

TEW-734GR User Guide

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Product Overview



TEW-734GR

Package Contents

In addition to your router, the package includes:

- Muti-Language Quick Installation Guide
- CD-ROM (Utility & User's Guide)
- Network cable (1.5m / 5ft)
- Power adapter (5V DC, 2A)

If any package contents are missing or damaged, please contact the retail store, online retailer, or reseller/distributor that the item was purchased.

Features

TRENDnet's 300Mbps Wireless N Gigabit Router, model TEW-734GR, incorporates high performance 300Mbps wireless n technology, Gigabit Ethernet ports, and energy saving GREENwifi technology.

Gigabit Wide Area Network and Local Area Network ports transfer wired data fast. Embedded GREENwifi technology reduces wireless radio power consumption by up to 50%.

Advanced Multiple Input Multiple Output (MIMO) antenna technology reduces wireless dead spots. Wi-Fi Protected Setup (WPS) connects other WPS supported wireless adapters at the touch of a button. The latest in wireless encryption and a secure firewall protect your digital network. WMM® Quality of Service technology prioritizes gaming, Internet calls, and video streams. LEDs on the front of the router convey device status.

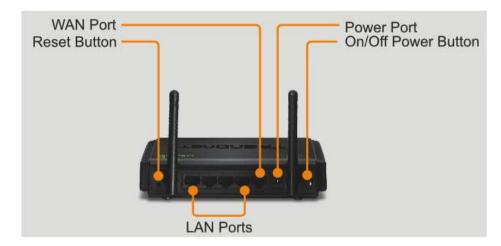
- 4 x 10/100/1000Mbps Auto-MDIX LAN port
- 1 x 10/100Mbps WAN port (Internet)
- 1 x Wi-Fi Protected Setup (WPS) button
- Wi-Fi compliant with IEEE 802.11n and IEEE 802.11b/g standards
- Supports Cable/DSL modems with Dynamic IP, Static IP, PPPoE, PPTP and L2TP
- High-speed data rates up to 300Mbps
- Expansive coverage with MIMO technology
- Advance wireless security of up to WPA2-RADIUS
- 2 x 2dBi detachable external antennas support high speed performance
- Supports Wi-Fi Protected Setup (WPS) for easy connection
- Universal Plug and Play (UPnP)
- Provides additional security with Internet Access Control (MAC Address, Domain & IP Filtering)
- Easy management via Web browser and remote management
- Coverage up to 100 meters (330ft.) indoor and 300meters (980ft.) outdoor (depends on the environment)

*Requires included software utility. **Maximum wireless signal rates are referenced from IEEE 802.11 theoretical specifications. Actual data throughput and coverage will vary depending on interference, network traffic, building materials and other conditions.

Product Hardware Features

Rear Panel View





- Reset Button Use an item such as a paperclip to push and hold this button for 15 seconds and release to reset your router to its factory defaults.
- LAN Ports Connect Ethernet cables (also called network cables) from your router LAN ports and to your wired network devices.
- WAN Port Connect an Ethernet cable (also called network cable) from your router WAN port and to your xDSL/Cable modem.
- Power Port Connect the included power adapter from your router power port and to an available power outlet.
 Note: Use only the adapter that came with your router.
- **On/Off Power Switch** Push your router On/Off push button power switch to turn your router "On" (Inner position) or "Off" (Outer position).
- Antennas The antennas broadcasts wireless signals to allow your wireless clients and wireless network devices to connect to your router.

Front Panel View





- Power This LED indicator is solid green when your router is powered on.
 Otherwise if this LED indicator is off, there is no power to your router.
- **Status** This LED indicator is blinking green when your router is ready and working successfully. If this LED indicator is solid green on or off, your router is not receiving power or not working properly.
- WAN (Link/Activity) This LED indicator is solid green when your router WAN
 port is physically connected to the xDSL/Cable modem Ethernet port (also
 called network port) successfully with an Ethernet cable (also called network
 cable). The LED indicator will be blinking green while data is transmitted or
 received through the WAN port of your router.
- WLAN (Link/Activity) This LED indicator is blinking green when the wireless is "On" and functioning properly on your router. This LED indicator will be blinking green rapidly while data is transmitted or received by your wireless clients or wireless network devices connected to your router.
- LAN 1-4 (Link/Activity) These LED indicators are solid green when the LAN
 ports are physically connected to your wired network devices successfully with
 an Ethernet cable (also called network cable). These LED indicators will be
 blinking green while data is transmitted or received through your router LAN
 ports.
- USB Port 2.0 Port The USB 2.0 port allows you to connect USB printers and storage devices to your network and share access to these devices to computers on your network through the use of the included USB software utility.

Side Panel View



• WPS (Wi-Fi Protected Setup) – Push and hold this button for 3 seconds to activate WPS. The button LED is blinking blue when WPS is activated.

Application Diagram



The router is installed in the room where the xDSL/Cable modem (typically supplied by your ISP "Internet Service Provider") is located in order to physically connect an Ethernet cable (also called network cable) from the router WAN port to the modem network port which connects to the Internet. Wireless signals from the router are broadcasted to allow wireless clients such as laptops with wireless capability to discover and connect to the router providing wireless access to the local network and the Internet. In addition, a USB printer is connected to the USB 2.0 port located on the front of the router, allowing any wired or wireless computer connected to the this network centralized access to the printer through the use of the included software utility.

Basic Router Setup

Creating a Home Network

What is a network?

A network is a group of computers or devices that can communicate with each other. A home network of more than one computer or device also typically includes Internet access, which requires a router.

A typical home network may include multiple computers, a media player/server, a printer, a modem, and a router. A large home network may also have a switch, additional routers, access points, and many Internet-capable media devices such as TVs, game consoles, and web cameras.

- Modem Connects a computer or router to the Internet or ISP (Internet Service Provider).
- Router Connects your wireless and wired network devices to each other and to the modem.
- **Switch** Allows you to connect several wired network devices to your home network. Your router has a built-in network switch (the LAN port 1-4). If you have more wired network devices than available Ethernet ports on your router, you will need an additional switch to add more wired connections.

How to set up a home network

- 1. For a network that includes Internet access, you'll need:
 - Computers/devices with an Ethernet port (also called network port) or wireless networking capabilities
 - A modem and Internet service to your home, provided by your ISP (modem typically supplied by your ISP)
 - A router to connect your computers and devices and also connects to the modem.

- 2. Make sure that your modem is working. Your ISP can help you set up your modem and verify that it's working correctly.
- 3. Set up your router. See "How to setup your router" below.
- 4. To connect additional wired computers or wired network devices to your network, see "Connect additional wired devices to your network" on page 11.
- 5. To set up wireless networking on your router, see "Wireless Networking and Security" on page 12.

How to setup your router

The easiest way and fastest way to follow the included Quick Installation Guide or continue to the next section "Router Installation" on <u>page 6</u>, and complete the remaining sections of "Router Installation".

Where to find more help

In addition to this User's Guide, you can find help below:

- http://www.trendnet.com/support
 (documentation, downloads, FAQs, how to contact technical support)
- Internet service to your home, provided by an ISP (Internet Service Provider)
- Autorun CD (Quick Installation Guide)

Router Installation

Before you Install

It is recommended, that you verify your Internet connection type with your ISP (Internet Service Provider) and ensure you have all the information for one of the following connection types below before proceeding with the router installation.

1. Obtain IP Addı	ess Automatically (DHCP)
-------------------	--------------------------

Host Name (Optional) Clone Mac Address (Optional)

WAN IP Address:	 	·_			
(e.g. 215.24.24.129)					
WAN Subnet Mask:	 		 	_	
WAN Gateway IP Address:					
DNS Server Address 1:					
DNS Server Address 2:					

3. PPPoE to obtain IP automatically

User Name:	
Password:	
Verify Password:	

4. PPPoE with a fi	xed IP a	ddress	5	
User Name:				
Password:				
Verify Password:				_
IP Address:				_ (e.g. 215.24.24.129

5. PPTP or Russian PPTP

Type (Dynamic IP or Static IP)
My IP Address:
(e.g. 215.24.24.129)
Subnet Mask:
Gateway:
Server IP:
PPTP Account:
PPTP Password:
Retype Password:

6. L2TP or Russia L2TP

Type (Dynamic IP or Static IP)
My IP Address:
(e.g. 215.24.24.129)
Subnet Mask:
Gateway:
Server IP:
L2TP Account:
L2TP Password:
Retyne Password:

7. Russia PPPoE

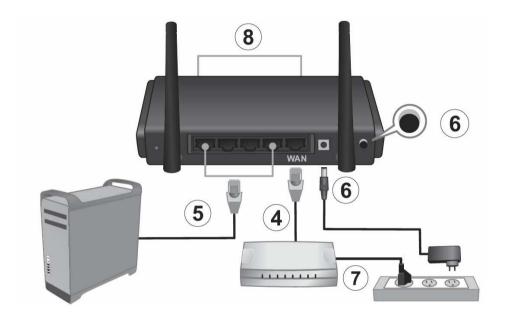
ype (Dynamic IP or Static IP)		
Jser Name:		
Password:	_	
/erify Password:		_
P Address:		(e.g. 215.24.24.129

Hardware Installation

1. Verify that you have an Internet connection when connecting your computer directly to the xDSL/Cable modem.



- 2. Turn off your xDSL/Cable modem.
- 3. Disconnect the Ethernet cable (also called network cable) from your xDSL/Cable modem and your computer.
- 4. Connect one end of a network cable to your router WAN port. Connect the other end of the network cable to your xDSL/Cable modem network port.
- 5. Connect one end of a network cable to one of your router LAN ports (1-4). Connect the other end of the network cable to the computer Ethernet port (also called network port).
- 6. Connect the included power adapter to your router Power Port and then to an available power outlet. Push the On/Off Power Switch on your router to the "On" (inner) position.
- 7. Turn on your xDSL/Cable modem.
- 8. Verify that the following front panel LED indicators on your router (**Power** is solid green, **Status** is blinking green, **WAN** and **WLAN** (Wireless) are solid green, and the **LAN** port for which your computer is connected is sold green.



Setup Wizard

1. Open your web browser (e.g. Internet Explorer, Firefox, Safari, Chrome, or Opera) and go to http://192.168.10.1. Your router will prompt you for a user name and password.



2. Next to Language, click the drop-down list to select your preferred language. Enter the default user name and password and then click Login.

Default User Name: admin
Default Password: admin



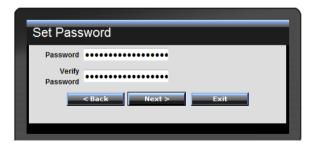
3. The Setup Wizard will automatically appear. Click Next.

Note: If the Setup Wizard does not automatically appear, click Wizard.



4. Enter a new login password for your router and enter it again next to "Verify Password" to confirm. This will change the password required to log into your router. Click Next.

Note: Once you change the login password, it will be required every time you log into your router.

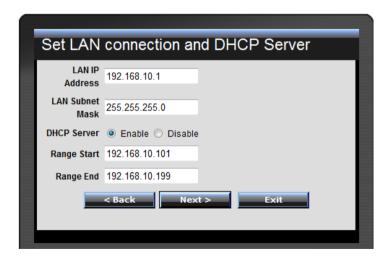


5. Select the Time Zone for your router and click **Next.**



6. Click Next at the Set LAN connection and DHCP Server window.

Note: If you are an advanced user, you can make LAN IP address interface and DHCP IP address range changes here.



7. Configure the settings based on information provided by your ISP (Internet Service Provider). Follow the Wizard instructions to complete your configuration.

Note: Each Internet connection type may have different options.



8. Wireless LAN: Select Enable for Wireless LAN.

Note: Selecting Disable will disable the wireless functionality of the router and will not allow wireless clients to connect.

9. **SSID:** Enter a unique SSID (Wireless Network Name). Choose something that you would easily identify when searching for available wireless networks (using laptops, smart phones, etc.) Click **Next**.



Note:

- 1. To protect your network from unauthorized access, it is recommended to enable wireless encryption. See "Secure your wireless network" on page 13) for information on configuring wireless security.
- 2. Once wireless security is enabled on your router, each wireless device connecting to your router must be configured with the same wireless security type and key.
- 10. Click **Restart** and wait for your router to reboot.



11. Wait for your router to reboot.



Connect additional wired devices to your network

You can connect an additional computer or device to your network by connecting one end of an Ethernet cable (also called network cable) from your computer or device Ethernet port (also called network port) to one of the available LAN ports labeled 1,2,3,4 on your router. Check the status of the LED indicators (1, 2, 3, or 4) on the front panel of your router to ensure the physical cable connection from your computer or device.

Note: If you encounter issues connecting to your network, there may be a problem with your computer or device network settings. Please ensure that your computer or device network settings (also called TCP/IP settings) are configured to obtain IP address settings automatically (also called dynamic IP address or DHCP) and to Obtain DNS Server address settings automatically.



Wireless Networking and Security

How to choose the type of security for your wireless network

There are a few different wireless security types supported in wireless networking each having its own characteristics which may be more suitable for your wireless network taking into consideration compatibility, performance, as well as the security strength along with using older wireless networking hardware (also called legacy hardware).

It is strongly recommended to enable wireless security to prevent unwanted users from accessing your network and network resources (personal documents, media, etc.).

In general, it is recommended that you choose the security type with the highest strength and performance supported by the wireless computers and devices in your network. Please review the security types to determine which one you should use for your network.

- **WEP:** Legacy encryption method supported by most 802.11b/g hardware. Older hardware may only support up to WEP encryption.
- WPA: Legacy encryption method supported in most 802.11g hardware.
- WPA2: Currently the most secure method of wireless security and required for 802.11n performance.

Note: Check the specifications of your wireless network adapters and wireless appliances to verify the highest level of encryption supported.

Below is brief comparison chart of the wireless security types and the recommended configuration depending on which type you choose for your wireless network.

Security Comparison	WEP	WPA	WPA2
Wireless Standard	IEEE 802.11a/b/g	IEEE 802.11a/b/g	IEEE 802.11a/b/g/n
Performance	Up to 54Mbps	Up to 54Mbps	Up to 450Mbps*
Strength	Low	Medium	High
Additional Options	Open System or Shared Key, HEX or ASCII, Different key sizes	TKIP or AES, Preshared Key or RADIUS	TKIP or AES, Preshared Key or RADIUS
Recommended Configuration	Open System ASCII 13 characters	TKIP Preshared Key 8-63 characters	AES Preshared Key 8-63 characters

^{*}Dependent on the maximum 802.11n data rate supported by the device (150Mbps, 300Mbps, or 450Mbps)

Secure your wireless network

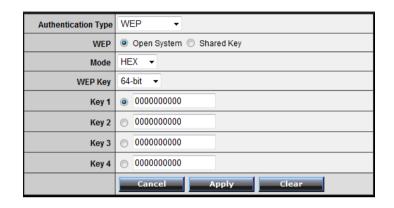
Wireless > Security

After you have determined which security type to use for your wireless network (see "How to choose the security type for your wireless network" on page 12), you can set up wireless security.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Wireless, and click on Security.
- 3. Click on the **Authentication Type** drop-down list to select your wireless security type.



If selecting **WEP** (Wired Equivalent Privacy), please review the WEP settings to configure and click **Apply** to save the changes.



• WEP- Choose Open System or Shared Key.

Note: It is recommended to use Open System because it is known to be more secure than Shared Key.

Mode – Choose HEX or ASCII.

Note: It is recommended to use ASCII because of the much larger character set that can be used to create the key.

• WEP Key – Choose the key length 64-bit or 128-bit.

Note: It is recommended to use 128-bit because it is more secure to use a key that consists of more characters.

WEP Key Format	HEX	ASCII
Character set	0-9 & A-F, a-f only	alphanumeric (a,b,C,?,*, /,1,2, etc.)
64-bit key length	10 characters	5 characters
128-bit key length	26 characters	13 characters

• **Key 1-4** – Choose a key index 1,2,3, or 4 and enter the key.

Note: The Key Index # must also match when configuring wireless devices to connect to your wireless network.

If selecting **WPA** or **WPA2** (Wi-Fi Protected Access) **PSK** (Preshared Key), please review the **WPA** or **WPA2 PSK** settings to configure and click **Apply** to save the changes.

Note: It is recommended to choose the specific security type **WPA** or **WPA2**, instead of choosing **WPA-AUTO**.



 PSK/EAP— Choose PSK (Preshared Key) or EAP (Extensive Authentication Protocol, also called RADIUS) Remote Authentication Dial-In User Service).
 Note: It is recommended to use PSK because it is easier to setup and simply requires you to create a passphrase compared to EAP which requires you to connect an external RADIUS server and requires more configuration.

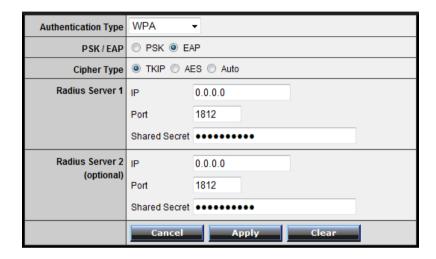
• Cipher Type – Choose TKIP, AES, or Auto.

Note: For best the wireless performance and compatibility with wireless devices:

- o When selecting **WPA** security, it is recommended to use **TKIP**.
- o When selecting **WPA2** security, it is recommended to use **AES**.
- It is recommended to configure the specific cipher type instead of choosing Auto.
- Passphrase Enter the passphrase.
- Confirmed Passphrase Re-enter the passphrase.

Note: 8-63 alphanumeric characters (a,b,C,?,*,/,1,2, etc.)

For advanced users, if selecting **WPA** or **WPA2** (Wi-Fi Protected Access) **EAP** (Extensible Authentication Protocol, also called RADIUS, Remote Authentication Dial-In User Service), please review the WPA or WPA2 EAP settings to configure and click **Apply** to save the changes.



• RADIUS Server 1/2 - Configure the RADIUS server settings.

Note: RADIUS Server 2 is optional and can be configured as a backup if there are any issues with RADIUS Server 1.

- o **IP** Enter the IP address of the RADIUS server. (e.g. 192.168.10.250)
- Port Enter the port your RADIUS server is configured to use for RADIUS authentication.

Note: It is recommended to use port 1812.

 Shared Secret – Enter the shared secret used to authorize your router with your RADIUS server.

Connect wireless devices to your router

There is a variety of wireless network devices that can connect to your wireless network such as:

- Gaming Consoles
- Internet enabled TVs
- Network media players
- Smart Phones
- Wireless Laptop computers

Each device may have its own software utility for searching and connecting to available wireless networks, therefore, you must refer to the User's Manual/Guide of your wireless capable laptop/computer or wireless adapter to determine how to search and connect to available wireless networks.

See the "Appendix" on page 52 for general information on connecting to a wireless network.

Connect wireless devices using WPS

WPS (Wi-Fi Protected Setup) is a feature that makes it easy to connect devices to your wireless network. If your wireless devices support WPS, you can use this feature to easily add wireless devices to your network.

Note: You will not be able to use WPS if you set the SSID Broadcast setting to Disabled.

There are two methods the WPS feature can easily connect your wireless devices to your network.

- PBC (Push Button Configuration) Method
 - o Hardware Push Button located physically on your router
 - WPS Software/Virtual Push Button located in router management page
- PIN (Personal Identification Number) Method located in router management page

Note: Refer to your wireless device documentation for details on the operation of WPS.

PBC (Hardware Push Button)

To add a wireless device to your network, simply push the WPS button on the wireless device you are connecting, then push and hold the WPS button located on your router for 3 seconds and release it. A blue LED on your router WPS button will flash indicating that the WPS setup process has been activated on your router. (See "Product Hardware Features" on page 2)

For connecting additional WPS supported devices, repeat this process for each additional device.

PBC (Software/Virtual Push Button)

Wireless > WiFi Protected Setup

In addition to the hardware push button located physically on your router, the router management page also has push button which is a software or virtual push button you can click to activate WPS on your router.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Wireless, and click on WPS.
- 3. To add a wireless device to your network, simply the push the WPS button on the wireless device you are connecting, then, in your router management page next to **Push Button Configuration**, click **Start PBC**.



4. You will receive a message counting down indicating the WPS process is activated on your router.

Please press down the Push Button (physical or virtual) on the wireless device you are adding to your wireless network within 110 seconds ...

5. You will receive a success message indicate that the wireless device successfully connected using WPS.



PIN (Personal Identification Number)

Wireless > WiFi Protected Setup

If your wireless device has WPS PIN (typically an 8-digit code printed on the wireless device product label or located in the wireless device wireless software utility), you can use this method.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Wireless, and click on WPS.
- 3. Next to **Client PIN Number**, enter the WPS PIN of the wireless device you are connecting and click **Start PIN**.



Note: You may need to initiate the WPS PIN on your wireless device first when using this method. Refer to your wireless device documentation for details on the operation of WPS.

Basic wireless settings

Wireless > Basic

You can change the basic wireless network settings on your router such as the SSID (also called wireless network name), 802.11 mode, channel, and channel width.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Wireless, and click on Basic.
- 3. Please review the additional wireless settings to configure and click **Apply** to save the changes.

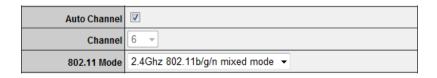


Wireless – Enabled turns on the wireless networking on your router and
 Disabled turns off wireless networking on your router.

Note: It is recommended to leave the wireless setting to **Enabled** unless you do not plan on connecting any wireless computers or devices to your network.



• **SSID** – The name of your wireless network. Identifies your wireless network when connecting with wireless devices. Enter the wireless network name.



- Auto Channel Check the option to allow your router to automatically select
 the best channel for wireless communication.
- Channel To manually set the channel, uncheck Auto Channel, then click the drop-down list and select the channel for wireless communication.
- **802.11 Mode** Select the appropriate mode for your network.
 - 2.4GHz 802.11b/g/n mixed mode Select this mode for the best compatibility. This mode allows 802.11b, 11g, and 11n wireless devices to connect your wireless network.
 - 2.4GHz 802.11b/g mixed mode This mode allows wireless devices to connect to your wireless network at only 802.11b and 802.11g.
 - 2.4GHz 802.11n only mode This mode allows wireless devices to connect to your wireless network at only 802.11n.
 - 2.4GHz 802.11g only mode This mode allows wireless to connect to your wireless network at only 802.11g.
 - 2.4GHz 802.11b only mode This mode allows wireless devices to connect your wireless network only at 802.11b.

Note: Please check the specifications on your wireless devices for the highest wireless capability supported first before applying these settings. If you are unsure, it is recommended that you keep the default setting for the best compatibility.

When applying the 802.11 mode setting, please keep in mind the following:

- Wireless devices that support 802.11n are backwards compatible and can connect wirelessly at 802.11g or 802.11b.
- Connecting at 802.11b or 802.11g will limit the capability of your 802.11n supported wireless devices from obtaining higher performance and data rates.
- Allowing 802.11b or 802.11g devices to connect to an 802.11n capable wireless network may degrade the wireless network performance below the higher performance and data rates of 802.11n.
- Wireless devices that only support 802.11b or 802.11g will not be able to connect to a wireless network that is set to 802.11n only mode.
- Wireless devices that only support 802.11b will not be able to connect to a wireless network that is set to 802.11g only mode.



- **Channel Width** This setting only applies to wireless devices connecting at 802.11n. Select the appropriate channel width for your wireless network.
 - 20 MHz This mode operates using a single 20MHz channel for wireless devices connecting at 802.11n. This setting may provide more stability than Auto 20/40 MHz for connectivity in busy wireless environments where there are several wireless networks in the area.
 - Auto 20/40 MHz This mode can automatically switch between using a single 20MHz channel or 40MHz (two 20MHz channels). When 40MHz is active, this mode is capable of providing higher performance only if the wireless devices support the 40MHz channel width and if there is no adjacent wireless interference.

SSID Broadcast – Enabled allows wireless devices to search and discover your
wireless network name (also called SSID) broadcasted by your router. Disabled
turns off the ability for wireless devices to find your network. It is still possible
for wireless devices to be configured to connect to your wireless network.

Note: Setting this option to Disabled, will disable WPS.

 WMM – Wi-Fi Multimedia is QoS feature that improves quality of audio, video, and voice applications by prioritizing wireless traffic. This feature requires the wireless device to also support WMM. Click Enabled or Disabled to turn this feature on or off on your router.

Steps to improve wireless connectivity

There are a number of factors that can impact the range of wireless devices. Follow these tips to help improve your wireless connectivity:

- 1. Adjust your wireless devices so that the signal is traveling in a straight path, rather than at an angle. The more material the signal has to pass through the more signal you will lose.
- 2. Keep the number of obstructions to a minimum. Each obstruction can reduce the range of a wireless device. Position the wireless devices in a manner that will minimize the amount of obstructions between them.
- 3. Building materials can have a large impact on your wireless signal. In an indoor environment, try to position the wireless devices so that the signal passes through less dense material such as dry wall. Dense materials like metal, solid wood, glass or even furniture may block or degrade the signal.
- 4. Antenna orientation can also have a large impact on your wireless signal. Use the wireless adapter's site survey tool to determine the best antenna orientation for your wireless devices.
- 5. Interference from devices that produce RF (radio frequency) noise can also impact your signal. Position your wireless devices away from anything that generates RF noise, such as microwaves, radios and baby monitors.
- 6. Any device operating on the 2.4GHz frequency will cause interference. Devices such as 2.4GHz cordless phones or other wireless remotes operating on the 2.4GHz frequency can potentially drop the wireless signal.
- 7. Although the phone may not be in use, the base can still transmit wireless signal. Move the phone's base station as far away as possible from your wireless devices.

- 8. Make sure that your router is in a good location.
 - a. For the widest coverage area, install your router near the center of your home, and near the ceiling, if possible.
 - Avoid placing the router on or near metal objects (such as file cabinets and metal furniture), reflective surfaces (such as glass or mirrors), and masonry walls.
 - c. Any obstruction can weaken the wireless signal (even non-metallic objects), so the fewer obstructions between the router and the wireless device, the better.
 - d. Place the router in a location away from other electronics, motors, and fluorescent lighting.
 - e. Many environmental variables can affect the router's performance, so if your wireless signal is weak, place the router in several locations and test the signal strength to determine the ideal position.

If possible, upgrade wireless network interfaces (such as wireless cards in computers) from older wireless standards to 802.11n. If a wirelessly networked device uses an older standard, the performance of the entire wireless network may be slower. If you are still experiencing low or no signal consider repositioning the wireless devices or installing additional access points.

Advanced wireless settings

Wireless > Advanced

These settings are advanced options that can be configured to change the advanced wireless functionality mechanisms of your router. It is recommended that these settings remain set to their default values unless you are knowledgeable about the effects of changing these values. It is possible to have undesirable wireless functionality from your router if these settings are improperly modified. The general information regarding these options is listed for reference only.

Beacon Interval	100 (default:100 msec, range:25~1000)	
RTS Threshold	2346 (default:2346, range: 256~2346)	
Fragmentation Threshold	2346 (default:2346, range: 1500~2346, even number only)	
DTIM Interval	1 (default:1, range: 1~255)	
	Cancel Apply	

• **Beacon Interval** – A beacon is a management frame used in wireless networks that transmitted periodically to announce the presence and provide information about a specific wireless network. The interval is the amount time between each beacon transmission.

Default Value: 100 milliseconds (range: 25-1000)

RTS Threshold – In the RTS/CTS function in wireless networks, a wireless device
that needs to send data will need to send out a RTS (Request To Send) frame
first, and the destination wireless device will need to send a response called a
CTS (Clear to Send) frame. The RTS/CTS function is used to prevent wireless
data traffic collisions. The RTS Threshold defines the smallest data packet size
allowed to initiate the RTS/CTS function.

Default Value: 2346 (range: 256-2346)

• Fragmentation Threshold – Fragmentation in wireless networks is the process breaking down of data communication into smaller data packets in order to improve data efficiency when transferring or receiving data between wireless devices. The fragmentation threshold defines the maximum size of the data packets that are broken down.

Default Value: 2346 (range: 1500~2346, even numbers only)

DTIM Interval – A DTIM (Delivery Traffic Indication Message) is an
informational message that is sent as part of a beacon by an access point (your
wireless router) to a wireless client (wireless device or connecting station) in
sleep mode to provide an alert that data is awaiting delivery. The DTIM Interval
(also called Data Beacon Rate) is the amount of time between DTIM
transmission included in part of a beacon.

Default Value: 1 (range: 1-255)

Access Control Filters

Access control basics

Access > Filter

MAC address filters

Access > Filter > MAC Filters

Every network device has a unique, 12-digit MAC (Media Access Control) address. Using MAC filters, you can allow only known MAC addresses to connect your network and deny all other unknown MAC addresses from connecting to your network.

Note: Denied MAC addresses will not be able to communicate to your wired or wireless devices, connect to your router management page, or access the Internet.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Access, click on Filter, and click on MAC Filters.

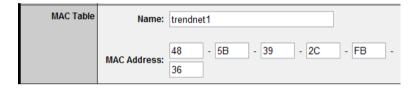
Filters	Filters are used to allow or deny LAN/WLAN users from accessing the local network (LAN/WLAN), web management, and/or Internet.
	MAC Filters
	Domain/URL Blocking
	Protocol/IP Filters

3. Add the MAC addresses to the MAC Table first before applying the MAC filter function.

Note: MAC filter can be configured to allow access to the listed MAC address and deny all others unlisted or vice versa. The recommended function is to choose to only allow access to the MAC addresses listed and deny all others unlisted because it is easier to determine the MAC addresses of devices in your network then to determine which MAC addresses you do not want to allow access.

- Name Enter a name for the MAC address entry.
- MAC Address Enter the 12-digit MAC address. (e.g. 00-11-22-AA-BB-CC)

Note: You can check the Dynamic DHCP List for the MAC addresses of the devices on your network, see "Set up the DHCP server on your router" on <u>page 29</u> or refer to your computer or device documentation to find the MAC address.



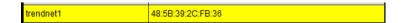
Click **Add** to save the new MAC address entry to the MAC Table. After clicking **Add**, the MAC address entry will appear in the list below. Repeat for each device.

Name	MAC Address
trendnet1	48:5B:39:2C:FB:36

• Add – Saves a new MAC address entry.



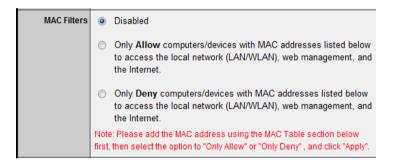
To modify an existing MAC address entry, click on the entry in the MAC Table. When selected, the entry will be highlighted.



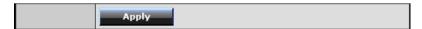
- **Delete** Removes an existing MAC address entry.
- **Update** Modifies an existing MAC address entry.
- Cancel Discard changes to an existing MAC address entry.

- 4. Review the MAC Filter options.
 - **Disabled** disables MAC address filter.
 - Only **Allow** computers/devices with MAC addresses listed below to access the local network (LAN/WLAN), web management, and the Internet.
 - Only **Deny** computers/devices with MAC addresses listed below to access the local network (LAN/WLAN), web management, and the Internet

Note: Do not configure this setting until you have added the MAC addresses to the MAC Table first. The recommended option is to only **Allow** access to the MAC addresses listed and deny all others unlisted.



Click Apply to save the changes.

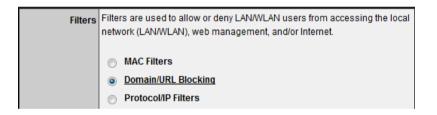


Domain/URL Filters

Access > Filter > Domain/URL Blocking

You may want to allow or block computers or devices on your network access to specific websites (e.g. <u>www.trendnet.com</u>, etc.), also called domains or URLs (Uniform Resource Locators). You may also enter a keyword (e.g instead of complete URL to generally allow or block computers or devices access to websites that may contain the keyword in the URL or on the web page.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Access, click on Filter, and click on Domain/URL Blocking.



- 3. Review the Domain/URL blocking options.
 - Disabled disables domain/URL blocking
 - Allow users to access all domains listed.
 (Deny access to all other unlisted websites)
 - Deny users to access all domains listed.
 (Allow access to all other unlisted websites)

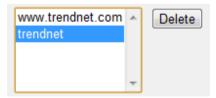
Click **Apply** to save the changes.



4. Next to **Domains List**, enter the website/URL/domain (e.g. www.trendnet.com) or keyword (e.g. trendnet) to allow or block access and click **Add** to add this to the domains list. The entry will be listed below. Repeat for each additional website or keyword added.



- Cancel Discard changes to the domains list.
- Delete Delete an existing website/URL/domain or keyword entry, click on the entry in the Domains List. When selected, the entry will be highlighted. Click
 Delete to remove it from the list.



Protocol/IP filters

Access > Filter > Protocol/IP Filters

You may want to block computers or devices on your network access to specific ports (used or required by a specific application) to the Internet.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Access, click on Filter, and click on Protocol/IP Filters.



To simplify configuration, there is a list of commonly used pre-defined protocol/IP filters to modify otherwise, you can choose to manually add a new protocol/IP filter.

Name	Protocol	Port Range	IP Range
Filter FTP	Any	20-21	0.0.0.0-0.0.0.0
Filter HTTP	Any	80-80	0.0.0.0-0.0.0.0
Filter HTTPS	Any	443-443	0.0.0.0-0.0.0.0
Filter DNS	Any	53-53	0.0.0.0-0.0.0.0
Filter SMTP	Any	25-25	0.0.0.0-0.0.0.0
Filter POP3	Any	110-110	0.0.0.0-0.0.0.0
Filter Telnet	Any	23-23	0.0.0.0-0.0.0.0

- 3. Review the protocol/IP filter settings.
 - Enabled Selecting Enabled turns on the protocol/IP filter and selecting
 Disabled turns it off.
 - Name Enter a name for the protocol/IP filter.

- Protocol Select the protocol type to filter. TCP, UDP, or you can select * to choose all protocol types.
- **Port** Enter the port number or port range numbers to block. (e.g. 80-80 or 20-21).
- **IP Range** Enter the IP address or IP address range to apply the protocol/IP filter. (e.g. 192.168.10.20-192.168.10.20 or 192.168.10.20-192.168.10.30).

Note: The filter will not be applied to IP addresses outside of the range specified.



• Add – Saves a new protocol/IP filter.



To modify an existing protocol/IP filter, click on the entry in the protocol/IP filter list. When selected, the entry will be highlighted.



- **Delete** Removes an existing protocol/IP filter.
- **Update** Modifies an existing protocol/IP filter.
- Cancel Discard changes to an existing protocol/IP filter.

Firewall rules

Access > Filter > Firewall Rule

You may want specify inbound or outbound access control to allow/deny sources (or Internet IP addresses) to your network from the Internet or from computers or devices on your network to the Internet. Firewall rules may allow for more granular control of specific inbound and outbound access between your network and the Internet. It is recommended that these settings remain set to default unless you are knowledgeable about the effects of changing the firewall rule configuration. It is possible to have undesirable functionality from your router if these settings are improperly modified.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Access, click on Filter, and click on Firewall Rule.
- 3. In the list, there are two default rules specific which cannot be modified. One rule to deny all access from the Internet to your network for security and the other to allow all access from your network to the Internet. Any additional rules will take precedence over the default rules.

	Action	Name	Source	Destination	Protocol
√	Deny	Default	WAN,*	LAN,*	* *
V	Allow Default LA		LAN,*	WAN,*	* *

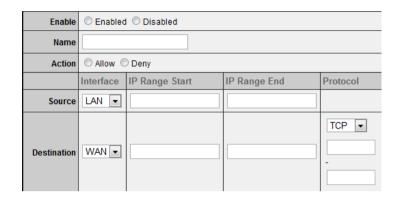
- 3. Review the firewall rule settings.
 - Enabled Selecting Enabled turns on the firewall ruler and selecting Disabled turns it off.
 - Name Enter a name for the firewall rule.
 - Action Select Allow will allow access and selecting Deny will block or deny
 access.
 - Source Configure the source information for the firewall rule.
 - Interface Click the drop-down list and select LAN (your network) or WAN (Internet) depending on where the traffic will be coming from.
 - IP Range Start Changes the starting address for the firewall rule to apply (e.g. 192.168.1.20)
 - o **IP Range End** Changes the last address for the firewall rule to apply (e.g. 192.168.1.30)

Note: The IP Range Start and End specify the range of IP addresses that the firewall rule will apply. Both fields need to be completed so use the same value to specify a single IP address.

- **Destination** Configure the destination information for the firewall rule.
 - Interface Click the drop-down list and select LAN (your network) or
 WAN (Internet) depending on where the traffic will be coming from.
 - o **IP Range Start** Changes the starting address for the firewall rule to apply (e.g. 192.168.10.20)
 - o **IP Range End** Changes the last address for the firewall rule to apply (e.g. 192.168.10.30)

Note: The IP Range Start and End specify the range of IP addresses that the firewall rule will apply. Both fields need to be completed so use the same value to specify a single IP address.

Protocol – Select the protocol type to filter. TCP, UDP, ICMP, or you can select * to choose all protocol types. Below, enter the port number or range of port numbers to apply the firewall rule. (e.g. 80-80 or 20-21). For all ports, use the port range 1 - 65534.



- Add Saves a new firewall rule.
- Update Modifies an existing firewall rule.
- Delete Removes an existing firewall rule.
- New Saves a new firewall rule.
- Cancel Discard changes to an existing firewall rule.



- **Priority Up** Moves an existing firewall rule one step higher in priority.
- Priority Down Moves an existing firewall rule one step below in priority.
- **Update Priority** Save updated changes to priority.

Note: Top position in the list is the highest priority, bottom position in the list is the lowest priority.

	Action	Name	Source	Destination	Protocol	
V	Allow	trendnet1_rule	LAN: 192.168.10.101	WAN: *	*,1 - 65534	1st Priority (Highest
V	Deny	Default	WAN,*	LAN,*	*,*	2nd Priority
√	Allow	Default	LAN,*	WAN,*	*,*	3rd Priority (Lowest)

To modify an existing firewall rule, click on the rule in the firewall rules list. When selected, the entry will be highlighted.

V	Allow	trendnet1_rule	LAN: 192.168.10.101	WAN: *	*,1 - 65534
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Advanced Router Setup

Access your router management page

Note: Your router management page http://192.168.10.1 is accessed through the use of your Internet web browser (e.g. Internet Explorer, Firefox, Chrome, Safari, Opera) and will be referenced frequently in this User's Guide.

1. Open your web browser (e.g. Internet Explorer, Firefox, Safari, Chrome, or Opera) and go to http://192.168.10.1. Your router will prompt you for a user name and password.



2. Next to Language, click the drop-down list to select your preferred language. Enter the default user name and password and then click **Login**.

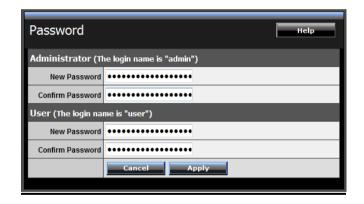
Default User Name: admin Default Password: admin



Change your router login password

Main > Password

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on Password.
- 3. Under the **Administrator** section, in the **New Password** field, enter the new password, and in the **Confirm Password** field, retype the new password again to confirm.
- 4. To save changes, click Apply.



Note: If you change the router login password, you will need to access the router management page using the User Name "admin" and the new password instead of the default password "admin".

User (Optional): The User account is an additional account used for viewing the settings on the router management page only. Accessing the router management page using the User account will restrict access to viewing only and will not allow any settings to be changed.

Default User Name: user Default Password: user

Set your router date and time

Main > Time

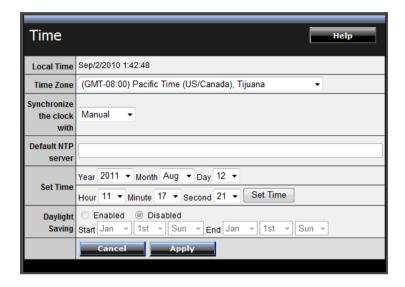
- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on Time.
- 3. Next to **Time Zone**, click the drop-down list to select your **Time Zone**.
- 4. Next to Synchronize the clock with, you can choose one of the following options:
 - Manual Set your router date and time manually in the **Set Time** section. To save changes, click **Apply**.

Note: Time is specified in 24-hour format. OR

Automatic – Set your router date and time to synchronize with an NTP
 (Network Time Protocol) server address (e.g. pool.ntp.org). Enter the NTP
 server address next to Default NTP server, (e.g. pool.ntp.org). Next to Daylight
 Saving, set the annual range when daylight saving is activated. To save changes,
 click Apply.

Note: NTP servers are used for computers and other network devices to synchronize time across network.

5. You can verify the time/date settings next to **Local Time** at the top of the page. **Local Time** displays the current date and time set on your router.

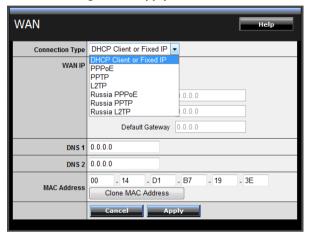


Manually configure your Internet connection

Main > WAN

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on WAN.
- 3. In the **Connection Type** drop-down list, click the type of Internet connection provided by your ISP (Internet Service Provider).
- 4. Complete the fields required by your ISP.

- 5. Complete the optional settings only if required by your ISP.
- 6. To save changes, click Apply.



Note: If you are unsure which Internet connection type you are using, please contact your ISP (Internet Service Provider). **Note:** If your ISP requires a host name to be specified, you can specify it under Main > LAN & DHCP Server, in the **Host Name** field. To save changes, click **Apply** at bottom of the page.

Clone a MAC address

Main > WAN

On any home network, each network device has a unique MAC (Media Access Control) address. Some ISPs (Internet Service Providers) register the MAC address of the device (usually a router or a computer) connected directly to the modem. If your computer MAC address is already registered with your ISP and to prevent the re-provisioning and registration process of a new MAC address with your ISP, then you can clone the address (assign the registered MAC address of your previous device to your new router). If you want to use the MAC address from the previous device (computer or old router that directly connected to the modem, you should first determine the MAC address of the device or computer and manually enter it into your router using the clone MAC address feature.

Note: For many ISPs that provide dynamic IP addresses automatically, typically, the stored MAC address in the modem is reset each time you restart the modem. If you are installing this router for the first time, turn your modem before connecting the router to your modem. To clear your modem stored MAC address, typically the procedure is to disconnect power from the modem for approximately one minute, then reconnect the power. For more details on this procedure, refer to your modem's User Guide/Manual or contact your ISP.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on WAN.
- 3. Under your Internet connection settings, find the MAC Address section shown below.



- 4. Click either **Clone MAC Address** to clone the MAC address of the computer you are currently using or manually enter the 12-digit MAC address of your old router.
- 5. To save changes, click Apply.



Change your router IP address

Main > LAN & DHCP Server

In most cases, you do not need to change your router IP address settings. Typically, the router IP address settings only needs to be changed, if you plan to use another router in your network with the same IP address settings, if you are connecting your router to an existing network that is already using the IP address settings your router is using, or if you are experiencing problems establishing VPN connections to your office network through your router.

Note: If you are not encountering any issues or are not faced with one of the cases described above or similar, it is recommended to keep your router IP address settings as default.

Default Router IP Address: 192.168.10.1

Default Router Network: 192.168.10.0 / 255.255.255.0

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on LAN & DHCP Server.
- 3. Enter the router IP address settings.

IP Address	192.168.10.1
Subnet Mask	255.255.255.0

- IP Address Enter the new router IP address. (e.g. 192.168.200.1)
- **Subnet Mask** Enter the new router subnet mask. (e.g. 255.255.255.0)

Note: The DHCP address range will change automatically to your new router IP address settings so you do not have to change the DHCP address range manually to match your new router IP address settings.

4. To save changes, click **Apply**.

Note: You will need to access your router management page using your new router IP address to access the router management page. (e.g Instead of using the default http://192.168.10.1 using your new router IP address will use the following format using your new router IP address http://(new.router.ipaddress.here) to access your router management page.

Set up the DHCP server on your router

Main > LAN & DHCP Server

Your router can be used as a DHCP (Dynamic Host Configuration Protocol) server to automatically assign an IP address to each computer or device on your network. The DHCP server is enabled by default on your router. If you already have a DHCP server on your network, or if you do not want to use your router as a DHCP server, you can disable this setting. It is recommended to leave this setting enabled.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on LAN & DHCP Server.
- 3. Review the DHCP Server settings.
 - **DHCP Server** Enable or Disable the DHCP server.
 - Start IP Changes the starting address for the DHCP server range. (e.g. 192.168.10.20)
 - End IP Changes the last address for the DHCP server range. (e.g. 192.168.10.30)

Note: The Start IP and End IP specify the range of IP addresses to automatically assign to computers or devices on your network.

- Domain Name (Optional) Specifies a domain name to assign to computers or devices. (e.g. trendnet.com)
- Lease Time Click the drop-down list to select the lease time.

Note: The DHCP lease time is the amount of time a computer or device can keep an IP address assigned by the DHCP server. When the lease time expires, the computer or device will renew the IP address lease with the DHCP server, otherwise, if there is no attempt to renew the lease, the DHCP server will reallocate the IP address to be assigned to another computer or device.

4. To save changes, click Apply.



Dynamic DHCP List – You can view the list of active lease entries for computers or devices that have been assigned IP addresses automatically from the DHCP server on your router.

Dynamic DHCP List			
Host Name	IP Address	MAC Address	
	192.168.10.101	48:5B:39:2C:FB:36	

Set up DHCP reservation

Main > LAN & DHCP Server

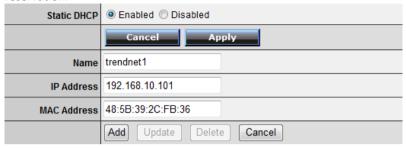
DHCP (Dynamic Host Configuration Protocol) reservation (also called Static DHCP) allows your router to assign a fixed IP address from the DHCP server IP address range to a specific device on your network. Assigning a fixed IP address can allow you to easily keep track of the IP addresses used on your network by your computers or devices for future reference or configuration such as virtual server (also called port forwarding, see "Virtual Server" on page 34) or special applications (also called port triggering, see "Special Applications" on page 35).

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on LAN & DHCP Server.
- 3. Review the DHCP reservation settings.
 - Static DHCP— Enable or Disable the DHCP reservation feature.
 - Name Enter a name for the reservation.
 - IP Address Enter the IP address to assign to the reservation. (e.g. 192.168.10.101)

Note: You cannot assign IP addresses outside of the DHCP range. The IP address is required to be within the DHCP IP address range (Start IP & End IP).

 MAC Address – Enter the MAC (Media Access Control) address of the computer or network device to assign to the reservation. (e.g. 00:11:22:AA:BB:CC)

Add - Saves the reservation.



Static DHCP List – You can view the list of reservations for computers or devices that have been created in this list.

Static DHCP List				
Host Name	IP Address	MAC Address		
trendnet1	192.168.10.101	48:5B:39:2C:FB:36		

To modify an existing reservation, click on the entry in the Static DHCP list. When selected, the entry will be highlighted.

trendnet1	192.168.10.101	48:5B:39:2C:FB:36
trenuneti	192.100.10.101	40.00.09.20.00.00

- **Update** Saves changes to an existing reservation.
- **Delete** Removes an existing reservation.
- Cancel Discards changes to existing reservation.

Enable/disable UPnP on your router

Management > Remote Management

UPnP (Universal Plug and Play) allows devices connected to a network to discover each other and automatically open the connections or services for specific applications (e.g. instant messenger, online gaming applications, etc.) UPnP is enabled on your router by

default to allow specific applications required by your computers or devices to allow connections through your router as they are needed.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Management, and click on Remote Management.
- 3. Next to UPnP, click Enabled or Disabled to turn the feature on or off on your router.

Note: It is recommended to leave this setting enabled, otherwise, you may encounter issues with applications that utilize UPnP in order allow the required communication between your computers or devices and the Internet.

4. To save changes, click Apply.



Allow/deny VPN connections through your router

Management > Remote Management

VPN (Virtual Private) Network) is a network that uses a public network, such as the Internet, to provide secure communications between a remote computer or network and another network. Some offices often provide VPN access to their networks to enable employees to work their remote office/home office, or while traveling.

If your office or place of work has allowed and authorized access for you to access their network through VPN, the default VPN settings in your router have been configured to pass through the most common types of VPN protocols, which typically does not require any additional configuration changes.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Management, and click on Remote Management.

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- 3. Next to **PPTP, L2TP, or IPsec** (depending the VPN protocol your corporation requires) click **Enabled** or **Disabled** to turn the VPN pass through feature on or off on your router. **Note:** It is recommended to leave these settings enabled.
- 4. To save changes, click Apply.



Allow/deny multicast streaming

Management > Remote Management

In some cases, applications require multicast communication (also called IP multicast which is the delivery of information to a specific group of computers or devices in a single transmission) typically used in media streaming applications. Multicast streaming is enabled by default on your router to allow applications that require multicast communication through your router which typically does not require and additional configuration changes.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Management, and click on Remote Management.
- 3. Next to **Multicast Stream**, click **Enabled** or **Disabled** to turn the feature on or off on your router.

Note: It is recommended to leave this setting enabled.

4. To save changes, click Apply.



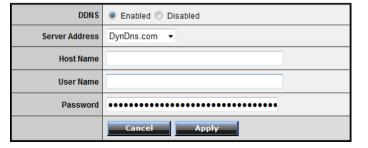
Identify your network on the Internet

Main > Dynamic DNS

If you want to remotely access computers or devices on your network attached to your router, you will need to be able to identify your network on the Internet. The DDNS (Dynamic DNS) feature allows you to identify your network on the Internet even if your Internet IP address changes as the DDNS service providers allow you to create a domain name you can use to easily identify your network on the Internet.

Note: First, you will need to sign up for one of the DDNS service providers listed in the **Server Address** drop-down list.

- 1. Sign up for one of the DDNS available service providers list under **Server Address**. (e.g. *dyndns.com*, *no-ip.com*, etc.)
- 2. Log into your router management page (see "Access your router management page" on page 26).
- 3. Click on Main and click on Dynamic DNS.
- 4. Next to DDNS, click Enabled.
- 5. In the **Server Address** drop-down list, select the provider you selected, and enter your information in the fields.
- 6. To save changes, click Apply.



Allow remote access to your router management page

Management > Remote Management

You may want to make changes to your router from a remote location such at your office or another location while away from your home.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Management, and click on Remote Management.
- 3. Under the HTTP section, click Enabled.
 - Port— It is recommended to leave this setting as 8080.
 Note: If you have configured port 8080 for another configuration section such as virtual server or special application, please change the port to use.
 (Recommended port range 1024-65534)
 - Remote IP Range It is recommended to leave this setting as *, to allow remote access from anywhere on the Internet.
 - **Note**: You can enter a specific range of Internet IP addresses that are allowed to access your router management page, all others will be denied.



4. To save changes, click Apply.

Open a device on your network to the Internet

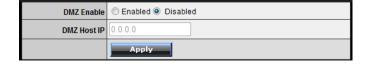
DMZ

Access > DMZ

You may want to expose a specific computer or device on your network to the Internet to allow anyone to access it. Your router includes the DMZ (demilitarized zone) feature that makes all the ports and services available on the WAN/Internet side of the router and forwards them to a single IP address (computer or network device) on your network. The DMZ feature is an easy way of allowing access from the Internet however, it is also very **insecure** method.

It is strongly recommended to use **virtual server** (also called port forwarding, see "Virtual Server" on <u>page 34</u>) instead, to allow access to your computers or network devices from the Internet.

- 1. Make sure to configure your computer or network device to use a static IP address or you can use the DHCP reservation feature (see "Set up DHCP reservation" on page 30).
- 2. Log into your router management page (see "Access your router management page" on page 26).
- 3. Click on Access, and click on DMZ.
- 4. Next to DMZ Enable, click Enabled.
- 5. Next to **DMZ Host IP**, enter the IP address you assigned to the computer or network device to expose to the Internet.
- 6. To save changes, click **Apply**.



Virtual Server

Access > Virtual Server

Virtual Server (also called port forwarding) allows you to define specific ports (used or required by a specific application) and forward them to a single IP address (a computer or device) on your network. Using this feature is more secure compared to using DMZ (see "DMZ" on page 33) in which DMZ forwards all ports instead of only specific ports used by an application. An example would be forwarding a port to an network/IP camera (typically on TRENDnet IP cameras use HTTP TCP port 80 for remote access web requests) on your network for to allow remote access to it.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Access, and click on Virtual Server.

Name	Protocol	LAN Server
Virtual Server FTP	TCP 21/21	0.0.0.0
Virtual Server HTTP	TCP 80/80	0.0.0.0
Virtual Server HTTPS	TCP 443/443	0.0.0.0
Virtual Server DNS	UDP 53/53	0.0.0.0
Virtual Server SMTP	TCP 25/25	0.0.0.0
Virtual Server POP3	TCP 110/110	0.0.0.0
Virtual Server Telnet	TCP 23/23	0.0.0.0
PPTP	TCP 1723/1723	0.0.0.0
NetMeeting	TCP 1720/1720	0.0.0.0

To simplify configuration, there is a list of commonly used pre-defined virtual server entries to modify, otherwise, you can choose to manually add a new virtual server.



- 3. Review the virtual server settings.
 - Enabled Selecting Enabled turns on the virtual server and selecting Disabled turns off the virtual server.
 - Name Enter a name for the virtual server.
 - Protocol Select the protocol required for your device. TCP, UDP, or you can select Both to choose both TCP & UDP.

Note: Please refer to the device documentation to determine which ports and protocols are required.

- **Private Port** Enter the port number required by your device.
- Public Port Enter the port number used to access the device from the Internet.

Note: The **Public Port** can be assigned a different port number than the **Private Port** (also known as port redirection), however it is recommended to use the same port number for both settings. Please refer to the device documentation to determine which ports and protocols are required.

LAN Server – Enter the IP address of the device to forward the port. (e.g. 192.168.10.101).

Note: You should assign a static IP address to the device or use DHCP reservation to ensure the IP address of the device does not change.

- Add Saves a new virtual server entry.
- **Delete** Removes an existing virtual server.
- **Update** Modifies an existing virtual server.
- Cancel Discard changes to an existing virtual server.

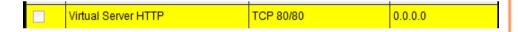


Example: To forward TCP port 80 to your network/IP camera

1. Make sure to configure your network/IP camera to use a static IP address or you can use the DHCP reservation feature (see "Set up DHCP reservation" on page 30).

Note: You may need to reference your camera documentation on configuring a static IP address.

- 2. Log into your router management page (see "Access your router management page" on page 26).
- 3. Click on Access, and click on Virtual Server.
- 4. In the list below, click the pre-defined virtual server entry named Virtual Server HTTP.



Note: The selected item will be highlighted in yellow when selected.

5. The fields will be populated with the selected pre-defined virtual server entry.



- 6. Click **Enabled** to turn on this virtual server.
- 7. Next to **Name**, you can enter another name for the virtual server, otherwise, leave the default name.
- 8. Next to **Protocol**, make sure **TCP** is selected in the drop-down list.
- 9. The **Private Port** and **Public Port**, make sure port number **80** is configured for both settings.
- 10. Next to **LAN Server**, enter the IP address assigned to the camera. (e.g. 192.168.10.101)
- 11. To save the changes, click Update.



Special Applications

Access > Special AP

Special applications (also called port triggering) is typically used for online gaming applications or communication applications that require a range of ports or several ports to be dynamically opened on request to a device on your network. The router will wait for a request on a specific port or range of ports (or trigger port/port range) from a device on your network and once a request is detected by your router, the router will forward a single port or multiple ports (or incoming port/port range) to the device on your network. This feature is not typically used as most devices and routers currently use UPnP (Universal Plug and Play) to automatically configure your router to allow access for applications. See "Enable/disable UPnP on your router" on page 31.

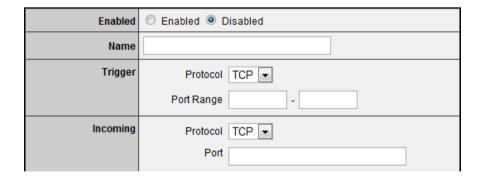
Note: Please refer to the device documentation to determine if your device supports UPnP first, before configuring this feature.

1. Log into your router management page (see "Access your router management page" on page 26).

2. Click on Access, and click on Special AP.

Name	Trigger Port Range	Incoming Port
Battle.net	Any 6112-6112	Any 6112
Dialpad	Any 7175-7175	Any 51200-51201,51210
ICU II	Any 2019-2019	Any 2000-2038,2025-2051,2069,2085,3010-3030
PC-to-Phone	Any 12053-12053	Any 12120,12122,24150-24220
Quick Time 4	Any 554-554	Any 6970-6999

To simplify configuration, there is a list of commonly used pre-defined special application entries to modify, otherwise, you can choose to manually add a new special application.



- 3. Review the special application settings.
 - Enabled Selecting Enabled turns on the special application and selecting
 Disabled turns it off.
 - Name Enter a name for the special application.
 - Trigger Port or port range requested by the device.

Protocol – Select the protocol requested by the device. **TCP**, **UDP**, or you can select **Both** to choose both TCP and **UDP**.

TEW-734GR

Port Range – Enter the ports or port range requested by the device.
 (e.g. 554-554 or 6112-6112).

Note: Please refer to the device documentation to determine which ports and protocols are required.

- Incoming Port(s) forwarded to the device.
 - Protocol Select the protocol to be forwarded to the device. TCP,
 UDP, or you can select Both to choose both TCP and UDP.
 - Port Range Enter the ports or port range to be forwarded to the device.

(e.g. 2000-2038,2069,2081,2200-2210).

Note: Please refer to the device documentation to determine which ports and protocols are required.

• Add – Saves a new special application.

Add Update

Delete Cancel

To modify an existing application, click on the entry in the special applications list. When selected, the entry will be highlighted.



- Delete Removes an existing special application.
- **Update** Modifies an existing special application.
- Cancel Discard changes to an existing special application.

Change your router IP address

Main > LAN & DHCP Server

In most cases, you do not need to change your router IP address settings. Typically, the router IP address settings only needs to be changed, if you plan to use another router in your network with the same IP address settings, if you are connecting your router to an existing network that is already using the IP address settings your router is using, or if you are experiencing problems establishing VPN connections to your office network through your router.

Note: If you are not encountering any issues or are not faced with one of the cases described above or similar, it is recommended to keep your router IP address settings as default.

Default Router IP Address: 192.168.10.1

Default Router Network: 192.168.10.0 / 255.255.255.0

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Main, and click on LAN & DHCP Server.
- 3. Enter the router IP address settings.

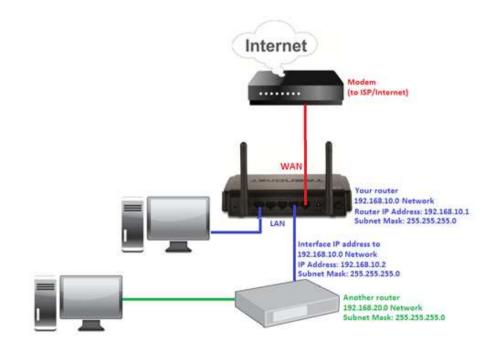
IP Address	192.168.10.1	
Subnet Mask	255.255.255.0	

Add static routes to your router

Routing > Static

You may want set up your router to route computers or devices on your network to other local networks through other routers. Generally, different networks can be determined by the IP addressing assigned to those networks. Generally speaking and for the case of an example, your network may have 192.168.10.x IP addressing and another network may have 192.168.20.x IP addressing and because the IP addressing of these two networks are different, they are separate networks. In order to communicate between the two separate networks, routing needs to be configured. Below is an example diagram where routing is needed for devices and computers on your network to access the other network.

Note: Configuring this feature assumes that you have some general networking knowledge.



- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Routing, and click on Static.
- 3. Review the static route settings.
 - **Network Address** Enter the IP network address of the destination network for the route.

(e.g. 192.168.20.0)

 Network Mask – Enter the subnet mask of the destination network for the route.

(e.g. 255.255.255.0)

- **Gateway Address** Enter the gateway to the destination network for the route. (e.g. 192.168.10.2)
- Interface Click the drop-down list and select the Interface on your router where the route is active.

(e.g. *LAN*)

• **Metric** – Enter the metric or priority of the route. The metric range is 1-15, the lowest number 1 being the highest priority. (e.g. 1)

Network Address	
Network Mask	
Gateway Address	
Interface	LAN •
Metric	

• Add – Saves the static route.



To modify an existing reservation, click on the entry in the static route list. When selected, the entry will be highlighted.



- **Update** Saves changes to an existing static route.
- **Delete** Removes an existing static route.
- Cancel Discards changes to existing static route.

Enable dynamic routing on your router

Routing > Dynamic

You may want set up your router to route computers or devices on your network to other local networks through other routers. If other routers support dynamic routing such as RIP (Routing Information Protocol), you can enable this feature on your router to automatically learn the required routes to reach those networks. It is required that the same dynamic routing protocol and version is also enabled on the other routers in order your router and the other routers to exchange information about the network.

Note: Configuring this feature assumes that you have some general networking knowledge.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Routing, and click on Dynamic.
- 3. Select the appropriate dynamic routing protocol and version communicate with other routers.
 - Transmit Allows your router to send out network information to other routers so other routers can dynamically build routes to your network.
 - o **Disabled** Disable sending routing information from your router to other routers.
 - RIP 1 Sends out routing information to other routers using the RIP version 1 protocol.
 - RIP 2 Sends out routing information to other routers using the RIP version 2 protocol.

- Receive Allows your router to receive network information from other router so your router can build routes to other networks.
 - Disabled Disable receiving routing information from other routers to your router.
 - o **RIP 1** Receive routing information from other routers using the RIP version 1 protocol.
 - RIP 2 Receive routing information from other routers using the RIP version 2 protocol.



4. Click **Apply** to save the changes or click **Cancel** to discard the changes.



Router Maintenance & Monitoring

Reset your router to factory defaults

Tools > Settings

You may want to reset your router to factory defaults if you are encountering difficulties with your router and have attempted all other troubleshooting. Before you reset your router to defaults, if possible, you should backup your router configuration first, see "Backup and restore your router configuration settings" on page 41.

There are two methods that can be used to reset your router to factory defaults.

 Reset Button – Located on the rear panel of your router, see "Product Hardware Features" on page 2. Use this method if you are encountering difficulties with accessing your router management page.

OR

- Router Management Page
- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Tools and click on Settings.
- 3. Under **Restore factory default settings**, and next to **Restore**, click **Restore**. If prompted, click **Yes** or **OK**.



Router Default Settings

Administrator User Name	admin
Administrator Password	admin
Router IP Address	192.168.10.1
Router Subnet Mask	255.255.255.0
DHCP Server IP Range	192.168.10.101-192.168.199
Wireless	Enabled
SSID (wireless network name)	TRENDnet652
Wireless Security	Disabled
802.11 Mode	2.4GHz 802.11b/g/n mixed mode
Channel	Auto Channel

Backup and restore your router configuration settings

Tools > Settings

You may have added many customized settings to your router and in the case that you need to reset your router to default, all your customized settings would be lost and would require you to manually reconfigure all of your router settings instead of simply restoring from a backed up router configuration file.

To backup your router configuration:

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Tools and click on Settings.
- 3. Under Save Configuration Settings and next to Save Settings, click Save.

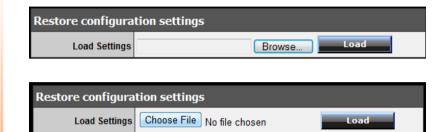


4. Depending on your web browser settings, you may be prompted to save a file (specify the location) or the file may be downloaded automatically to the web browser settings default download folder. (Default Filename: *cfg.bin*)

To restore your router configuration:

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on **Tools** and click on **Settings**.

3. Under Restore Configuration Settings, next to Load Settings, depending on your web browser, click on Browse or Choose File.



A separate file navigation window should open.

- 4. Navigate to the router configuration file to restore (Default Filename: *cfg.bin*).
- 5. Select the router configuration file to restore and click **Load**. (Default Filename: *cfq.bin*). If prompted, click **Yes** or **OK**.
- 6. Wait for the router to restore settings.

Upgrade your router firmware

Tools > Firmware

TRENDnet may periodically release firmware upgrades that may add features or fix problems associated with your TRENDnet router model and version. To check if there is a firmware upgrade available for your device, please check your TRENDnet model and version using the link below. http://www.trendnet.com/downloads/

In addition, it is also important for you to check the firmware version and compare it to the version your router is currently running. If there is a newer version available, also review the release notes to check if there were any new features you may want or if any problems were fixed that may have been experiencing.

- 1. If a firmware upgrade is available, download the firmware to your computer.
- 2. Unzip the file to a folder on your computer.

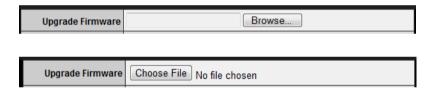
Please note the following:

- Do not interrupt the firmware upgrade process. Do not turn off the device or press the Reset button during the upgrade.
- If you are upgrade the firmware using a laptop computer, ensure that the laptop is connected to a power source or ensure that the battery is fully charged.
- Disable sleep mode on your computer as this may interrupt the firmware upgrade process.
- Do not upgrade the firmware using a wireless connection, only using a wired network connection.
- Any interruptions during the firmware upgrade process may permanently damage your router.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on **Status** and click on **Device Information** to check your router's current firmware version at the top of the page.

Firmware Version:

- 3. Click on Tools and click on Firmware.
- 4. Depending on your web browser, next to **Upgrade Firmware**, click **Browse** or **Choose File**.



- 5. Navigate to the folder on your computer where the unzipped firmware file (.bin) is located and select it.
- 6. Click Upgrade. If prompted, click Yes or OK.



Restart your router

Tools > Restart

You may want to restart your router if you are encountering difficulties with your router and have attempted all other troubleshooting.

There are two methods that can be used to restart your router.

- **Disconnect the power adapter** Located on the rear panel of your router, see "Product Hardware Features" on page 2.
 - Use this method if you are encountering difficulties with accessing your router management page. This is also known as a hard reboot or power cycle.
 - Disconnect the power adapter from the power port of your router for 10 seconds, then, plug the power adapter back into the power of your router. Wait for your router Status light to begin flashing.

OR

- Router Management Page This is also known as a soft reboot or restart.
- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on **Tools** and click on **Restart**. If prompted, click **Yes** or **OK**.

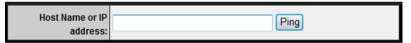


Check connectivity using the router management page

Tools > Ping Test

For troubleshooting purposes, you may want to check your router connectivity using the ping (also known as a network connectivity test) test tool on your router management page.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Tools and click on Ping Test.
- 3. Enter in the IP address (e.g. 192.168.10.101) or host name (e.g. www.trendnet.com) to test.
- 4. Click Ping.



5. You will receive a *success* or *fail* result message of the address you entered providing a basic indicating of the router's connectivity to the Internet or devices that are connected to your network. Click **Back** to bring you back to the **Ping Test** page.



Check the router system information

Status > Device Information

You may want to check the system information of your router such as WAN (Internet) connectivity, wireless and wired network settings, router MAC address, and firmware version.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Status and click on Device Information.
- 3. Review the device information.
 - **Firmware Version** The current firmware version your router is running.
 - Router Up Time The duration your router has been running continuously without a restart/power cycle (hard or soft reboot) or reset.

Firmware Version:	
Router up time :	

WAN (Internet) Information

- MAC Address The current MAC address used by your router's WAN port or interface configuration.
- Connection Displays the current WAN (Internet) connection status. When
 using DHCP Client (or Dynamic IP address) Internet connection type, you will
 provide the option to Release and Renew your IP address settings.

Renew Release

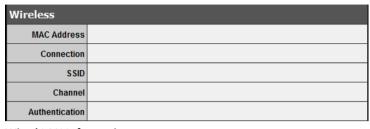
Other Internet connection types such as PPPoE will and the mode set will provide the option to Connect and Disconnect. Connect Disconnect

- IP Address The current IP address assigned to your router WAN port or interface configuration.
- Subnet Mask The current subnet mask assigned to your router WAN port or interface configuration.
- Default Gateway The current gateway assigned to your router WAN port or interface configuration.
- DNS (Domain Name System) The current DNS address(es) assigned to your router port or interface configuration.

WAN	
MAC Address	
Connection	
IP Address	
Subnet Mask	
Default Gateway	
DNS	

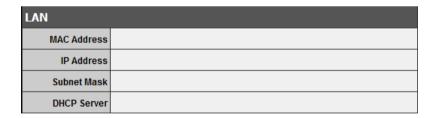
Wireless Information

- MAC Address The current MAC address of your router's wireless or interface configuration.
- Connection Displays the status if your wireless functionality on your router is enabled or disabled.
- SSID Displays the current wireless network name assigned to your router.
- Channel Displays the current wireless channel your router is operating.
- Authentication Displays the current wireless security configured on your router.



Wired LAN Information

- MAC Address The current MAC address of your router's wired LAN or interface configuration.
- IP Address Displays your router's current IP address.
- Subnet Mask Displays your router's current subnet mask.
- DHCP Server Display your router's DHCP server status, enabled or disabled, and provides a link to the DHCP client listing.



View your router log

Status > Log

Your router log can be used to obtain activity information on the functionality of your router or for troubleshooting purposes.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Status and click on Log.
- 3. Review the device log information.
 - Time Displays the time of the log entry. If the time is inaccurate, make sure to set the router date and time correctly. (See "Set your router date and time" on page 27)
 - Type Displays a notification regarding the type of log.
 - Message Displays the log message.

Time	Туре	Message
Sep 1 01:38:57	user.warn	kernel: wlan0: A STA is expired - 00:14:D1:90:5E:A7
Sep 1 01:38:53	user warn	kernel: wlan0: A wireless client is associated - 7C:ED:8D:2E:9F:B3
Sep 1 01:38:53	user.warn	kernel: wlan0: A wireless client is associated - 7C:ED:8D:2E:9F:B3

Router Log Navigation

- First Page Displays the first page of the log.
- Last Page Displays the last page of the log.
- **Previous Page** Display the log page previous to the current. The **Page: 1/1** will display the current page.
- Next Page Displays the log page next to the current.
- Clear Log Clears all logging
- Refresh The Page: 1/1 will display the current page.



Configure your router log

Status > Log Setting

You may want send your router log to your e-mail address or to an external log server (also known as Syslog server) so you can check it periodically while away from home. You may also want to only see specific categories of logging.

Send router logs to your e-mail address

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Status and click on Log Setting.
- 3. Review the e-mail log settings.
 - SMTP Authentication Set this option to Enabled if your e-mail service requires authentication. If not, leave this setting to Disabled.

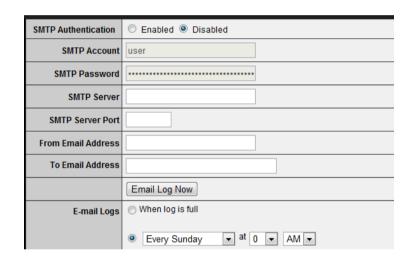
Note: If you unsure of this setting check with your e-mail service provider if authentication is required.

- **SMTP Account** Enter your account user name for your e-mail service.
- SMTP Password Enter your password for your e-mail service.
- **SMTP Server** Enter the IP address (e.g. *10.10.10.10*) or domain name (e.g. *mail.trendnet.com*) of your e-mail server.
- SMTP Server Port Enter the port used by your e-mail service. (e.g. Default SMTP Server Port: 25)
- From Email Address Enter a sender e-mail address. (e.g. router@trendnet.com)

Note: This does not need to be real e-mail address, only used for identification purposes when checking your e-mail.

• To Email Address – Enter your e-mail address.

- **Email Log Now** Click this option to send an e-mail with the current router log using your email settings.
- **Email Logs** Select when you want the router log to be e-mailed.
 - When log is full The router log will be e-mailed to your e-mail address when router internal log is full.
 - O Click the drop-down list and configure to e-mail logs according to a set schedule. Once on a specific day of the week or once every day.



4. To save changes, click Apply.



Send router logs to an external log server

1. Log into your router management page (see "Access your router management page" on page 26).

- 2. Click on Status and click on Log Setting.
- 3. Next to **Syslog Server**, enter the IP address of the external log server to send router logging.

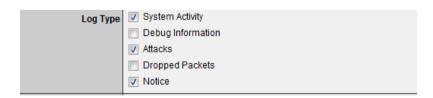


4. To save changes, click Apply.



Set the types or categories to include in logging

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Status and click on Log Setting.
- 3. Next to Log Type, check the types or categories to include in logging.



4. To save changes, click Apply.



View your router packet statistics

Status > Statistics

You may want to check your router packet statistics for informational purposes only.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Status and click on Statistic.
- 3. The table displays the amount of packets sent and received on your router's wired LAN, wireless, and WAN (Internet).

Utilization (packets)		LAN	Wireless	WAN
Send	Peak	60175	8661	18701
Receive	Peak	49091	272459	13773

View wireless devices connected to your router

Status > Wireless

You may want to check the wireless devices connected to your router.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Status and click on Wireless.
- 3. The table displays the amount time each wireless device has been connected and the MAC address of each wireless device.

Connected Time	MAC Address
01:06:31	7c:ed:8d:2e:9f:b3

Capture packets using the router management page

Management > Capture Packets

You may want to use the router management page to capture data packets for further troubleshooting and analysis. Packet captures allow you to see what type of data and information is inside each packet. You will need a packet capture software application to be able to open and view the packet capture files downloaded from the router.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on Management and click on Capture Packets.
- 3. Click on the **Network Interface** drop-down list and select which interface you would like to capture data packets, **LAN** or **WAN**.



4. Review the options for capturing packets.



- Start Starts the packet capture.
- **Stop** Stops the packet capture
- Download Download the packet capture file.
 (.pcap file)

Enable SNMP on your router

Management > SNMP

SNMP (Simple Network Management Protocol) is a network management protocol used to monitor (read) and/or manage (write) multiple network devices on a network. This preconfigured external SNMP server.

- 1. Log into your router management page (see "Access your router management page" on page 26).
- 2. Click on **Management** and click on **SNMP**.
- 3. Review the options for SNMP.
 - SNMP Select Enabled to enable SNMP.
 - System Location Enter the location. (optional)
 - System Contact Enter the contact. (optional)
 - Community Enter the community to match the settings with the external SNMP server.
 - **Trap Receiver 1-3** Enter the IP address of the external SNMP trap receiver. You can enter up to three receivers. (e.g. 192.168.10.250)



4. To save changes, click Apply.

Router Management Page Structure

Main

- LAN & DHCP Server
 - o Static DHCP Reservation
- WAN
 - o Clone MAC Address
- Password
- Time
- Dynamic DNS

Wireless

- Basic
- Security
- Advanced
- Wi-Fi Protected Setup

Status

- Device Information
- Log
- Log Setting
 - o Email Log
 - Syslog
 - O Log Type
- Statistic
- Wireless

Routing

- Static
- Dynamic
- Routing Table

Access

- Filter
 - o MAC Filters
 - o Domain/URL Blocking
 - o Protocol/IP Filters
- Virtual Server
- Special AP
- DMZ
- Firewall Rule

Management

- SNMP
- Remote Management
- Capture Packets

Routing

- Static
- Dynamic
- Routing Table

Tools

- Restart
- Settings
 - Save Configuration Settings
 - Restore Configuration Settings
 - o Reset to Factory Default
- Firmware
- Upgrade Firmware
- Ping Test

Wizard

Setup Wizard

Technical Specifications

Hardware		
Standards	IEEE 802.3/u Fast Ethernet, 802.3ab Gigabit Ethernet, 802.11b, 802.11g, 802.11n	
WAN	1 x 10/100/1000Mbps Auto-MDIX port (Internet)	
LAN	4 x 10/100/1000Mbps Auto-MDIX ports	
WPS Button	Enable Wi-Fi Protected Setup function	
Connection Type	Dynamic IP, Static (Fixed) IP, PPPoE, PPTP, L2TP	
Internet Access Control	MAC Address Filter, Domain/URL Filter, Protocol/IP Filter	
LED Indicator	Power, System, WAN, WLAN, LAN1~LAN4,	
Power Adapter	5V DC, 2A external power adapter	
Power Consumption	6watts (max.)	
Dimension (L x W x H)	157.5 x 134.6 x 38.1 mm (6.2 x 5.3 x 1.5 inches)	
Weight	245g (8.6 oz)	
Temperature	Operation: 0°~ 40°C (32°F~ 104°F)	
Temperature	Storage: -10°~ 70°C (14°F~158 °F)	
Humidity	Max. 95% (non-condensing)	
Certifications	CE, FCC	
Wireless		
Frequency	2.412~2.462GHz ISM band	
Antenna	2 x 2dBi detachable dipole antennas	
Modulation Technique	DBPSK/DQPSK/CCK/OFDM (BPSK/QPSK/16-QAM/64-QAM)	

Data Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 300Mbps
Security	WEP(HEX/ASCII): 64/128-bit WPA(AES/TKIP): WPA/WPA2, WPA-PSK/WPA2-PSK MAC address filtering Protocol filtering Domain filtering
Output Power	28dBm
Receiving Sensitivity	802.11b: 11Mbps -85dBm (typical) 802.11g: 54Mbps -68dBm (typical) 802.11n: 300Mbps -64dBm (typical)
Channels	1~ 11 (FCC), 1~13 (ETSI)

^{*}Maximum wireless signal rates are referenced from IEEE 802.11 theoretical specifications. Actual data throughput and coverage will vary depending on interference, network traffic, building materials and other conditions.

Troubleshooting

Q: I typed http://192.168.10.1 in my Internet Browser Address Bar, but an error message says "The page cannot be displayed." How can I access the router management page?

Answer:

- 1. Check your hardware settings again. See "Router Installation" on page 2.
- 2. Make sure the LAN and WLAN lights are lit.
- 3. Make sure your network adapter TCP/IP settings are set to <u>Obtain an IP address</u> <u>automatically</u> or <u>DHCP</u> (see the steps below).
- 4. Press on the factory reset button for 15 seconds, the release.

Windows 7

- a. Go into the **Control Panel**, click **Network and Sharing Center**.
- b. Click **Change Adapter Settings**, right-click the **Local Area Connection** icon.
- c. Then click Properties and click Internet Protocol Version 4 (TCP/IPv4).
- d. Then click Obtain an IP address automatically and click OK.

Windows Vista

- a. Go into the **Control Panel**, click **Network and Internet**.
- b. Click **Manage Network Connections**, right-click the **Local Area Connection** icon and click **Properties**.
- c. Click Internet Protocol Version (TCP/IPv4) and then click Properties.
- d. Then click **Obtain an IP address automatically** and click **OK**.

Windows XP/2000

- a. Go into the **Control Panel**, double-click the **Network Connections** icon
- b. Right-click the Local Area Connection icon and the click Properties.
- c. Click Internet Protocol (TCP/IP) and click Properties.
- d. Then click Obtain an IP address automatically and click OK.

Note: If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.

Q: I am not sure what type of Internet Account Type I have for my Cable/DSL connection. How do I find out?

Answer:

Contact your Internet Service Provider (ISP) for the correct information.

Q: The Wizard does not appear. What should I do? Answer:

- 1. Click on Wizard on the left hand side.
- 2. Near the top of the browser, "Pop-up blocked" message may appear. Right click on the message and select Always Allow Pop-ups from This Site.
- 3. Disable your browser's pop up blocker.

Q: I went through the Wizard, but I cannot get onto the Internet. What should I do? Answer:

- 1. Verify that you can get onto the Internet with a direct connection into your modem.
- 2. Contact your ISP and verify all the information that you have in regards to your Internet connection settings is correct.
- 3. Power cycle your modem and router. Unplug the power to the modem and router. Wait 30 seconds, and then reconnect the power to the modem. Wait for the modem to fully boot up, and then reconnect the power to the router.

Q: I cannot connect wirelessly to the router. What should I do? Answer:

- 1. Double check that the WLAN light on the router is lit.
- 2. Power cycle the router. Unplug the power to the router. Wait 15 seconds, then plug the power back in to the router.
- 3. Contact the manufacturer of your wireless network adapter and make sure the wireless network adapter is configured with the proper SSID. The preset SSID is TRENDnet(model_number).
- 4. To verify whether or not wireless is enabled, login to the router management page, click on *Wireless*.
- 5. Please see "Steps to improve wireless connectivity" on <u>page 19</u> if you continue to have wireless connectivity problems.

Appendix

How to find your IP address?

Note: Please note that although the following procedures provided to follow for your operating system on configuring your network settings can be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for configuring network settings.

Command Prompt Method

Windows 2000/XP/Vista/7

- 1. On your keyboard, press **Windows Logo+R** keys simultaneously to bring up the Run dialog box.
- 2. In the dialog box, type *cmd* to bring up the command prompt.
- 3. In the command prompt, type *ipconfig /all* to display your IP address settings.

MAC OS X

- 1. Navigate to your **Applications** folder and open **Utilities**.
- 2. Double-click on **Terminal** to launch the command prompt.
- 3. In the command prompt, type *ipconfig getifaddr* <*en0 or en1>* to display the wired or wireless IP address settings.

Note: en0 is typically the wired Ethernet and **en1** is typically the wireless Airport interface.

Graphical Method

MAC OS 10.6/10.5

- 1. From the Apple menu, select **System Preferences**.
- 2. In System Preferences, from the View menu, select Network.
- 3. In the Network preference window, click a network port (e.g., Ethernet, AirPort, modem). If you are connected, you'll see your IP address settings under "Status:"

MAC OS 10.4

- 1. From the Apple menu, select Location, and then Network Preferences.
- 2. In the Network Preference window, next to "Show:", select **Network Status**. You'll see your network status and your IP address settings displayed.

Note: If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.

How to configure your network settings to obtain an IP address automatically or use DHCP?

Note: Please note that although the following procedures provided to follow for your operating system on configuring your network settings can be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for configuring network settings.

Windows 7

- a. Go into the Control Panel, click Network and Sharing Center.
- b. Click Change Adapter Settings, right-click the Local Area Connection icon.
- c. Then click Properties and click Internet Protocol Version 4 (TCP/IPv4).
- d. Then click Obtain an IP address automatically and click OK.

Windows Vista

- a. Go into the Control Panel, click Network and Internet.
- b. Click Manage Network Connections, right-click the Local Area Connection icon and click Properties.
- c. Click Internet Protocol Version (TCP/IPv4) and then click Properties.
- d. Then click **Obtain an IP address automatically** and click **OK**.

Windows XP/2000

- a. Go into the **Control Panel**, double-click the **Network Connections** icon
- b. Right-click the Local Area Connection icon and the click Properties.
- c. Click Internet Protocol (TCP/IP) and click Properties.
- d. Then click Obtain an IP address automatically and click OK.

MAC OS 10.4/10.5/10.6

- a. From the Apple, drop-down list, select System Preferences.
- b. Click the **Network** icon.
- c. From the **Location** drop-down list, select **Automatic**.
- d. Select and view your Ethernet connection.
 - In MAC OS 10.4, from the **Show** drop-down list, select **Built-in Ethernet** and select the **TCP/IP** tab.
 - In MAC OS 10.5/10.6, in the left column, select **Ethernet**.
- e. Configure TCP/IP to use DHCP.

In MAC 10.4, from the **Configure IPv4**, drop-down list, select **Using DHCP** and click the **Apply Now** button.

In MAC 10.5, from the **Configure** drop-down list, select **Using DHCP** and click the **Apply** button.

In MAC 10.6, from the **Configure** drop-down list, select **Using DHCP** and click the **Apply** button.

f. Restart your computer.

Note: If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.

How to find your MAC address?

In Windows 2000/XP/Vista/7,

Your computer MAC addresses are also displayed in this window, however, you can type **getmac** –v to display the MAC addresses only.

In MAC OS 10.4,

- 1. Apple Menu > System Preferences > Network
- 2. From the **Show** menu, select **Built-in Ethernet**.
- 3. On the **Ethernet** tab, the **Ethernet ID** is your MAC Address.

In MAC OS 10.5/10.6,

- 1. Apple Menu > System Preferences > Network
- 2. Select **Ethernet** from the list on the left.
- 3. Click the Advanced button.
- 3. On the Ethernet tab, the Ethernet ID is your MAC Address.

How to connect to a wireless network using the built-in Windows utility?

Note: Please note that although the following procedures provided to follow for your operating system on configuring your network settings can be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for connecting to a wireless network using the built-in utility.

Windows 7

- 1. Open Connect to a Network by clicking the network icon (or in the notification area.
- 2. In the list of available wireless networks, click the wireless network you would like to connect to, then click **Connect.**
- 4. You may be prompted to enter a security key in order to connect to the network.
- 5. Enter in the security key corresponding to the wireless network, and click **OK**.

Windows Vista

- 1. Open Connect to a Network by clicking the **Start Button**. and then click **Connect To.**
- 2. In the Show list, click Wireless.
- 3. In the list of available wireless networks, click the wireless network you would like to connect to, then click **Connect.**
- 4. You may be prompted to enter a security key in order to connect to the network.
- 5. Enter in the security key corresponding to the wireless network, and click **OK**.

Windows XP

- 1. Right-click the network icon in the notification area, then click **View Available Wireless Networks**.
- 2. In **Connect to a Network**, under **Available Networks**, click the wireless network you would like to connect to.
- 3. You may be prompted to enter a security key in order to connect to the network.
- 4. Enter in the security key corresponding to the wireless network, and click **Connect**.

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 the party responsible for compliance 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:

FCC 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 20cm between the radiator & your body.

This transmitter must not be co-located or operating 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.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN60950-1: 2006 + A11 : 2009 + A1 : 2010
Safety of Information Technology Equipment

EN 50385: 2002

Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

EN 300 328 V1.7.1 (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.8.1 (2008-04)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V2.1.1 (2009-05)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

© Česky [Czech]	TRENDnet tímto prohlašuje, že tento TEW-734GR je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede TRENDnet erklærer herved, at følgende udstyr TEW-734GR overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt TRENDnet, dass sich das Gerät TEW-734GR in Übereinstimmung mit den GRndlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab TRENDnet seadme TEW-734GR vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, TRENDnet, declares that this TEW-734GR is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
ESEspañol [Spanish]	Por medio de la presente TRENDnet declara que el TEW-734GR cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ TRENDnet ΔΗΛΩΝΕΙ ΟΤΙ TEW-734GR ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente TRENDnet déclare que l'appareil TEW-734GR est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
<u>it</u> Italiano	Con la presente TRENDnet dichiara che questo TEW-734GR è

[Italian]	conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo TRENDnet deklarē, ka TEW-734GR atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo TRENDnet deklaruoja, kad šis TEW-734GR atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart TRENDnet dat het toestel TEW-734GR in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, TRENDnet, jiddikjara li dan TEW-734GR jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
հաMagyar [Hungarian]	Alulírott, TRENDnet nyilatkozom, hogy a TEW-734GR megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
민Polski [Polish]	Niniejszym TRENDnet oświadcza, że TEW-734GR jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Pt Português [Portuguese]	TRENDnet declara que este TEW-734GR está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	TRENDnet izjavlja, da je ta TEW-734GR v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	TRENDnet týmto vyhlasuje, že TEW-734GR spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi]Suomi [Finnish]	TRENDnet vakuuttaa täten että TEW-734GR tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar TRENDnet att denna TEW-734GR står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

TRENDnet User's Guide Limited Warranty

Limited Warranty

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TEW-734GR - 3 Years Warranty

AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product by any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet within the applicable warranty period and providing a copy of the dated proof of the purchase. Upon proper submission of required documentation a Return Material Authorization (RMA) number will be issued. An RMA number is required in order to initiate warranty service support for all TRENDnet products. Products that are sent to TRENDnet for RMA service must have the RMA number marked on the outside of return packages and sent to TRENDnet prepaid, insured and packaged appropriately for safe shipment. Customers shipping from outside of the USA and Canada are responsible for return shipping fees. Customers shipping from outside of the USA are responsible for custom charges, including but not limited to, duty, tax, and other fees.

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PWP05202009v2 2011/10/12



Product Warranty Registration

Please take a moment to register your product online. Go to TRENDnet's website at http://www.trendnet.com/register

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