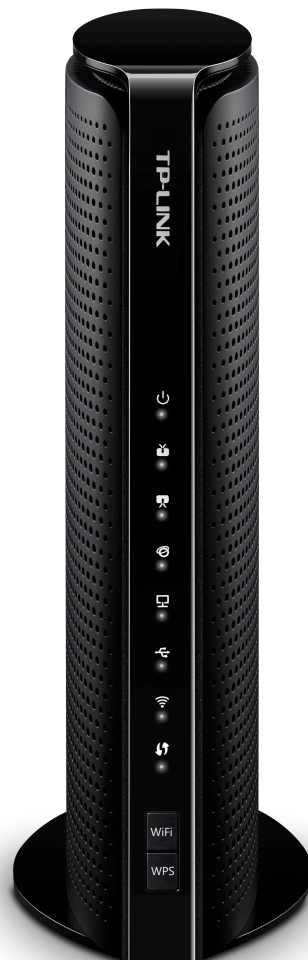


# TP-LINK®

## User Guide

### TC-W7960

300Mbps Wireless N DOCSIS 3.0 Cable Modem Router



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## CE Mark Warning

# CE 1588

This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

## RF Exposure Information

This device meets the EU requirements (1999/5/EC Article 3.1a) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.


The device complies with RF specifications when the device used at 20 cm from your body.





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# EAC

## Safety Information

- When product has power button, the power button is one of the way to shut off the product; when there is no power button, the only way to completely shut off power is to disconnect the product or the power adapter from the power source.
- Don't disassemble the product, or make repairs yourself. You run the risk of electric shock and voiding the limited warranty. If you need service, please contact us.
- Avoid water and wet locations.
- Adapter shall be installed near the equipment and shall be easily accessible.
- The plug considered as disconnect device of adapter.
-  Use only power supplies which are provided by manufacturer and in the original packing of this product. If you have any questions, please don't hesitate to contact us.
- The product should be connected to cable distribution system that grounded (earthed) in accordance with ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93 - Grounding of Outer Conductive Shield of a Coaxial Cable.

# Explanation of the symbols on the product label

Symbol	Explanation
	DC voltage
	<p>RECYCLING</p> <p>This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment.</p> <p>User has the choice to give his product to a competent recycling organization or to the retailer when he buys a new electrical or electronic equipment.</p>

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# Package Contents

The following contents should be found in your package:

- One TC-W7960 300Mbps Wireless N DOCSIS 3.0 Cable Modem Router
- One Power Adapter for TC-W7960 300Mbps Wireless N DOCSIS 3.0 Cable Modem Router
- Quick Installation Guide
- One RJ45 cable

 **Note:**

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact your distributor.

# Chapter 1. Product Overview

Thank you for choosing the **TC-W7960 300Mbps Wireless N DOCSIS 3.0 Cable Modem Router**.

## 1.1 Overview of the Modem Router

The TC-W7960 300Mbps Wireless N DOCSIS 3.0 Cable Modem Router integrates DOCSIS 3.0 modem, NAT router, 4-port switch and wireless access point in one device provides a one-stop networking solution.

The modem router provides up to 300Mbps (2.4GHz) wireless connection with other wireless clients. The incredible speed makes it ideal for handling multiple data streams at the same time, which ensures your network stable and smooth. It is compatible with all IEEE 802.11b, IEEE 802.11g and IEEE 802.11n products.

With multiple protection measures, including SSID broadcast control and wireless LAN 64/128 WEP encryption, Wi-Fi protected Access (WPA2-PSK, WPA-PSK), as well as advanced Firewall protections, the TC-W7960 300Mbps Wireless N DOCSIS 3.0 Cable Modem Router provides complete data privacy.

The modem router provides flexible access control, so that parents or network administrators can establish restricted access policies for children or staffs. It also supports Virtual Server and DMZ host for Port Triggering, and then the network administrators can manage and monitor the network in real time with the remote management function.

Since the modem router is compatible with virtually all the major operating systems, it is very easy to manage. Detailed instructions are provided step by step in this user guide. Before installing the modem router, please look through this guide to know all the modem router's functions.

## 1.2 Main Features

- DOCSIS 3.0/EuroDOCSIS 3.0, Compatible with DOCSIS/EuroDOCSIS 2.0/1.1/1.0
- 8 Downstream Channel bonding, Up to 445 Mbps for Downstream
- 4 Upstream Channel bonding, Up to 143 Mbps for Upstream
- Full Band Capture windows - Utilize any channels in the downstream spectrum.
- Dual-core processor – for wonderful performance with Internet, Wi-Fi, Ethernet and USB devices
- 2 internal antennas provide Omni-directional wireless coverage and reliability
- Full gigabit ports ensure ultra fast data transfer speeds
- USB Port - easily share printers, files or media with your friends or family locally or over the Internet
- Guest Network Access provides secure Wi-Fi access for guests sharing your home or office network
- IPv6 supported, meeting the demands for the next generation of Internet
- Wi-Fi On/Off Button allows users to turn their wireless radio on or off
- Easy one-touch WPA wireless security encryption with the WPS button



- WPA-PSK/WPA2-PSK encryptions provide user networks with active defense against security threats
- Parental Controls allow parents or administrators to establish restricted access policies for children or staff

## 1.3 Panel Layout


### 1.3.1 The Front Panel










Figure 1-1

The modem router’s LEDs are located on the side panel (View from top to bottom). They indicate the device’s working status. For details, please refer to LED Explanation.

#### LED Explanation:

Name	Status	Indication
 (Power)	On	Power is on.
	Off	Power is off.

Name	Status	Indication
 (Downstream)	Green	The modem router is synchronized with more than one channel.
	White	The modem router is synchronized with one channel.
	Flashing	The modem router is scanning for downstream channels.
	Off	The initialization is not started, or has failed.
 (Upstream)	Green	The modem router is synchronized with more than one channel.
	White	The modem router is synchronized with one channel.
	Flashing	The modem router is synchronizing with upstream channels.
	Off	The initialization is not started, or has failed.
 (Internet)	On	Internet service is available.
	Off	Internet service is not available.
	Flashing	The modem router is initializing.
 (LAN)	On	At least one LAN port is connected.
	Off	No LAN port is connected.
 (USB)	Off	No USB device is plugged in to the USB port.
	On	The USB device is detected and ready to use.
	Flashing	The USB device is being detected.
 (Wireless)	On	The wireless network is enabled.
	Off	The wireless network is disabled.
 (WPS)	On/Off	The LED stays on for 5 minutes when a WPS connection is established before turns off.
	Flashing	WPS connection is in progress. This may take up to 2 minutes.

**Buttons:**

Name	Indication
<b>WiFi</b>	The switch for the WiFi function. Press it to enable/disable the WiFi function.
<b>WPS</b>	The switch for the WPS function. Press it for 2 seconds to enable the WPS function.

### 1.3.2 The Back Panel



Figure 1-2

- **Reset:** There are two ways to reset the modem router's factory defaults.
  - Method one:** With the modem router powered on, press and hold the **Reset** button for approximately 8 seconds until all LEDs turn back on, then release the button.
  - Method two:** Log in to the web management page of the modem router. Go to **Advanced > System tools > Backup & Restore** and click **Reset**. The modem router will restore and reboot automatically.
- **USB:** The USB port connects to a USB storage device or a USB printer.
- **LAN4, LAN3, LAN2, LAN1:** Through these ports, you can connect the modem router to your PC or other Ethernet network devices.
- **Cable:** Through this port, you can connect the modem router to coaxial cable.
- **Power:** The power plug where you will connect the power adapter.
- **ON/OFF:** The switch for the power.

# Chapter 2. Connecting to the Network

## 2.1 System Requirements

- Broadband Internet Access Service (Cable).
- PCs with a working Ethernet Adapter and an Ethernet cable with RJ45 connectors.
- TCP/IP protocol on each PC.
- Web browser, such as Microsoft Internet Explorer, Mozilla Firefox or Apple Safari.

## 2.2 Installation Environment Requirements

- The product should not be located where it will be exposed to moisture or excessive heat.
- Place the Router in a location where it can be connected to the various devices as well as to a power source.
- Make sure the cables and power cord are safely placed out of the way so they do not create a tripping hazard.
- The Router can be placed on a shelf or desktop.
- Keep away from the strong electromagnetic radiation and the device of electromagnetic sensitive.

## 2.3 Connecting the Hardware

Before installing the device, please make sure your broadband cable service provided by your ISP is available. If there is any problem, please contact your ISP. Before cable connection, cut off the power supply and keep your hands dry, then follow the steps below to install it.

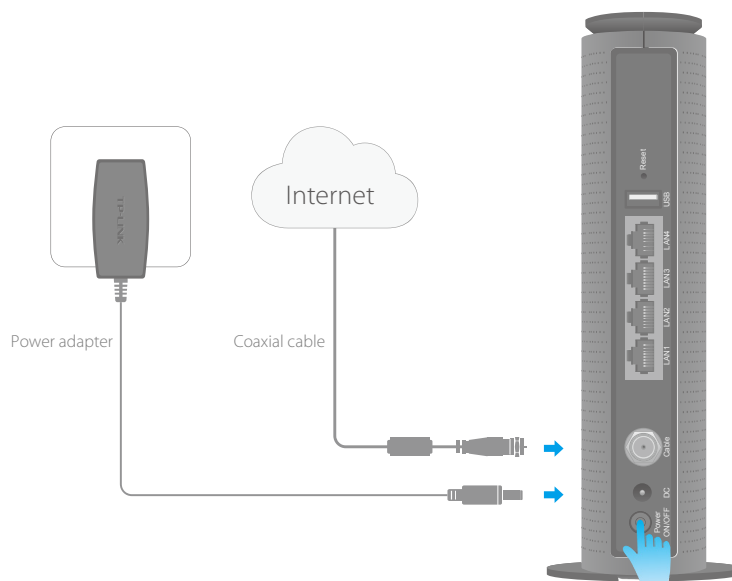





Figure 2-1

**Step 1:** Connect the coaxial cable and power adapter to the modem router, then power on your modem router.

**Step 2:** Connect your computer to the modem router via a wired or wireless connection.

**Wired:** Connect the computer to the modem router's LAN port via an Ethernet cable.

**Wireless:** On your computer, select and connect to the modem router's wireless network. The default wireless network name (SSID) and password are on the provided Information Card.

Or you can set up a connection via the WPS button , which is on the front panel of the modem router. If your computer use an adapter that supports WPS, press the WPS button on the adapter. Within 2 minutes, press the WPS button on the modem router until the WPS LED  starts to flash quickly. The WPS LED  will stay on for 5 minutes when a WPS connection is established, then turns off.

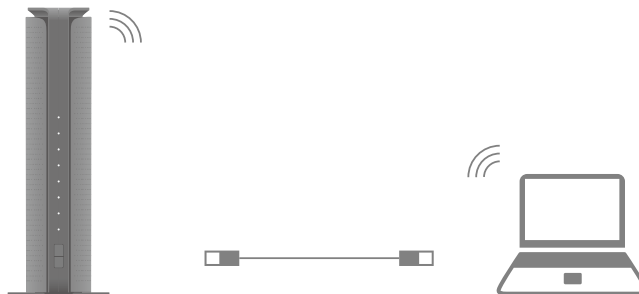


Figure 2-2

For additional configuration, log into the web-based management at <http://tplinkmodem.net> or **192.168.1.1**, and enter **admin** (all lowercase) for both username and password.

### Safety Information

The product should be connected to cable distribution system that grounded (earthed) in accordance with ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93 - Grounding of Outer Conductive Shield of a Coaxial Cable.

## Chapter 3. Log into the Modem Router

With a Web-based management page, it is easy to configure and manage the TC-W7960 300Mbps Wireless N DOCSIS 3.0 Cable Modem Router. The Web-based management page can be used on any Windows, Macintosh or UNIX OS with a Web browser, such as Microsoft Internet Explorer, Mozilla Firefox or Apple Safari.

Set up the TCP/IP Protocol in "**Obtain an IP address automatically**" mode on your PC. If you need instructions as to how to do this, please refer to [Appendix B: Trouble shooting](#).

To access the configuration utility, open a web-browser and type the default address <http://tplinkmodem.net/> or [192.168.1.1](http://192.168.1.1) in the address field of the browser.



Figure 3-1

After a moment, a login window will appear. Enter **admin** for the Username and Password, both in lower case letters. Then click the **Login** button or press the Enter key.

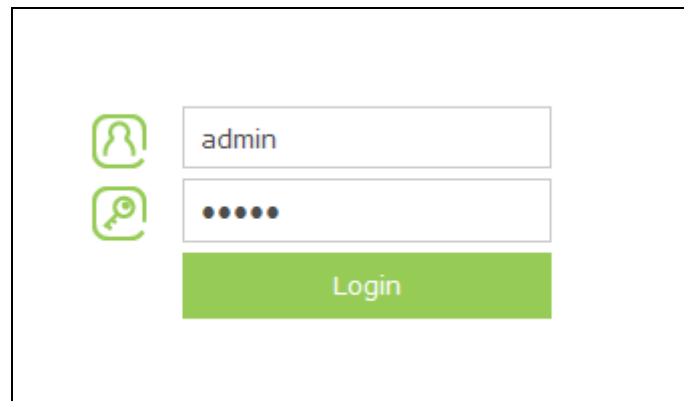


Figure 3-2

After your successful login, you will see the screen as shown below.

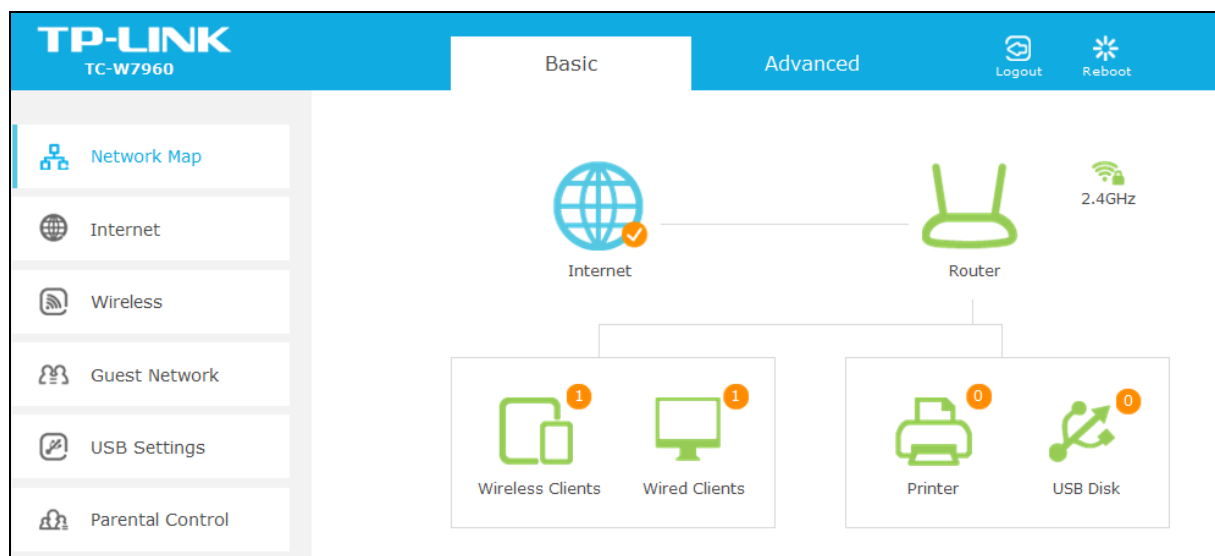


Figure 3-3

# Chapter 4. Basic Configuration

## 4.1 Network Map

**Network Map** provides a dashboard that lets you see the status of your Internet connection and network at a glance. You can click any of the six sections of the dashboard to view the detailed information. All the information is read-only.

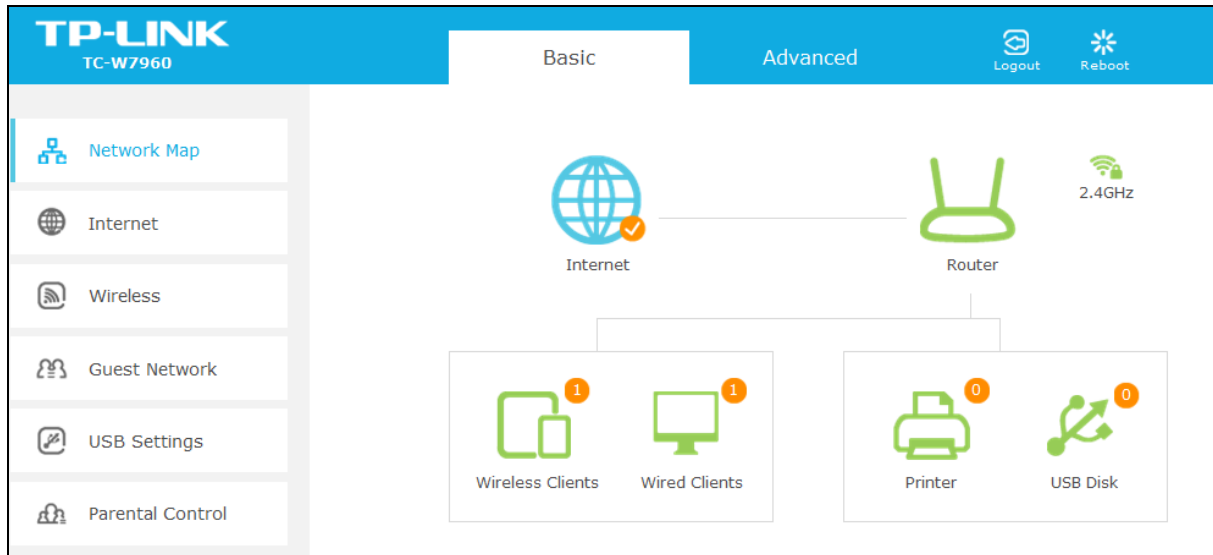


Figure 4-1

- **Internet** – Click the Internet icon to view the ISP settings of your modem router.
- **Router** - Click the Router icon to view the Wireless and Guest Network settings.
- **Wireless Clients** - Click the Wireless Clients icon to view the wireless devices connected to your network.
- **Wired Clients** - Click the Wired Clients icon to view the wired devices connected to your network.
- **Printer** - Click the Printer icon to view the information of the printer connected to your network.
- **USB Disk** - Click the USB Disk icon to view the information of the USB storage device connected to your network.

## 4.2 Internet

Choose “**Basic** → **Internet**”, and you can configure the basic settings of the ISP Configuration and the Internet on this page.

There are four different connection types, Dynamic IP, Static IP, L2TP(Dynamic IP) and L2TP(Static). You can select the corresponding type according to your needs.

Connection Settings

Connection Type:

Figure 4-2

### 1) Dynamic IP

Choose **Dynamic IP** in the drop-down list, the modem router will be able to obtain IP network information dynamically from a DHCP server provided by your ISP.

Connection Settings

Connection Type:

Figure 4-3

Click the **Apply** button to save the settings.

### 2) Static IP

Choose **Static IP** in the drop-down list if your ISP provides static IP information to you. You should set static IP address, Subnet mask, and gateway address in the screen below.

Connection Settings

Connection Type:

IP Address:

Subnet Mask:

Default GateWay:

Primary DNS:

Secondary DNS:  (Optional)

Figure 4-4

- **IP Address** - Enter the IP address in dotted-decimal notation provided by your ISP.
- **Subnet Mask** - Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0.
- **Default Gateway** - Enter the gateway IP address in dotted-decimal notation provided by your ISP.

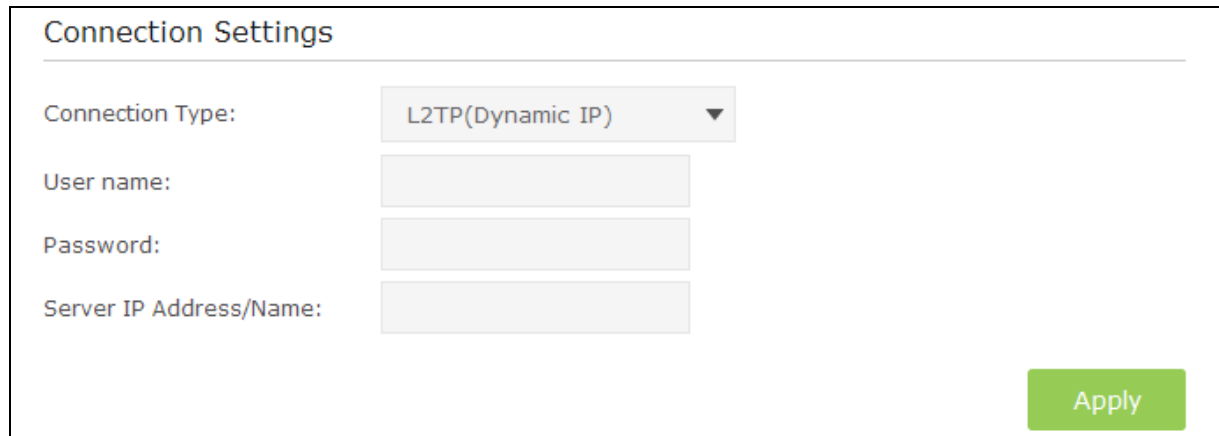


- **Primary DNS/ Secondary DNS** - Here you can set DNS Server (at least one) manually. The Router will use this DNS Server for priority.

Click the **Apply** button to save the settings.

### 3) L2TP(Dynamic IP)

Choose **L2TP(Dynamic IP)** in the drop-down list if your ISP provides L2TP(Dynamic IP) information to you. You should set User name, Password and Server IP Address/Name in the screen below.



Connection Settings

Connection Type: L2TP(Dynamic IP) ▼

User name:

Password:

Server IP Address/Name:

Apply

Figure 4-5

- **Username/Password** - Enter the **Username** and **Password** provided by your ISP. These fields are case-sensitive. If you have difficulty with this process, please contact your ISP.
- **Server IP Address/Name** - Enter the server IP address or domain name provided by your ISP. If you have difficulty with this process, please contact your ISP.

Click the **Apply** button to save the settings.

### 4) L2TP(Static)

Choose **L2TP(Static)** in the drop-down list if your ISP provides L2TP(Static) information to you. You should set User name, Password, Server IP Address/Name, IP Address, Subnet Mask and Default Gateway in the screen below.

Connection Settings

Connection Type: L2TP(Static) ▼

User name:

Password:

Server IP Address/Name:

IP Address:

Subnet Mask:

Default GateWay:

Apply

Figure 4-6

- **Username/Password** - Enter the **Username** and **Password** provided by your ISP. These fields are case-sensitive. If you have difficulty with this process, please contact your ISP.
- **Server IP Address/Name** - Enter the server IP address or domain name provided by your ISP. If you have difficulty with this process, please contact your ISP.
- **IP Address** - Enter the IP address in dotted-decimal notation provided by your ISP.
- **Subnet Mask** - Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0.
- **Default Gateway** - Enter the gateway IP address in dotted-decimal notation provided by your ISP.

Click the **Apply** button to save the settings.

### 4.3 Wireless

Choose menu **“Basic”** → **“Wireless”**, you can configure the basic settings for the wireless networks on this page.

Wireless Settings

2.4GHz:  Enable Wireless Radio

Name(SSID): TP-LINK\_123  Hide SSID

Password: 12345670

Save

Figure 4-7

- **Enable Wireless Radio** – Check the box to enable the Wireless Radio.
- **Name(SSID)** –Enter a desired wireless network name which is case-sensitive and must not exceed 32 characters. The default SSID is TP-LINK\_XXXX (XXXX is the last four numbers of modem router’s MAC address).
- **Hide SSID** – If you want to hide the SSID of your wireless network from the Wi-Fi network, you should check the box.
- **Password** –You can enter ASCII characters between 8 and 63 characters or 8 to 64 Hexadecimal characters. The default password is the same with the default PIN code, which is labeled on the bottom of the modem router.

Click the **Save** button to save the settings.

## 4.4 Guest Network

Choose menu “**Basic** → **Guest Network**”, and you will see the screen as shown below. This feature allows you to create a separate network for your guests without allowing them to access your main network and computers connected to it.

Figure 4-8

- **Enable Wireless Radio** – Check the box to enable the Wireless Radio.
- **Name(SSID)** - Create a name for the guest network. When setting up a Guest network, it is strongly recommended to use a name that easily distinguishes it from your primary network. If you want to hide the guest network from the Wi-Fi network, check the **Hide SSID**.
- **Password** - Create a password for the guest network. The password must have a minimum of 8 characters in length.
- **Allow guests to see each other** - If **Allow guests to see each other** is selected, anyone who connects to the guest network can **access** each other.
- **Allow guests to access my local network** - If **Allow guests to access my local network** is selected, anyone who connects to the guest network has access to your local network, not just Internet access.

Click the **Save** button to save the settings.

## 4.5 USB Settings

There are two submenus under the USB Settings menu, **Folder Sharing** and **Print Server**. Click any of them, and you will be able to configure the corresponding function.

### 4.5.1 Folder Sharing

Choose menu “**Basic** → **USB Settings** → **Folder Sharing**”, you can view the basic information about the connected USB mass storage, and configure Sharing Folders (Media files, Document files, Compress files and so on.)

**Disk Settings**

Scan

TOSHIBA TransMemory ➔ Safely Remove

ID	Volume	Capacity	Free Space	Enable
1	sda1	3.64 GB	2.51 GB	

**Sharing Settings**

Network/Media Server Name:  Save

**Sharing Folders**

Enable Sharing All:

Enable Authentication:



➔ Refresh

ID	Share Name	Folder Path	Volume
1	volume(sda1)	sda1:	sda1

Figure 4-9


#### Disk Settings:

- **Scan** - Click the button to display the information of the USB storage device connected to the modem router.
- **Volume** - The volume name of the USB driver the users have access to.
- **Capacity** - The storage capacity of the USB driver.

- **Free Space** - The available capacity of the USB driver.
- **Enable** - When the volume is shared, you can click the  icon to stop sharing the volume; when volume is non-shared, you can click the  icon to share the volume.

Click  **Safely Remove** button to remove the USB storage device that is connected to USB port.

 **Note:**

Before removing the USB storage device, you should click “ Safely Remove” to make sure that all your data have been saved completely. Removing device directly may cause your USB storage device crashed.

**Sharing Settings:**

- **Network/Media Server Name** - Show the name of the network/media server. This is the name used to access the USB device connected to the modem router.

**Sharing Folders:**

- **Enable Sharing All** - The switch for sharing all the folders. If you turn on the switch, the field will become green and all the folders in the USB drive will be shared.
- **Enable Authentication** - If you turn on this switch, the folder sharing needs authentication. The default setting is off.

**To share the folders you specified, please follow the steps below.**

1. Turn off the **Enable Sharing All** switch and the next screen will pop-up as shown below.

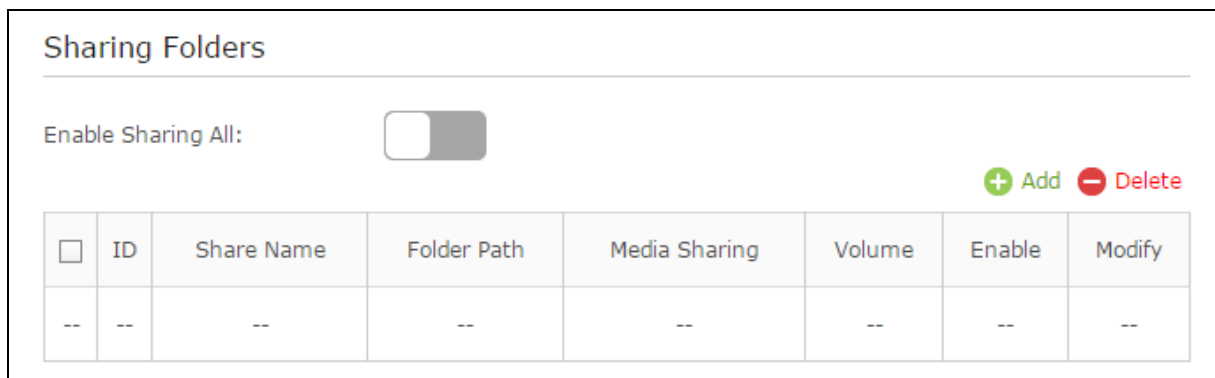



Figure 4-10

2. Click the  **Add** button and the next screen will pop-up as shown in Figure 4-11.

Volume:  ▼

Folder Path:

Share Name:

Enable Authentication

Write Access

Enable Media Sharing

Figure 4-11

3. Select the volume desired to share from the **Volume** drop-down list. Then click the **Browse** button to select the folder path. You can create a share name, e.g. music.

Volume:  ▼

Folder Path:

Share Name:

Enable Authentication

Write Access

Enable Media Sharing

Figure 4-12

4. Select the checkboxes in Figure 4-12 according to your needs.
  - **Enable Authentication** - If this checkbox is selected, then the folder sharing needs authentication.
  - **Write Access** - If this checkbox is selected, then the sharing folder is allowed for writing access.
  - **Enable Media Sharing** - Select this checkbox to enable media sharing.

Click **OK** to complete the settings.

#### 4.5.2 Print Server

Choose menu “**Basic**→**USB Settings**→**Print Server**”, you can enable or disable the print server. Then follow the on-screen steps to share the USB printer among computers on your network.

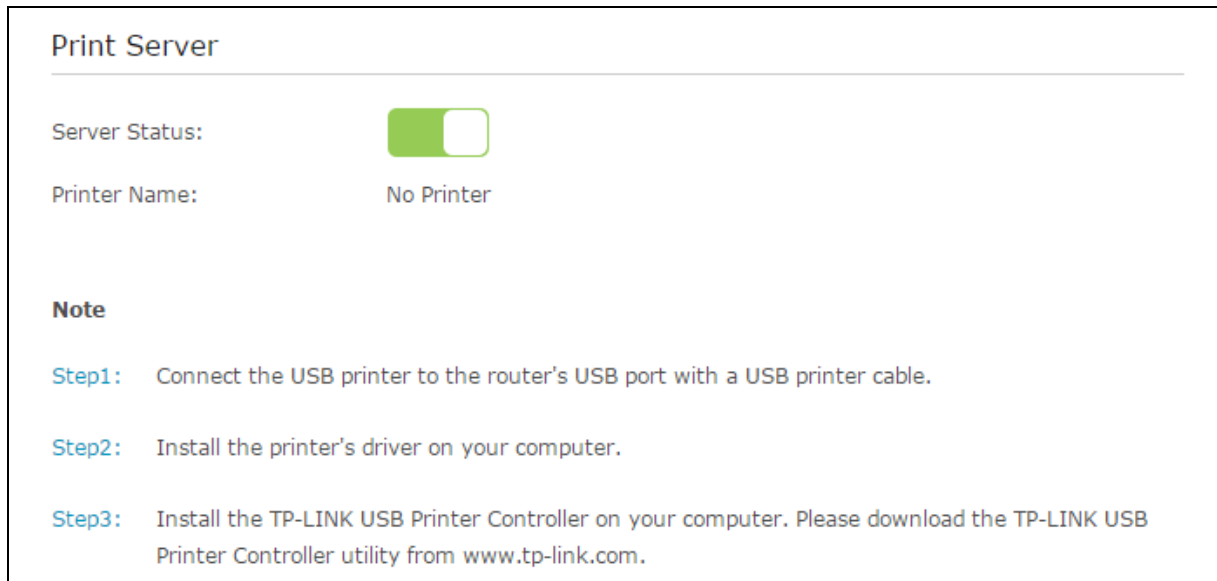


Figure 4-13

## 4.6 Parental Control

Choose menu “**Basic**→**Parental Control**”, and then you can configure the parental control. The Parental Control function can be used to control the internet activities of the child, limit the child to accessing certain websites and restrict the time of surfing.

### Parental Control

---

Enable Parental Control

### Devices Under Parental Control

---

The Effective Time Schedule is based on the time of the Router. The time can be set in "Advanced -> System Tools -> Time Settings"

+ Add - Delete

<input type="checkbox"/>	ID	Device Name	MAC Address	Effective Time	Description	Enable	Modify
<input type="checkbox"/>	1	ARCHER C8	00:1D:0F:11:22:33		weekends		

### Content Restriction

---

Content Restriction Mode  Black List Mode  White List Mode

+ Add a new keyword

anonymizer

**Save**

Figure 4-14



**Parental Control:**

- **Enable Parental Control** - The switch for the parental control. If you turn on the switch, the field will become green.


**Devices Under Parental Control:**

- **Add** - You can click the button to add a new device for the parental control.
- **Delete** - You can click the button to delete the selected entries.
- **Device Name** -The name used for identifying a device.
- **MAC Address** - This field displays the MAC address of the PC that is managing this modem router.
- **Effective Time** - The time period allowed for the PC controlled to access the Internet. You can click the icon to configure the time period.
- **Description** - Here displays the description about the parental control and this description is unique.
- **Enable** – Click the icon to enable the function. If this function has taken effect, the icon will become .



- **Modify** – Click the  icon to edit the corresponding entry. If you want to delete this entry, you can click the  icon.

To add a new entry, please follow the steps below.

1. Click the  **Add** button and the screen below will pop-up.

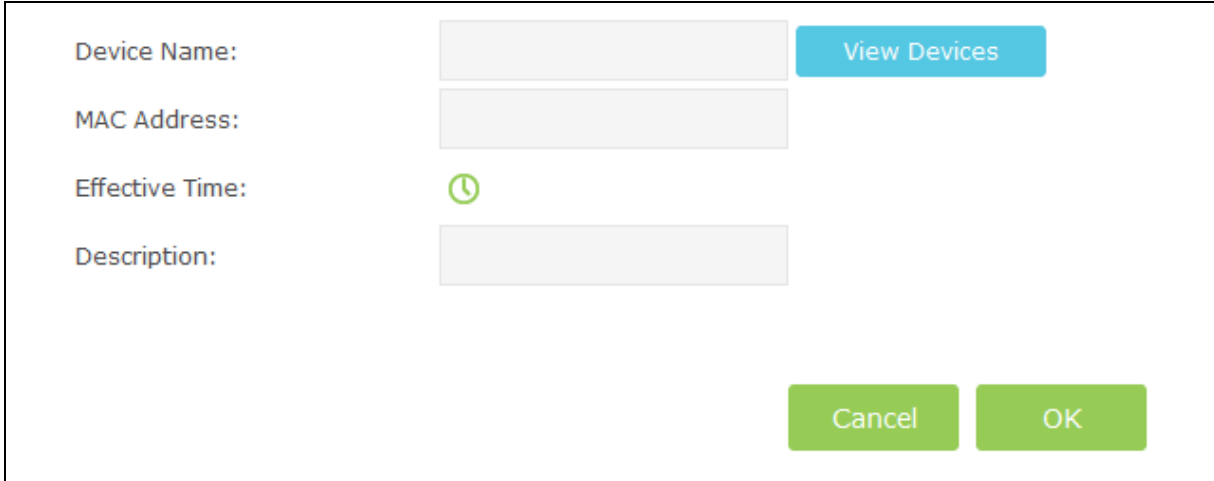

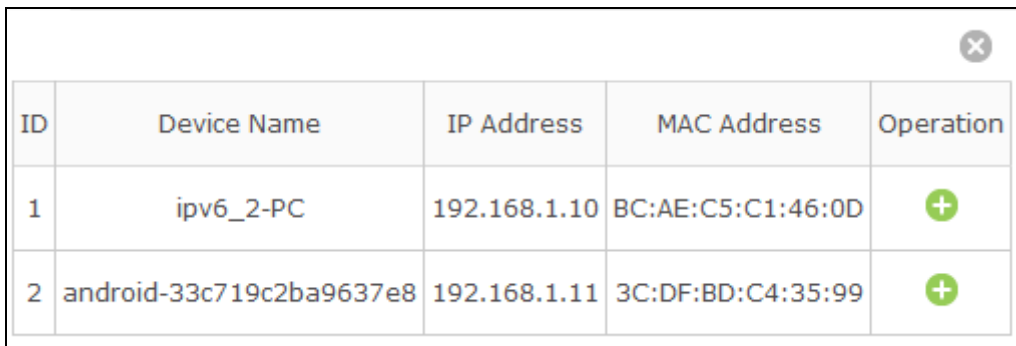


Figure 4-15

2. Click **View Device** button and the screen below will pop-up. You can click the  icon to select a device.





ID	Device Name	IP Address	MAC Address	Operation
1	ipv6_2-PC	192.168.1.10	BC:AE:C5:C1:46:0D	
2	android-33c719c2ba9637e8	192.168.1.11	3C:DF:BD:C4:35:99	

Figure 4-16

3. Click  to create a new schedule.

Apply to: Each Day Start Time: 00:00 End Time: 00:00 Add

Time	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
00:00							
01:00							
02:00							
03:00							
04:00							
05:00							
06:00							
07:00							
08:00							
09:00							
10:00							
11:00							
12:00							
13:00							
14:00							
15:00							
16:00							
17:00							
18:00							
19:00							
20:00							
21:00							
22:00							
23:00							
24:00							

Time Restore OK

Figure 4-17

4. Give a name (e.g. Schedule A) for the entry in the Description field.

Device Name: ipv6 View Devices

MAC Address: BC:AE:C5:C1:46:0D

Effective Time: 🕒

Description: Schedule A

Cancel OK

Figure 4-18

5. Click **OK** to complete the settings. Then the information of the new entry will be displayed on the screen as shown below.

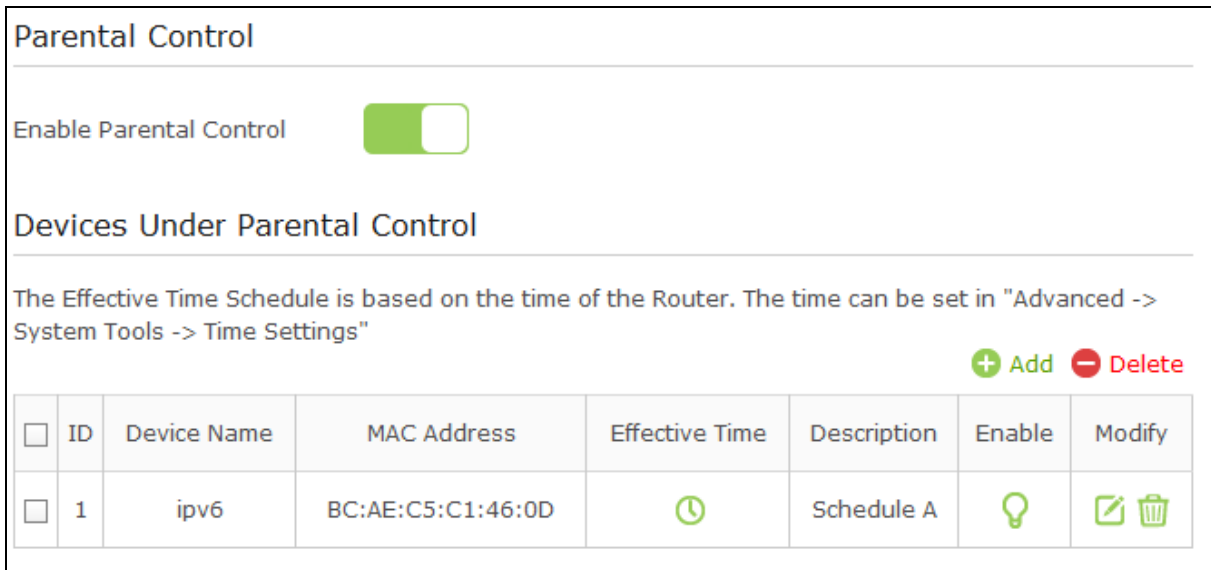


Figure 4-19

**Content Restriction:**

- **Content Restriction Mode** – Select the **Black List Mode** or **White List Mode** for this account.
- **Black List Mode** - All webs entered within the Black List will be denied to access. Check the box to enable this mode. You'd like to click **Add a new keyword** button and input websites that the child is denied to access.

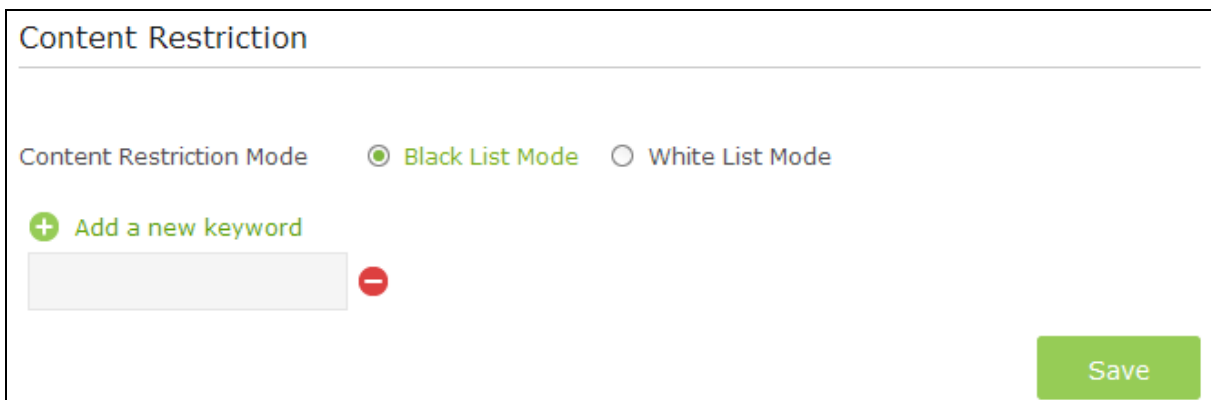


Figure 4-20

- **White List Mode** - Only the websites entered within the White List will be allowed. Check the box to enable this mode. You can click **Add a new keyword** button and input the websites that the child is allowed to access.

Content Restriction Mode    Black List Mode    White List Mode

+ Add a new domain name

-

Save

Figure 4-21

Click **Save** to complete the settings.

# Chapter 5. Advanced Configuration

## 5.1 Status

Choose menu “**Advanced**→**Status**”, you can see the current status information about the modem router.

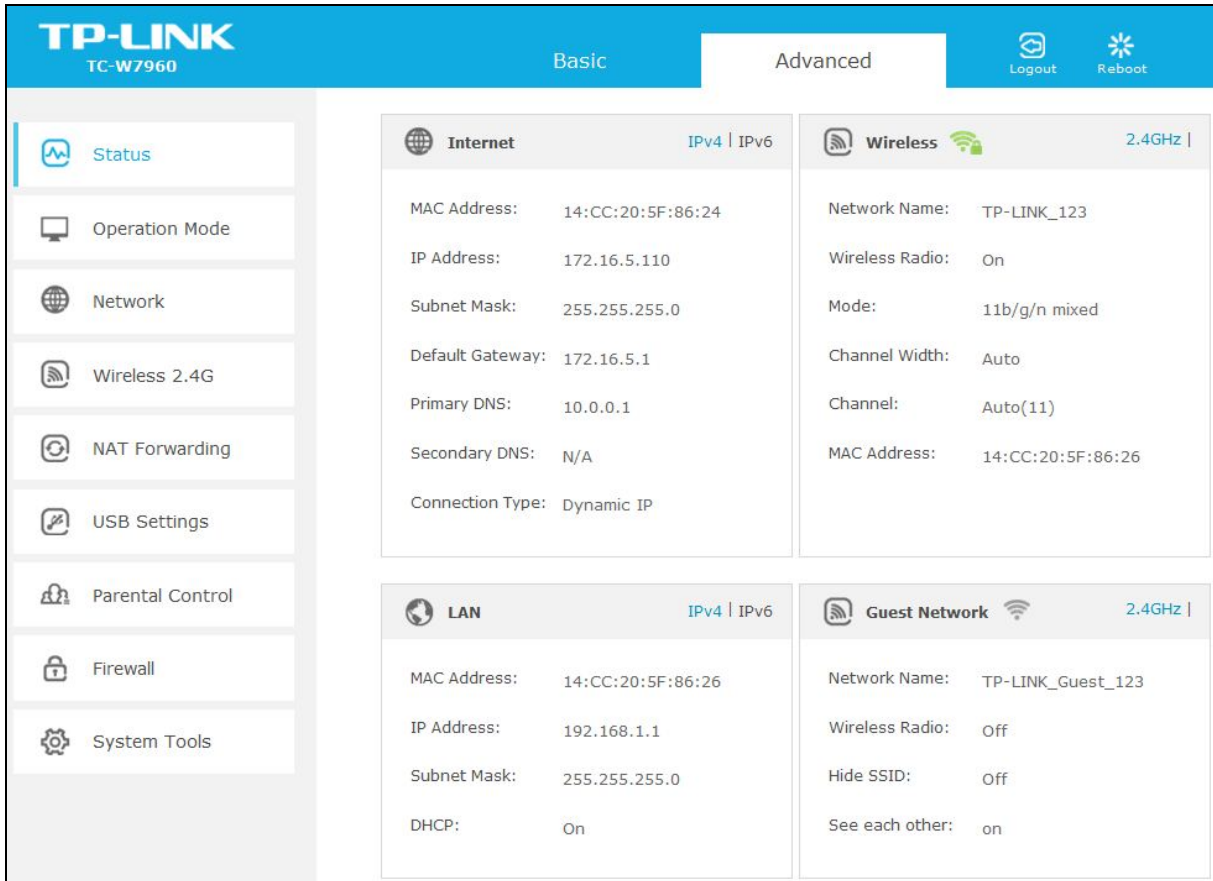


Figure 5-1

## 5.2 Operation Mode

Choose menu “**Advanced**→**Operation Mode**”, and you will see the screen as shown in Figure 5-2. Select your desired mode and then click **Save**.

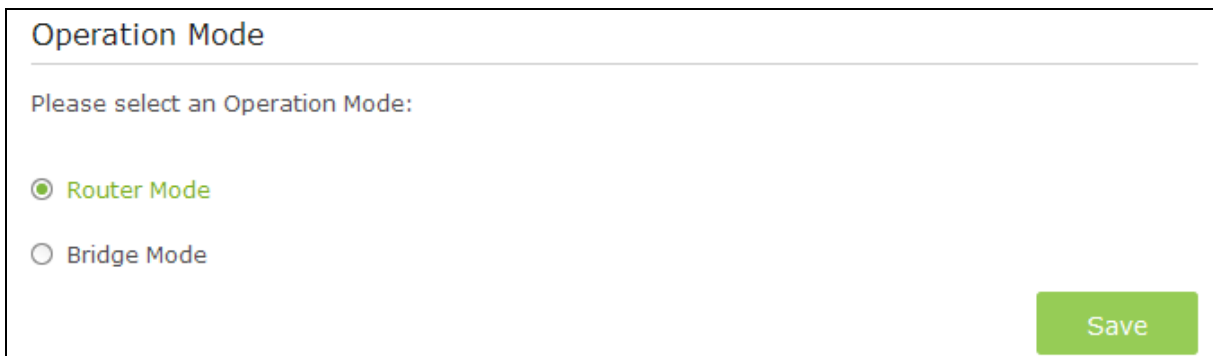


Figure 5-2

- **Router Mode** - The device enables multi-users to share Internet via cable using its Cable port and share it wirelessly at 300Mbps wireless speeds.
- **Bridge Mode** – In this mode, the modem router can be configured to act as a bridging device between your LAN and your ISP. Bridges are devices that enable two or more networks to communicate as if they are in two segments of the same physical LAN. If you were in Bridge Mode, you could log in the web-based management at 192.168.100.1, and then change the setting to obtain an IP address automatically.

After you click the **Save** button, the modem router will reboot. Please wait.

## 5.3 Network

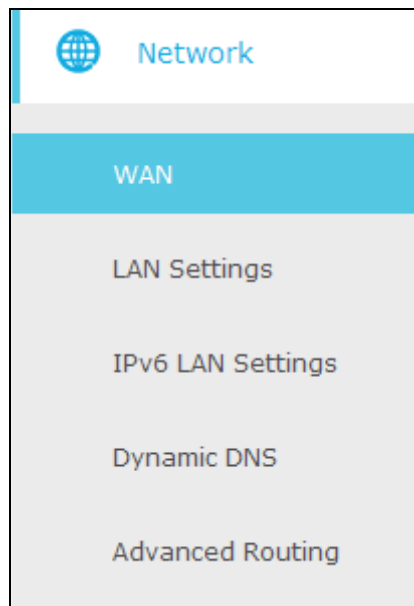


Figure 5-3

There are five submenus under the Network menu: **WAN**, **LAN Settings**, **IPv6 LAN Settings**, **Dynamic DNS** and **Advanced Routing**. Click any of them, and you will be able to configure the corresponding function.

### 5.3.1 WAN

Choose "**Advanced** → **Network** → **WAN**", you can configure the IP parameters of the WAN as shown in the figure below.

### Connection Status

---

Connection Type: DHCP

IP Address: 172.16.5.112

MAC Address: 14:CC:20:5F:86:24

Duration: D: 00 H: 02 M: 00 S: 00

Expires: Tue Jul 21 10:08:06 2015

### Connection Settings

---

Connection Type: Dynamic IP ▼

Current used MAC Address: 14:CC:20:5F:86:24

Mac Clone:

Use Default MAC Address  
 Use Computer MAC Address  
 Use this MAC Address

Figure 5-4

**Connection Status:**

- **Connection Type** – Display the connection type for WAN.
- **IP/MAC Address** - This field displays the current IP/MAC address of the Internet port.
- **Duration** – Display the total connection time.
- **Expires** – Display the expiration time of the DHCP servers leases an IP address to a new device.
- **Disconnect** - Click the **Disconnect** button to release WAN lease.
- **Reconnect** –Click the **Reconnect** button to renew WAN lease.

**Connection settings:**

There are four different connection types, Dynamic IP, Static IP, L2TP(Dynamic IP) and L2TP(Static). You can select the corresponding type according to your needs.

**1) Dynamic IP**

Choose **Dynamic IP** in the drop-down list, the modem router will be able to obtain IP network information dynamically from a DHCP server provided by your ISP.

Connection Settings

Connection Type: Dynamic IP ▼

Current used MAC Address: 14:CC:20:5F:86:24

Mac Clone:

Use Default MAC Address

Use Computer MAC Address

Use this MAC Address

Apply

Figure 5-5

- **Current used MAC Address** - This field displays the current MAC address of the Internet port.
- **MAC Clone** - You can select one of below methods to change MAC address for this WAN Interface depend on your needs. If you select **Use this MAC Address**, you can enter the MAC Address you want to change.

Click the **Apply** button to save the settings.

## 2) Static IP

Choose **Static IP** in the drop-down list if your ISP provides static IP information to you. You should set static IP address, Subnet mask, and gateway address in the screen below.



### Connection Settings

---

Connection Type: Static IP ▼

IP Address:

Subnet Mask:

Default GateWay:

Primary DNS:

Secondary DNS:  (Optional)

Current used MAC Address: 14:CC:20:5F:86:24

Mac Clone:

Use Default MAC Address

Use Computer MAC Address

Use this MAC Address

Apply

Figure 5-6

- **IP Address** - Enter the IP address in dotted-decimal notation provided by your ISP.
- **Subnet Mask** - Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0.
- **Default Gateway** - Enter the gateway IP address in dotted-decimal notation provided by your ISP.
- **Primary DNS/ Secondary DNS** - Here you can set DNS Server (at least one) manually. The Router will use this DNS Server for priority.
- **Current used MAC Address** - This field displays the current MAC address of the Internet port.
- **MAC Clone** - You can select one of below methods to change MAC address for this WAN Interface depend on your needs. If you select **Use this MAC Address**, you can enter the MAC Address you want to change.

Click the **Apply** button to save the settings.

### 3) L2TP(Dynamic IP)

Choose **L2TP(Dynamic IP)** in the drop-down list if your ISP provides L2TP(Dynamic IP) information to you. You should set User name, Password and Server IP Address/Name in the screen below.

### Connection Settings

---

Connection Type: L2TP(Dynamic IP) ▼

User name:

Password:

Server IP Address/Name:

Current used MAC Address: 14:CC:20:5F:86:24

Mac Clone:

Use Default MAC Address

Use Computer MAC Address

Use this MAC Address

Apply

Figure 5-7

- **User name/Password** - Enter the **Username** and **Password** provided by your ISP. These fields are case-sensitive. If you have difficulty with this process, please contact your ISP.
- **Server IP Address/Name** - Enter the server IP address or domain name provided by your ISP. If you have difficulty with this process, please contact your ISP.
- **Current used MAC Address** - This field displays the current MAC address of the Internet port.
- **MAC Clone** - You can select one of below methods to change MAC address for this WAN Interface depend on your needs. If you select Use this MAC Address, you can enter the MAC Address you want to change.

Click the **Apply** button to save the settings.

#### 4) L2TP(Static)

Choose **L2TP(Static)** in the drop-down list if your ISP provides L2TP(Static IP) information to you. You should set User name, Password, Server IP Address/Name, IP Address, Subnet Mask and Default Gateway in the screen below.

### Connection Settings

---

Connection Type: L2TP(Static) ▼

User name:

Password:

Server IP Address/Name:

IP Address:

Subnet Mask:

Default GateWay:

Current used MAC Address: 14:CC:20:5F:86:24

Mac Clone:  Use Default MAC Address  
 Use Computer MAC Address  
 Use this MAC Address

Apply

Figure 5-8

- **User name/Password** - Enter the **Username** and **Password** provided by your ISP. These fields are case-sensitive. If you have difficulty with this process, please contact your ISP.
- **Server IP Address/Name** - Enter the server IP address or domain name provided by your ISP. If you have difficulty with this process, please contact your ISP.
- **IP Address** - Enter the IP address in dotted-decimal notation provided by your ISP.
- **Subnet Mask** - Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0.
- **Default Gateway** - Enter the gateway IP address in dotted-decimal notation provided by your ISP.
- **Current used MAC Address** - This field displays the current MAC address of the Internet port.
- **MAC Clone** - You can select one of below methods to change MAC address for this WAN Interface depend on your needs. If you select **Use this MAC Address**, you can enter the MAC Address you want to change.

Click the **Apply** button to save the settings.

### 5.3.2 LAN Settings

Choose “**Advanced**→**Network**→**LAN Settings**” menu, and you will see the LAN screen shown below. Please configure the parameters for LAN ports according to the descriptions below.

### LAN Settings

---

IP Address:

MAC Address: 14:CC:20:5F:86:24

### DHCP Settings

---

DHCP Server:  Enable DHCP Server

Start IP Address:

End IP Address:

Leased Time:  (1-2880 minutes)

Primary DNS:  (Optional)

Second DNS:  (Optional)

### DHCP Client List

---

MAC Address	IP Address	Duration	Expires	Select
--	--	--	--	--

Current System Time: Tue Jul 21 08:38:16 2015

Figure 5-9

**LAN Settings:**

- **IP Address** - Enter the modem router’s local IP Address, then you can access to the Web-based management page via the IP Address, the default value is 192.168.1.1.
- **MAC Address** - The physical address of the modem router, as seen from the LAN. The value can't be changed.


**DHCP Settings:**

- **DHCP Sever** – Check the box to enable this function. If DHCP Server is enabled, the modem router will work as a DHCP server, which provides the TCP/IP configuration for all the PC(s) that are connected to it on the LAN.
- **Start IP Address** - Enter a value for the DHCP server to start with when issuing IP addresses.
- **End IP Address** - Enter a value for the DHCP server to end with when issuing IP addresses.

- **Leased Time** - The Leased Time is the amount of time in which a network user will be allowed for connection to the modem router with their current dynamic IP address. Enter the amount of time, then the user will be “leased” this dynamic IP address. After the dynamic IP address has expired, the user will be automatically assigned to a new dynamic IP address. The default is 60 minutes.
- **Primary DNS/Second DNS** – The LAN Settings allows you set DNS Server manually. The router will use the DNS Server for priority (Optional).

Click the **Save** button to save the settings.

#### **DHCP Client List:**

- **MAC Address** - The MAC address of the DHCP client
- **IP Address** - The IP address that the modem router has allocated to the DHCP client
- **Duration** - Display the total connection time.
- **Expires-** Display the expiration time of the DHCP client leased.
- **Select** – Click the  icon to delete this entry.

### **5.3.3 IPv6 LAN Settings**

Choose “**Advanced**→**Network**→**IPv6 LAN Settings**” menu, and you will see the IPv6 LAN screen. Please configure the parameters for IPv6 LAN ports according to the descriptions below.

### IPv6 LAN Settings

IPv6 Address: fe80::16cc:20ff:fe5f:8626/64

IPv6 Prefix: ::

System Delegated Prefix:

User defined prefix:  Enable

---

### DHCPv6 Server Settings

DHCPv6 Server:  Enable

LAN Delegated Prefix: ::

Start Address:

Number of addresses:

Valid Lifetime:

Rapid Commit:  Enable Rapid Commit

Unicast:  Enable Unicast

Stateless Dhcpv6:  Enable Stateless DHCPv6

---

### Client Status

IP Address	MAC Address	Reachability State	Reachability State
--	--	--	--

Figure 5-10

**IPv6 LAN Settings:**

- **IPv6 Address** - Display the modem router’s local IPv6 Address.
- **IPv6 Prefix** – Display the IPv6 prefix address.
- **System Delegated Prefix** – You can also enter the prefix address used for the tunnel after select the **User Defined prefix** checkbox.
- **User defined prefix** – Select the checkbox to define a new IPv6 prefix address.

**DHCPv6 Server Settings:**

- **DHCPv6 Server** – Check the box to enable DHCPv6 server.
- **LAN Delegated Prefix** – Display the LAN prefix address.

- **Start Address** - Enter a value for the DHCPv6 server to start with when issuing IP addresses.
- **Number of addresses** – Enter a value between 0-255 for DHCPv6 server preference. The default value is 255.
- **Valid Lifetime** - The Valid Lifetime is the amount of time in which a network user will be allowed connection to the modem router with their current dynamic IP address. Enter the amount of time, then the user will be “leased” this dynamic IP address. After the dynamic IP address has expired, the user will be automatically assigned a new dynamic IP address. The default is 3600 seconds.
- **Rapid Commit** – Check the box to enable prefix fast distribution function.
- **Unicast** – Select the checkbox to enable unicast function. The default setting is disabled.
- **Stateless Dhcpcv6** - Stateless DHCPv6 is a combination of “stateless Address Auto-configuration” and “Dynamic Host Configuration Protocol for IPv6” and is specified by RFC3736. Check the box to enable this function.

#### Client Status:

- **IP Address** - The IP address of the DHCP client
- **MAC Address** - The MAC address of the DHCP client
- **Reachability State** – Display the reachability of network.

### 5.3.4 Dynamic DNS

Choose menu “**Advanced → Network → Dynamic DNS**”, and you can configure the Dynamic DNS function.

The modem router offers the **DDNS** (Dynamic Domain Name System) feature, which allows the hosting of a website, FTP server, or e-mail server with a fixed domain name (named by yourself) and a dynamic IP address, and then your friends can connect to your server by entering your domain name no matter what your IP address is. Before using this feature, you need to sign up for DDNS service providers such as [dyn.com/dns/](http://dyn.com/dns/). The Dynamic DNS client service provider will give you a password or key.

#### Dynamic DNS

---

DDNS Service: Disabled ▼

User Name:

Password:

Host Name:

IP Address: 172.16.5.112

Status: DDNS service is not enabled.

Figure 5-11

- **DDNS Service** - The service provider of DDNS. In this field you could select **Disabled**, **dyn.com** or **www.noip.com**. If you have selected **dyn.com** or **www.noip.com**, you need to sign up for DDNS service providers.
- **User Name & Password** – Type in the “User Name” and “Password” for your DDNS account.
- **Host Name** - Enter the Domain name you want to set.
- **IP Address** – Display the WAN IP address.
- **Status** – Display the status of the DDNS service.

Click the **Save** button to save your settings.

### 5.3.5 Advanced Routing

Choose “**Advanced** → **Network** → **Advanced Routing**”, you can view all the current groups on this page.

#### Advanced Routing

---

RIP Authentication:  Enable

Authentication Key:

Authentication Key ID:

Reporting Interval:  seconds

Destination IP Address:

Destination IP Subnet Mask:

Figure 5-12

- **RIP Authentication** – Check the box to enable the RIP Authentication function.
- **Authentication Key** – Create a key (up to 16 characters) for the RIP authentication.
- **Authentication Key ID** - Create a ID (up to 3 characters) for identifying a authentication key.
- **Reporting Interval** – Refer to the update interval for routing information.
- **Destination IP Address** –The **Destination IP Address** is the address of the network or host that you want to assign to a static route.
- **Destination IP Subnet Mask** –The **Destination IP Subnet Mask** determines which portion of an IP Address is the network portion, and which portion is the host portion.

Click **Save** button to save the settings.



## 5.4 Wireless 2.4G

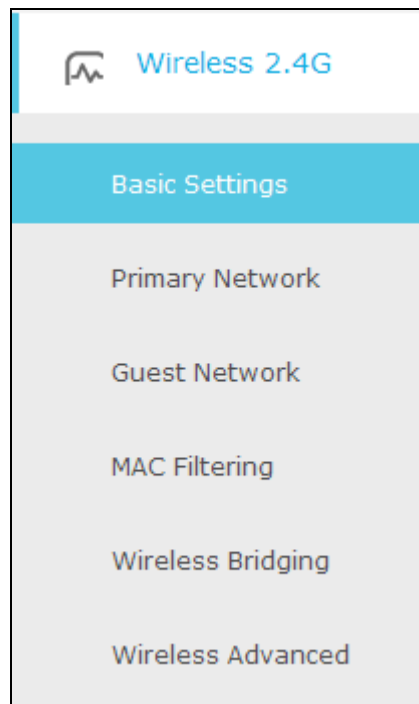


Figure 5-13

Choose menu “**Advanced**→**Wireless 2.4G**”, you will see six submenus under the Wireless menu: **Basic Settings**, **Primary Network**, **Guest Network**, **MAC Filtering**, **Wireless Bridging** and **Wireless Advanced**. Click any of them, and you will be able to configure the corresponding function.

### 5.4.1 Basic Settings

Choose menu “**Advanced** → **Wireless 2.4G** → **Basic Settings**”, you can configure the advanced wireless settings for the wireless 2.4G network.

 A screenshot of the "2.4GHz Basic" settings page. The page has a title "2.4GHz Basic" at the top. Below the title are several settings:
 

- Wireless Radio:** A checkbox labeled "Enable Wireless" is checked.
- Power:** A dropdown menu is set to "100%".
- Mode:** A dropdown menu is set to "11bgn mixed".
- Bandwidth:** A dropdown menu is set to "Auto".
- Channel:** A dropdown menu is set to "Auto".

 A green "Save" button is located at the bottom right of the settings area.

Figure 5-14

- **Wireless Radio** – Check the box to enable the Wireless Radio.

- **Power** – Here you can specify the transmit power of the modem router. You can select 25%, 50%, 75% and 100% which you would like. 100% is the default setting and is recommended.
  - **Mode** – Select the desired mode.
    - 11bgn mixed**: Select if you are using a mix of 802.11b, 11g, and 11n wireless clients.
    - 11gn mixed**: Select if you are using both 802.11g and 802.11n wireless clients.
    - 11n only**: Select if you are using 802.11n wireless clients only.
- Select the desired wireless mode. It is strongly recommended that you set the Mode to **11bgn mixed**, and all of 802.11b, 802.11g, and 802.11n wireless stations can connect to the modem router.
- **Bandwidth** - Select the channel width from the drop-down list. The default setting is Auto, which can adjust the channel width for your clients automatically.
  - **Channel** - Select the channel you want to use from the drop-down list of Channel. This field determines which operating frequency will be used. It is not necessary to change the wireless channel unless you notice interference problems with another nearby access point.

Click the **Save** button to save the settings.

## 5.4.2 Primary Network

Choose menu “**Advanced** → **Wireless 2.4G** → **Primary Network**”, You can configure the wireless 2.4G primary network.

### 2.4GHz Primary Network

---

Name(SSID):   Hide SSID

Security:

Version:  Auto  WPA-PSK  WPA2-PSK

Encryption:  Auto  TKIP  AES

Wireless Password:

---

### Router's PIN

The other device can connect to this Router by WPS with the Router's PIN Number.

Enable Router's PIN:

Router's PIN:

---

### WPS Wizard

Enable WPS:

Select a setup method:

Push Button (Recommended)

Press the physical push button on the router or click the software push button on this screen.

PIN Number

Figure 5-15

**2.4GHz Primary Network:**

- **Name(SSID)** – Create a name (up to 32 characters) for your 2.4GHz wireless network. The default SSID is set to be TP-LINK\_XXXX.
- **Hide SSID** – If you want to hide the SSID of your wireless network from the Wi-Fi network, you should check the box.
- **Security** – There are four wireless security modes supported by the modem router: **No Security**, **WPA/WPA2 Personal (Recommended)**, **WPA/WPA2 Enterprise**, **WEP**. You can choose one of them from the drop-down list.
  - 1) **No Security:** If you do not want to use wireless security, choose **No Security**. But it's recommended to use wireless security.
  - 2) **WPA-PSK/WPA2-PSK Personal(Recommended):**
- **Version** – You can choose the version of the WPA-PSK/WPA2-PSK security by selecting **Auto**, **WPA-PSK** or **WPA2-PSK**. The default setting is **WPA2-PSK**.

- **Encryption** – You can choose the encryption by selecting **Auto**, **TKIP** or **AES**. The default setting is **AES**.
- **Wireless Password** – You can enter ASCII characters between 8 and 63 characters or 8 to 64 Hexadecimal characters. The default password is the same with the default PIN code, which is labeled on the bottom of the modem router.

### 3) WPA/WPA2 Enterprise:

- **Version** – You can choose the version of the WPA/WPA2 Enterprise security by selecting **Auto**, **WPA** or **WPA2**. The default setting is **WPA2**.
- **Encryption** – You can select **Auto**, **TKIP** or **AES** as Encryption. The default setting is **AES**.
- **RADIUS Server IP**: Enter the IP address of the Radius Server.
- **RADIUS Port**: Enter the port that radius service used.
- **RADIUS Password**: Enter the password for the Radius Server.

### 4) WEP:

- **Key Selected** – Select one of the four keys from the drop-down list.
- **Key Type** – You can select the WEP key length (64-bit, or 128-bit.) for encryption.
  - 64-bit**: You can enter 10 hexadecimal digits (any combination of 0-9, a-f, A-F, zero key is not promoted) or 5 ASCII characters.
  - 128-bit**: You can enter 26 hexadecimal digits (any combination of 0-9, a-f, A-F, zero key is not promoted) or 13 ASCII characters.
- **Key Format** – **ASCII** and **Hexadecimal** formats are provided here. **ASCII** format stands for any combination of keyboard characters in the specified length. **Hexadecimal** format stands for any combination of hexadecimal digits (0-9, a-f, A-F) in the specified length.
- **Key Value** - Enter the WEP key that you create. Make sure these values are identical on all wireless stations in your network.

#### **Note:**

If you do not set the key, the wireless security function is still disabled even if you have selected Shared Key.

#### **Router's PIN:**

- **Enable Router's PIN** - The switch for the Router's PIN. If you turn on this button, the field will become green and other device can connect to this Router by WPS with the Router's PIN Number.
- **Router's PIN** - The current value of the modem router's PIN is displayed here. The default PIN of the modem router can be found in the label.
- **Generate** - Click this button, and then you can get a new random value for the modem router's PIN. You can ensure the network security by generating a new PIN.

#### **Note:**

You cannot connect other device to this modem router by entering the router's PIN on your client device if you haven't switch on **Enable Router's PIN**.

**WPS Wizard:**

- **Enable WPS** - The switch for the WPS. If you turn on this button, the field will become green and you can add a new wireless device to an existing network quickly by **WPS** (also called **QSS**) function.
- **Select a setup method** – You can select either of **Push Button (Recommended)** or **PIN Number** as the WPS setup method.
- **Push Button (Recommended)** – When you select this method, you can add a new device by pressing the physical button on the router or by clicking the software push **Connect** button on this screen.
- **PIN Number** - When you select this method, you can add a new device by entering the client's PIN in the field and then click **Connect** button.

**To add a new device:**

If the wireless adapter supports Wi-Fi Protected Setup (WPS), you can establish a wireless connection between wireless adapter and modem router using either Push Button method or PIN Number method.

 **Note:**

To build a successful connection by WPS, you should also do the corresponding configuration of the new device for WPS function meanwhile.

**I. Use the WPS Button**

Use this method if your client device has a Wi-Fi Protected Setup (WPS) button.

**Step 1:** Press the **WPS** button on the router or select the **Push Button (Recommended)** on the screen as shown in Figure 5-17, then click **Connect**.



Figure 5-16

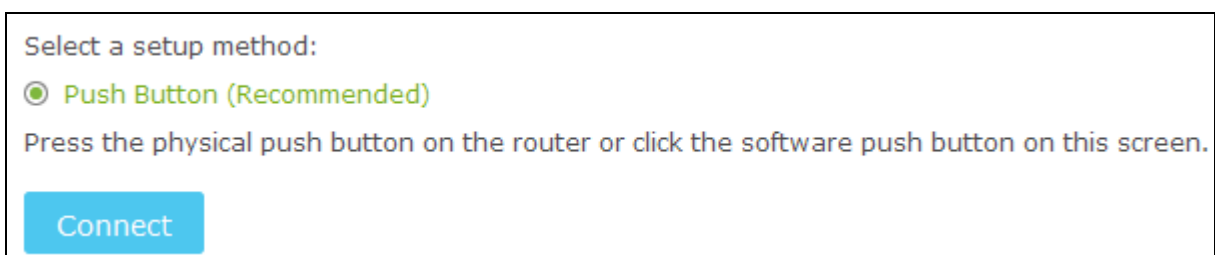


Figure 5-17

**Step 2:** Press and hold the **WPS** button of the client device directly.

**Step 3:** The WPS LED flashes for two minutes during the Wi-Fi Protected Setup process.

**Step 4:** When the WPS LED is on, the client device has successfully connected to the modem router.

Refer back to your client device or its documentation for further instructions.

## II. Enter the client device's PIN on the modem router

Use this method if your client device has a Wi-Fi Protected Setup PIN number.

**Step 1:** Enter the PIN number from the client device in the field, as shown in the following figure. Then click **Connect** button.



Figure 5-18

**Step 2:** “**Device has been added successfully!**” will appear on the screen, which means the client device has successfully connected to the modem router.

### Note:

1. The WPS LED on the modem router will light green for five minutes if the device has been successfully added to the network.
2. The WPS function cannot be configured if the **Enable Router's PIN** switch is off. Please make sure the **Enable Router's PIN** switch is on before configuring the WPS.

### 5.4.3 Guest Network

Choose menu “**Advanced** → **Wireless 2.4G** → **Guest Network**”, you can configure the advanced settings of your guest network.

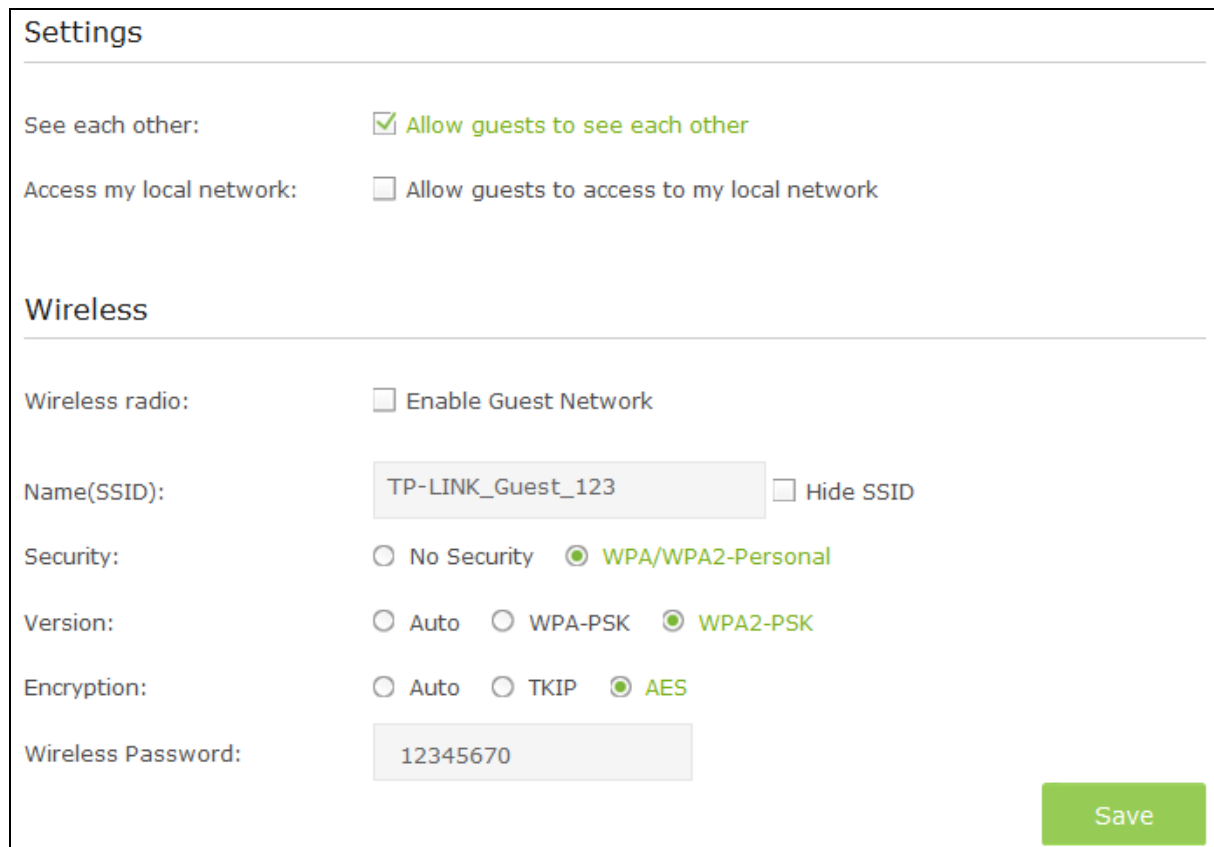


Figure 5-19

**Settings:**

- **See each other** - If **Allow guests to see each other** is selected, anyone who connects to the guest network can **access** each other.
- **Access my local network** - If **Allow guests to access my local network** is selected, anyone who connects to the guest network has access to your local network, not just Internet access.

**Wireless:**

- **Wireless radio** – Check the box to enable this function. The guest network function is disabled by default.
- **Name (SSID)** - Create a name for the guest network. When setting up a Guest network, it is strongly recommended to use a name that easily distinguishes it from your primary network. The default name is TP-LINK\_Guest\_2.4GHz. If you want to hide the guest network from the Wi-Fi network, check the **Hide SSID**.
- **Security** - It's strongly recommended to select **WPA/WPA2 Personal**. If you do not want to use wireless security, choose **No Security**.
- **Version** -You can choose the version of the WPA-PSK/WPA2-PSK security by selecting **Auto, WPA-PSK** or **WPA2-PSK**. The default setting is **WPA2-PSK**.
- **Encryption** - You can choose the encryption by selecting **Auto, TKIP** or **AES**.
- **Wireless Password** - Create a password for the guest network. The password must have a minimum of 8 characters in length.

Click **Save** button to save the settings.

#### 5.4.4 MAC Filtering

Choose menu “**Advanced** → **Wireless 2.4GHz** → **MAC Filtering**”, you can control the wireless access by configuring the **MAC Filtering** function.



### 2.4GHz Access Control

---

Wireless Interface: TP-LINK\_123 ▼

Enable MAC Filtering:

#### Filtering Rules

---

Select the Filtering Rule:

Block List(All Devices in this list can not access this router.)

Allow List( Only Device in this list can access this router.)

Save

#### Devices in List

---

+ Add

<input type="checkbox"/>	ID	MAC Address	Modify
--	--	--	--

#### Wireless Stations Online

---

ID	MAC Address	Age(s)	RSSI(dBm)	IP Address	Host Name
1	3C:DF:BD:C4:35:99	1983	-40	192.168.1.11	android-33c719c2ba9637e8

Figure 5-20

**2.4GHz Access Control:**

- **Wireless Interface** - Select an available wireless interface from the drop-down list.
- **Enable MAC Filtering**- The switch for the MAC Filtering. If you turn on this button, the field will become green and you can filter wireless users by MAC Address.

**Filtering Rules:**


- **Select the Filtering Rule** - You can select either of **Block List** or **Allow List** as the MAC filtering rule.

Click the **Save** button to save the settings.

**Devices in List:**

- **Add** - You can add a new device for the MAC Filtering rule by clicking + Add button.
- **MAC Address** - This field displays the MAC address of the wireless station that cannot access this router/can access this router.
- **Modify** - Click the icon to delete this entry.

**To add a MAC Address Filtering entry:**

1. Click  Add button, then you will see a setting page.
2. Enter the appropriate MAC Address into the **MAC Address** field. The format of the MAC Address is XX-XX-XX-XX-XX-XX (X is any hexadecimal digit). For example: 00-1D-0F-11-22-33.

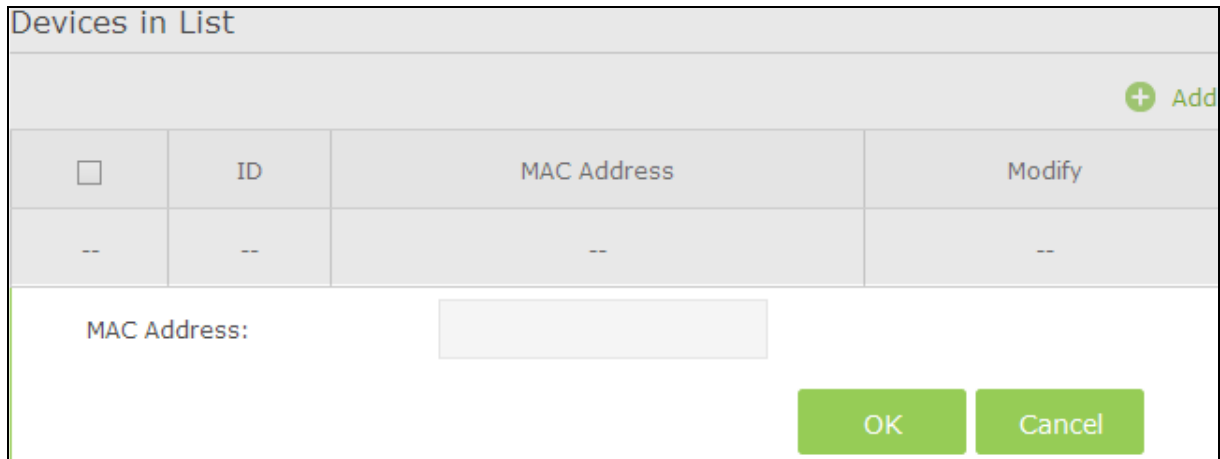



Figure 5-21

3. Click the **OK** button to save this entry. If you do not want to save this entry, click the **Cancel** button.

**For example:** If you desire that the wireless station A with MAC address 00-1D-0F-11-22-33 and the wireless station B with MAC address 00-0A-EB-00-07-5F are able to access the modem router, but all the other wireless stations cannot access the modem router, you can configure the **MAC Filtering** settings by following these steps:

1. Switch on the **Enable MAC Filtering** button to enable this function.
2. Select the **White List** for **Filtering Rules**.
3. Delete all or disable all entries if there are any entries already.
4. Click the  Add button.
  - 1) Enter the MAC address 00-1D-0F-11-22-33/00-0A-EB-00-07-5F in the **MAC Address** field.
  - 2) Click the **OK** button.

The filtering rules that configured should be similar to the following figure:

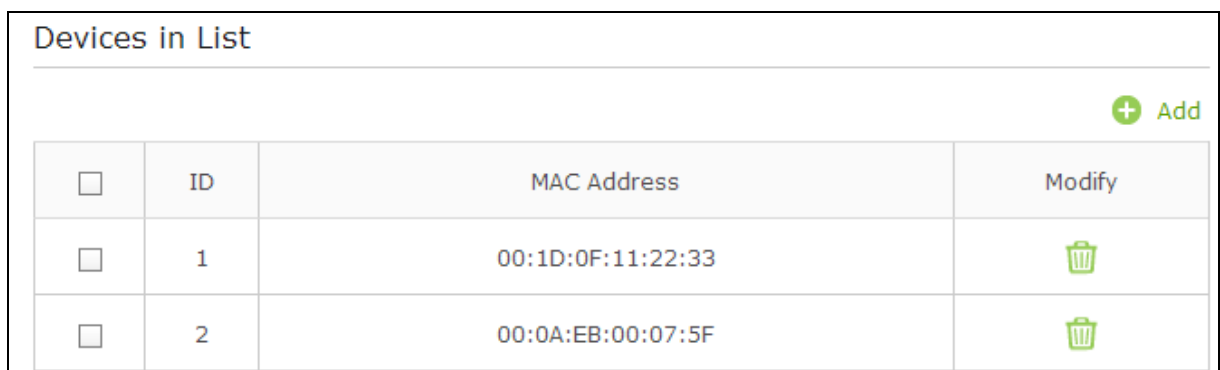


Figure 5-22

**Wireless Stations Online:**

- **MAC Address** - The MAC address of the wireless station online.
- **Age(s)** – Display the duration time of wireless station online.
- **RSSI(dBm)** – Refers to the Received Signal Strength Indication.
- **IP Address**- The IP address of the wireless station online.
- **Host Name** – Display the host name of the wireless station.

**5.4.5 Wireless Bridging**

Choose menu “**Advanced** → **Wireless 2.4G** → **Wireless Bridging**”. With this function, the modem router can bridge more WLANs. To configure this function, you must know the MAC addresses of the access point that need to be bridged. Often, the MAC address is on the product label.

Figure 5-23

- **WDS Bridging** - With this function, the modem router can bridge more WLANs. If you check the **Enable WDS**, you can click the **Scan AP** button to scan the nearby wireless access points.
- **Remote Bridges** – Enter the MAC address of the access point that you choose to be bridged.

Click the **Save** button to save the settings.

**To set up a wireless network with WDS:**

Before you set up a wireless network with WDS, both access points must meet the following conditions:

- Use the same wireless channel and encryption mode.
- Be on the same local network and have different LAN IP. For example, the TC-W7960's LAN IP is 192.168.1.1, and the other access point's LAN IP is 192.168.1.2.

First, set up the TC-W7960, then set up the access point to be bridged.

**To set up the TC-W7960:**

1. In the **Wireless Bridging** screen, click the **Scan AP** button to get nearby wireless access points information, then click the **Back** button.
2. Enter the BSSID (wireless MAC address) of the access point that you choose to be bridged.
3. Click the **Save** button to save the settings.

#### To set up the access point to be bridged:

1. Log into the web management page of the access point.
2. Go to the WDS settings screen of the access point.
3. Enter the wireless MAC address of the TC-W7960, and then save the settings.

### 5.4.6 Wireless Advanced

Choose menu “**Advanced** → **Wireless 2.4G** → **Wireless Advanced**”, you can configure the advanced settings of your wireless network.

The screenshot displays the '2.4GHz Advanced' configuration page. It features the following settings:

- Beacon Interval:** 100
- DTIM Interval:** 1
- Fragmentation Threshold:** 2346
- RTS Threshold:** 2347
- Short GI:** Auto
- Enable WMM**
- Enable Power Save Support**

A green **Save** button is positioned in the bottom right corner of the form.

Figure 5-24

#### 2.4GHz Advanced:

- **Beacon Interval** - Enter a value between 25-1000 milliseconds for Beacon Interval here. The beacons are the packets sent by the modem router to synchronize a wireless network. Beacon Interval value determines the time interval of the beacons. The default value is 100.
- **DTIM Interval** - This value determines the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the modem router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. You can specify the value between 1-255 Beacon Intervals. The default value is 1, which indicates the DTIM Interval is the same as Beacon Interval.
- **Fragmentation Threshold** - This value is the maximum size determining whether packets will be fragmented. Setting the Fragmentation Threshold too low may result in poor network performance because of excessive packets. 2346 is the default setting and is recommended.

- **RTS Threshold** - Here you can specify the RTS (Request to Send) Threshold. If the packet is larger than the specified RTS Threshold size, the modem router will send RTS frames to a particular receiving station and negotiate the sending of a data frame. The default value is 2347.
- **Short GI** - This function is recommended for it will increase the data capacity by reducing the guard interval time. Short GI is enabled by default.
- **Enable WMM** – Check the box to enable this function. WMM function can guarantee the packets with high-priority messages being transmitted preferentially, which is strongly recommended. It is enabled by default.
- **Enable Power Save Support** - Check the box to enable this function. This function can make the wireless client has only antenna is in working condition, and the remaining antennas are dormant, so as to achieve the purpose of saving power.

Click the **Save** button to save the settings.

## 5.5 NAT Forwarding

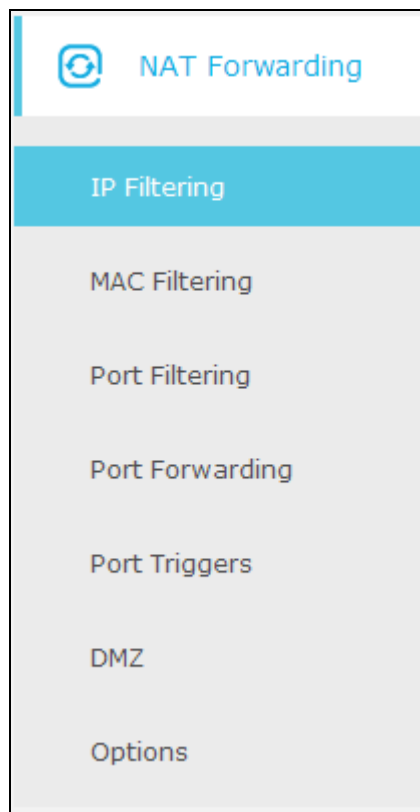


Figure 5-25 The Forwarding menu

There are seven submenus under the Forwarding menu: **IP Filtering**, **MAC Filtering**, **Port Filtering**, **Port Forwarding**, **Port Triggers**, **DMZ** and **Options**. Click any of them, and you will be able to configure the corresponding function.

### 5.5.1 IP Filtering

Choose menu “**Advanced** → **NAT Forwarding** → **IP Filtering**”, and then you can control the client’s access by configuring the **IP Filtering** function.

IP Filtering					
+ Add - Delete					
<input type="checkbox"/>	ID	Start IP Address	End IP Address	Enable	Modify
<input type="checkbox"/>	1	192.168.1.10	192.168.1.20		

Figure 5-26

**IP Filtering:**

- **Start/End IP Address** –Display the start IP Address/end IP Address of the client that cannot access this router.
- **Enable** - Click the icon to enable the function. If this function has taken effect, the icon will become .
- **Modify** - If you want to delete this entry, you can click the icon.

**To add a IP Address Filtering entry:**

1. Click **Add** button, then you will see a setting page, as shown in the following figure.
2. Enter the **Start IP Address** and the **End IP Address**.
3. Check **Enable this Entry** for this entry.

IP Filtering					
+ Add - Delete					
<input type="checkbox"/>	ID	Start IP Address	End IP Address	Enable	Modify
--	--	--	--	--	--

Start IP:

End IP:

Enable:  Enable this Entry

Figure 5-27

4. Click the **OK** button to save this entry. If you do not want to save this entry, click the **Cancel** button.

### 5.5.2 MAC Filtering

Choose menu “**Advanced** → **NAT Forwarding** → **MAC Filtering**”, and then you can control the client’s access by configuring the **MAC Filtering** function.

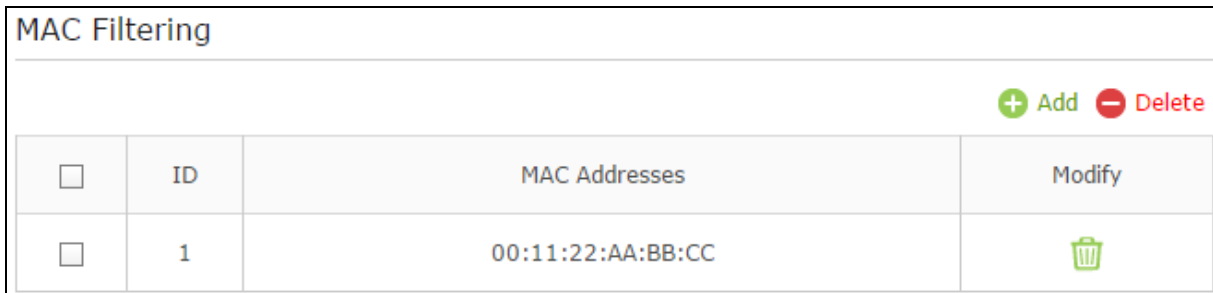


Figure 5-28

#### MAC Filtering:

- **MAC Address** - This field displays the MAC address of the station that cannot access this router.
- **Modify** - If you want to delete this entry, you can click the icon.

#### To add a MAC Address Filtering entry:

1. Click button, then you will see a setting page.
2. Enter the appropriate MAC Address into the **MAC Address** field. The format of the MAC Address is XX:XX:XX:XX:XX:XX (X is any hexadecimal digit).

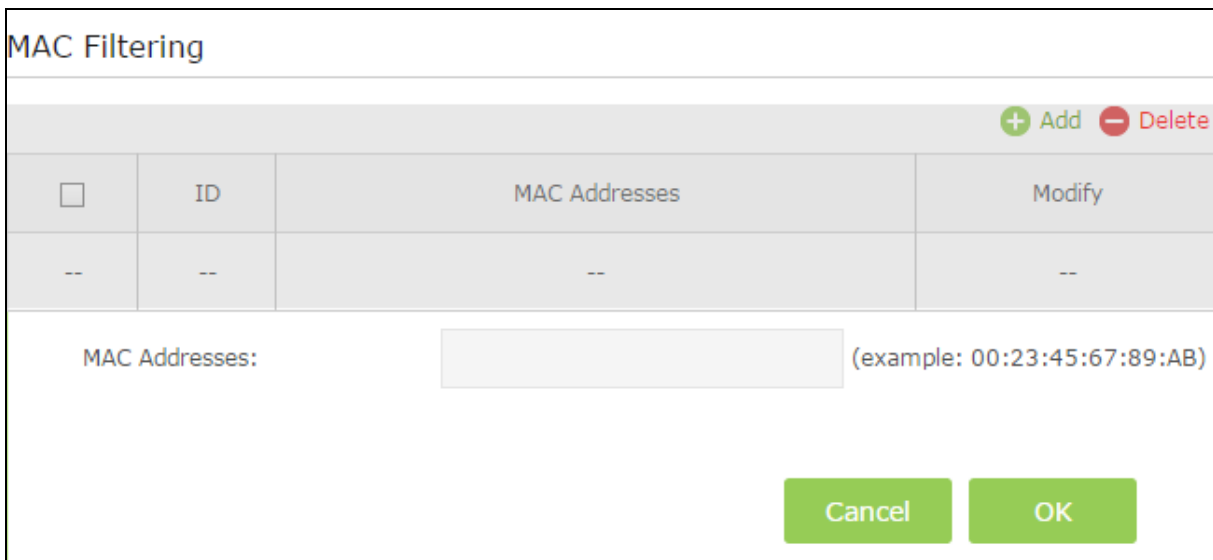


Figure 5-29

3. Click the **Add** button to save this entry. If you do not want to save this entry, click the **Cancel** button.

### 5.5.3 Port Filtering

Choose menu “**Advanced** → **NAT Forwarding** → **Port Filtering**”, and then you can control the client’s access by configuring the **Port Filtering** function.











Port Filtering						
						 Add  Delete
<input type="checkbox"/>	ID	Start Port	End Port	Protocol	Enabled	Modify
<input type="checkbox"/>	1	20	30	TCP		

Figure 5-30

**Port Filtering:**

- **Add** - You can add a new device for the Port Filtering rule by clicking  **Add** button.
- **Delete** - You can click  **Delete** button to delete the selected entries.
- **Start/End Port** - Display the start port/end port that cannot access this router.
- **Protocol** - The protocol used for this application, either **TCP**, **UDP**, or **BOTH** (all protocols supported by the modem router).
- **Enable** - Click the  icon to enable the function. If this function has taken effect, the icon will become .
- **Modify** - If you want to delete this entry, you can click the  icon.

**To add an IP Address Filtering entry:**

1. Click  **Add** button, then you will see a setting page.
2. Enter the **Start Port** and the **End Port**.
3. Select the **Protocol** which you want.
4. Check **Enable this Entry** for this entry, as shown in the following figure.



Port Filtering

+ Add - Delete

<input type="checkbox"/>	ID	Start Port	End Port	Protocol	Enabled	Modify
--	--	--	--	--	--	--

Start Port:

End Port:

Protocol:

Enable:  Enabled this entry

Figure 5-31

5. Click the **OK** button to save this entry. If you do not want to save this entry, click the **Cancel** button.

### 5.5.4 Port Forwarding

Choose menu “**Advanced** → **NAT Forwarding** → **Port Forwarding**”, and then you will see the screen as shown below.





Forwarding

+ Add - Delete


<input type="checkbox"/>	ID	Service Name	External Port	Internal IP	Internal Port	Protocol	Enable	Modify
--	--	--	--	--	--	--	--	--

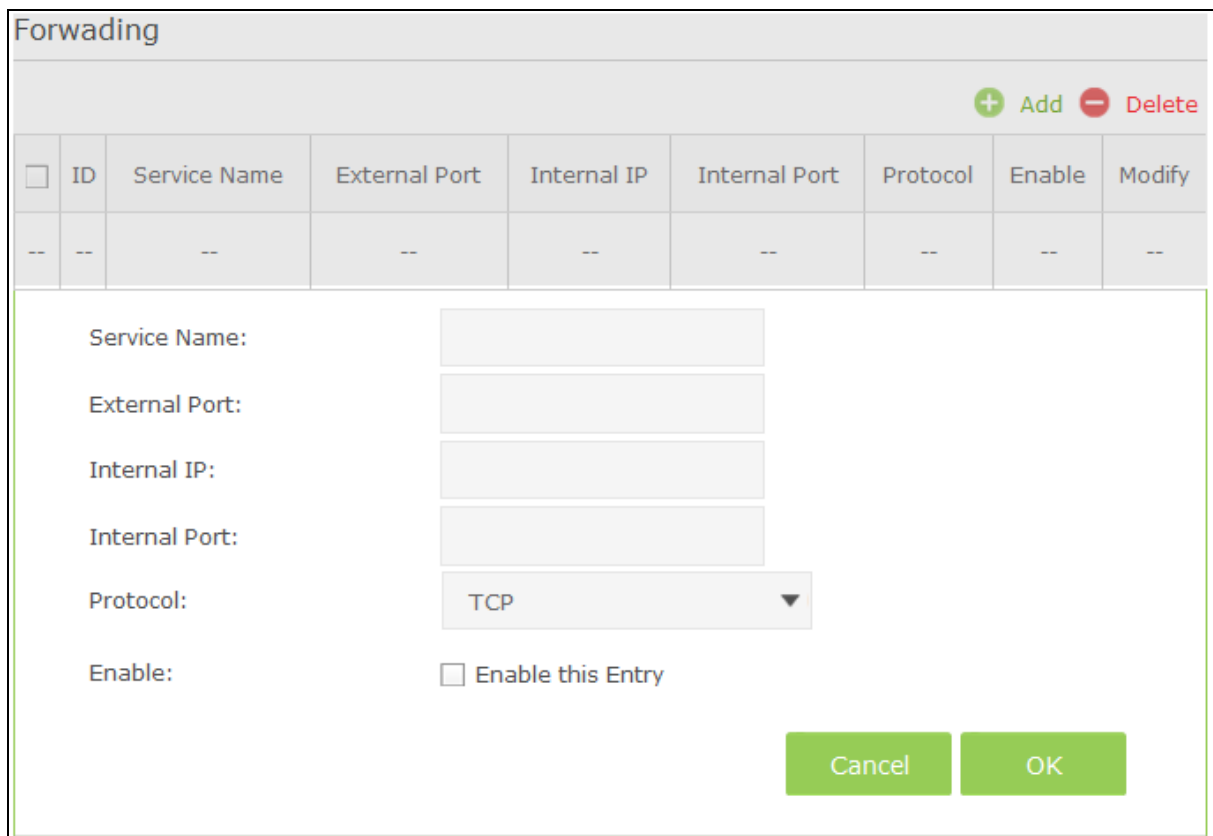
Figure 5-32

- **Service Name** - The port forwarding you want to use.
- **External Port** - The numbers of External Service Ports. You can enter a service port (the value between 1-65535).
- **Internal IP** - The IP address of the PC running the service application (which is in the same subnet with LAN IP).
- **Internal Port** - The Internal Service Port number of the PC running the service application. You can enter a service port (the value between 1-65535).
- **Protocol** - The protocol used for this application, either **TCP**, **UDP**, or **BOTH** (all protocols supported by the modem router).

- **Enable** – Click the  icon to enable the function. If this function has taken effect, the icon will become .
- **Modify** – Click the  icon to edit the corresponding entry. If you want to delete this entry, you can click the .

**To setup a port forwarding entry:**

1. Click the  **Add** button.
2. Enter the **Service Name**.
3. Enter the external port of the computer running the service application in the **External Port** field.
4. Enter the IP address of the computer running the service application in the **Internal IP** field.
5. Enter the internal port of the computer running the service application in the **Internal Port** field.
6. Select the protocol used for this application in the **Protocol** drop-down list, either **TCP**, **UDP**, or **BOTH**.
7. Enable the **Enable this entry** checkbox.
8. Click the **OK** button.



The screenshot shows the 'Forwarding' configuration interface. At the top right, there are '+ Add' and '- Delete' buttons. Below is a table with the following structure:

<input type="checkbox"/>	ID	Service Name	External Port	Internal IP	Internal Port	Protocol	Enable	Modify
--	--	--	--	--	--	--	--	--

Below the table is a form for adding a new entry:

- Service Name:
- External Port:
- Internal IP:
- Internal Port:
- Protocol:
- Enable:  Enable this Entry

At the bottom right, there are 'Cancel' and 'OK' buttons.

Figure 5-33

**5.5.5 Port Triggers**





Choose menu “**Advanced**→ **NAT Forwarding**→**Port Triggering**”, you can view and add port triggering in the next screen shown below. Some applications require multiple connections, like

Internet games, video conferencing, Internet telephoning and so on. Port Triggering is used for some of these applications that cannot work with a pure NAT modem router.


Port Triggers									
<input type="checkbox"/>	ID	Desc	Trigger Start Port	Trigger End Port	External Start Port	External End Port	Protocol	Enable	Modify
--	--	--	--	--	--	--	--	--	--

+ Add - Delete

Figure 5-34

- **Triggering Start/End Port** - The start port/end port for outgoing traffic. An outgoing connection using this port will trigger this rule.
- **External Start/End Port** - The port used by the remote system when it responds to the outgoing request. A response using one of these ports will be forwarded to the PC which triggered this rule.
- **Protocol** - The protocol used for **External Port**, either **TCP**, **UDP**, or **ALL** (all protocols supported by the router).
- **Enable** – Click the  icon to enable the function. If this function has taken effect, the icon will become .
- **Modify** – Click the  icon to edit the corresponding entry. If you want to delete this entry, you can click the  icon.

**To add a new rule, follow the steps below.**

1. Click the  **Add** button.
2. Enter the number of the **Triggering Start/End and External Start/End Port**.
3. Select the protocol used for this application in the **Protocol** drop-down list, either **TCP**, **UDP**, or **Both**.
4. Enable the **Enable this entry** checkbox.
5. Click the **OK** button.

### Port Triggers

+ Add - Delete

<input type="checkbox"/>	ID	Desc	Trigger Start Port	Trigger End Port	External Start Port	External End Port	Proto	Enable	Modify
--	--	--	--	--	--	--	--	--	--

Application:

Trigger Start Port:

Trigger End Port:

External Start Port:

External End Port:

Protocol: ALL ▼

Enable this Entry

Cancel
OK

Figure 5-35

**Note:**

1. When the trigger connection is released, the corresponding opened ports will be closed.
2. Each rule can only be used by one host on the LAN at a time. The trigger connection of other hosts on the LAN will be refused.
3. **External Port** ranges cannot overlap each other.

### 5.5.6 DMZ

Choose menu “**Advanced** → **NAT Forwarding** → **DMZ**”, and then you can view and configure DMZ host in the screen shown below. The DMZ host feature allows one local host to be exposed to the Internet for a special-purpose service such as Internet gaming or videoconferencing. The router forwards packets of all services to the DMZ host. Any PC whose port is being forwarded must have its DHCP client function disabled and should have a new static IP Address assigned to it because its IP Address may be changed when using the DHCP function.



DMZ Host

DMZ Address: 192.168.1. 0

Apply

Figure 5-36

#### To assign a computer or server to be a DMZ server:

1. Enter the IP address of a local PC that is set to be DMZ host in the **DMZ Host IP Address** field.
2. Click the **Apply** button.

### 5.5.7 Options

Choose menu “**Advanced** → **NAT Forwarding** → **Options**”, and then you can view the information in the screen shown below.

### Options

---

IPSec Passthrough	<input checked="" type="checkbox"/> Enable
PPTP Passthrough	<input checked="" type="checkbox"/> Enable
Multicast Enable	<input checked="" type="checkbox"/> Enable
UPnP Enable	<input checked="" type="checkbox"/> Enable
FTP ALG Enable	<input checked="" type="checkbox"/> Enable
TFTP ALG Enable	<input checked="" type="checkbox"/> Enable
H225 ALG Enable	<input checked="" type="checkbox"/> Enable
PPTP ALG Enable	<input checked="" type="checkbox"/> Enable
SIP ALG Enable	<input checked="" type="checkbox"/> Enable

### PassThrough Mac Addresses

---

<input type="checkbox"/>	ID	MAC Address	Modify
--	--	--	--


Figure 5-37

- **IPSec Passthrough** - Internet Protocol security (IPSec) is a suite of protocols for ensuring private, secure communications over Internet Protocol (IP) networks, through the use of cryptographic security services. To allow IPSec tunnels to pass through the modem router, turn on the switch.
- **PPTP Passthrough** - Point-to-Point Tunneling Protocol (PPTP) allows the Point-to-Point Protocol (PPP) to be tunneled through an IP network. To allow PPTP tunnels to pass through the modem router, turn on the switch.
- **Multicast Enable** - Multicasting allows a single transmission to simultaneously reach specific within your local network. Check the box to enable multicasting.
- **UPnP Enable** – Check the box to enable UPnP. This feature is enabled by default.
- **FTP ALG Enable** - To allow FTP clients and servers to transfer data across NAT, turn on the switch.
- **TFTP ALG Enable** - To allow TFTP clients and servers to transfer data across NAT, turn on the switch.
- **H225 ALG Enable** - To allow H225 clients and servers to transfer data across NAT, turn on the switch.
- **PPTP ALG Enable** - To allow PPTP clients and servers to transfer data across NAT, turn on the switch.

- **SIP ALG Enable-** To allow SIP clients and servers to transfer data across NAT, turn on the switch.

Click **Save** button to save these settings.

### PassThrough MAC Address

- **MAC Address** –This field displays the MAC address which is allowed to pass through the modem router
- **Modify** – Delete this entry, you can click the  icon.

To add a new entry, please follow the steps below.


1. Click the  **Add** button and the next screen will pop-up as shown below.



Figure 5-38

2. Enter the **MAC Address**.
3. Click **OK** button to save these settings.

## 5.6 USB Settings

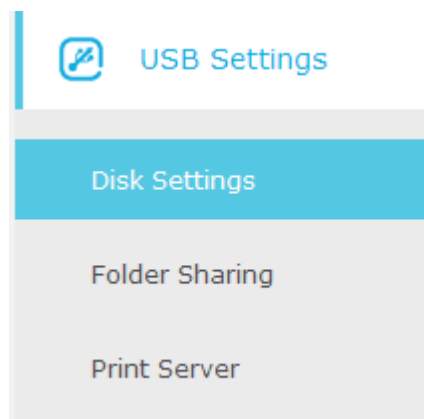


Figure 5-39

There are three submenus under the USB Settings menu: **Disk Settings**, **Folder Sharing** and **Print Server**. Click any of them, and you will be able to configure the corresponding functions.

### 5.6.1 Disk Settings

Choose menu “**Advanced**→**USB Settings**→**Disk Settings**”, you can configure the USB disk drive attached to the modem router and view the information.

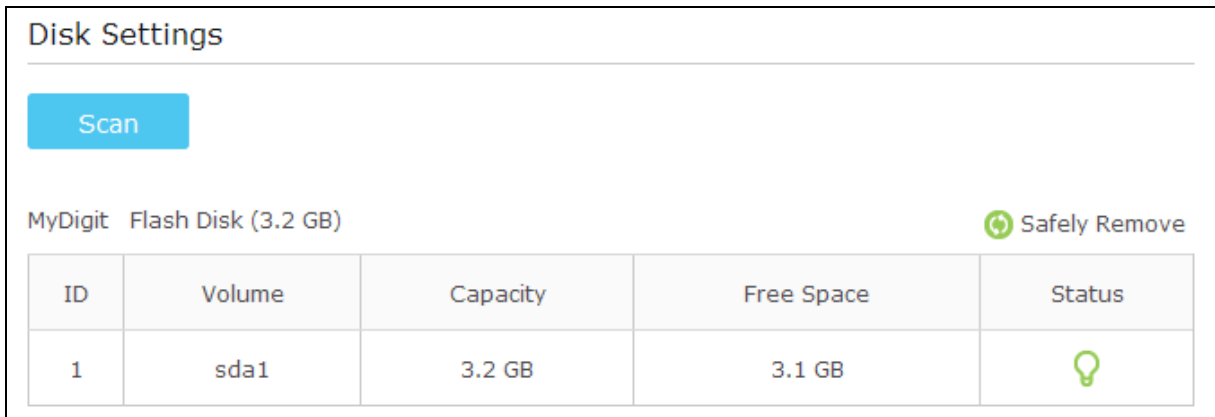


Figure 5-40

Click the **Scan** button to scan the USB drive connected to the router.

- **Volume** - The volume name of the USB drive the users have access to.
- **Capacity** - The storage capacity of the USB driver.
- **Free Space**- The available space of the USB driver.
- **Status**: When the volume is shared, you can click the icon to stop sharing the volume; when volume is non-shared, you can click to icon share the volume.

Click **Safely Remove** button to remove the USB storage device that is connected to USB port.

## 5.6.2 Folder Sharing

Choose menu “**Advanced**→**USB Settings**→**Folder Sharing**”, you can configure the sharing account and sharing settings.



### Sharing Account

Set a sharing account for access to the sharing contents.

Account:  Use Default Account  
 Use Custom Account

Username:

Password:  (Same as Login Password)

---

### Sharing Setting

Network/Media Server Name:

Enable	Access Method	Link	Port
<input checked="" type="checkbox"/>	Media Server	--	--
<input checked="" type="checkbox"/>	Network Neighborhood	\\TP-LINK	--
<input checked="" type="checkbox"/>	FTP	ftp://TP-LINK:21	<input type="text" value="21"/>
<input type="checkbox"/>	FTP(via Internet)	ftp://:21	21

---

### Sharing Folders

Enable Sharing All:

Enable Authentication:

ID	Share Name	Folder Path	Volume
1	volume(sda1)	sda1:	sda1

Figure 5-41

### Sharing Account

- Account – You can select **Use Default Account** or **Use Custom Account** to log in sharing Folders.

- **Use Default Account** - Select this radio button, and the sharing account username is **admin**, and password is the same as Login Password.
- **Use Custom Account** - Select this radio button, then you have to specify the new username and password in the **Username** and **Password** fields for sharing account.

Click **Save** button to save these settings.

### Sharing Settings

- **Network/Media Server Name** - Show the name of the network/media server. This is the name used to access the USB device connected to the router.
- **Access Method** - Select the check boxes for the access methods that you want. The methods for [Windows](#) users and [Mac OS X](#) users are different.

#### For Windows:

- 1) **Network Neighborhood:** This method is enabled by default.
  - i. Select **Start > Run**.
  - ii. Enter the **server address**, such as \\TP-LINK in the dialog box and click the **OK** button.
- 2) **FTP:** This method is enabled by default. If you select this check box and click the **Save** button, the LAN users can access the USB drive through FTP.
  - i. Select **Start > Run**.
  - ii. Enter **ftp://<domain name>:<port number>** (such as ftp://TP-LINK:21) in the dialog box and click the **OK** button.
- 3) **FTP (via Internet):** This method is disabled by default. If you select this check box, remote users can access the USB drive through FTP over the Internet. This feature supports both downloading and uploading of files.
  - i. Select **Start > Run**.
  - ii. Enter **ftp://<WAN IP address of the router>:<port number>** (such as ftp://59.40.2.243:21) in the dialog box and click the **OK** button.

#### **Note:**

If the port for FTP is changed, the port for FTP (via Internet) will be changed to the same port.

#### For Mac OS X:

- 1) **Network Neighborhood:** This method is enabled by default.
  - i. Select **Go > Connect to Server**.
  - ii. Enter the **server address**, such as smb://TP-LINK in the dialog box and click the **Connect** button.
- 2) **FTP:** This method is enabled by default. If you select this check box and click the **Save** button, the LAN users can access the USB drive through FTP.
  - i. Open a web browser.
  - ii. Type the server address in the address bar:  
Type in **ftp://<domain name>:<port number>** (such as ftp://TP-LINK:21) in the dialog box and click the **OK** button.

- 3) **FTP (via Internet):** This method is disabled by default. If you select this check box, remote users can access the USB drive through FTP over the Internet.
  - i. Open a web browser.
  - ii. Type the server address in the address bar:
  - iii. Type in **ftp://<WAN IP address of the router>:<port number>** (such as ftp://59.40.2.243:21) in the dialog box and click the **OK** button.

 **Note:**

1. If the port for FTP is changed, the port for FTP (via Internet) will be changed to the same port.
2. You can also access the USB disk via a third-party app for network files management, which can resume broken file transfers.

**Sharing Folders**

- **Enable Sharing All** - The switch for sharing all the folders. If you turn on the switch, the field will become green and all the folders in the USB drive will be shared.
- **Enable Authentication** - If you turn on this switch, the folder sharing needs authentication. The default setting is off.

**To share the folders you specified, please follow the steps below.**

1. Turn off the **Enable Sharing All** switch and the next screen will pop-up as shown in Figure 5-42.

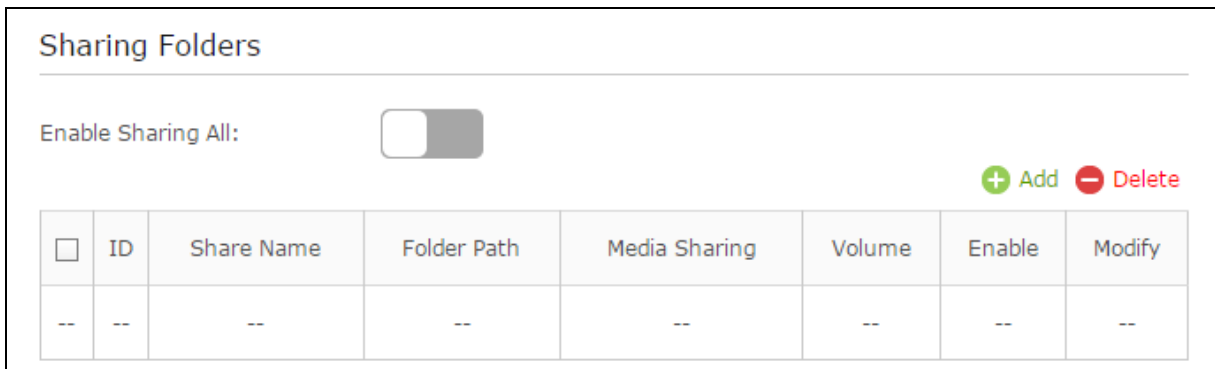



Figure 5-42

2. Click the  **Add** button and the next screen will pop-up as shown below.

Volume:  ▼

Folder Path:

Share Name:

Enable Authentication

Write Access

Enable Media Sharing

Figure 5-43

3. Select the volume desired to share from the **Volume** drop-down list. Then click the **Browse** button to select the folder path. You can create a share name, e.g. music.

Volume:  ▼

Folder Path:

Share Name:

Enable Authentication

Write Access

Enable Media Sharing

Figure 5-44

4. Select the checkboxes in Figure 5-44 according to your needs.
  - **Enable Authentication** - If this checkbox is selected, then the folder sharing needs authentication.
  - **Write Access** - If this checkbox is selected, then the sharing folder is allowed write access.
  - **Enable Media Sharing** - Select this checkbox to enable media sharing.
5. Click **OK** to complete the settings.

### 5.6.3 Print Server

Please refer to Section [4.5.2 Print Server](#).

## 5.7 Parental Control

Choose menu “**Advanced**→**Parental Control**”, and then you can configure the parental control in the screen as shown below. The Parental Control function can be used to control the internet activities of the child, limit the child to access certain websites and restrict the time of surfing.

### Parental Control

---

Enable Parental Control

### Devices Under Parental Control

---

The Effective Time Schedule is based on the time of the Router. The time can be set in "Advanced -> System Tools -> Time Settings"

+ Add - Delete

<input type="checkbox"/>	ID	Device Name	MAC Address	Effective Time	Description	Enable	Modify
<input type="checkbox"/>	1	ARCHER C8	00:1D:0F:11:22:33	🕒	weekends	💡	✏️ 🗑️

### Content Restriction

---

Content Restriction Mode  Black List Mode  White List Mode

+ Add a new keyword

anonymizer

-





Save

Figure 5-45


- **Enable Parental Control** - The switch for the parental control. If you turn on the switch, the field will become green

#### Devices Under Parental Control:

- **Add** - You can add a new device for the parental control by clicking this button.
- **Delete** - You can click the button to delete the selected entries.
- **Device Name** -The name used for identifying a device.
- **MAC Address** - This field displays the MAC address of the PC that is managing this modem router.
- **Effective Time** - The time period allowed for the PC controlled to access the Internet. You can click the 🕒 icon to configure the time period.
- **Description** - Here displays the description about the parental control and this description is unique.

- **Enable** – Click the  icon to enable the function. If this function has taken effect, the icon will become .
- **Modify** – Click the  icon to edit the corresponding entry. If you want to delete this entry, you can click the .

To add a new entry, please follow the steps below.

4. Click the  **Add** button and the next screen will pop-up as shown below.

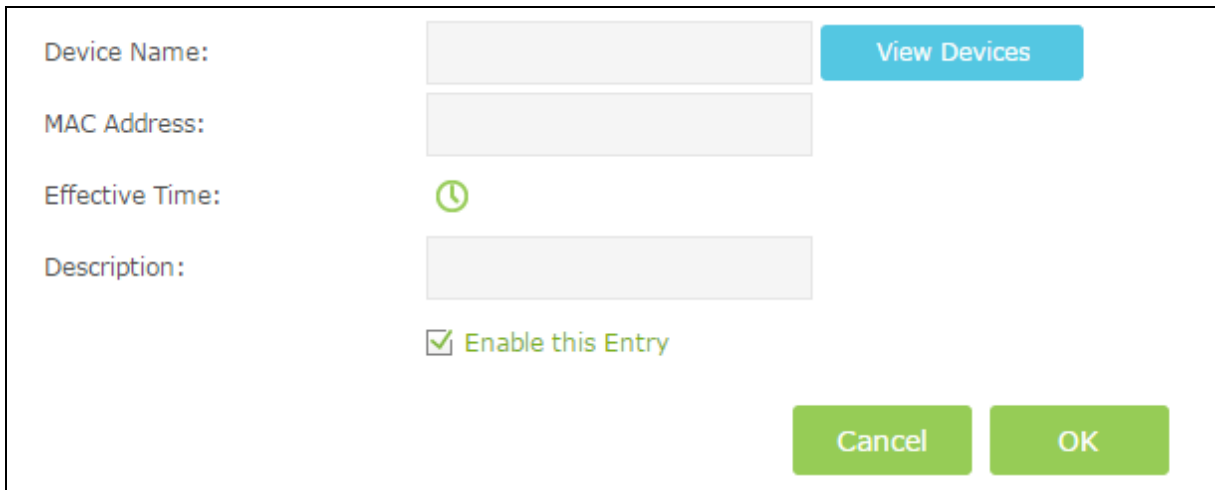

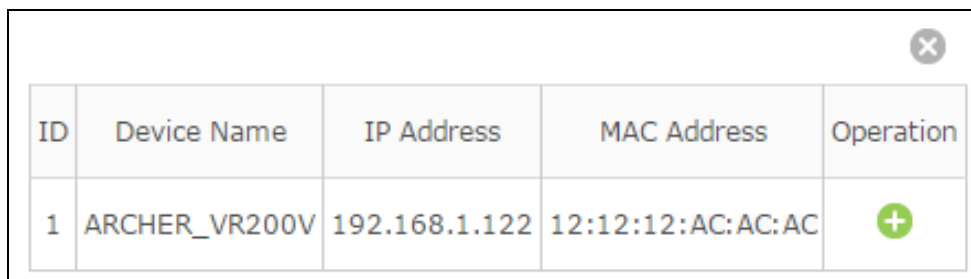


Figure 5-46

5. Click **View Device** button and the next screen will pop-up as shown below. You'd like to click the  icon to select a device.





ID	Device Name	IP Address	MAC Address	Operation
1	ARCHER_VR200V	192.168.1.122	12:12:12:AC:AC:AC	

Figure 5-47

6. Enter the **Device Name** in Figure 5-46.
7. Click  to create a new schedule. You'd like to click the Schedule in green below to go to the Advance Schedule Settings page and create the schedule you need. Then enter the **Description**.
8. Check the box **Enable this Entry** to enable this function.
9. Click **OK** to complete the settings.

**Content Restriction:**

- **Content Restriction Mode** – Select the **Black List Mode** or **White List Mode** for this account.

- **Black List Mode** - All webs entered within the Black List will be denied to access. Check the box to enable this mode. You'd like to click **+ Add a new keyword** button and input the net addresses which the child is denied to access.

The screenshot shows the 'Content Restriction' settings page. At the top, the title 'Content Restriction' is displayed. Below it, there are two radio buttons for 'Content Restriction Mode': 'Black List Mode' (which is selected) and 'White List Mode'. Underneath, there is a green '+ Add a new keyword' button. Below this button is a text input field with a red border and a red minus sign to its right. At the bottom right of the page is a green 'Save' button.

Figure 5-48

- **White List Mode** - Only the web entered within the White List will be allowed. Check the box to enable this mode. You'd like to click **+ Add a new keyword** button and input the net addresses which the child is allowed to access.

The screenshot shows the 'Content Restriction' settings page. At the top, the title 'Content Restriction' is displayed. Below it, there are two radio buttons for 'Content Restriction Mode': 'Black List Mode' and 'White List Mode' (which is selected). Underneath, there is a green '+ Add a new keyword' button. Below this button is a text input field with a red border and a red minus sign to its right. At the bottom right of the page is a green 'Save' button.

Figure 5-49

Click **Save** to complete the settings.

## 5.8 Firewall

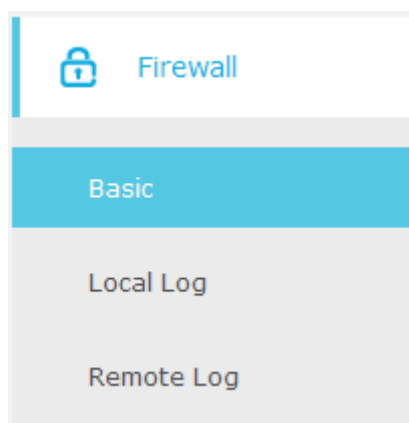
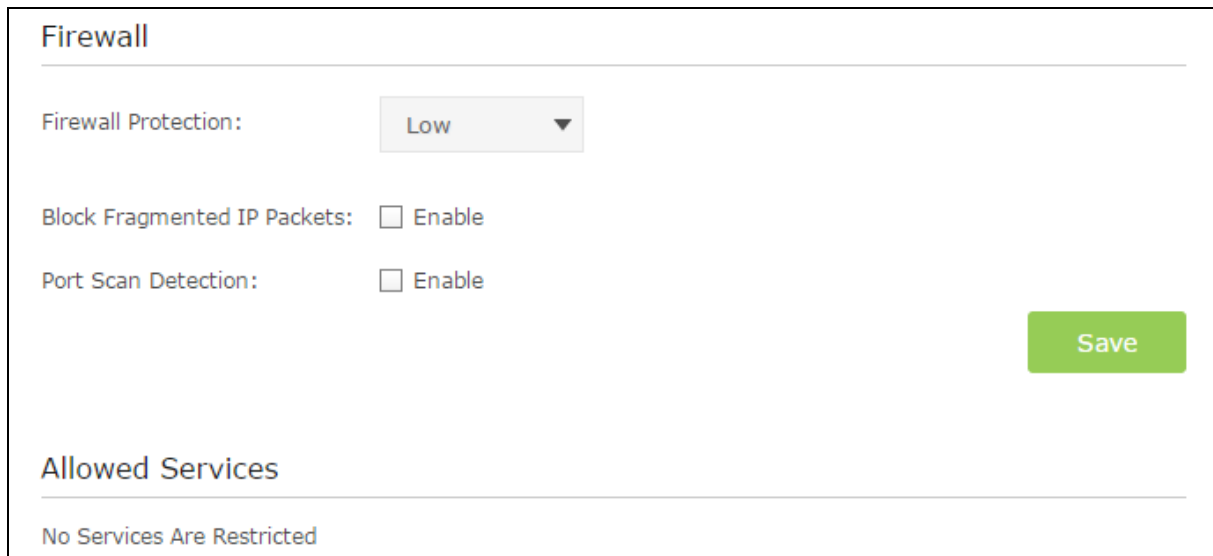


Figure 5-50

There are three submenus under the Security menu: **Basic**, **Local Log**, and **Remote Log**. Click any of them, and you will be able to configure the corresponding functions.

### 5.8.1 Basic

Choose menu “**Advanced** → **Firewall** → **Basic**”, and you can configure the basic firewall function.



Firewall

Firewall Protection:

Block Fragmented IP Packets:  Enable

Port Scan Detection:  Enable

**Save**

Allowed Services

No Services Are Restricted

Figure 5-51

#### Firewall:

- **Firewall Protection** - You can select **OFF**, **Low**, **Medium** or **High** which you would like.
- **Block Fragmented IP Packets** - This feature helps protect your private local network from Internet based denial of service attacks. Check the box to enable this function.
- **Port Scan Detection** - This feature can detect the port scan attack. Check the box to enable this function.

Click the **Save** button to save your settings.

### 5.8.2 Local Log

Choose menu “**Advanced**→ **Firewall** → **Local Log**”, and then you can configure the function in the screen as shown below.



### Local Log

---

Contact Email Address:

SMTP Server Name:

SMTP User Name:

SMTP Password:

E-mail Alerts:  Enable

Description	Count	Last Occurrence	Target	Source
--	--	--	--	--

Figure 5-52

- **Contact Email Address** – The modem router can email you its logs. Enter your email address here.
- **SMTP Server Name** - Enter the name of your SMTP sever.
- **SMTP User Name/Password** – The default User Name/Password is admin/admin. You can also specify the new username/password.
- **E-mail Alerts** – Check the box to enable this function. This feature can send alerts when someone attempts to visit a blocked site.

Click the **Save** button to save your settings.

- **Email Log** – Click to email the log immediately.
- **Clear Log** – Click to delete all the logs.

### 5.8.3 Remote Log

Choose menu “**Advanced**→ **Firewall** → **Remote Log**”, and then you can configure the function in the screen as shown below.

The screenshot shows a web interface for configuring logging. It is divided into two sections: 'Log Events' and 'Syslog Server'. The 'Log Events' section has four rows, each with a label and an 'Enable' checkbox. The 'Syslog Server' section has a 'Server Address' label and a text input field containing '192.168.1.0'. A green 'Save' button is located in the bottom right corner.

Log Events	
Permitted Connections:	<input type="checkbox"/> Enable
Blocked Connections:	<input type="checkbox"/> Enable
Known Internet Attacks:	<input type="checkbox"/> Enable
Configuration Events:	<input type="checkbox"/> Enable

Syslog Server	
Server Address:	<input type="text" value="192.168.1.0"/>

Figure 5-53

Select the Log checkbox to view the corresponding events.

➤ **Server Address** - The specified IP address of the remote system log server.

Click **Save** button to save these settings.

## 5.9 System Tools

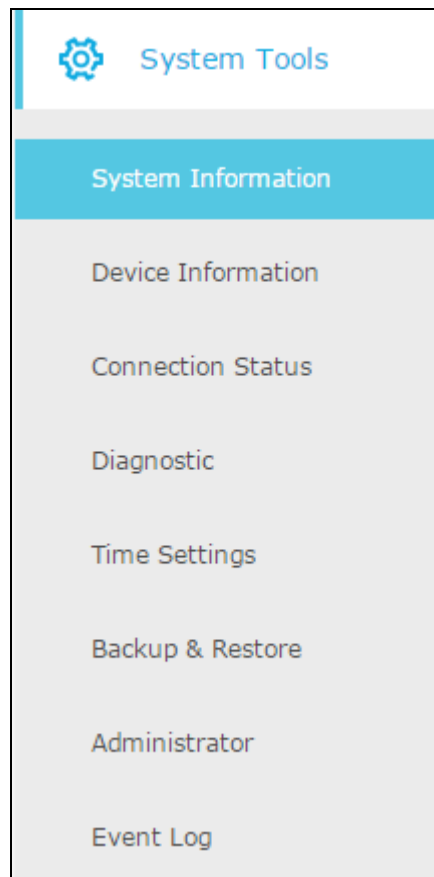


Figure 5-54

Choose menu “**Advanced**→**System Tools**”, you will see eight submenus under the System Tools menu: **System Information**, **Device Information**, **Connection Status**, **Diagnostic**, **Time Settings**, **Backup & Restore**, **Administrator** and **Event Log**. Click any of them, and you will be able to configure the corresponding function. The detailed explanations for each submenu are provided below.

### 5.9.1 System Information

Choose menu “**Advanced**→**System Tools**→**System Information**”, you can see the current status information about the modem router.

System Information	
System Up Time	0 days 00h:53m:12s
Network Access	Allowed
Cable Modem IP Address	192.168.250.100

Figure 5-55

### 5.9.2 Device Information

Choose menu “**Advanced**→**System Tools**→**Device Information**”, you can see the current information about the modem router.

Device Information	
Standard Specification Compliant	DOCSIS 3.0
Hardware Version	V1.1
Software Version	v1.0.3 Build 20150817 Rel602600
Cable Modem MAC Address	14:CC:20:5F:86:20
Cable Modem Serial Number	2344322341234
CM certificate	Installed

Figure 5-56

### 5.9.3 Connection Status

Choose menu “**Advanced**→**System Tools**→**Connection Status**”, you can see the current connection status about the modem router.

Startup Procedure		
Procedure	Status	Comment
Acquire Downstream Channel	489000000 Hz	Locked
Connectivity State	OK	Operational
Boot State	OK	Operational
Configuration File	OK	cm_snmpv2_hzg.cfg
Security	Enabled	BPI+

Downstream Bonded Channels

Channel	Status	Modulation	Channel ID	Frequency	Power	SNR
1	Locked	QAM256	7	489000000 Hz	-2.8 dBmV	43.2 dB
2	Locked	QAM256	1	453000000 Hz	-3.4 dBmV	40.4 dB
3	Locked	QAM256	2	459000000 Hz	-3.7 dBmV	39.5 dB
4	Locked	QAM256	3	465000000 Hz	-3.7 dBmV	37.5 dB
5	Locked	QAM256	4	471000000 Hz	-3.4 dBmV	38.4 dB
6	Locked	QAM256	5	477000000 Hz	-2.8 dBmV	40.8 dB
7	Locked	QAM256	6	483000000 Hz	-2.5 dBmV	42.5 dB
8	Locked	QAM256	8	495000000 Hz	-3.8 dBmV	42.5 dB

Upstream Bonded Channels

Channel	Status	Channel Type	Channel ID	Symbol Rate	Frequency	Power
1	Locked	ATDMA	1	2560 ksym/sec	11000000 Hz	50.3 dBmV
2	Locked	ATDMA	2	2560 ksym/sec	17400000 Hz	50.3 dBmV
3	Locked	ATDMA	3	2560 ksym/sec	23800000 Hz	50.5 dBmV
4	Locked	ATDMA	4	2560 ksym/sec	30200000 Hz	51.0 dBmV

Time Information

CM IP Address	192.168.250.100
Duration	D: 00 H: 02 M: 00 S: 00
Expires	Tue Jul 21 10:07:52 2015
Current System Time	Tue Jul 21 09:05:38 2015

Figure 5-57

- **Startup Procedure** - Display the initialization progress.
- **Downstream/Upstream Bonded Channels** - Display the status of each channel.
- **Time Information** –The time information will display when the modem router is initialized.

#### 5.9.4 Diagnostic

Choose menu “**Advanced**→**System Tools**→**Diagnostic**”, you can test the connectivity of the Internet on the following screen.

Figure 5-58

- **Diagnostic tool** - There are two tools to diagnose, which is **PING** and **Traceroute**. You can select the corresponding type according to your needs.
  - 1) **PING**: If you select this option, you could check the status of the Internet connection.
    - **IP Address** – Enter the IP address that you want to PING.
    - **PING Packet Size** – Enter the size of the PING packet you want to use.
    - **PING Count** – Enter the number of times you want to ping the target device.
    - **PING Interval** – Enter the time period between each ping.

Click **Start Test** to check the connectivity of the Internet. The page will display the result of diagnosis.

Click **Abort Test** to end the connectivity of the Internet.

Click **Clear Results** to delete the logs.
  - 2) **Traceroute**: If you select this option, all the anonymous calls would be blocked.

Diagnostic tool:	Traceroute	▼
IP Address/ Domain Name:	<input type="text"/>	
Max Hops:	30	
Data Size:	32	bytes
Base Port:	33434	
Resolve Host:	OFF	▼
<input type="button" value="Start Test"/> <input type="button" value="Clear Results"/>		

Figure 5-59

- **IP Address/ Domain Name** – Enter the IP Address or Domain Name you want to trace.
- **Max Hops** – Enter the max number of hops.
- **Data Size** – Enter the size of data you want to use.
- **Base Port** – Enter the port number to send packets.
- **Resolve Host** – To resolve the host name to the IP address you can select **ON** from the drop-down list. The default status is **OFF**.

Click **Start Test** to check the connectivity of the Internet. The page will display the result of diagnosis.

Click **Clear Results** to delete the logs.

 **Note:**

Only one user can use the diagnostic tools at one time.

### 5.9.5 Time Settings

Choose menu “**Advanced**→**System Tools**→**Time Settings**”, you can configure the time settings on the following screen.

### Time Settings

---

Enable SNTP:

Current Time: Thu Jan 01 00:02:30 1970

System Start Time: Thu Jan 01 00:00:00 1970

Time Server 1:

Time Server 2:

Time Server 3:

Time Zone:

Daylight Saving:  Enable Daylight Saving

Start: 1970 Mar ▼ M 2nd ▼ W Sun ▼ T 01:00 ▼

End: 1970 Nov ▼ M 1st ▼ W Sun ▼ T 02:00 ▼

Figure 5-60

**Time Settings:**

- **Enable SNTP** - The switch for SNTP function. If you turn on the switch, the field will become green.
- **Current Time** – Display the current time.
- **System Start Time** – Display the system start time.
- **Time Server 1 / Time Server 2 / Time Server 3**- Enter the address or domain of the **Server 1** or **Server 2**, and then the modem router will get the time from the Server preferentially. In addition, the modem router built-in some common Servers, so it can get time automatically once it connects the Internet.
- **Time Zone** - Select your local time zone from the pull down list.
- **Daylight Saving** - You can set **Daylight Saving** time according to your needs. Tick the checkbox to enable **Daylight Saving**, set the start and end time and then click **Save** to make the settings effective.

Click **Save** button to save these settings.

 **Note:**

1. This setting will be used for some time-based functions such as parental control and firewall. You must specify your time zone once you login to the router successfully; otherwise, these functions will not take effect.
2. The time will be lost if the router is turned off.



3. The router will automatically obtain GMT from the Internet if it is configured accordingly.
4. The Daylight Saving will take effect one minute after the configurations are completed.

### 5.9.6 Backup & Restore

Choose menu “**Advanced**→**System Tools**→**Backup & Restore**”, and then you can save the current configuration of the modem router as a backup file and restore the configuration via a backup file as shown in the following figure.

The screenshot shows a web interface for 'Backup & Restore'. It is divided into three sections by horizontal lines:

- Backup:** Contains the text 'Save a copy of current settings.' and a green 'Backup' button on the right.
- Restore:** Contains the text 'Restore saved settings from a file.' Below this is a 'Configure File Path' label, a text input field, and a blue 'Browse' button. To the right of the input field is a green 'Restore' button.
- RESET:** Contains a green 'Reset' button on the right.

Figure 5-61

#### Backup:

Click the **Backup** button to save all configuration settings as a backup file in your local computer.

#### Restore:

To restore the modem router's configuration, follow these instructions.

- Click the **Browse** button to find the configuration file which you want to restore.
- Click the **Restore** button to restore the configuration with the file whose path is the one you have input or selected in the blank.

#### Reset:

Click the **Reset** button to reset all configuration settings to their default values.

#### Note:

1. The current configuration will be covered with the uploading configuration file. Wrong process will lead the device unmanaged. The restoring process lasts for 20 seconds and the modem router will restart automatically then. Keep the power of the modem router on during the process, in case of any damage.

2. All changed settings will be lost when defaults are restored.

### 5.9.7 Administrator

Choose menu “**Advanced**→**System Tools**→**Administration**”, you will see the following screen.

#### Account Management

---

Old Password:

New Password:

Confirm New Password:

---

#### Remote Config Management

Note: If visit the config management page from remote, use port 8080 instead of 80.

Remote Config Management:  Enable

---

#### WAN Blocking

WAN Blocking:  Enable

Figure 5-62

#### Account Management:

Here you can set the account user information about **Old Password**, **New Password** and **Confirm Password**.

It is strongly recommended that you should change the factory default user name and password of the router, because all users who try to access the router's Web-based utility or Quick Setup will be prompted for the router's default user name and password.

#### Note:

Enter the new Password twice to confirm it. The level of the new password's security will be shown on the screen as **Low**, **Middle** or **High**.

Click the **Save** button save the settings.

**Remote Config Management:**

- **Remote Config Management** – Check the **Enable** to enable the remote management.

Click the **Save** button save the settings.

 **Note:**

To access the router, you should type your router's WAN IP address into your browser's address (in IE) or Location (in Navigator) box, followed by a colon and the custom port number. For example, if your router's WAN address is 202.96.12.8, and the port number used is 8080, please enter http://202.96.12.8:8080 in your browser. Later, you may be asked for the router's password. After successfully entering the username and password, you will be able to access the router's web-based utility.

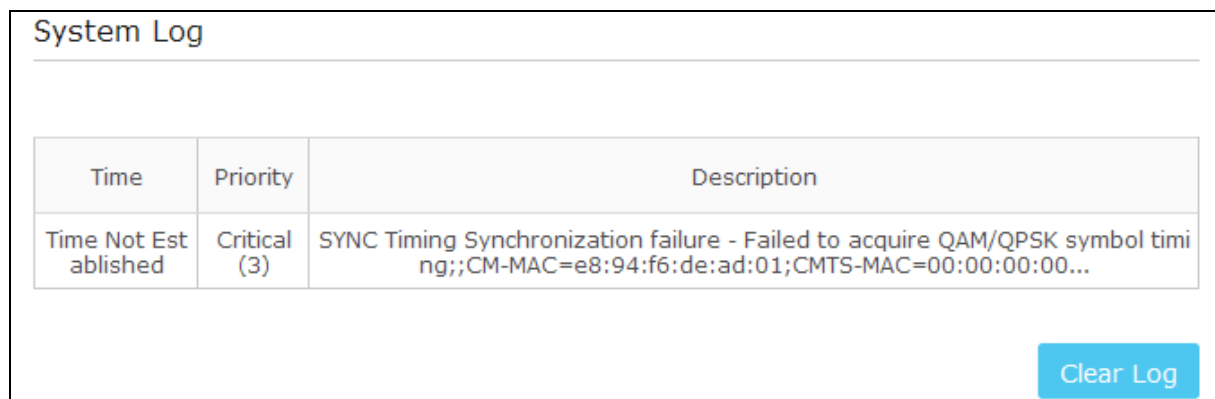
**WAN Blocking:**

- **WAN Blocking** – Check the **Enable** to block anonymous Internet requests.

Click the **Save** button save the settings.

**5.9.8 Event Log**

Choose menu “**Advanced**→**System Tools**→**Event Log**”, and then you can view and clear the logs of the modem router.



System Log		
Time	Priority	Description
Time Not Established	Critical (3)	SYNC Timing Synchronization failure - Failed to acquire QAM/QPSK symbol timing; CM-MAC=e8:94:f6:de:ad:01; CMTS-MAC=00:00:00:00...

[Clear Log](#)

Figure 5-63

- **Clear Log** – Click to delete all the logs.

# Appendix A: Specifications

HARDWARE FEATURES	
<b>Interface</b>	1 F-Connector, female 75 Ω 4 10/100/1000Mbps RJ45 LAN Ports 1 USB 2.0 Port
<b>Button</b>	1 Power On/Off Button 1 Wi-Fi On/Off Button 1 WPS Button 1 Reset Button
<b>External Power Supply</b>	12VDC/1.5A
<b>IEEE Standards</b>	IEEE 802.1p, IEEE 802.1q, IEEE 802.1x, IEEE 802.1d, IEEE 802.1w, IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.x, IEEE 802.11e, IEEE 802.11b, IEEE 802.11g, IEEE 802.11n
<b>DOCSIS Standards</b>	DOCSIS/EuroDOCSIS 3.0
<b>Dimensions ( W x D x H )</b>	2.5× 7.7× 9.7 in. (62.5× 195× 246 mm)
<b>Antenna Type</b>	Omni directional, Internal
<b>Antenna Gain</b>	2dBi for 2.4GHz
DOWNSTREAM	
<b>Channel Bonding</b>	Up to 8
<b>Maximum PHY Rate</b>	Up to 445 Mbps
<b>Frequency Range</b>	108 to 1002 MHz (edge to edge)
<b>Frequency Plan</b>	DOCSIS/EuroDOCSIS 3.0 Annex A
<b>Security</b>	DOCSIS/EuroDOCSIS 3.0 Security (BPI+, EAE, SSD)
UPSTREAM	

HARDWARE FEATURES	
Channel Bonding	Up to 4
Maximum PHY Rate	Up to 143 Mbps
Frequency Range	DOCSIS/EuroDOCSIS 5-65 MHz (edge to edge),

WIRELESS FEATURES	
Wireless Standards	IEEE 802.11b/g/n 2.4GHz
Wireless Speeds	2.4GHz: Up to 300Mbps
Frequency	2.4GHz
EIRP	<30dBm(EIRP)
Wireless Functions	Enable/Disable Wireless Radio, WDS Bridge, WMM, Wireless Statistics
Wireless Security	64/128-bit WEP,WPA / WPA2,WPA-PSK/ WPA2-PSK encryption, Wireless MAC Filtering
Guest Network	2.4GHz guest network × 1
WPS	Support PIN and Push button

SOFTWARE FEATURES	
WAN Connection Type	Dynamic IP、Static IP、L2TP (Dynamic) 、L2TP (Static)
DHCP	Server, Client, DHCP Client List,
Port Forwarding	Virtual Server, Port Triggering, DMZ, ALGs
USB Sharing	Support Samba(Storage)/FTP Server/Media Server/Printer Server
Dynamic DNS	DynDns, NO-IP
IPv6	IPv6 and IPv4 dual stack
Security	NAT Firewall, SPI Firewall, Access Control, Denial of Service(DoS), SYN

<b>SOFTWARE FEATURES</b>	
	Flooding, Ping of Death MAC / IP / Port/ URL Filtering, Baseline Encryption (BPI)/ BPI+/ EAE/ SSD
<b>Management</b>	Web Based Configuration(HTTP), Command Line Interface; Remote management; Diagnostic Tools
<b>Advanced Features</b>	Parental Control, Network Address Translation (NAT); RIP v1/v2(optional); DNS, DNS Proxy, IGMP V1/V2/V3, UPnP
<b>OTHERS</b>	
<b>Certification</b>	RoHS, CE
<b>Package Contents</b>	TC-W7960 RJ-45 Ethernet Cable Quick Installation Guide Power Adapter
<b>Environment</b>	Operating Temperature: 0°C~40°C (32°F~104°F) Storage Temperature: -40°C~70°C (-40°F~158°F) Operating Humidity: 10%~90% non-condensing Storage Humidity: 5%~90% non-condensing

## Appendix B: Troubleshooting

### T1. What can I do if I cannot access the Internet?

- 1) Make sure the coaxial cable, Ethernet cable and power adapter are plugged in correctly.
- 2) Contact your ISP to make sure the modem router is activated.
- 3) Contact our Technical Support if the problem persists.

### T2. What can I do if the login page does not appear?

- 1) If the computer is set to a static or fixed IP address, change the setting to obtain an IP address automatically.
- 2) Make sure <http://tplinkmodem.net> or <http://192.168.1.1> is correctly entered in the web browser.
- 3) Use another web browser and try again.
- 4) Reboot your modem router and try again.
- 5) Disable then re-enable the network adapter being used.

### T3. How do I restore the modem router to its factory default settings?

- 1) With the modem router powered on, press and hold the **Reset** button on the rear panel of the modem router for approximately 8 seconds until all LEDs turn back on, then release the button.
- 2) Log in to the web management page of the modem router. Go to **Advanced > System tools > Backup & Restore** and click **Reset**. The modem router will restore and reboot automatically.

 **Note:**

Once the modem router is reset, the current configuration settings will be lost and you will need to re-configure the router.

### T4. What can I do if I forgot my password?

#### **For the web management page password:**

Restore the modem router to its factory default settings and use the default **admin** (all lowercase) for both username and password to log in.

#### **For the default wireless password:**

- 1) The default Wireless Password/PIN is printed on the product label of the modem router.
- 2) If the default wireless password has been changed, log in to the web management page and go to **Basic > Wireless** to retrieve or reset your password.

#### **For the Guest Network password:**

Log into the web management page and go to **Basic > Guest Network** to retrieve or reset the password.

### T5. What can I do if I cannot access the web-based management page?

- 1) If the computer is set to a static or fixed IP address, change the setting to obtain an IP address automatically.

#### **For Mac OS X**

- Click the **Apple** icon on the upper left corner of the screen.
- Go to “**System Preferences -> Network**”.
- Select **Airport** on the left menu bar, and then click **Advanced** for wireless configuration; or select **Ethernet** for wired configuration.
- In the **Con-figure IPv4** box under **TCP/IP**, select **Using DHCP**.
- Click **Apply** to save the settings.



#### **For Windows 7**

- Click “**Start -> Control Panel -> Network and Internet -> View network status -> Change adapter settings**”.
- Right-click **Wireless Network Connection** (or **Local Area Connection**), and then click **Properties**.
- Select **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
- Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Then click **OK**.

#### **For Windows XP**

- Click “**Start -> Control Panel -> Network and Internet Connections -> Network Connections**”.
- Right-click **Wireless Network Connection** (or **Local Area Connection**), and then click **Properties**.
- Select **Internet Protocol (TCP/IP)**, and then click **Properties**.
- Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Then click **OK**.

#### **For Windows 8**

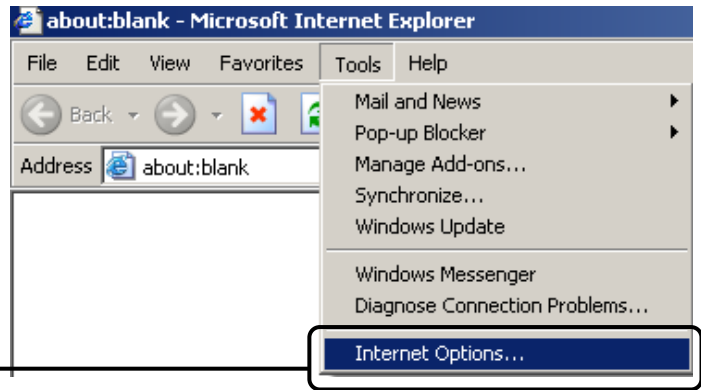
- Move your mouse to the lower right corner and you will see **Search** icon  in the Popups. Go to “ -> **Apps**”. Type **Control Panel** in the search box and press **Enter**, then you will go to **Control Panel**.
- Click “**View network status and tasks > Change adapter settings**”.
- Right-click “**Ethernet**” and then select **Properties**.
- Double-click **Internet Protocol Version 4 (TCP/IPv4)**. Select **Obtain an IP address automatically**, choose **Obtain DNS server address automatically** and then click **OK**.

- 2) Configure your IE browser

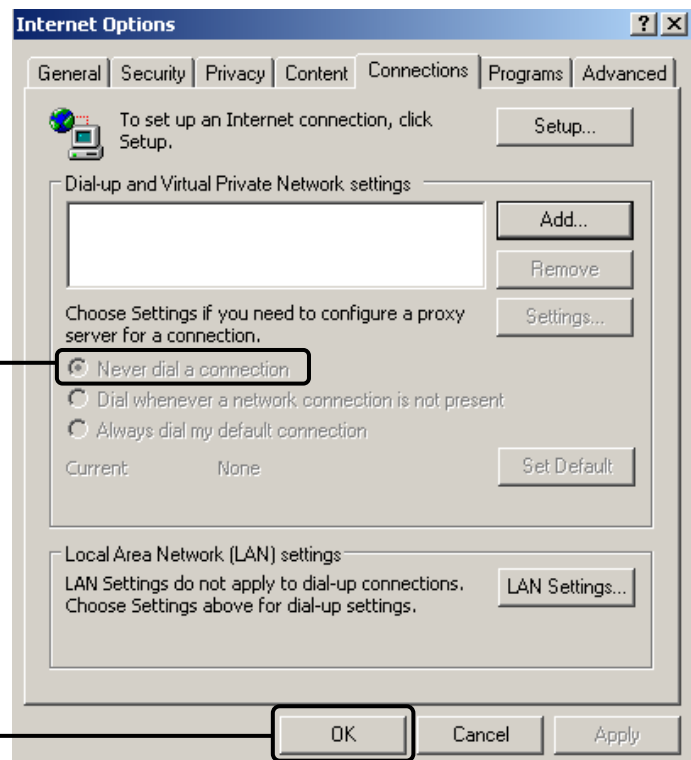


Open your IE browser, click **Tools** tab and you will see the following screen.

Click **Internet Options**



Select **Never dial a connection**



Click **OK**

Now, try to log into the web-based management page again after the above settings have been configured. If you still cannot access the configuration page, please restore your modem router's factory default settings and try to log into the web-based management page again. Please feel free to contact our Technical Support if the problem still exists.

**Note:**

For further assistance, contact Technical Support at 1-866-225-8139 or visit <http://www.tp-link.us/support/contact>.