User's Guide





13 dBi Outdoor PoE Access Point

TEW-734APO

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Product Overview



Package Contents

In addition to the access point, the package includes:

- TEW-734APO
- CD-ROM (User's Guide)
- Quick Installation Guide
- Poll mounting hardware
- Proprietary PoE injector
- Power adapter (24V, 1A)
- Grounding wire

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

Features

TRENDnet's 13 dBi Outdoor PoE Access Point, model TEW-734APO, provides wireless N300 (5 GHz) building to building connectivity. It supports Fat AP, Thin AP, Virtual Access Control (controls compatible Thin AP devices), and Virtual AC + Thin AP modes. Fat AP mode supports a variety of installation scenarios with Access Point (AP), WDS Bridge, WDS Repeater, Client, and CPE + AP modes. The rugged IP55 rated TEW-734APO comes with a proprietary PoE injector and a pole mounting kit.

Multi-Mode Support

Supports Fat AP, Thin AP, Virtual Access Control (controls compatible Thin AP devices), and Virtual AC + Thin AP modes

Fat AP Mode

Fat AP mode supports a variety of installation scenarios with Access Point (AP), WDS Bridge, WDS Repeater, Client, and CPE + AP modes

Thin AP Mode

Thin AP mode supports management of the TEW-734APO by another device (such as another TEW-734APO or TEW-730APO set to Virtual Access Control) and operates in Access Point (AP) mode only

Virtual Access Control (AC) Mode

Virtual Access Control mode manages other compatible access points (TEW-734APO, TEW-730APO) set to Thin AP

Wireless N300 (5 GHz)

Compliant with 802.11n/a technology (5 GHz spectrum) with data rates up to 300 Mbps

Directional Antenna

Built in 13 dBi directional antenna

Outdoor Rated

Durable enclosure with an IP55 outdoor weather rating

Power over Ethernet (PoE)

Comes with a proprietary PoE injector (non-802.3af compliant)

Logs

Real time logs and statistics help trouble shooting

Encrypted Wireless

Support for wireless encryption of up to WPA2

Mounting Hardware

Pole mounting hardware included

* Effective wireless coverage may vary depending on the wireless device's output power, antenna gain, antenna alignment, receiving sensitivity, and radio interference. Additionally environmental factors such as weather conditions, physical obstacles, and other considerations may affect performance. For optimal results, we recommended consulting a professional installer for site survey, safety precautions, and proper installation.

Product Hardware Features

Access Point Side View



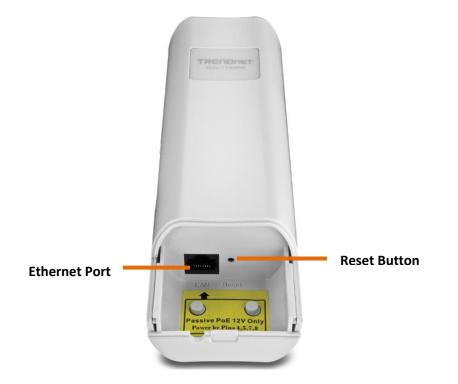
Diagnostic LEDS

Ethernet Port

- Diagnostic LEDs: Provides device status.
 - Wireless Signal: Blinks green during wireless network activity.
 - Green (Good), Yellow (Moderate), Red (Poor)
 - LAN: Blinks green during network activity
 - \circ Power: Solid green when the device has power
- Ethernet port: 1x 10/100Mbps Auto-MDIX port. Connect the side marked "PoE" of PoE adapter to this port. Depending on the mode settings applied, the Ethernet port can function as the network WAN port or LAN port. *Note:To access the Ethernet port, remove the bottom cap.*
- **Reset button:** Press and hold the reset button for 15seconds to reset the unit back the factory default settings. *Note: To access the reset button, remove the bottom cap*

Reset Button

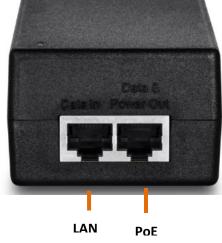
Access Point Front View with Bottom Cap Removed



- Ethernet port: 1x 10/100Mbps Auto-MDIX port. Connect the side marked "PoE" of PoE adapter to this port. Depending on the mode settings applied, the Ethernet port can function as the network WAN port or LAN port
- **Reset button:** Press and hold the reset button for 15seconds to reset the unit back the factory default settings.

PoE Adapter View





- **DC Power port:** Powers up the PoE adapter.
- **PoE:** Provides power to the access point. Connect this side to the access point Ethernet port.
- LAN: Provides network connectivity to the access point and your network. Connect this side to your router or network.

Application Diagram



The access point is mounted a pole which is connected to the provided PoE adapter and then connected to your network switch or router. Wireless signals from the access point are broadcasted to each creating a Bridge/WDS connection, thereby providing network connection between both networks.

TEW-734APO

Creating a 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 Internet cameras.

- **Modem** Connects a computer or router to the Internet or ISP (Internet Service Provider).
- Router Connects multiple devices to the Internet.
- Switch –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 multiple devices to the Internet.
- 2. Make sure that your modem is working properly. Your modem is often provided by your Internet Service Provider (ISP) when you sign up for Internet service. If your modem is not working contact your ISP to verify functionality.
- 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.

Wireless Performance Considerations

There are a number of factors that can impact the range of wireless devices.

- 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.

If you are still experiencing low or no signal consider repositioning the wireless devices or installing additional access points. The use of higher gain antennas may also provide the necessary coverage depending on the environment.

Getting Started

For a typical wireless setup at home or office when using the access point in AP mode, please do the following:

Hardware Installation

1. Remove the bottom cap.



2. Plug a Network cable to the Ethernet port.



3. Slide the bottom cover back to the unit.



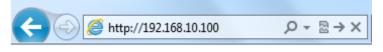
- 4. Plug an Ethernet cable to the access point and plug the other end of the cable to the side of the PoE adapter marked **PoE**.
- 5. Take another Ethernet cable and plug it on the side of the PoE adapter marked LAN, plug the other end of the cable to your network.



6. Verify that the following LED indicators on the access point: Power (Solid Green), LAN (Solid/Blinking Green) and WLAN (Blinking Green).



7. Open your web browser (e.g. Internet Explorer, Firefox, Safari, Chrome, or Opera) and go to <u>http://192.168.10.100</u>. The access point will prompt you for a password.



8. Enter the default user name and password and then click Login.

Default System Username and Password: admin



9. Click the System button on the left side and then System Settings.



10. Select **Fat AP** in the Mode drop down menu and select the proper **Country/Region**. **Note:** FCC domain products will only support United States Country/Region.

Device Settings		
Device Mode:	Fat AP 🔹	
Device Name:	ap94fea6 (max. 15 characters and no spaces)	
Country/Region:	United States -	

- 11. Click Apply button to save your setting.
- 12. Once the configuration is saved. Click the Wireless button on the left side and then Basic Settings.



- 13. Select AP in the Operation Mode pull down menu.
- 14. Enter your desired network name (SSID) of your wireless network in the Wireless Network Name and click **Apply** to save settings.

Operation Mode:	AP 🔻	Site Survey
SSID:	TRENDnet734_5GH	z (<u>more</u>)

Connect wireless devices to your access point

A variety of wireless network devices can connect to your wireless network such as:

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

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 client device to determine how to search and connect to this router's wireless network.

See the "Appendix" on <u>page 53</u> for general information on connecting to a wireless network.

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. 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.
 - a. For the widest coverage area, install your router near the center of your home, and near the ceiling, if possible.
 - b. 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.
- 2. 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.
- 3. 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.
- 4. 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.

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.

Configuration

Access the management page

Note: The access point's default management page <u>http://192.168.10.100</u> is accessed through the use of your Internet web browser (e.g. Internet Explorer, Firefox, Chrome, Safari, and 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://192.168.10.100. The access point will prompt you for a password.



2. Enter the default user name and password and then click Login.

Default Username and Password: admin



Device Modes

The TEW-734APO access point supports different types of system modes and sub modes within the selected device mode. Please verify carefully on which mode you would like the device to operate in to proper installation.

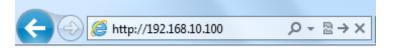
- FAT AP: In this mode the devices operates as your typical standalone access point. Below list the supported wireless modes when FAT AP is selected as the device system mode.
 - <u>AP Mode</u>: Creates a wireless network to your existing network. Device Ethernet port serves as a LAN (Local Area Network) port of the device
 - <u>Wireless Client</u>: Connects to any existing wireless network (similar to a wireless adapter). Device Ethernet port serves as a LAN (Local Area Network) port of the device
 - **Bridge:** Creates a wireless bridge connection with another access point. Ethernet port serves as a LAN (Local Area Network) port of the device
 - <u>AP Repeater</u>: Is similar to WDS repeater mode and repeats and existing WDS connection. Device Ethernet port serves as a LAN (Local Area Network) port of the device
- <u>Thin AP</u>: In this mode the device operates only in access point mode. However a thin access point must be controller with a controller system. Please see Virtual AC mode.
- <u>Virtual AC</u>: Virtual Access Controller, in this mode the device operates only as the controller system for Thin AP mode devices connected in the same network.
- <u>Virtual AC + Thin AP</u>: In this mode the device simultaneously operates in Thin AP mode and the controller system for Thin AP mode devices connected in the same network and a Thin AP client.

FAT AP

Below describes the configuration settings when the TEW-734APO System Mode is set to **FAT AP** mode. The features and configuration settings in FAT AP is similar to most wireless access points in the market. It creates a wireless network in your environment, the device also be configured as a bridge, repeater or wireless client in FAT AP mode.

Configuration

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Your access point will prompt you for a user name and password.

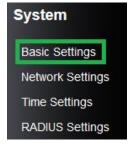


3. Enter the default user name and password and then click Login.

Default User Name: admin

Default Password: admin

4. Click the System button on the left side and then System Settings.



Select Fat AP in the Device Mode drop down menu and Select your Country/Region.
 Note: FCC domain products will only support United States Country/Region.



6. Click Apply button to save your setting.

7. Click the Wireless button on the left side and then Basic Settings.

8. Select the mode you would like to apply Operation Mode pull down menu.

Operation Mode:	AP	•	Site Survey	
	AP			
	Wireless Client			
	Bridge			
	AP Repeater			

- <u>AP:</u> Creates a wireless network to your existing network. Device Ethernet port serves as a LAN (Local Area Network) port of the device
- <u>Wireless Client:</u> Connects to any existing wireless network (similar to a wireless adapter). Device Ethernet port serves as a LAN (Local Area Network) port of the device
- <u>Bridge:</u> Creates a wireless bridge connection with another access point. Ethernet port serves as a LAN (Local Area Network) port of the device
- <u>AP Repeater</u>: Repeats the wireless signal of an existing wireless network. Device Ethernet port serves as a LAN (Local Area Network) port of the device

AP Mode



This section outlines available management options when the device System Setting is set to **Bridge** and the wireless Operation Mode is set to **AP**. Click **Apply** to save any changes.

Use this page to change the wireless mode as well as configure any associated wireless network parameters.					
Disable Wireless LAN Ir	nterface				
Operation Mode:	AP Site Survey				
SSID:	TRENDnet734_5GHz (moto)				
Broadcast SSID:	©Enabled ●Disabled				
802.11 Mode:	802.11A/N 🔻				
Channel Mode:	20 MHz 🔻				
Channel:	5745MHz (149) 🔻				
Extension Channel:	None -				
Data Rate:	Auto 🔻				
HT Protect:	●Enabled ODisabled				
Output Power:	12 21 23 21 dBm				

• Disable Wireless LAN Interface:

• Check/Off: turns off wireless networking on your router.

• **Unchecked/On:** turns on the wireless networking on your router (by default it is enabled).

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

- Operation Mode: Select the mode you want the access point to operate in.
 - AP: refer to page11 for additional information.
 - o Wireless Client: refer to page13 for additional information
 - o **<u>Bridge</u>**: refer to page 16 for additional information
 - <u>AP Repeater</u>: refer to page18 for additional information to operate the device as an access point.
- Wireless Network Name (SSID): This acronym stands for Service Set Identifier and is the name of your wireless network. It differentiates your wireless network from others around you. By default, the access point broadcast TRENDnet734 as the wireless network name. If you choose to change the SSID, change it to a name that you can easily remember. You can click more to configure additional SSID.
- Broadcast SSID:
 - **Enable:** Access point will broadcast your wireless network name (SSID), making it easier for wireless clients to find the wireless network.
 - Disable: Access point will not broadcast the wireless network name (SSID) and wireless clients will have to manually enter the wireless network to connect.
- **802.11 Mode:** If all of the wireless devices you want to connect with this Access Point can connect in the same transmission mode, you can improve performance slightly by choosing the appropriate mode. If you have some devices that use a different transmission mode, choose the appropriate mode.
 - 802.11A/N mixed mode This wireless mode works in the 5GHz frequency range and will allow both wireless A and wireless N (5GHz) client to connect and access point.
 - **802.11 A** (5GHz) This wireless mode works in the 5GHz frequency range and will only allow the use of only wireless A client devices to connect.
- **HT protect:** Enable HT (High Throughput) protect to ensure HT transmission with MAC mechanism. Under 802.11n mode, wireless client can be divided into HT STA and Non-HT STA, among which the one with HT protect enabled gets higher throughput.
- **Channel Mode:** 20MHz and 40MHz. The last one can enhance data throughput, but it takes more bandwidth, thus it might cause potential interference.
- **Channel:** To manually set the channel on which the router will broadcast, uncheck **Auto Channel**, then click the drop-down list and select the desired

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Channel for wireless communication. The goal is to select the Channel that is least used by neighboring wireless networks.

- Extension channel: When 20/40 channel bandwidth has been chosen, you should select extension channel to get higher throughput.
- Data Rate: Usually "Auto" is preferred. Under this rate, the IEEE 802.11b/g/n Wireless CPE will automatically select the highest available rate to transmit. In some cases, however, like where there is no great demand for speed, you can have a relatively-low transmit rate for compromise of a long distance.
- Maximum Output power: Specify the signal transmission power. The higher the output power is, the wider the signal can cover, but the power consumption will be greater accordingly.

Wireless Profile

This section outlines available management options under the Profile Settings of the Wireless button. This access point supports multiple SSID, you can set an additional of 16 SSSID for your wireless network.

\$#	Enabled	+ Profile Name	♦ SSID	 Security 	Vlan ID
1		Profile 1	TRENDnet734_5GHz	Open System	0
2		Profile2	TRENDnet734_5GHz	Open System	0
3		Profile3	TRENDnet734_5GHz	Open System	0
4		Profile4	TRENDnet734_5GHz	Open System	0
5		Profile5	TRENDnet734_5GHz	Open System	0
6		Profile6	TRENDnet734_5GHz	Open System	0
7		ProfileZ	TRENDnet734_5GHz	Open System	0
8		Profile8	TRENDnet734_5GHz	Open System	0

• Select **Always Enabled** option and click the Profile Name you would like to configure.

Basic Settings	
Profile Name:	Profile1
SSID:	TRENDnet734_5GHz
Broadcast SSID:	●Enabled ●Disabled
Wireless Separation:	●Enabled ●Disabled
WMM Support:	●Enabled ●Disabled
IGMP Snooping:	●Enabled ●Disabled
Max. Station Num:	32 (1-32)

The following section outlines options to configure the basic settings of the multiple SSID.

- Profile Name: Enter the profile name of the network name you are configuring.
- Wireless Network Name (SSID): This acronym stands for Service Set Identifier and is the name of your wireless network. It differentiates your wireless network from others around you.
- Broadcast Network Name (SSID):
 - 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.
- Wireless Separation:
 - Enabled separates all wireless clients connected to this SSID, clients cannot communicate with each other.
 - $\,\circ\,$ Disabled allows all wireless clients connect to this SSID to communicate with each other
- WMM: Wi-Fi Multimedia is a Quality of Service (QoS) feature which prioritizes audio and video data packets. This feature requires the wireless device to also support WMM. Click **Enabled (recommended)** or **Disabled** to turn this feature on or off on your router.
- Max. Station Num.: Select this option to limit the amount of clients who can connect to this SSID.

o Enter the amount of clients you would like to limit.

Wireless Client Mode



This section outlines available management options when the device System Setting is set to **Bridge** and the wireless Operation Mode is set to **Wireless Client**. Click **Apply** to save any changes.

Disable Wireless LAN Int	terface
Operation Mode:	Wireless Client Vite Survey
SSID:	TRENDnet734_5GHz
Locked AP MAC:	
802.11 Mode:	802.11A/N -
Data Rate:	Auto 👻
Output Power:	12 23 24 23 dBm
Enable MAC Clone	
Auto MAC Clone	
Manual MAC Clone:	00:19:70:94:fe:c9

• Disable Wireless LAN Interface:

- **Check/Off:** turns off wireless networking on your router.
- **Unchecked/On:** turns on the wireless networking on your router (by default it is enabled).

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

- **Operation Mode:** Select the mode you want the access point to operate in.
 - AP: refer to page11 for additional information.
 - <u>Wireless Client</u>: refer to page13 for additional information
 - Bridge: refer to page 16 for additional information
 - <u>AP Repeater</u>: refer to page18 for additional information to operate the device as an access point.
- Site Survey: Click to scan and select available wireless networks.
- Wireless Network Name (SSID): This acronym stands for Service Set Identifier and is the name of your wireless network. You can manually enter the wireless network you want to connect to or click "Site Survey" option to scan for available wireless networks around you. Ple
- Lock AP MAC: Enter the MAC address of the access point you are connected.
- **802.11 Mode:** If all of the wireless devices you want to connect with this Access Point can connect in the same transmission mode, you can improve performance slightly by choosing the appropriate mode. If you have some devices that use a different transmission mode, choose the appropriate mode.
 - 802.11A/N mixed mode This wireless mode works in the 5GHz frequency range and will allow both wireless A and wireless N (5GHz) client to connect and access point.
 - **802.11 A** (5GHz) This wireless mode works in the 5GHz frequency range and will only allow the use of only wireless A client devices to connect.
- Data Rate: Usually "Auto" is preferred. Under this rate, the IEEE 802.11b/g/n Wireless CPE will automatically select the highest available rate to transmit. In some cases, however, like where there is no great demand for speed, you can have a relatively-low transmit rate for compromise of a long distance.
- **Output power:** Specify the signal transmission power. The higher the output power is, the wider the signal can cover, but the power consumption will be greater accordingly.
- Enable MAC Clone: Available only under wireless client mode, it hides the MAC address of the AP while displays the one of associated wireless client or the MAC address designated manually.

Site Survey

The following section outlines how to utilize the site survey option in Wireless Client mode.

1. Log into the management page (see "<u>Access the management page</u>" on page 27).

- 2. Click on Wireless button and click on Basic Settings.
- Select Wireless Client in the Operation Mode pull down menu and click Apply.
 Click Site Survey button.



- 5. The access point will automatically scan for available access points.
- 6. Select the access point or wireless network you want to connect.

Selected	◆ SSID	 Channel 	 MAC Address 	♦ 802.11 Mode	◆ Signal Strength	Security
۲	TRENDnet816_5GHz	5240MHz (48)	00:1e:e3:30:f7:d5	802.11A/N	-28	WPA
2	TRENDnet818_5GHz_9DD5	5180MHz (36)	d8:eb:97:ed:d5:3b	802.11A/N	-57	WPA2
	TrendnetSkyN	5745MHz (149)	d8:eb:97:ea:8d:d6	802.11A/N	-61	WPA2
۲	TRENDnet816_5GHz_X7KH	5220MHz (44)	d8:eb:97:df:15:dd	802.11A/N	-67	WPA

7. Click either Select AP , Select SSID or Scan option.

- Select AP: Configures the access point based on the selected AP's SSID and MAC address
- Select SSID: Configures the access point based on the selected AP's SSID only
- Scan: Scans for available wireless networks.



- 8. Click Apply when you have selected the wireless network you want to connect with.
- 9. If your wireless network is configured with wireless security, click **Profile Settings**

Authentication:	WPA2-PSK V
Data Encryption:	AES •
WPA Passphrase:	******

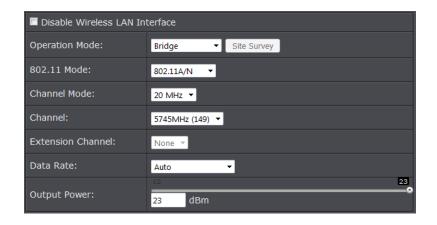
• Security Settings: Select and configure the wireless security of your wireless network. Click Apply to save settings. Please refer to Wireless Encryption Type section on page30.

Bridge Mode

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Bridge or Wireless Distribution System (WDS) or Bridge uses the WDS protocol that is not defined as the standard thus compatibility issues between equipment from different vendors may arise. Moreover, Tree or Star shape network topology should be used in all WDS use-cases (i.e. if AP2 and AP3 are specified as the WDS peers of AP1, AP2 should not be specified as the WDS peer of AP3 and AP3 should not be specified as the WDS peer of AP2 in any case). Mesh and Ring network topologies are not supported by WDS and should be avoided in all the use cases. This section outlines available management options when the device System Setting is set to **Bridge** and the wireless Operation Mode is set to **Bridge**. Click **Apply** to save any changes.



• Disable Wireless LAN Interface:

- Check/Off: turns off wireless networking on your router.
- **Unchecked/On:** turns on the wireless networking on your router (by default it is enabled).

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

- Operation Mode: Select the mode you want the access point to operate in.
 - **<u>AP</u>**: refer to page11 for additional information.
 - <u>Wireless Client</u>: refer to page13 for additional information
 - o **Bridge**: refer to page 16 for additional information
 - <u>AP Repeater</u>: refer to page18 for additional information to operate the device as an access point.
- 802.11 Mode: If all of the wireless devices you want to connect with this Access
 Point can connect in the same transmission mode, you can improve performance
 slightly by choosing the appropriate mode. If you have some devices that use a
 different transmission mode, choose the appropriate mode.
 - 802.11A/N mixed mode This wireless mode works in the 5GHz frequency range and will allow both wireless A and wireless N (5GHz) client to connect and access point.
 - 802.11 A (5GHz) This wireless mode works in the 5GHz frequency range and will only allow the use of only wireless A client devices to connect.
- Frequency (Channel): To manually set the channel on which the router will broadcast, uncheck Auto Channel, then click the drop-down list and select the desired Channel for wireless communication. The goal is to select the Channel that is least used by neighboring wireless networks.

- Extension channel: When 20/40 channel bandwidth has been chosen, you should select extension channel to get higher throughput.
- **Channel Mode:** 20MHz and 40MHz. The last one can enhance data throughput, but it takes more bandwidth, thus it might cause potential interference.
- Data Rate: Usually "Auto" is preferred. Under this rate, the IEEE 802.11b/g/n Wireless CPE will automatically select the highest available rate to transmit. In some cases, however, like where there is no great demand for speed, you can have a relatively-low transmit rate for compromise of a long distance.
- Maximum Output power: Specify the signal transmission power. The higher the output power is, the wider the signal can cover, but the power consumption will be greater accordingly.

Wireless >WDS Setting

This section outlines the available management options under the WDS Settings of the Wireless button. WDS Settings is available only under Bridge and AP Repeater Mode.

Local MAC Address:	00:19:70:94:fe:a6
WDS MAC Address 1:	
WDS MAC Address 2:	
WDS MAC Address 3:	
WDS MAC Address 4:	

- WDS Separation: Enable separates all configured WDS AP to communicate with each other.
- Remote AP: Enter the MAC address of the access point you want to WDS with. Note: You must enter the MAC address of every access point in the WDS network. Each wireless setting (SSID, channel, wireless encryption) must match on each access point in the WDS network.

AP Repeater Mode



AP Repeater mode allows the access point to repeat a wireless signal of an existing wireless network. This section outlines available management options when the device System Setting is set to **Bridge** and the wireless Operation Mode is set to **AP Repeater**. Click **Apply** to save any changes.

Note: The access point's wireless settings must be configured with the exact wireless settings as the repeating signal (Network name, channel, wireless security, etc.)

Disable Wireless LAN Interface	
Operation Mode:	AP Repeater V Site Survey
SSID:	TRENDnet734_5GHz (molo)
Broadcast SSID:	©Enabled ●Disabled
802.11 Mode:	802.11A/N 🔻
Channel Mode:	20 MHz 🔻
Channel:	5745MHz (149) 🔻
Extension Channel:	None 🔻
Data Rate:	Auto 🗸
HT Protect:	Enabled ODisabled
Output Power:	23 dBm

• Disable Wireless LAN Interface:

- **Check/Off:** turns off wireless networking on your router.
- **Unchecked/On:** turns on the wireless networking on your router (by default it is enabled).

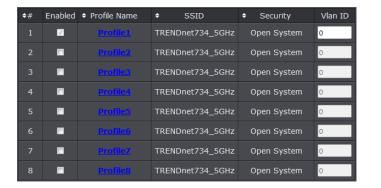
Note: It is recommended to leave the wireless setting to **On** unless you do not plan on connecting any wireless computers or devices to your network.

- Operation Mode: Select the mode you want the access point to operate in.
 - AP: refer to page11 for additional information.
 - o Wireless Client: refer to page13 for additional information
 - o **<u>Bridge</u>**: refer to page 16 for additional information
 - <u>AP Repeater</u>: refer to page18 for additional information to operate the device as an access point.
- Wireless Network Name (SSID): This acronym stands for Service Set Identifier and is the name of your wireless network. You can manually enter the wireless network you want to repeat.
- Broadcast SSID:
 - $\circ\,$ Enable: Access point will broadcast the your wireless network name (SSID), making it easier for wireless clients to find the wireless network.

- Disable: Access point will not broadcast the wireless network name (SSID) and wireless clients will have to manually enter the wireless network to connect.
- **802.11 Mode:** If all of the wireless devices you want to connect with this Access Point can connect in the same transmission mode, you can improve performance slightly by choosing the appropriate mode. If you have some devices that use a different transmission mode, choose the appropriate mode.
 - 802.11A/N mixed mode This wireless mode works in the 5GHz frequency range and will allow both wireless A and wireless N (5GHz) client to connect and access point.
 - 802.11 A (5GHz) This wireless mode works in the 5GHz frequency range and will only allow the use of only wireless A client devices to connect.
- Frequency (Channel): To manually set the channel on which the router will broadcast, uncheck Auto Channel, then click the drop-down list and select the desired Channel for wireless communication. The goal is to select the Channel that is least used by neighboring wireless networks.
- Extension channel: When 20/40 channel bandwidth has been chosen, you should select extension channel to get higher throughput.
- **Channel Mode:** 20MHz and 40MHz. The last one can enhance data throughput, but it takes more bandwidth, thus it might cause potential interference.
- Data Rate: Usually "Auto" is preferred. Under this rate, the IEEE 802.11b/g/n Wireless CPE will automatically select the highest available rate to transmit. In some cases, however, like where there is no great demand for speed, you can have a relatively-low transmit rate for compromise of a long distance.
- **HT protect:** Enable HT (High Throughput) protect to ensure HT transmission with MAC mechanism. Under 802.11n mode, wireless client can be divided into HT STA and Non-HT STA, among which the one with HT protect enabled gets higher throughput.
- **Maximum Output power:** Specify the signal transmission power. The higher the output power is, the wider the signal can cover, but the power consumption will be greater accordingly.

4. Click **Profile Settings** and select the Profile Name you want to configure.

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5. Enter the configuration settings to match the access point to repeat and click **Apply** to save settings.

System Basic Settings Network Settings Time Settings RADIUS Settings

3. Select **Router** in the Network Mode drop down menu.

Basic Settings	
Network Mode:	Router 🗸
Spanning Tree:	○Enabled Disabled
STP Forward Delay:	1 (1~30 seconds)

4. Under WAN settings section, select your WAN type and configure settings.

WAN Settings		
WAN Access Type:	Static IP 👻	
IP Address:	192.168.0.99	
Subnet Mask:	255.255.255.0	
Default Gateway:	192.168.0.254	
DNS 1:	0.0.0	
DNS 2:	0.0.0.0	

5. Select Enable DHCP Server under LAN Settings section.

Router Mode

Below describes the configuration settings when the TEW-734APO System Mode is set to Router. In this configuration the Ethernet port of the TEW-734APO can serve as the WAN (Wide Area Network) or Internet port. Please verify your network configuration when using this mode. Please refer to <u>Internet Service Types</u> section in the Appendix to help determine your Internet settings.

Configuration

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click the System button on the left side and then System Settings.

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LAN Settings		
IP Address:	192.168.20.11	
Subnet Mask:	255.255.255.0	
Enable DHCP Server		
DHCP IP Address Range:	192.168.10.101 - 192.168.10.200	
Lease Time:	120 (15-44640 minutes)	
Enable DHCP Relay		
DHCP Sever IP:	0.0.0	

Wireless Networking and Security

How to choose the type of security for your wireless network

Setting up wireless security is very important. Leaving your wireless network open and unsecure could expose your entire network and personal files to outsiders. TRENDnet recommends reading through this entire section and setting up wireless security on your new router.

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.

Wireless Encryption Types

- WEP: Legacy encryption method supported by older 802.11b/g hardware. This is the oldest and least secure type of wireless encryption. It is generally not recommended to use this encryption standard, however if you have old 802.11 b or 802.11g wireless adapters or computers with old embedded wireless cards(wireless clients), you may have to set your router to WEP to allow the old adapters to connect to the router. *Note: This encryption standard will limit connection speeds to 54Mbps.*
- WPA: This encryption is significantly more robust than the WEP technology. Much of the older 802.11g hardware was been upgraded (with firmware/driver upgrades) to support this encryption standard. Total wireless speeds under this encryption type however are limited to 54Mbps.
- WPA-Auto: This setting provides the router with the ability to detect wireless devices using either WPA or WPA2 encryption. Your wireless network will automatically change the encryption setting based on the first wireless device connected. For example, if the first wireless client that connects to your wireless network uses WPA encryption your wireless network will use WPA encryption. Only when all wireless clients disconnect to the network and a wireless client with WPA2 encryption connects your wireless network will then change to WPA2 encryption. NOTE: WPA2 encryption supports 802.11n speeds and WPA encryption will limit your connection speeds to 54Mbps
- WPA2: This is the most secure wireless encryption available today, similar to WPA encryption but more robust. This encryption standard also supports the highest connection speeds. TRENDnet recommends setting your router to this encryption standard. If you find that one of your wireless network devices does not support WPA2 encryption, then set your router to either WPA or WPA-Auto encryption.

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

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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 Standard	WEP	WPA	WPA2
Compatible	IEEE 802.11a/b/g (802.11n devices will operate at	IEEE 802.11a/b/g (802.11n devices will operate at 802.11g to connect	
Wireless Standards	802.11g to connect using this standard)	using this standard)	IEEE 802.11a/b/g/n
Highest Performance Under This Setting	Up to 54Mbps	Up to 54Mbps	Up to 450Mbps*
Encryption 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

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 the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Wireless button and click on Profile Settings.
- 3. Click on the Profile name you would like to apply wireless security.

\$ #	Enabled	Profile Name	÷	SSID	¢	Security	Vlan ID
1	V	Profile 1	TREND	net734_5GHz		Open System	0
2		Profile2	TREND	net734_5GHz		Open System	0
3			TREND	net734_5GHz		Open System	0
4		Profile4	TREND	net734_5GHz		Open System	0

4. Select the wireless security on your wireless network from the **Network Authentication** pull down menu.

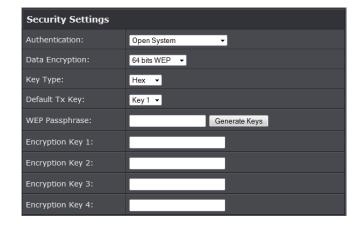
Security Settings		
Authentication:	Open System 👻	
	Open System Shared Key Legacy 802.1x WPA with Radius WPA2 with Radius WPA & WPA2 with Radius WPA-PSK WPA2-PSK WPA2-PSK WPA2-PSK	

Selecting WEP (Open System or Shared Key):

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

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

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• Data Encryption: 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.

• Key type: 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.

- Key 1-4
 - This is where you enter the password or key needed for a computer to connect to the router wirelessly
 - $\circ\,$ You can define up to 4 passwords or 4 keys. Only one key can be active at a given time. Most users simply define one key.
 - \circ Choose a key index 1, 2, 3, or 4 and enter the key.
 - When connecting to the router, the client must match both the password and the Key number. (e.g. if you have activated Key 2 with a password of 12345, then the client must select: Key 2 (entering Key 1, 3, or 4 will block the ability to connect) and enter password 12345)
- WEP Passphrase: Enter a passphrase and click Generate key to have the access point generate your encryption key.

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

Selecting WPA-PSK, WPA2-PSK, or WPA-PSK & WPA2-PSK (WPA2-PSK recommended):

Security Settings		
Authentication:	WPA2-PSK 👻	
Data Encryption:	AES -	
WPA Passphrase:	*****	

The following section outlines options when selecting PSK (Preshared Key Protocol).

- Data Encryption: Select the cipher type to use.
 - **TKIP:** Recommended when using WPA-PSK security.
 - AES: Recommended when using WPA2-PSK or WPA-PSK & WPA2-PSK
- WPA Passphrase Enter the passphrase.
 - $\,\circ\,$ This is the password or key that is used to connect your computer to this router wirelessly

Selecting WPA, WPA2, or WPA & WPA2 with Radius:

Security Settings		
Authentication:	WPA2 with Radius	
Data Encryption:	AES -	

The following section outlines options when selecting Radius.

Note: Radius requires an external RADIUS server, PSK only requires you to create a passphrase.

- Data Encryption: Select the cipher type to use.
 - TKIP: Recommended when using WPA-PSK security.

• **AES:** Recommended when using WPA2-PSK or WPA-PSK & WPA2-PSK Once you have selected the data encryption type. Click **Apply** to save settings and go to the **RADIUS Settings** section under **System** button on the left side.

The following section outlines options to configure the access point's RADIUS settings.

Authentication RADIUS Server	
IP Address :	0.0.0
Port :	1812
Shared Secret :	*****

- Radius Server: Configure the RADIUS server settings.
 - $\,\circ\,$ IP: Enter the IP address of the RADIUS server. (e.g. 192.168.10.250)
 - $\circ\,$ Port: Enter the port your RADIUS server is configured to use for RADIUS authentication.
- *Note:* It is recommended to use port 1812.
 - $\circ\,$ Shared Secret: Enter the shared secret used to authorize your router

Global-Key Update

every 3600 Seconds

- Global-Key Update
 - $\,\circ\,$ Enable this option to set the cache period based on seconds

Wireless access control

The MAC address filter section can be used to filter network access by machines based on the unique MAC addresses of their network adapter(s). It is most useful to prevent unauthorized wireless devices from connecting to your network. A MAC address is a unique ID assigned by the manufacturer of the network adapter.

Wireless Network:	VAP1 - TRENDnet734_5GHz
Access Control Mode:	Disable 🔻
MAC Address:	

- Access Control Mode:
 - $\circ\,$ Profile Selection: Select the wireless profile you would like to apply the access control rule.

- $\circ\,$ Disable: Access control is disabled
- $\circ\,$ Allow Listed: Enter MAC address allowed to connect to the access point
- $\,\circ\,$ Deny List: Enter MAC addresses to block connection to the access point.

Advance Settings

Change your IP address

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In most cases, you do not need to change the access point's IP address settings. Typically, the access point IP address settings only needs to be changed, if you plan to use another access point in your network with the same IP address settings, if you are connecting the access point to an existing network that is already using the IP address settings your access point is using.

In addition, the access point 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. If you already have a DHCP server on your network, or if you do not want to use the access point as a DHCP server, you can disable this setting. This setting would be used when the access point's System settings is set to Router mode.

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.

Note: For VPN (Virtual Private Network) configuration, it is required that each router should have a different router or LAN IP address/network on each end of the VPN tunnel.

Default Router or LAN IP Address: 192.168.10.1 00 Default Router or LAN IP Network: 192.168.10.0 / 255.255.255.0

Log into the management page (see "<u>Access the management page</u>" on page 9).
 Click on System, and click on Network Settings.

LAN Settings		
IP Address:	192.168.20.11	
Subnet Mask:	255.255.255.0	
Enable DHCP Server		
DHCP IP Address Range:	192.168.10.101 - 192.168.10.200	
Lease Time:	120 (15-44640 minutes)	
Enable DHCP Relay		
DHCP Sever IP:	0.0.0	

- IP Address: Enter the new access point IP address. (e.g. 192.168.100.1)
- Subnet Mask: Enter the new access point subnet mask.(e.g. 255.255.255.0)
- DHCP Server: Enable or Disable the DHCP server on the access point.
- DHCP IP Address Range: Enter the IP address of the DHCP server to assign.
- Lease Time: Enter the lease time in seconds that DHCP client will hold their automatically assigned IP address before requesting a new IP address
- Enable DHCP Relay: Enable to forward DHCP requests and replies between clients and servers when they are not on the same physical subnet
- DHCP Server IP: Enter the DHCP IP address of the DHCP Relay

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

3. To save changes, click **Apply** at the bottom of the page.

Note: If you changed the IP address of the access point you will need to access the management page using the new IP address (e.g Instead of using the default <u>http://192.168.10.100</u> using your new router IP address will use the following format using your new router IP address <u>http://(new.router.ipaddress.here)</u> to access the management page.

Configure your Internet connection

This section describes the features when setting the access points WAN settings. The access point supports DHCP, Static or PPPoE WAN types. Refer to <u>Internet Service Type</u> section in the Appendix for additional information on connection types. Before configuring this section, complete the settings in the <u>Router Mode</u> section to determine the type of networking you will be setting.

Note: This feature is only available when Router mode is applied in System Settings.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on System, and click on Network Settings.

3. In the **WAN Access Type** drop-down list, select the type of Internet connection provided by your ISP (Internet Service Provider).

WAN Settings	
WAN Access Type:	Static IP 🗸
IP Address:	192.168.0.99
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.0.254
DNS 1:	0.0.0
DNS 2:	0.0.0

- 4. Complete the fields required by your ISP.
- 5. Complete the optional settings only if required by your ISP.
- 6. To save changes, click **Save**.

Note: If you are unsure which Internet connection type you are using, please contact your ISP (Internet Service Provider).

Setting time

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on System, and click on Time Settings.

Current Time:	2015Yr 1Mon 5Day 23Hr 54Min 15Sec	
Time Zone:	(PST)Pacific Standard Time	
Enable NTP Client Update		
• NTP Server:	192.5.41.41 - North America 👻	
Manual IP:	0.0.0.0	

Manual configure time settings

1. Manually enter the date and time settings.

2. Next to **Time Zone** Select, select your time zone from the drop down menu. Click **Apply** to save settings.

Time setting using a NTP server

1. Click **Enable NTP client update** option to obtain date and time settings from a NTP server.

2. Select one of the below options. Click Apply to save settings.

- NTP Server: Select a NTP server to use.
- Manual IP: Manually enter your NTP server.

2. You can also click **Enable NTP client update** option to obtain date and time settings from a NTP server.

Advance wireless settings

This section outlines available management options under the Advance Settings of the Wireless button.

A-MPDU Aggregation:	●Enabled ●Disabled
A-MSDU Aggregation:	●Enabled ●Disabled
Short GI:	●Enabled ●Disabled
RTS Threshold:	2347 (256-2347)
Fragment Threshold:	2346 (256-2346)
Beacon Interval:	100 (40-3500 ms)
DTIM Interval:	1 (1-255)
Preamble Type:	●Long ❷Auto
Channel Protection:	None •
Distance:	1000 (0-15000 meter)

- A-MPDU/A-MSDU aggregation: The data rate of your AP except wireless client mode could be enhanced greatly with this option enabled; however, if your wireless clients don't support A-MPDU/A-MSDU aggregation, it is not recommended to enable it.
- Short GI: Under 802.11n mode, enable it to obtain better data rate if there is no negative compatibility issue.
- **RTS Threshold:** The IEEE 802.11b/g/n Wireless CPE sends RTS (Request to Send) frames to certain receiving station and negotiates the sending of a data frame. After receiving an RTS, that STA responds with a CTS (Clear to Send) frame to acknowledge the right to start transmission. The setting range is 0 to 2346 in byte. Setting it too low may result in poor network performance. Leave it at its default of 2346 is recommended.
- **Fragment Threshold:** Specify the maximum size in byte for a packet before data is fragmented into multiple packets. Setting it too low may result in poor network performance. Leave it at its default of 2346 is recommended.
- **Beacon Interval:** Specify the frequency interval to broadcast packets. Enter a value between 20 and 1024.

• **DTIM Interval:** DTIM, which stands for Delivery Traffic Indication Message, is contained in the data packets. It is for enhancing the wireless transmission efficiency. The default is set to 1. Enter a value between 1 and 255.

Change your login password

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Management, and click on Password Settings. Click Apply to save changes.

Current Password:	
New Password:	
Confirm Password:	

- Current Password: Enter the current password of the access point.
- New Password: Enter the new password
- Confirm Password: Re-enter the new password to confirm.

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

Access Control

IP Filtering

IP Filtering gives users the ability to restrict certain types of data packets from your local network to the access point based on assigned IP address. Use of such filters can be helpful in securing or restricting your local network. Please note that this feature is only available when access point System Mode is set to **Router**.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

•

IP Filter

Drop 🔻

TCP

Source

2. Click on Firewall Filtering.

Filter Type:

Target:

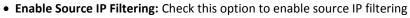
Protocol:

Direction:

IP Address:

Comment:

Enable Firewall Filtering



- Filter Type: Select IP Filter in the pull down menu
- Protocol: Select the protocol you would like to filter.
- Direction: Select the direction of the packets to filter.
- IP Address: Enter the IP address or range of IP address to assign.
- **Comment:** Enter any notes you would like to add to distinguish the rule.

Port Filtering

The Port filtering gives you the ability to restrict the computers in LAN from accessing certain websites in WAN according to specified IP addresses. Please note that this feature is only available when access point System Mode is set to **Router**.

Log into the management page (see "<u>Access the management page</u>" on page 9).
 Click on Firewall Settings.

Filter Type:	Port Filter 👻
Target:	Drop -
Protocol:	TCP V
Direction:	Source 🔻
Port:	-
Comment:	

- Enable Source IP Filtering: Check this option to enable source Port filtering
- Filter Type: Select Port Filter in the pull down menu
- Protocol: Select the protocol you would like to filter.
- Direction: Select the direction of the packets to filter.
- Port: Enter the IP address or range of IP address to assign.
- Comment: Enter any notes you would like to add to distinguish the rule.

MAC Filtering

The MAC filtering enables you to restrict certain MAC address to have access to your network. Please note that this feature is only available when access point System Mode is set to **Router**.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Firewall Settings.

Enable Firewall Filtering	
Filter Type:	MAC Filter 💌
Target:	Drop -
Protocol:	TCP -
Direction:	Source 👻
MAC Address:	
Comment:	

- Enable Source IP Filtering: Check this option to enable source IP filtering
- Filter Type: Select MAC Filter in the pull down menu
- **Protocol:** Select the protocol you would like to filter.
- **Direction:** Select the direction of the packets to filter.
- MAC Address: Enter the IP address or range of IP address to assign.
- Comment: Enter any notes you would like to add to distinguish the rule.

Port Forwarding

The destination port filtering enables you to restrict certain ports of data packets from your local network to Internet through the access point. Use of such filters can be helpful in securing or restricting your local network. Please note that this feature is only available when access point System Mode is set to **Router**.

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Firewall Settings, and click on Port Forwarding. Click Apply to save settings.

Enable Port Forwarding	
IP Address:	
Protocol:	TCP 👻
Port:	-
Comment:	

- Enable Destination IP Filtering: Check this option to enable source IP filtering
- **IP Address:** Enter the IP address of the device to forward the port. (e.g. *192.168.10.101)*.
- **Protocol:** Select the protocol required for your device. **TCP**, **UDP**, or you can select **Both** to choose both TCP & UDP.
- Port Range: Enter the port number used to access the device from the Internet.
- Comment: Enter any notes you would like to add to distinguish the rule.

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 55).

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

2. Log into the management page (see "Access the management page" on page 9).

3. Click on Firewall Settings on the side, click on Port Forwarding.

4. Under IP Address, enter the IP address assigned to the camera. (e.g. 192.168.10.101)5. To save changes, click Save at the bottom of the page.

Open a device on your network to the Internet

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.

- 1. Log into the management page (see "Access the management page" on page 9).
- 2. Click on Firewall Settings, and click on DMZ Setting. Click Apply to save settings.

Enable DMZ	
DMZ Host IP Address:	0.0.0.0

- Enable DMZ: Check this option to enable DMZ
- DMZ Host IP Address: Enter the IP address you would like to apply DMZ.

Configure your log

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.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

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2. Click on Tools, and click on System Log. Click Apply to save settings.

Enable Remote Log	
IP Address:	0.0.0
Port:	514

- Enable Remote Syslog Server: Check this option to enable DMZ
- IP Address: enter the IP address (*e.g. 192.168.10.250*) of the external log server to send
- Port: Enter the port used on your log server.

View your log

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.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Tools, and click on System Log. Click Apply to save settings.

\$#	♦ Time	♦ Priority	 Source 	 Message
2	2015-01-01 08:02:24	notice	192.168.10.126	WEB: Authorized user "admin".
	2015-01-01 08:40:39	notice	192.168.10.126	WEB: User "admin" logout.
	2015-01-01 08:40:43	notice	192.168.10.126	WEB: Authorized user "admin".
	2015-01-01 09:44:28	warn	192.168.10.126	WEB: Unauthorized user "admin".
	2015-01-01 09:45:13	notice	192.168.10.126	WEB: Authorized user "admin".
	2015-01-01 09:55:11	notice	28:0D:FC:3D:25:EA	Station authenticated.
	2015-01-01 09:55:38	warn	28:0D:FC:3D:25:EA	Station deauthenticated.
	2015-01-01 09:55:43	notice	28:0D:FC:3D:25:EA	Station authenticated.

- Time: Displays the date and time of the log entry. If the time is inaccurate, make sure to set the router date and time correctly. (See "Setting time" on page 51)
- **Source:** Source of the log entry
- Message: Displays the log message.
- Refresh: Click to refresh the displayed log entries
- Clear: Click to clear all current log entries

Ping Watchdog

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.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Tools, and click on Ping Watchdog. Click Apply to save settings.

Enable Ping Watchdog				
IP Address to Ping:	0.0.0.0			
Ping Interval:	300 seconds			
Startup Delay:	100 seconds(>=100)			
Failure Count To Reboot:	300			

- Enable Ping Watchdog: Check this option to enable option
- IP Address to Ping: Enter the IP address of the remote unit to ping
- **Ping Interval:** Enter the time interval in seconds to ping the remote unit
- **Startup Delay:** Enter the startup delay time in seconds to prevent the reboot before the access point is initialized
- Failure Count To Reboot: Enter the count value of when the access point will reboot automatically

Remote Management

The access point provides a variety of remotes managements tools including Telnet, SNMP, FTP, SSH, HTTPS and exclusive WISE tool, making configuration more convenient and secure.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Management, and click on Remote Management.

Enable Telnet Server	Enable FTP Server
Enable SSH Server	Enable WISE
Enable CPE Management	Force HTTPS

- 3. Select the management mode you would like to use. Click **Apply** to save settings.
 - Normal: Select this mode to activate Telnet, SNMP and FTP
 - Secure: Select this mode to activate SSH, HTTPS, and WISE
 - Customized: Select this mode to manually choose the management modes

4. If SNMP is one of the management tools you have selected. You will need to complete the below settings.

Enable SNMP				
Protocol Version:	V3 •			
Server Port:	161			
Get Community:	public			
Set Community:	private			
Trap Destination:	0.0.0			
Trap Community:	public			
Location:				

- **Protocol Version:** Select from the pull down menu the SNMP version to use.
- Server Port: Enter the your SNMP server port
- Get Community: Enter the password for the incoming Get and GetNext requests from the management station

- **Set Community:** Specify the password for the incoming Set requests from the management station.
- Trap Destination: Specify the IP address of the station to send the SNMP traps to.

• **Trap Community:** Specify the password sent with each trap to the manager. To use SNMP V3, click the option "Configure SNMPv3 User Profile" to display the configuration settings.

User Name:	SNMPv3Admin
Password:	•••••
Confirm Password:	•••••
Access Type:	Read/Write -
Authentication Protocol:	MD5 -
Privacy Protocol:	None -
ØEnable SNMPv3Use	er
User Name:	SNMPv3User
Password:	•••••
Confirm Password:	•••••
Access Type:	Read Only 👻
Authentication Protocol:	MD5 -
Privacy Protocol:	None -

- User Name: Specify a user name for the SNMPv3 administrator or user. Only the SNMP commands carrying this user name are allowed to access the access point
- **Password:** Specify a password for the SNMPv3 administrator or user. Only the SNMP commands carrying this password are allowed to access the access point
- Confirm Password: Input password again to confirm
- Access Type: Select "Read Only" or "Read and Write" accordingly.
- Authentication Protocol: Select an authentication algorithm. SHA authentication is stronger than MD5 but is slower.
- **Privacy Protocol:** Specify the encryption method for SNMP communication. None and DES are available.
 - $\circ\,$ None: No encryption is applied.
 - $\circ\,$ DES: Data Encryption Standard, it applies a 58-bit key to each 64-bit block of data.

Upgrade Firmware

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.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Firmware Upload.

3. Click Browse and select the updated firmware file you want to load. Click **Upload** to load the firmware file.

Note: Any interruption during the firmware upgrade can damage your device.

Select File:

Browse_ No file selected.

Backup and restore your router configuration 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 back up your configuration:

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Configuration File.

Save Settings to File: Save.

3. 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: *config.bin*)

4. Save the configuration file to location on your computer.

To restore your router configuration and upgrade firmware

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Configuration File.

3. Under Load Settings from file, click on Browse select your saved configuration file and click Upload.

Load Settings from File:	Browse_ No file selected.	Upload

Reboot your access point

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 4.

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. Toolbox > Reboot
- 1. Log into the management page (see "Access the management page" on page 9).
- 2. Click on Management, and click on Configuration File.



3. Click Yes or OK if prompted to your reboot your device.

Reset to factory defaults

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 70.

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

• **Reset Button** – Located on the bottom panel of the access point, cap must be removed to access reset button. Use this method if you are encountering difficulties with accessing your router management page. Push and hold this button for 15 seconds and release to reset your router to its factory defaults.



Bottom cap remove

OR

• Router Management Page

Management > Configuration Filet

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Configuration File.

Reset Settings to Default: Reset

3. You will be prompted to reset your router to factory defaults. Click Yes or OK.

Certificate configuration settings

Under Client mode, when EAP-TLS is used, the RADIUS server must know which user certificates to trust. The Server can trust all certificates issued by a given CA.

To import a user certificate, from Import User Certificates, click "**Browse**" and specify the location where the user certificate is placed. Click "**Import**".

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Certificate Settings.

Import Certificate:	Browse_ No file selected.	Import
Delete Certificate:	~	Delete

- **Delete User Certificate:** Select from the pull down menu the certificate would like to delete and deactivate. Press **Delete** to proceed.
- Import User Certificate: Click Browse and select the user certificate you want to load to the access point. Click Import to load the certificate.

Device Information

Under Client mode, when EAP-TLS is used, the RADIUS server must know which user certificates to trust. The Server can trust all certificates issued by a given CA.

To import a user certificate, from Import User Certificates, click "**Browse**" and specify the location where the user certificate is placed. Click "**Import**".

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Status, and click on Information.

System Information



- Device Name: Name of device
- Country/Region: Applied country/region (Note: FCC domain products will only support United States Country/Region.)
- Firmware Version: Current firmware version of the access point.

WAN Settings

WAN Settings				
MAC Address:	00:19:70:94:fe:a6			
Access Type: Static IP				
IP Address:	192.168.0.99			
Subnet Mask:	255.255.255.0			
Default Gateway:	192.168.0.254			
DNS 1:	0.0.0.0			
DNS 2:	0.0.0.0			

Information is based on the mode settings applied to the access point and when System mode is to **Router**.

- Connection Time: Display time duration of when the WAN has established connection
- Access Type: Display the WAN connection type
- IP Address: Current assigned WAN IP address
- Subnet Mask: Assigned WAN Subnet Mask
- Default Gateway: Assigned WAN default gateway
- DNS1/2: Assigned WAN DNS IP address
- MAC Address: Displays the MAC address of the access points WAN port

LAN Settings

LAN Settings				
IP Address:	192.168.10.100			
Subnet Mask:	255.255.255.0			
Gateway IP Address:	0.0.0.0			

Information is based on the Wireless mode setting applied to the access pointr.

- IP Address: LAN IP address of your access point
- Subnet Mask: Subnet Mask of your Local Area Network (LAN)
- Gateway IP Address: Displays the gateway IP address assigned to the access point.

Wireless Settings

Wireless Settings				
Operation Mode:	AP			
802.11 Mode:	802.11A/N			
SSID:	TRENDnet734_5GHz			
Encryption:	Open System			
ACK Timeout:	35 µs			

- **Operation Mode:** Display the current wireless operation mode of the access point.
- 802.11 Mode: Displays the 802.11 mode applied on the access point
- SSID: Display the assigned SSID
- Encryption: Displays the wireless security encryption type applied
- ACK: Displays the applied ACK timeout period.

Interface Status

Int	Interface Status						
¢	Interface	+ Status	♦ Channel	◆ Rate			
	Wireless	Up	5745MHz (149)	Auto			
	Ethernet	Up	N/A	100M/Full-Duplex			

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- Interface: Displays the interface of the access point
- Status: Displays the current status of the interface
- Channel: Displays the operating channel of the wireless interface
- Rate: Displays the data rate of the interface.

Associated Information

Open "**Connections**" in "**Status**" to check the information of associated wireless devices such as MAC address, signal strength, connection time, IP address, etc. All is read only. Click "**Refresh**" at the bottom to update the current association list. By clicking on the MAC address of the selected device on the web you may see more details including device name, connection time, signal strength, noise floor, ACK timeout, link quality, IP information, current data rate, current TX/RX packets.

1. Log into the management page (see "<u>Access the management page</u>" on page 27).

2. Click on Status, and click on Connections.

\$#	◆Interface	♦ MAC Address	♦ 802.11 Mode	◆ Signal ◆ Strength	◆ ^{Connected} Time	Action

• Refresh: Click to refresh to view the current information

Statistics

You may want to check the statistical received and transmit packets of the wired and wireless connections of the access point.

Log into the management page (see "<u>Access the management page</u>" on page 9).
 Click on Status, and click on Statistics.

	Received	Transmitted	
Wireless			
Total Packets	6424	7207	
Total Bytes	947889	1952176	
Ethernet			
Total Packets	2105	2087	
Total Bytes	254180	1325193	

• Refresh: Click to refresh to view the current information

Poll Interval:	5	(1-65534) Sec	Set Interval	Stop	

 Poll Interval: Specify the refresh time interval in the box beside "Poll Interval" and click "Set Interval" to save settings. "Stop" helps to stop the auto refresh of network flow statistics.

ARP Table

You may want to view the access point's current ARP table.

1. Log into the management page (see "Access the management page" on page 9).

2. Click on **Status**, and click on **ARP Table**.

\$ #	♦ IP Address	♦ MAC Address	♦Interface	+ Туре
1	192.168.10.161	00:26:c6:2c:68:40	LAN	Dynamic

• Refresh: Click to refresh to view the current information

Bridge Table

This page allows you to view any active bridge connections to the access point.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Status, and click on Bridge Table.

\$#	¢	MAC Address	 Interface 	 Ageing Time(s)
1		00:26:c6:2c:68:40	Wireless	0.00
2		00:19:70:94:fe:a6	Bridge	

• Refresh: Click to refresh to view the current information

DHCP Clients

This page displays the access point's current DHCP clients.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Status, and click on DHCP Clients.



• Refresh: Click to refresh to view the current information

Thin AP

Below describes the configuration settings when the TEW-734APO System Mode is set to **Thin AP** mode. In this mode the access point can only be configured with a device set on Virtual Access Control mode.

Configuration

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Your access point will prompt you for a user name and password.



3. Enter the default user name and password and then click Login.

Default User Name: admin Default Password: admin

4. Click the System button on the left side and then System Settings.

System		
Ва	sic Settings	
Ne	twork Settings	
Tir	ne Settings	
RA	DIUS Settings	

5. Select Thin AP in the Device Mode drop down menu.

Gernral Settings		
Device Mode :	Thin AP Fat AP Thin AP Virtual AC Virtual AC + Thin AP	

Basic Setting

This page displays thin access points connected in the network.

- 1. Log into the management page (see "Access the management page" on page 9).
- 2. Click on Thin AP and **Basic Settings**.

General Settings

Gernral Settings		
Device Mode :	Thin AP	•
Device Name :	TEW-734APO	(max. 15 characters and no spaces)

- Device Mode: Select the mode you would want the access point to operate on.
- Device Name: Enter a device name that can help distinguish each devices

IP Settings

IP Settings	
O DHCP Client	
Static IP	
IP Address :	192.168.10.100
Subnet Mask :	255.255.255.0
Gateway IP Address :	0.0.0
DNS 1:	0.0.0
DNS 2 :	0.0.0

- **DHCP Client:** Select this option to set the access point to obtain DHCP you're your DHCP server.
- Static: Select this option to manually configure the access point's IP address.
 - IP Address: Enter the IP address to assign
 - $\circ\,$ Subnet Mask: Enter the subnet mask of the access point
 - $\,\circ\,$ Gateway IP Address: Enter the gateway IP address
 - **DNS1-2:** Enter the DNS IP address to assign on the access point.

Access Control Mode

AC Connection Mode		
LAN		
• Internet	0.0.0.0	
Advanced Settings		
Management Port:	15232	
FW Upgrade Port:	21	

- LAN: Select when your access controller is connected on your LAN (Local Are Network).
- Internet: Select this option to have your access controller access the access point via Internet and enter the elect the mode you would want the access point to operate on.
 - Management Port: Enter the port to assign to access the access point via Internet
 - $\circ\,$ FW Upgrade Port: Enter the port to use when performing upgrade through the Internet.

VLAN



- Enable 802.1 Q VLAN: Select this option to enable VLAN
- Management VLAN ID: Enter the VLAN ID to assign the access point.

Information

This page displays thin access points configured information.

- 1. Log into the management page (see "Access the management page" on page 9).
- 2. Click on Thin AP and Basic Settings.

TEW-734APO

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Firmware Version:	1.1.1(TN)4
MAC Address:	00:19:70:94:fe:a6
System Uptime:	1h:31m:35s
Register Status:	Unregistered
AC MAC Address:	N/A

- Firmware version: Current firmware version of the access point
- MAC Address: Displays the MAC address of the access point
- System Uptime: Displays the duration of the access point being active
- Registered Status: Displays the registration status of the access point with an access controller
- AC MAC Address: Displays the MAC address of the access controller assigned to the access point.

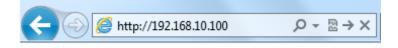
Virtual AC

In this mode the access point becomes the virtual access controller that can control thin access points on the network.

Configuration

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Your access point will prompt you for a user name and password.



3. Enter the default user name and password and then click Login.

Default User Name: **admin** Default Password: **admin**

4. Click the System button on the left side and then System Settings.



5. Select **Virtual AC** in the Device Mode drop down menu and Select your Country/Region.

Note: FCC domain products will only support United States Country/Region.

Device Settings	
Device Mode:	Virtual AC ▼ Fat AP Thin AP Virtual AC Virtual AC + Thin AP

This page displays thin access points connected in the network.

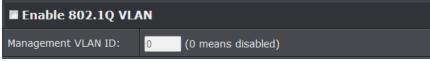
- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Management and System Settings.

Device Settings

Devi	ce Settings	
Device	e Mode:	Virtual AC 🔻
Conne	ect Mode:	LAN 🔻
Device	e Name:	TEW-734APO (max. 15 characters and no spaces)
Span	ning Tree:	●Enabled ●Disabled
STP F	orward Delay:	1 (1~30 seconds)

- Device Mode: Select the mode you would want the access point to operate on.
- Connect Mode: Select the mode the access controller will be connected
- Device Name: Enter the name of the device
- Spanning Tree: Select to enable Spanning Tree feature
- STP Forward Delay: Enter the delay time duration

Ena<u>ble VLA</u>N



- Enable 802.1Q VLAN: Select to enable VLAN feature
- VLAN ID: Enter the assigned VLAN ID of the access controller

IP Address

IP Address Assignment		
O DHCP Client		
Static IP		
IP Address:	192.168.10.100	
Subnet Mask:	255.255.255.0	
Gateway IP Address:	0.0.0	
DNS 1:	0.0.0	
DNS 2:	0.0.0.0	

- DHCP Client: Select to have access controller to receive IP address from your DHCP server
- Static: Select this option to manually configure the access point's IP address.
 - $\,\circ\,$ IP Address: Enter the IP address to assign
 - $\circ\,$ Subnet Mask: Enter the subnet mask of the access point
 - Gateway IP Address: Enter the gateway IP address
 - $\circ\,$ DNS1-2: Enter the DNS IP address to assign on the access point.

DHCP Server

DHCP Server (Assigned To TAP Only)		
DHCP IP Address Range:	192.168.10.101 - 192.168.10.200	
DHCP Subnet Mask:	255.255.255.0	
Lease Time:	120 (15-44640 minutes)	

- DHCP Client: Select to enable DHCP server
 - DHCP IP Address Range: Enter the DHCP IP range to assign
 - o Subnet Mask: Enter the Subnet mask to assign DHCP clients
 - $\,\circ\,$ Lease Time: Enter the lease time duration for DHCP clients.

ZNMP

ZNMP Settings

ZNMP Survey Interval:

15 (5~20 seconds)

- ZNMP Survey Interval: Enter the survey time interval
 - o **P Address:** Enter the IP address to assign
 - o Subnet Mask: Enter the subnet mask of the access point
 - o Gateway IP Address: Enter the gateway IP address

AP Management

This page displays thin access points connected in the network.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Status section and Managed APs.
- 3. Select the access point you would like to configure.

# Selecte	ed Device Name	MAC	IP	FW	Status	Clients	ТХ	RX
1	TEW-734APO	00:19:70:94:fe:c9 (AC)	192.168.10.100	1.1.1(TN)4	Registered		1.1KB	0.0B

- Restart: Click this option to restart the selected device(s)
- Rename: Click this option to rename the selected access point
- Set IP: Click this option to change the IP address of the selected device
- Radio: Select this option to change the wireless radio settings of the selected device
- Upgrade Selected: Select this option to upgrade the selected devices
- Upgrade All: Select this option to upgrade all devices
- Refresh: Click to refresh the access point list

Advance Settings

Setting time

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on System, and click on Time Settings.

Current Time:	2015 Yr 1 Mon 5 Day 23 Hr 54 Min 15 Sec		
Time Zone:	(PST)Pacific Standard Time		
Enable NTP Client Update			
NTP Server:	192.5.41.41 - North America 👻		
Manual IP:	0.0.0.0		

Manual configure time settings

1. Manually enter the date and time settings.

2. Next to **Time Zone** Select, select your time zone from the drop down menu. Click **Apply** to save settings.

Time setting using a NTP server

1. Click **Enable NTP client update** option to obtain date and time settings from a NTP server.

2. Select one of the below options. Click **Apply** to save settings.

- NTP Server: Select a NTP server to use.
- Manual IP: Manually enter your NTP server.

2. You can also click **Enable NTP client update** option to obtain date and time settings from a NTP server.

Upgrade Firmware

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.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Firmware Upload.

Upgrade AC Firmware:	Browse_ No file selected.	Upload
Upload TAP Firmware:	Browse_ No file selected.	Upload
Auto Upgrade TAP Firmware:	●Enabled ● Disabled	

3. Click Browse and select the updated firmware file you want to load. Click **Upload** to load the firmware file.

Note: Any interruption during the firmware upgrade can damage your device.

Backup and restore your router configuration 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 back up your configuration:

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Configuration File.



3. 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: *config.bin*)

4. Save the configuration file to location on your computer.

To restore your router configuration and upgrade firmware

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Management, and click on Configuration File.

3. Under Load Settings from file, click on Browse select your saved configuration file and click Upload.

Load Settings from File:	Browse_ No file selected.	Upload	
--------------------------	---------------------------	--------	--

Reboot your access point

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 4.

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.

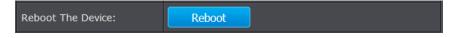
Disconnect the power adapter from the power port of your router for 10 seconds, then, plug the power adapter back into the power of your router. Wait for your router Status light to begin flashing.

OR

 Router Management Page – This is also known as a soft reboot or restart. Toolbox > Reboot

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Management, and click on Configuration File.



3. Click Yes or OK if prompted to your reboot your device.

Reset to factory defaults

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 70.

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

• **Reset Button** – Located on the bottom panel of the access point, cap must be removed to access reset button. Use this method if you are encountering difficulties with accessing your router management page. Push and hold this button for 15 seconds and release to reset your router to its factory defaults.



Bottom cap remove

OR

• Router Management Page

Management > Configuration Filet

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Management, and click on Configuration File.



3. You will be prompted to reset your router to factory defaults. Click Yes or OK.

Change your login password

1. Log into the management page (see "Access the management page" on page 9).

- TEW-734APO
- 2. Click on Management, and click on Password Settings. Click Apply to save changes.

Current Password:	
New Password:	
Confirm Password:	

- **Current Password:** Enter the current password of the access point.
- New Password: Enter the new password
- Confirm Password: Re-enter the new password to confirm.

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

Configure your log

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.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Tools, and click on System Log. Click Apply to save settings.

Enable Remote Log		
IP Address:	0.0.0	
Port:	514	

- Enable Remote Syslog Server: Check this option to enable DMZ
- IP Address: enter the IP address (*e.g. 192.168.10.250*) of the external log server to send
- **Port:** Enter the port used on your log server.

Email Syslog

TEW-734APO

TRENDnet User's Guide

Send Syslog via Email		
Log Schedule:	Never -	
Severity Level:	Syslog 👻	
Send Log To:	(Email Address)	
Day For Sending Log:	Sunday 👻	
Time For Sending Log:	0 hour 0 minute	
Clear Log:	After Sending Mail	

- Log Schedule: Select from the pull down menu the schedule to email logs
- Severity level: Select the log types to send
- Send to: Enter the email address to send logs
- DHCP Client: Select to enable DHCP server
- Day for sending logs: Select when to email logs
- Time for sending logs: Enter the time when to email logs
- Clear logs: Select to delete logs after emailing logs

Email Server

Mail Server Settings	Mail Server Settings		
Send Log From:	(Email Address)		
Mail Subject:			
SMTP Server:	(SMTP Server Name or IP Address)		
SMTP Authentication			
User Name:			
Password:			

- Send log from: Enter the assigned email recipient
- Subject: Enter the subject of the log email
- SMTP server: Enter the SMTP server of IP address
- SMTP Authentication: Select to authenticate SMTP
- Username: Enter SMTP username
- Password: Enter the SMTP password

View your log

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.

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Management, and click on System Log. Click Apply to save settings.

\$ #	+ Time	+ Priority	 Source 	 Message
2	2015-01-01 08:02:24	notice	192.168.10.126	WEB: Authorized user "admin".
3	2015-01-01 08:40:39	notice	192.168.10.126	WEB: User "admin" logout.
4	2015-01-01 08:40:43	notice	192.168.10.126	WEB: Authorized user "admin".
5	2015-01-01 09:44:28	warn	192.168.10.126	WEB: Unauthorized user "admin".
6	2015-01-01 09:45:13	notice	192.168.10.126	WEB: Authorized user "admin".
7	2015-01-01 09:55:11	notice	28:0D:FC:3D:25:EA	Station authenticated.
8	2015-01-01 09:55:38	warn	28:0D:FC:3D:25:EA	Station deauthenticated.
9	2015-01-01 09:55:43	notice	28:0D:FC:3D:25:EA	Station authenticated.

- Time: Displays the date and time of the log entry. If the time is inaccurate, make sure to set the router date and time correctly. (See "Setting time" on page 51)
- Source: Source of the log entry
- Message: Displays the log message.
- Refresh: Click to refresh the displayed log entries
- Clear: Click to clear all current log entries

<u>Ping Tool</u>

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.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Tools, and click on Ping. Click Apply to save settings.



- Ping Address: Enter the IP address to ping
- **Ping Count:** Enter the ping count to conduct
- Data Size: Enter the data size to ping

Device Information

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Status, and click on Information.

System Information

System Information		
Firmware Version:	1.1.1(TN)4	
MAC Address:	00:19:70:94:fe:c9	
Device Name:	TEW-734APO	

- Firmware Version: Current firmware version of the access point.
- MAC Address: MAC address of the access controller
- Device Name: Assigned name of the device

IP Settings

IP Settings	
IP Address:	192.168.10.100
Subnet Mask:	255.255.255.0
Gateway IP Address:	0.0.0.0

- IP Address: Assigned IP address of the access controller
- Subnet Mask: Assigned subnet mask of the access controller
- Gateway IP Address: Assigned gateway IP of the access controller

Wireless Networks

#	SSID	Security	Clients	ТХ	RX
1	TRENDnet734_5GHz	Open System	0	0.0B	0.0B

- #: Number of access points
- SSID: Wireless SSID of the access point
- Security: Assigned wireless security of the access point
- Clients: Number of connected clients on the access point
- TX: Date transmit rate of the access point
- RX: Data receive rate of the access point
- N IP address of your access point
- Subnet Mask: Subnet Mask of your Local Area Network (LAN)

Wireless Users

This page displays all connected wireless clients.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Status section and Wireless Users.

#	MAC	SSID	AP Name	Signal	Uptime	TX	RX

- #: The number of access point
- MAC: Displays the MAC address of the access point
- SSID: Displays the SSID of the access point

- AP Name: Displays the name assigned to the access point
- Signal: Displays the signal strength of the access point
- Uptime: Displays the time duration of when the access point has been running
- Tx: Display the transmit data rate of the access point
- Rx: Displays the receive data rate of the access point

DHCP Client

This table shows the assigned IP address, MAC address and time expired for each DHCP leased client.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Status section and DHCP Client.

#	IP Address	MAC Address	Host Name	Time Expired(m)

- **#:** The number of access point
- IP Address: Displays the IP Address of the access point
- MAC Address: Displays the MAC address of the access point
- Host Name: Host name of the access point
- **Time Expiration:** Displays the DHCP expiration time of the access point
- SSID: Displays the SSID of the access point
- AP Name: Displays the name assigned to the access point
- Signal: Displays the signal strength of the access point
- Uptime: Displays the time duration of when the access point has been running
- Tx: Display the transmit data rate of the access point
- Rx: Displays the receive data rate of the access point

Configure Wireless Profile

This section outlines available management options under the Profile Settings of the Wireless button. This access point supports multiple SSID, you can set an additional of 16 SSSID for your wireless network.

\$#	Enabled	+ Profile Name	♦ SSID	 Security 	Vlan ID
1		Profile1	TRENDnet734_5GHz	Open System	0
2		Profile2	TRENDnet734_5GHz	Open System	0
3		Profile3	TRENDnet734_5GHz	Open System	0
4		Profile4	TRENDnet734_5GHz	Open System	0
5		Profile5	TRENDnet734_5GHz	Open System	0
6		<u>Profileó</u>	TRENDnet734_5GHz	Open System	0
7		Profile7	TRENDnet734_5GHz	Open System	0
8		Profile8	TRENDnet734_5GHz	Open System	0

Select Always Enabled option and click the Profile Name you would like to configure.

Basic Settings			
Profile Name:	Profile1		
SSID:	TRENDnet734_5GHz		
Broadcast SSID:	©Enabled ●Disabled		
Wireless Separation:	●Enabled ●Disabled		
WMM Support:	●Enabled ●Disabled		
IGMP Snooping:			
Max. Station Num:	32 (1-32)		

The following section outlines options to configure the basic settings of the multiple SSID.

- Profile Name: Enter the profile name of the network name you are configuring.
- Wireless Network Name (SSID): This acronym stands for Service Set Identifier and is the name of your wireless network. It differentiates your wireless network from others around you.
- Broadcast Network Name (SSID):

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TRENDnet User's Guide

- 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.

• Wireless Separation:

- $\,\circ\,$ Enabled separates all wireless clients connected to this SSID, clients cannot communicate with each other.
- $\,\circ\,$ Disabled allows all wireless clients connect to this SSID to communicate with each other
- WMM: Wi-Fi Multimedia is a Quality of Service (QoS) feature which prioritizes audio and video data packets. This feature requires the wireless device to also support WMM. Click **Enabled (recommended)** or **Disabled** to turn this feature on or off on your router.
- Max. Station Num.: Select this option to limit the amount of clients who can connect to this SSID.
 - $\,\circ\,$ Enter the amount of clients you would like to limit.

Secure your wireless network

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 the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Wireless button and click on Profile Settings.
- 3. Click on the Profile name you would like to apply wireless security.

\$ #	Enabled	Profile Name	÷	SSID	¢	Security	Vlan ID
	7	Profile1	TREND	net734_5GHz		Open System	0
2		Profile2	TREND	net734_5GHz		Open System	0
			TREND	net734_5GHz		Open System	0
4		Profile4	TREND	net734_5GHz		Open System	0

4. Select the wireless security on your wireless network from the **Network Authentication** pull down menu.

Security Settings		
Authentication:	Open System	
	Open System	
	Shared Key	
	- Legacy 802.1x WPA with Radius	
	WPA with Radius	
	WPA & WPA2 with Radius	
	WPA-PSK	
	WPA2-PSK	
	WPA-PSK&WPA2-PSK	

Selecting WEP (Open System or Shared Key):

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

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

Security Settings	
Authentication:	Open System 🔹
Data Encryption:	64 bits WEP 🔻
Кеу Туре:	Hex 💌
Default Tx Key:	Key 1 💌
WEP Passphrase:	Generate Keys
Encryption Key 1:	
Encryption Key 2:	
Encryption Key 3:	
Encryption Key 4:	

• Data Encryption: 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.

• Key type: 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.

• Key 1-4

given time. Most users simply define one key. • Choose a key index 1, 2, 3, or 4 and enter the key.

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connect to the router wirelessly

 When connecting to the router, the client must match both the password and the Key number. (e.g. if you have activated Key 2 with a password of 12345, then the client must select: Key 2 (entering Key 1, 3, or 4 will block the ability to connect) and enter password 12345)

 \circ This is where you enter the password or key needed for a computer to

You can define up to 4 passwords or 4 keys. Only one key can be active at a

• WEP Passphrase: Enter a passphrase and click Generate key to have the access point generate your encryption key.

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

Selecting WPA-PSK, WPA2-PSK, or WPA-PSK & WPA2-PSK (WPA2-PSK recommended):

Security Settings		
Authentication:	WPA2-PSK 👻	
Data Encryption:	AES •	
WPA Passphrase:	******	

The following section outlines options when selecting PSK (Preshared Key Protocol).

- Data Encryption: Select the cipher type to use.
 - \circ **TKIP:** Recommended when using WPA-PSK security.
 - $\,\circ\,$ AES: Recommended when using WPA2-PSK or WPA-PSK & WPA2-PSK
- WPA Passphrase Enter the passphrase.
 - $\,\circ\,$ This is the password or key that is used to connect your computer to this router wirelessly

Selecting WPA, WPA2, or WPA & WPA2 with Radius:

Security Settings		
Authentication:	WPA2 with Radius	
Data Encryption:	AES -	

The following section outlines options when selecting Radius.

Note: Radius requires an external RADIUS server, PSK only requires you to create a passphrase.

- Data Encryption: Select the cipher type to use.
 - \circ TKIP: Recommended when using WPA-PSK security.

• **AES:** Recommended when using WPA2-PSK or WPA-PSK & WPA2-PSK Once you have selected the data encryption type. Click **Apply** to save settings and go to the **RADIUS Settings** section under **System** button on the left side.

Wireless
Wireless Networks
Wireless Protocol
Access Control
Traffic Shaping
RADIUS Settings

The following section outlines options to configure the access point's RADIUS settings.

Authentication RADIUS Server	
IP Address :	0.0.0
Port :	1812
Shared Secret :	******

- Radius Server: Configure the RADIUS server settings.
 - IP: Enter the IP address of the RADIUS server. (e.g. 192.168.10.250)
 - $\circ\,$ Port: Enter the port your RADIUS server is configured to use for RADIUS authentication.

Note: It is recommended to use port 1812.

 $\,\circ\,$ Shared Secret: Enter the shared secret used to authorize your router

🔲 G	ilobal-k	Key Update
every	3600	Seconds

Global-Key Update

• Enable this option to set the cache period based on seconds

Wireless access control

The MAC address filter section can be used to filter network access by machines based on the unique MAC addresses of their network adapter(s). It is most useful to prevent unauthorized wireless devices from connecting to your network. A MAC address is a unique ID assigned by the manufacturer of the network adapter.

Wireless Network:	VAP1 - TRENDnet734_5GHz
Access Control Mode:	Disable •
MAC Address:	

Access Control Mode:

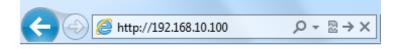
- $\circ\,$ Profile Selection: Select the wireless profile you would like to apply the access control rule.
- **Disable:** Access control is disabled
- $\,\circ\,$ Allow Listed: Enter MAC address allowed to connect to the access point
- $\,\circ\,$ Deny List: Enter MAC addresses to block connection to the access point.

Virtual AC + Thin AP

In this mode the access point becomes the virtual access controller and also a thin access point. Virtual access controller allows you to control all compatible thin access points connected in your network.

Configuration

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Your access point will prompt you for a user name and password.



3. Enter the default user name and password and then click Login.

Default User Name: **admin** Default Password: **admin**

4. Click the System button on the left side and then System Settings.

System	
Basic Settings	
Network Settings	
Time Settings	
RADIUS Settings	

5. Select **Virtual AC + Thin AP** in the Device Mode drop down menu and Select your Country/Region.

Note: FCC domain products will only support United States Country/Region.

Device Settings	
Device Mode:	Fat AP
	Fat AP Thin AP Virtual AC
	Virtual AC + Thin AP

AP Management

This page displays thin access points connected in the network.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Management section and AP Management.

3. Select the access point you would like to configure.

#	Selected	Device Name	MAC	IP	FW	Status	Clients	ТХ	RX
	•	TEW-734APO	00:19:70:94:fe:a6 (AC)	192.168.10.100	1.1.1(TN)4	Registered		106.6KB	0.0B

- Restart: Click this option to restart the selected device(s)
- Rename: Click this option to rename the selected access point
- Set IP: Click this option to change the IP address of the selected device
- Radio: Select this option to change the wireless radio settings of the selected device
- Upgrade Selected: Select this option to upgrade the selected devices
- Upgrade All: Select this option to upgrade all devices
- **Refresh:** Click to refresh the access point list

System Setting

This page displays thin access points connected in the network.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Management and System Settings.

Device Settings

Device Settings				
Device Mode:	Virtual AC 🔹			
Connect Mode:	LAN -			
Device Name:	TEW-734APO (max. 15 characters and no spaces)			
Spanning Tree:	©Enabled ●Disabled			
STP Forward Delay:	1 (1~30 seconds)			

- Device Mode: Select the mode you would want the access point to operate on.
- Connect Mode: Select the mode the access controller will be connected
- **Device Name:** Enter the name of the device
- **Spanning Tree:** Select to enable Spanning Tree feature
- STP Forward Delay: Enter the delay time duration

Enable VLAN

Enable 802.1Q VLAN

Management VLAN ID: 0

0 (0 means disabled)

- Enable 802.1Q VLAN: Select to enable VLAN feature
- VLAN ID: Enter the assigned VLAN ID of the access controller

IP Address

IP Address Assignment						
O DHCP Client	O DHCP Client					
Static IP	• Static IP					
IP Address:	192.168.10.100					
Subnet Mask:	255.255.255.0					
Gateway IP Address:	0.0.0					
DNS 1:	0.0.0					
DNS 2:	0.0.0					

- Static: Select this option to manually configure the access point's IP address.
 - $\circ\,$ IP Address: Enter the IP address to assign
 - o Subnet Mask: Enter the subnet mask of the access point
 - o Gateway IP Address: Enter the gateway IP address
 - **DNS1-2:** Enter the DNS IP address to assign on the access point.

DHCP Server

DHCP Server (Assigned To TAP Only)				
DHCP IP Address Range:	192.168.10.101 - 192.168.10.200			
DHCP Subnet Mask:	255.255.255.0			
Lease Time:	120 (15-44640 minutes)			

- DHCP Client: Select to enable DHCP server
 - **DHCP IP Address Range:** Enter the DHCP IP range to assign
 - **Subnet Mask:** Enter the Subnet mask to assign DHCP clients
 - Lease Time: Enter the lease time duration for DHCP clients.

ZNMP



- ZNMP Survey Interval: Enter the survey time interval
 - $\circ~\textbf{P}$ Address: Enter the IP address to assign
 - $\circ\,$ Subnet Mask: Enter the subnet mask of the access point
 - Gateway IP Address: Enter the gateway IP address

Advance Settings

Setting time

- 1. Log into the management page (see "Access the management page" on page 9).
- 2. Click on System, and click on Time Settings.

Current Time:	2015 Yr 1 Mon 5 Day 23 Hr 54 Min 15 Sec					
Time Zone:	(PST)Pacific Standard Time					
Enable NTP Client Update						
• NTP Server:	192.5.41.41 - North America 👻					
Manual IP:	0.0.0.0					

Manual configure time settings

1. Manually enter the date and time settings.

2. Next to **Time Zone** Select, select your time zone from the drop down menu. Click **Apply** to save settings.

Time setting using a NTP server

1. Click **Enable NTP client update** option to obtain date and time settings from a NTP server.

2. Select one of the below options. Click **Apply** to save settings.

- NTP Server: Select a NTP server to use.
- Manual IP: Manually enter your NTP server.

3. You can also click **Enable NTP client update** option to obtain date and time settings from a NTP server.

Upgrade Firmware

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.

TEW-734APO

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Firmware Upload.

Upgrade AC Firmware:	Browse No file selected.	Upload
Upload TAP Firmware:	Browse No file selected.	Upload
Auto Upgrade TAP Firmware:	●Enabled ^O Disabled	

3. Click Browse and select the updated firmware file you want to load. Click **Upload** to load the firmware file.

Note: Any interruption during the firmware upgrade can damage your device.

Backup and restore your router configuration 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 back up your configuration:

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Configuration File.



- 3. 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: *config.bin*)
- 4. Save the configuration file to location on your computer.

To restore your router configuration and upgrade firmware

- 1. Log into the management page (see "Access the management page" on page 9).
- 2. Click on Management, and click on Configuration File.

3. Under Load Settings from file, click on Browse select your saved configuration file and click Upload.

Load Settings from File:	Browse_ No file selected.	Upload
--------------------------	---------------------------	--------

Reboot your access point

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 4.

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

Reboot The Device:

- Router Management Page This is also known as a soft reboot or restart.
 Toolbox > Reboot
- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).

Reboot

2. Click on Management, and click on Configuration File.

3. Click Yes or OK if prompted to your reboot your device.

Reset to factory defaults

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 70.

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

• **Reset Button** – Located on the bottom panel of the access point, cap must be removed to access reset button. Use this method if you are encountering difficulties with accessing your router management page. Push and hold this button for 15 seconds and release to reset your router to its factory defaults.



Bottom cap remove

OR

• Router Management Page

Management > Configuration Filet

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Management, and click on Configuration File.



3. You will be prompted to reset your router to factory defaults. Click Yes or OK.

Change your login password

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Management, and click on Password Settings. Click Apply to save changes.

Current Password:	
New Password:	
Confirm Password:	

- Current Password: Enter the current password of the access point.
- New Password: Enter the new password
- Confirm Password: Re-enter the new password to confirm.

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

Configure your log

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.

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on Tools, and click on System Log. Click Apply to save settings.

Enable Remote Log				
IP Address:	0.0.0			
Port:	514			

- Enable Remote Syslog Server: Check this option to enable DMZ
- IP Address: enter the IP address (*e.g. 192.168.10.250*) of the external log server to send
- Port: Enter the port used on your log server.

Email Syslog

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Send Syslog via Email				
Log Schedule:	Never -			
Severity Level:	Syslog 👻			
Send Log To:	(Email Address)			
Day For Sending Log:	Sunday 👻			
Time For Sending Log:	0 hour 0 minute			
Clear Log:	After Sending Mail			

- Log Schedule: Select from the pull down menu the schedule to email logs
- Severity level: Select the log types to send
- Send to: Enter the email address to send logs
- DHCP Client: Select to enable DHCP server
- Day for sending logs: Select when to email logs
- Time for sending logs: Enter the time when to email logs
- Clear logs: Select to delete logs after emailing logs

Email Syslog

Mail Server Settings					
Send Log From:	(Email Address)				
Mail Subject:					
SMTP Server:	(SMTP Server Name or IP Address)				
SMTP Authentication					
User Name:					
Password:					

- Send log from: Enter the assigned email recipient
- Subject: Enter the subject of the log email
- SMTP server: Enter the SMTP server of IP address
- SMTP Authentication: Select to authenticate SMTP
- Username: Enter SMTP username
- Password: Enter the SMTP password

View your log

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.

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Management, and click on System Log. Click Apply to save settings.

\$ #	+ Time	♦ Priority	 Source 	 Message
2	2015-01-01 08:02:24	notice	192.168.10.126	WEB: Authorized user "admin".
3	2015-01-01 08:40:39	notice	192.168.10.126	WEB: User "admin" logout.
4	2015-01-01 08:40:43	notice	192.168.10.126	WEB: Authorized user "admin".
5	2015-01-01 09:44:28	warn	192.168.10.126	WEB: Unauthorized user "admin".
6	2015-01-01 09:45:13	notice	192.168.10.126	WEB: Authorized user "admin".
7	2015-01-01 09:55:11	notice	28:0D:FC:3D:25:EA	Station authenticated.
8	2015-01-01 09:55:38	warn	28:0D:FC:3D:25:EA	Station deauthenticated.
9	2015-01-01 09:55:43	notice	28:0D:FC:3D:25:EA	Station authenticated.

- Time: Displays the date and time of the log entry. If the time is inaccurate, make sure to set the router date and time correctly. (See "Setting time" on page 51)
- Source: Source of the log entry
- Message: Displays the log message.
- Refresh: Click to refresh the displayed log entries
- Clear: Click to clear all current log entries

Ping Tool

- 1. Log into the management page (see "<u>Access the management page</u>" on page 9).
- 2. Click on **Tools**, and click on **Ping**. Click **Apply** to save settings.

Ping Address:	0.0.0
Ping Count:	5
Data Size:	40

- Ping Address: Enter the IP address to ping
- Ping Count: Enter the ping count to conduct
- Data Size: Enter the data size to ping

Device Information

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Status, and click on Information.

System Information

System Information			
Firmware Version:	1.1.1(TN)4		
MAC Address:	00:19:70:94:fe:c9		
Device Name:	TEW-734APO		

- Firmware Version: Current firmware version of the access point.
- MAC Address: MAC address of the access controller
- Device Name: Assigned name of the device

IP Settings

IP Settings	
IP Address:	192.168.10.100
Subnet Mask:	255.255.255.0
Gateway IP Address:	0.0.0.0

- IP Address: Assigned IP address of the access controller
- Subnet Mask: Assigned subnet mask of the access controller
- Gateway IP Address: Assigned gateway IP of the access controller

Wireless Networks

Wi	ireless Networks				
#	SSID	Security	Clients	ТХ	RX
1	TRENDnet734_5GHz	Open System	0	0.0B	0.0B

- #: Number of access points
- SSID: Wireless SSID of the access point
- Security: Assigned wireless security of the access point
- Clients: Number of connected clients on the access point
- **TX:** Date transmit rate of the access point
- **RX:** Data receive rate of the access point
- N IP address of your access point
- Subnet Mask: Subnet Mask of your Local Area Network (LAN)

Wireless Users

This page displays all connected wireless clients.

1. Log into the management page (see "Access the management page" on page 9).

2. Click on Status section and Wireless Users.

#	MAC	SSID	AP Name	Signal	Uptime	TX	RX

- #: The number of access point
- MAC: Displays the MAC address of the access point
- SSID: Displays the SSID of the access point
- AP Name: Displays the name assigned to the access point
- Signal: Displays the signal strength of the access point
- Uptime: Displays the time duration of when the access point has been running
- Tx: Display the transmit data rate of the access point
- Rx: Displays the receive data rate of the access point

DHCP Client

This table shows the assigned IP address, MAC address and time expired for each DHCP leased client.

1. Log into the management page (see "<u>Access the management page</u>" on page 9).

2. Click on Status section and DHCP Client.

#	IP Address	MAC Address	Host Name	Time Expired(m)

- **#:** The number of access point
- IP Address: Displays the IP Address of the access point
- MAC Address: Displays the MAC address of the access point
- Host Name: Host name of the access point
- Time Expiration: Displays the DHCP expiration time of the access point
- SSID: Displays the SSID of the access point
- AP Name: Displays the name assigned to the access point
- Signal: Displays the signal strength of the access point
- Uptime: Displays the time duration of when the access point has been running
- Tx: Display the transmit data rate of the access point
- Rx: Displays the receive data rate of the access point

Configure Wireless Profile

This section outlines available management options under the Profile Settings of the Wireless button. This access point supports multiple SSID, you can set an additional of 16 SSSID for your wireless network.

\$#	Enabled	+ Profile Name	♦ SSID	 Security 	Vlan ID
1	V	Profile1	TRENDnet734_5GHz	Open System	0
2		Profile2	TRENDnet734_5GHz	Open System	0
3		Profile3	TRENDnet734_5GHz	Open System	0
4		Profile4	TRENDnet734_5GHz	Open System	0
5		Profile5	TRENDnet734_5GHz	Open System	0
6		<u>Profileó</u>	TRENDnet734_5GHz	Open System	0
7		Profile7	TRENDnet734_5GHz	Open System	0
8		Profile8	TRENDnet734_5GHz	Open System	0

Select Always Enabled option and click the Profile Name you would like to configure.

<u></u>					
Basic Settings					
Profile Name:	Profile1				
SSID:	TRENDnet734_5GHz				
Broadcast SSID:	©Enabled ●Disabled				
Wireless Separation:	Enabled ODisabled				
WMM Support:	Senabled ●Disabled				
IGMP Snooping:	©Enabled ●Disabled				
Max. Station Num:	32 (1-32)				

The following section outlines options to configure the basic settings of the multiple SSID.

- Profile Name: Enter the profile name of the network name you are configuring.
- Wireless Network Name (SSID): This acronym stands for Service Set Identifier and is the name of your wireless network. It differentiates your wireless network from others around you.
- Broadcast Network Name (SSID):

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- 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.

• Wireless Separation:

TRENDnet User's Guide

- $\,\circ\,$ Enabled separates all wireless clients connected to this SSID, clients cannot communicate with each other.
- $\circ\,$ Disabled allows all wireless clients connect to this SSID to communicate with each other
- WMM: Wi-Fi Multimedia is a Quality of Service (QoS) feature which prioritizes audio and video data packets. This feature requires the wireless device to also support WMM. Click **Enabled (recommended)** or **Disabled** to turn this feature on or off on your router.
- Max. Station Num.: Select this option to limit the amount of clients who can connect to this SSID.
 - $\circ\,$ Enter the amount of clients you would like to limit.

Secure your wireless network

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 the management page (see "<u>Access the management page</u>" on page 9).

- 2. Click on Wireless button and click on Profile Settings.
- 3. Click on the Profile name you would like to apply wireless security.

\$ #	Enabled	Profile Name	\$	SSID	¢	Security	Vlan ID
1	V	Profile1	TREND	net734_5GHz		Open System	0
2		Profile2	TREND	net734_5GHz		Open System	0
3		3	TREND	net734_5GHz		Open System	0
4		Profile4	TREND	net734_5GHz		Open System	0

4. Select the wireless security on your wireless network from the **Network Authentication** pull down menu.

Security Settings					
Authentication:	Open System Open System Shared Key Legacy 802.1x WPA with Radius WPA2 with Radius WPA2 with Radius WPA2 WPA2 with Radius WPA-PSK WPA2-PSK WPA2-PSK				

Selecting WEP (Open System or Shared Key):

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

WEP Key Format	НЕХ	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

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

Security Settings					
Authentication:	Open System 👻				
Data Encryption:	64 bits WEP 🔻				
Кеу Туре:	Hex 💌				
Default Tx Key:	Key 1 👻				
WEP Passphrase:	Generate Keys				
Encryption Key 1:					
Encryption Key 2:					
Encryption Key 3:					
Encryption Key 4:					

• Data Encryption: 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.

• Key type: 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.

- Key 1-4
 - $\circ\,$ This is where you enter the password or key needed for a computer to connect to the router wirelessly
 - You can define up to 4 passwords or 4 keys. Only one key can be active at a given time. Most users simply define one key.
 - $\,\circ\,$ Choose a key index 1, 2, 3, or 4 and enter the key.
 - When connecting to the router, the client must match both the password and the Key number. (e.g. if you have activated Key 2 with a password of 12345, then the client must select: Key 2 (entering Key 1, 3, or 4 will block the ability to connect) and enter password 12345)
- WEP Passphrase: Enter a passphrase and click Generate key to have the access point generate your encryption key.

Selecting WPA-PSK, WPA2-PSK, or WPA-PSK & WPA2-PSK (WPA2-PSK recommended):

Security Settings		
Authentication:	WPA2-PSK	
Data Encryption:	AES -	
WPA Passphrase:	*****	

The following section outlines options when selecting PSK (Preshared Key Protocol).

- Data Encryption: Select the cipher type to use.
 - \circ TKIP: Recommended when using WPA-PSK security.
 - $\circ\,$ AES: Recommended when using WPA2-PSK or WPA-PSK & WPA2-PSK
- WPA Passphrase Enter the passphrase.
 - $\,\circ\,$ This is the password or key that is used to connect your computer to this router wirelessly

Selecting WPA, WPA2, or WPA & WPA2 with Radius:

Security Settings	
Authentication:	WPA2 with Radius
Data Encryption:	AES -

The following section outlines options when selecting Radius.

Note: Radius requires an external RADIUS server, PSK only requires you to create a passphrase.

- Data Encryption: Select the cipher type to use.
 - \circ TKIP: Recommended when using WPA-PSK security.

 $\circ\,$ AES: Recommended when using WPA2-PSK or WPA-PSK & WPA2-PSK

Once you have selected the data encryption type. Click **Apply** to save settings and go to the **RADIUS Settings** section under **System** button on the left side.

The following section outlines options to configure the access point's RADIUS settings.

Authentication RADIUS Server		
IP Address :	0.0.0	
Port :	1812	
Shared Secret :	******	

- Radius Server: Configure the RADIUS server settings.
 - 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

Global-Key Update		
every	3600	Seconds

• Global-Key Update

 $\,\circ\,$ Enable this option to set the cache period based on seconds

Wireless access control

The MAC address filter section can be used to filter network access by machines based on the unique MAC addresses of their network adapter(s). It is most useful to prevent unauthorized wireless devices from connecting to your network. A MAC address is a unique ID assigned by the manufacturer of the network adapter.

Wireless Network:	VAP1 - TRENDnet734_5GHz 💌
Access Control Mode:	Disable 🔻
MAC Address:	

- Access Control Mode:
 - Profile Selection: Select the wireless profile you would like to apply the access control rule.
 - **Disable:** Access control is disabled

Allow Listed: Enter MAC address allowed to connect to the access point
 Deny List: Enter MAC addresses to block connection to the access point.

Additional hardware installation

Ground wire

When placing your device out in an open area where lightning strikes can occur, it is advisable to ground it. This would protect your device from being damage and your network.

- 1. Pinch the tab and slide the bottom cover down
- 2. Remove the screw and insert the grounding wire on the screw.
- 3. Tighten the screw firmly in place and router the wire alongside the Ethernet cable.



4. Position both wires inside the access hole and the edge of the case, slide the cover back into place

Pole mounting

The access point comes with a pole mounting clamp that allows you to mount the device to a pole. The weather and outdoor rating of the device is based on upright position. It is important that the device is always mounted in an upright position.

Note: The mounting clamp supports up to 63mm diameter.

1. Loosen the pole mounting clamp by turn the bolt in of the clamp counter clock wise



2. Insert one end of the clamp through the back (center section) of the access point.



3. Align the access point to the pole and tighten up the clamp till the access point is secured on the pole.

Troubleshooting

Q: I typed http://192.168.10.100 in my Internet Browser Address Bar, but an error message says "The page cannot be displayed." How can I access the access point management page?

Answer:

1. Check your hardware settings again and that all cables are properly connected 2. Make sure the LAN and WLAN lights are lit.

3. Make sure your network adapter TCP/IP settings are set in the subnet class as the access point when accessing with a static IP address or <u>Obtain an IP address</u> automatically (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.

1. Verify that you can get onto the Internet with a direct connection into your router (meaning plug your computer directly to the router and verify that your single computer can access the Internet).

2. 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.

3. Contact your ISP and verify all the information that you have in regards to your Internet connection settings is correct.

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

1. Double check that the WLAN light on the router is lit.

2. Power cycle the access point. 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. Please see "Wireless Performance Consideration" 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, and 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 difficultxxies, 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 (and 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**. If 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 product is RoHS compliant.

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.

RoHS



Europe – EU Declaration of Conformity

TRENDnet hereby declare that the product is in compliance with the essential requirements and other relevant provisions under our sole responsibility.

Safety

EN 60950-1 : 2006 + A11 : 2009 + A1: 2010 + A12: 2011 EN 60950-22: 2005

EMC

EN 55022: 2010 + AC: 2011 EN 55024: 2010 EN 301 489-1 V1.9.2: 09-2011 EN 301 489-17 V2.2.1: 09-2012

CEO

Radio Spectrum & Health EN 300 328 V1.8.1 : (2012-06)

EN 62311: 2008

Energy Efficiency

Regulation (EC) No. 1275/2008, Regulation, No. 278/2009, No. 801/2013

This product is herewith confirmed to comply with the Directives.

Directives

Low Voltage Directive 2006/95/EC EMC Directive 2004/108/EC EMF Directive 1999/519/EC R&TTE Directive 1999/5/EC Ecodesign Directive 2009/125/EC RoHS Directive 2011/65/EU REACH Regulation (EC) No. 1907/2006

Limited Warranty

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TEW-734PO – 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.

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Product Warranty Registration

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