem router’s advanced settings, use the browser-based utility. For more help with the utility, click the Help link in the upper-right corner of the screen or go to our support website www.linksys.com/support/cg7500.

How to access the browser-based utility

1. Launch the web browser on your computer, and enter the router’s default Internet Protocol (IP) address, 192.168.1.1, in the address field. Press Enter.

2. In the Password field, enter the password created during setup. If you did not change the password, the default is “admin”.

3. Click Log in to continue.
How to use the browser-based utility

Navigate the utility by using the tabs along the top of the screen and the corresponding specific menus down the left side of the screen.

If you change any settings on a screen, you must click the **Save** button at the bottom of the screen to apply your changes. Likewise, click **Cancel** to clear your changes.

**Note**—*To learn more about any field, click the Help link in the upper-right corner of the screen.*
System Status

Status

Status > Overview

Overview tells you how long the router has been working since its last restart (Router Uptime), and how long it has been connected to the internet (Internet Uptime) in that period. This screen also shows your Wi-Fi name and password, and some details on any Wi-Fi devices managed by Parental Controls.

Status > System Information

System Information page shows basic information such as the MAC address, software version, and the time that has elapsed since the last restart etc.
Status > Wi-Fi

The Wi-Fi screen provides detail about all Wi-Fi bands, including Guest Wi-Fi. Clicking the Wireless Clients button displays details about any connected Wi-Fi devices.
Configuration

Connectivity

Connectivity > Local Network

Your router ships with the most common settings, and several settings are configured during setup. You may never have to change these settings.

LAN IP Address

The router’s IP address on your Wi-Fi. If you change this address, you’ll have to reconnect your devices to your router.

Subnet Mask

The router’s subnet mask on your Wi-Fi. It is used to divide a network into subnets so information can be routed correctly to computers and devices.

DHCP Server

DHCP (Dynamic Host Configuration Protocol) is enabled by default. DHCP assigns IP addresses as needed to devices connected to your Wi-Fi.

DHCP Starting Address

The value that the DHCP server starts with when issuing IP addresses.

DHCP Ending Address

The value that the DHCP server ends with when issuing IP addresses.

DHCP Lease Time

The amount of time a Wi-Fi user is allowed connection to the router with her current IP address. When the time has expired, the user will be automatically assigned a new IP address, or the lease will be renewed.
**Static DNS 1-3**

Domain Name System (DNS) is how the internet translates a domain or website name into an internet address, or URL, that you can access. Your ISP will provide at least one DNS server IP address. You can enter up to three.

**WINS**

Windows Internet Naming Services manages each computer’s interaction with the internet. If you use WINS a server, enter the server’s IP address. Otherwise, leave it blank.

**DHCP Reservations**

Click to add or change the DHCP reservations used on your Wi-Fi. DHCP reservations allow you to assign a unique, fixed IP address to a specific device on your Wi-Fi. This is helpful when managing devices such as print servers, cameras, printers or game consoles. A fixed IP address is also recommended if you want to use port forwarding for devices that need to receive inbound data from the internet. To assign an IP address and MAC address to a device, click **Add** and then enter the device name, IP address, and MAC address. When finished, click **Apply**.

**Connectivity > WAN Setup**

![WAN Setup](image)

**WAN Information**

Select your internet connection type. If you don’t know, call your ISP.

**Automatic Configuration – DHCP**—Select if your ISP assigns IP addresses dynamically, meaning you get different IP addresses each time you start your computer.

**Static IP**—Select this if you use the same IP address each time you connect to the internet. Enter your internet address, subnet mask, default gateway, and DNS entries. You can get this information from your ISP.

**Domain Name Server Address**

Most users get a Domain Name Server address automatically from their ISP. If you subscribe to your own DNS server, select **Use These DNS Servers** and complete the field(s).
Option
This section is for advanced users.

Connectivity > Advanced Routing

Click **Add** to assign a specific IP address, subnet mask, and gateway address to a specific device. Click **Apply**.

Connectivity > Connected Devices

Information about devices connected to your Wi-Fi.
Wi-Fi

Wi-Fi > Wi-Fi Settings

Wi-Fi Name
Personalize the Wi-Fi name that appears in the list of available networks.

Broadcast Wi-Fi Name
Allows Wi-Fi devices to detect your Wi-Fi name when they survey the local area for available Wi-Fi. Not broadcasting your Wi-Fi name does not improve your Wi-Fi security.

Network Mode
Select the standard your Wi-Fi supports.

Bandwidth
The Auto setting provides the best performance with Wireless-B, Wireless G, and Wireless N (2.4 GHz), Wireless-A, Wireless-N, Wireless-AC (5 GHz) devices. For a channel width of 20 MHz, select 20 MHz only.

Channel
Select the channel for Wireless-B, Wireless-G, Wireless-N, Wireless-A, or Wireless-AC networking. If you’re not sure which one to use, choose Auto.

Security Mode
Each device on your Wi-Fi must use the same security mode.

Password
Wi-Fi devices must enter this password, sometimes called a security key, to connect to your Wi-Fi.
Wi-Fi > MAC Filtering

MAC filtering is a way to allow or deny access to your network by identifying specific MAC addresses. It is not a good substitute for a secure Wi-Fi password. If you enable MAC Filtering, Wi-Fi Protected Setup will be disabled automatically.

**MAC Filters**
Select Enabled to begin filtering Wi-Fi devices by MAC address.

**Filter Options**
*Allow Access List* limits access to devices whose MAC addresses are listed. All other devices will be denied. *Deny Access List* allows you to create a list of MAC addresses that cannot access your network. All devices not on that list will be able to connect to your network.

**Add MAC Address**
Add a MAC address to your list.
Wi-Fi > Wi-Fi Protected Setup

Wi-Fi Protected Setup makes it easy to add devices to your Wi-Fi without having to enter a Wi-Fi name and password. To use Wi-Fi Protected Setup, the device you want to connect must support it.

**WPS Enabled**

If you uncheck this box, you can't use Wi-Fi Protected Setup to connect devices to your Wi-Fi, and the Wi-Fi Protected Setup push button on your router will also be disabled.

**Push Button**

Use this if your device has a Wi-Fi Protected Setup button or prompts you to press the Wi-Fi Protected Setup button on your router. Press or click the Wi-Fi Protected Setup button on the device you want to connect to Wi-Fi, and then click the button on this page.

**Router PIN**

Use this if the device you’re connecting asks for the router PIN (Personal Identification Number). The router PIN is also listed on the bottom of the modem router.

**Device PIN**

Use this if your device has a Wi-Fi Protected Setup PIN. Enter the PIN from the device into the PIN field and then click Register.
Wi-Fi > Guest Access

Guest Access is a way to share internet access. Guests can get online, but they can’t see or access other connected devices. You can turn guest access on and off, give it a name and password, and set the number of guest devices allowed.

When you set up your router, a secure guest network was created automatically on the router's 2.4 GHz/5 GHz band. Guest access is available on these two bands. Be sure to keep this in mind if you're connecting other networking devices, such as an extender. It should be configured to use the 2.4 GHz/5 GHz band as well if you plan to use guest access.

Wi-Fi > Advanced Settings

IGMP Snooping is turned on by default. Only advanced users should turn off this setting.
External Storage

External Storage > Status

Click **Eject** before physically disconnecting a USB disk from the modem router. This prevents the possible loss of data, which may occur if you remove the disk while it is transferring data.

External Storage > Folder Access

You can decide who has access to external storage connected by USB to your modem router. When Shared Status is disabled, anyone on your network can access all content on your storage device. If it is enabled, you can specify which users can see which content.

Click **Eject** before physically disconnecting a USB disk from the modem router. This prevents the possible loss of data, which may occur if you remove the disk while it is transferring data.
External Storage > FTP Server

You can access the folders on your storage device remotely from anywhere you have an internet connection using an FTP (File Transfer Protocol) server. You can access the content using a web browser or FTP software.

Server Name – Personalized the name of your FTP server.

FTP Server
Select to enable the FTP server, and make content available remotely.

Internet Access
Select to allow access to your storage device with a web browser.

FTP Port
The default port, 21, will work for most users. Advanced users may change to a different port to serve their needs.

Add FTP Folder
To add a FTP folder, enter the server name and the information to use.

External Storage > Media Server

A media server lets you share across your network content on an attached external storage device. You can share media with devices that are UPnP AV (Audio and Video)-enabled or DLNA (Digital Living Network Alliance)-certified devices in your home. These
include digital media players, gaming consoles with a built-in media player, and digital picture frames.

You can specify which folders are used by the media server, add and disabled/delete folders, and specify how often the folders are scanned for new content.

**Media Server**
Select to share media.

**Server Name**
Personalize the display name of your UPnP media server.

**Scan Interval**
Specify how often the modem router scans folders on the external storage device for new content. Scanning can take several hours, especially the first time the device is scanned, or if you add a lot of new content. Subsequent scans should take less time. To scan the folders immediately, click **Scan Now**.

Click **Add New Folder** to add a new shared media folder. Select the folder on the attached external storage device that contains the content you want to share.

**External Storage > Account**

Two user accounts are preset for the modem router: admin and guest. The password for the admin user is the modem router's admin password. The password for the guest user is "guest".

**Group Management**
If you want to add to the default groups, click **Create New Group** and enter the name, description and the type of permission the group will have. Select **Read and Write** to allow the group to view, edit, or delete content. Select **Read Only** to limit the group to viewing content.

**User Management**
If you want to add a user to one of your groups, click **Create New User** and enter a user name, description, and password, and assign the user to a group.
Security

Security > Firewall

The firewall, which protects your Wi-Fi from internet threats, is enabled by default.

Security > DMZ

The Demilitarized Zone (DMZ) feature can be used to expose a web server, mail server, or web camera to the internet so anyone can access it. This feature is not recommended because it presents significant security risks to the device that you designate for the DMZ. The device will not be protected by the built-in firewalls, internet filters, or modem router web filters.

With DMZ enabled, use the Destination IP Address to identify the device you wish to be in the DMZ. Click View DHCP Client Table to see a list of connected devices. Select the IP address of the desired device and it will automatically populate the Destination IP Address field.
Security > DDNS

The DDNS feature lets you configure a domain name for your home network, which you can use to easily find your network on the internet. This is useful if you want to remotely access a USB drive or web camera over the internet.

Select your DDNS service and complete the fields with information provided to you by your DDNS provider.

Security > Single Port Forwarding

Single Port Forwarding directs inbound traffic from the internet on a specific port to a single device on your Wi-Fi. For example, forwarding inbound web requests, typically on port 80, to a web server. To forward to multiple ports, create additional entries to forward additional ports to the same IP address. Click **Add a New Single Port Forwarding**.

**Application name**

The application or device name using port forwarding. Refer to your device’s documentation for recommendations if needed.

**External Port**

Enter the external port number.

**Internal Port**

Enter the internal port number.
**Protocol**
Select the protocol to use.

**Device IP Address**
Enter the IP address you have reserved for the computer you want to forward internet traffic to.

**Status**
Select to use the port forwarding. If you don’t want to use port forwarding but want to keep the information in the table, unselect the checkbox.

**Security > Port Range Forwarding**

Port forwarding directs inbound traffic from the internet on range of ports to a specific device on your Wi-Fi. For example, some applications can use a range of ports so that if one port is busy, they can try another one. Click **Add a New Port Range Forwarding**.

**Application name**
The application or device name using port forwarding.

**Start-End Port**
The port number or range of ports used by the application or device for port forwarding. To specify a range of ports, separate the first and last port numbers with a dash, for example, 5800-5900.

**Protocol**
Select the protocol to use, typically TCP.

**Device IP Address**
Enter the last three digits of the IP address of the computer running the software that requires port forwarding.

**Status**
Select to use port range forwarding. If you don’t want to use port forwarding but want to keep the information in the table, unselect the checkbox.
Port range triggering allows the modem router to watch outgoing data for specific port numbers. The cable modem remembers the IP address of the device that sends the data so returning data is routed back to the proper device. This is useful when using a USB or Bluetooth headset for online chat and gaming. Click Add a New Port Range Triggering.

**Application name**
The application or device using port triggering.

**Trigger Port Range/Forward Port Range**
The port number or range of ports used by the application or device for port triggering.

**Status**
Select to use port range triggering. If you don't want to use port range triggering for that entry, but want to keep the information in the table, unselect the checkbox.
Allows you to change the modem router password. Use it to access modem router settings and features such as Guest Access and Parental Controls. To change the password, first enter the old password, then type a new password and confirm it. Click **Save**. Be sure to write down this password and keep it somewhere safe.

**Administration > Time Zone**

Set the current time zone for your area and adjust the time for daylight savings time changes.

**Administration > Remote Management**

Select a remote access protocol and identify a port to use when accessing your modem router settings when away from home and not connected to your Wi-Fi.

**Protocol**
Select the protocol for remote access.

**On/Off**
Enabled/Disabled the remote access.

**Port**
Enter the port number that will be open to remote access.

**Allow Any Host to Access the Device Remotely**
Select to allow remote access to the modem router from any external IP address. Deselect to specify an external IP address or range of IP addresses allowed to remotely access your modem router.

**Administration > Gateway Function**

UPnP (Universal Plug and Play) allows devices connected to Wi-Fi to discover each other and automatically create working configurations. Examples of UPnP-capable devices include web cameras, online gaming applications, and VoIP devices. UPnP is enabled by default.

Select to allow users to change router settings or disable your local internet connection while using UPnP.

SIP ALG (Session Initiation Protocol Application Layer Gateway) is a feature that allows certain VOIP service providers to get through your modem router’s firewall. Select to use this feature.

**Administration > Backup**

**Backup Your Configurations**

Back up your modem router’s settings to a file on your computer. You can use the file later if you need to restore the settings. To create a backup file of the current settings.

**Restore Your Configurations**

Click Choose File and navigate to the backup file you want to restore. Click Restore.
Administration > Device Reset

**Restart the Modem Router**

Restarts your modem router by turning it off and then on again. All devices connected to your modem router will be disconnected. They will reconnect automatically when the restart finishes.

**Reset to Factory Default Settings**

Resets all modem router settings to how they were before you set it up. A reset changes the modem router name, password, security settings, parental control settings, and all other settings you have changed. After a reset, you can customize your settings again.
Use Parental Controls to manage internet use by blocking access per device. You also can block specific sites per device. Once you turn on Parental Controls, click **Block Internet Access** next to a device in the *Connected Devices* table. Select *Never, Always or Specific Times*. If you choose *Specific Times*, you will have to select the days and times you want to block the internet on that device.

Click **Add** next to **Block Specific Sites** and Choose Block Sites and enter the URL of the sites you want to block from that device. Click **Apply**. Click **Add** again to block another site.

Use the *Manage Device Table* to change parental control settings. Click **Manage** to make changes and **Delete** to undo all parental controls on a device.

Click **Add a New Device** to assign parental controls to a new device on your Wi-Fi. Enter a device name and the device’s MAC address, then choose when to block the internet to that device.

Click **Save** before leaving the page.
Troubleshooting

DOCSIS Provisioning

This screen provides details on the provisioning of your modem router.

Diagnostics

Use diagnostics to aid in troubleshooting your modem router’s connectivity.

Ping
Check whether a destination IP/URL is available.

Traceroute
Trace the routing path to the destination IP/URL.

Abort
Stop ping test or traceroute test.
The DOCSIS WAN screen shows a DOCSIS overview, and downstream/upstream activity overview. Click Reset FEC Counters to start counting new errors (Correcteds/Uncorrectables).

**DOCSIS Event**

The DOCSIS event log chronicles DOCSIS errors that generated log entries.
The report shows details about your router and its current network settings. This information can be very helpful if you have to call your ISP or Linksys Support for help with your Internet connection or router.

The following buttons are available for both the Devices and Report pages:

**Refresh**
Redisplays the most current information.

**Print**
Prints the information currently displayed.
Specifications

**Linksys GG7500**

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<td>10% to 80% relative humidity, non-condensing</td>
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<td>5% to 90% non-condensing</td>
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</tbody>
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Specifications are subject to change without notice.
NOTES

For regulatory, warranty, and safety information, see the CD that came with your modem router or go to Linksys.com/support.

Maximum performance derived from IEEE Standard 802.11 specifications. Actual performance can vary, including lower wireless network capacity, data throughput rate, range and coverage. Performance depends on many factors, conditions and variables, including distance from the access point, volume of network traffic, building materials and construction, operating system used, mix of wireless products used, interference and other adverse conditions.

Visit linksys.com/support/ for award-winning technical support.

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