



User Guide

N300 Wireless Gigabit VDSL/ADSL Modem Router
TD-W9977

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About This Guide

This guide is a complement to Quick Installation Guide. The Quick Installation Guide provides instructions for quick Internet setup, while this guide contains details of each function and demonstrates how to configure them in typical scenarios.

When using this guide, please notice that features of the router may vary slightly depending on the model and software version you have, and on your location, language, and Internet service provider. All images, parameters and descriptions documented in this guide are used for demonstration only.

Conventions

In this guide, the following conventions are used:

Convention	Description
<u>Blue Italic</u>	Hyperlinks are in teal and underlined. You can click to redirect to a website or a specific section.
Blue	Key information appears in teal, including management page text such as menus, items, buttons and so on.
>	The menu structures to show the path to load the corresponding page. For example, Advanced > Wireless > MAC Filtering means the MAC Filtering function page is under the Wireless menu that is located in the Advanced tab.
 Note:	Ignoring this type of note might result in a malfunction or damage to the device.
 Tips:	Indicates important information that helps you make better use of your device.
symbols on the web page	<ul style="list-style-type: none"> click to edit the corresponding entry. click to delete the corresponding entry. click to enable or disable the corresponding entry. click to view more information about items on the page.

More Info

- The latest software, management app and utility are available from [Download Center](#) at <http://www.tp-link.com/support>.
- The Quick Installation Guide (QIG) can be found where you find this guide or inside the package of the router.
- Specifications can be found on the product page at <http://www.tp-link.com>.
- A Technical Support Forum is provided for you to discuss our products at <http://forum.tp-link.com>.
- Our Technical Support contact information can be found at the [Contact Technical Support](#) page at <http://www.tp-link.com/support>.

Chapter 1

Get to Know Your Modem Router

This chapter introduces the modem router and shows its appearance.

It contains the following sections:

- [Product Overview](#)
- [Product Appearance](#)

1.1. Product Overview

TP-Link's Modem Router is a combined wired/wireless network connection device with integrated wireless router and DSL modem, reducing hassle of configuration and saving space.

With DSL and EWAN ports, the modem router is compatible with DSL connections and fiber/cable access.

With Ethernet ports and antennas, the modem router provides wired and wireless access for multiple computers and mobile devices.







With various features and functions, the modem router is the perfect hub of your home or business network.

1.2. Product Appearance

Top Panel



The top panel provides LEDs. You can check the modem router's working status by following the LED Explanation table.

LED	Status	Indication
 Power	On	System initialization complete.
	Flashing	System initializing or firmware upgrading is in process. Do not disconnect or power off the modem router.
	Off	Power is off. Please ensure that the power adapter is connected correctly.
 DSL	On	DSL synchronization is established.
	Flashing	DSL synchronization is in progress.
	Off	DSL synchronization failed. Please refer to Note 1 for troubleshooting.
 Internet	On	The network is available with a successful Internet connection.
	Off	No successful Internet connection is available, or the modem router is operating in Bridge mode. Please refer to Note 2 for troubleshooting.
 Wireless 2.4GHz	On	The wireless 2.4GHz band is working properly.
	Off	The wireless 2.4GHz band is disabled.
 WPS	On/Off	Turns On when a WPS synchronization is established and automatically turns Off about five minutes later.
	Flashing	A wireless device is trying to connect to the network via WPS. This process may take about 2 minutes.
 LAN	On	The corresponding LAN port is connected.
	Off	The corresponding port is not connected.

Note:

1. If the DSL LED is off, check your Internet connection first. Refer to [Connect Your Modem Router](#) for more information about how to make Internet connection correctly. If you have already made a right connection, contact your ISP to make sure your Internet service is available now.
2. If the Internet LED is off, check your DSL LED first. If your DSL LED is also off, please refer to [Note 1](#). If your DSL LED is ON, check your Internet configuration. You may need to check this part of information with your ISP and make sure everything have been input correctly.

Back Panel



The back panel provides buttons, connection ports, and antennas. Refer to the following for detailed instructions.

Item	Description
DSL Port	For connecting the modem router to the Internet. Connect the port to the splitter or directly connect the port to the phone jack via a phone cable. For details, please refer to Connect Your Modem Router .
LAN1, LAN2, LAN3, and LAN4/WAN Ports	For connecting to your PCs or other Ethernet network devices. In wireless router mode, the LAN4/WAN port is used for connecting to a Cable/FTTH/VDSL/ADSL device.
WPS Button	Press to start a WPS synchronization.
Wi-Fi Button	Press to turn 2.4GHz Wi-Fi on or off.
Reset Button	Press and hold for at least 8 seconds until all LEDs turn on momentarily to reset the modem router to factory default settings.
On/Off Button	Press to power on or off the modem router.
Power Port	For connecting the modem router to power socket via the provided power adapter.
Antennas	Used for wireless operation and data transmission. For the best Wi-Fi performance, we recommends that the outside two antennas be outward at about 30 degrees.

Chapter 2

Connect the Hardware

This chapter contains the following sections:


- [Position Your Modem Router](#)
- [Connect Your Modem Router](#)

2.1. Position Your Modem Router

With the modem router, you can access your network from anywhere within the wireless network coverage. However, the wireless signal strength and coverage vary depending on the actual environment of your modem router. Many obstacles may limit the range of the wireless signal, for example, concrete structures or thick walls.

For your safety and best Wi-Fi performance, please:

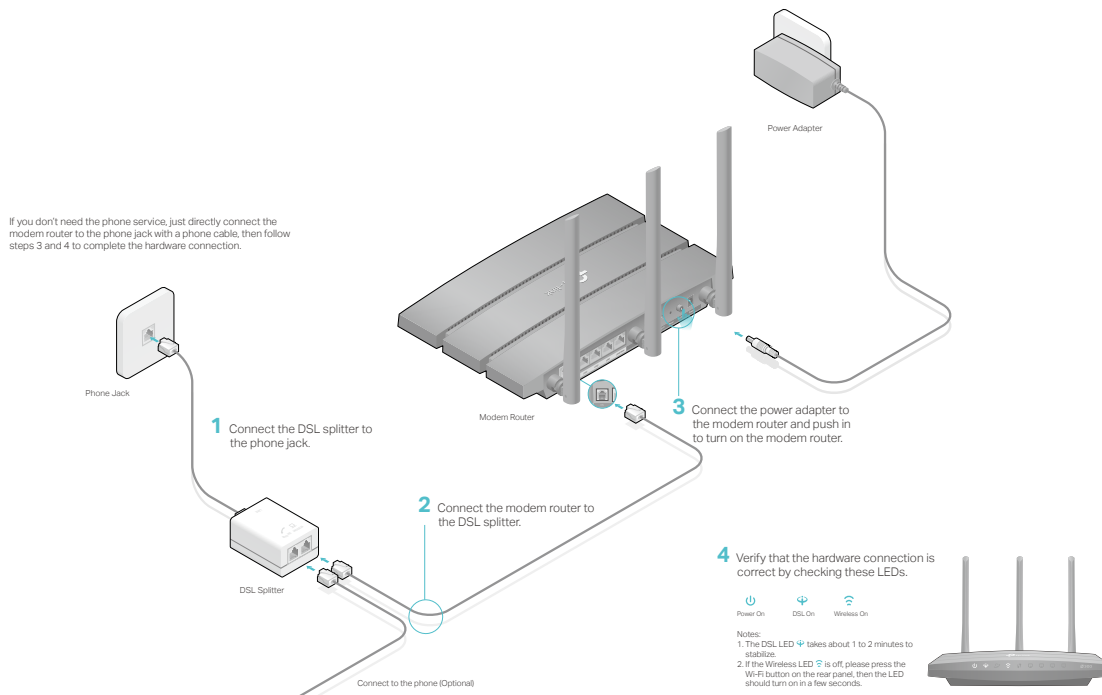
- Do Not locate the modem router in the place where it will be exposed to moisture or excessive heat.
- Keep away from the strong electromagnetic radiation and the device of electromagnetic sensitive.
- Place the modem router where it can be connected to the various devices as well as to a power source.
- Make sure the cables and power cord are safely placed out of the way to avoid a tripping hazard.
- Keep the outside two antennas be outward at about 30 degrees (recommended).

 **Tips:** The modem router can be placed on a shelf or desktop.

2.2. Connect Your Modem Router

Follow the steps below to connect your modem router.

1. Connect the DSL line and power adapter. The electrical outlet shall be installed near the device and shall be easily accessible.



2. Connect your computer to the modem router.

Method 1: Wired

Connect your computer's Ethernet port to a LAN port on the modem router via an Ethernet cable.

Method 2: Wireless

Connect wirelessly by using the default SSID (Wireless Network Name) and Wireless Password printed on the product label of the modem router.

Method 3: Use the WPS button

Wireless devices that support WPS, including Android phones, tablets, most USB network cards, can be connected to your router through this method. (WPS is not supported by iOS devices.)

Note:

The WPS function cannot be configured if the wireless function of the modem router is disabled. Also, the WPS function will be disabled if your wireless encryption is WEP. Please make sure the wireless function is enabled and is configured with the appropriate encryption before configuring the WPS.

- 1) Tap the WPS icon on the device's screen.
- 2) Immediately press the WPS button on your modem router.
- 3) The WPS LED flashes for about two minutes during the WPS process.
- 4) When the WPS LED is on, the client device has successfully connected to the modem router.



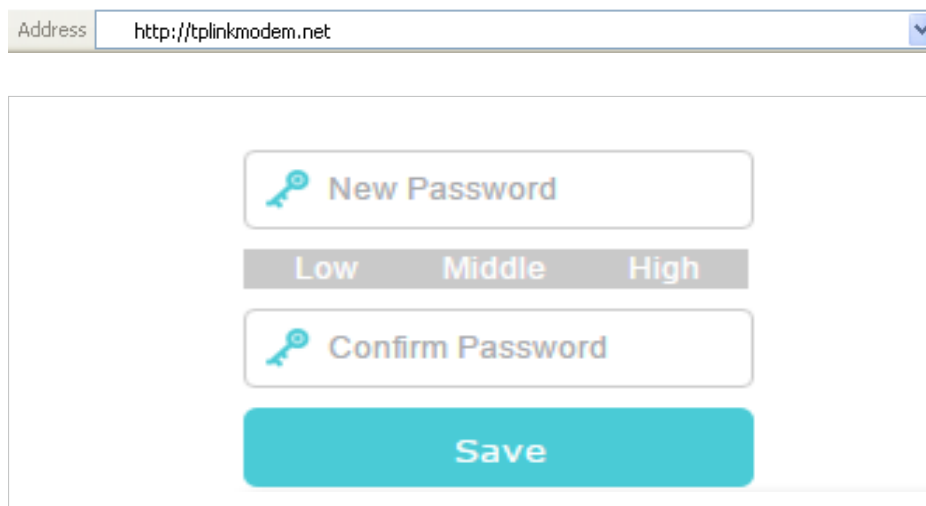
Chapter 3

Log in to Your Modem Router

With a web management page, it is easy to configure and manage the modem router. The web 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.

Follow the steps below to log into your modem router.

1. If the TCP/IP Protocol on your computer is set to the static (fixed) IP address, you need to change it to obtain an IP address automatically. Refer to [Appendix: Troubleshooting > How can I change my computer's setting to obtain an IP address automatically?](#) to configure your computer.
2. Launch a web browser and go to <http://tplinkmodem.net> or <http://192.168.1.1>. Create a strong password and click **Save**.

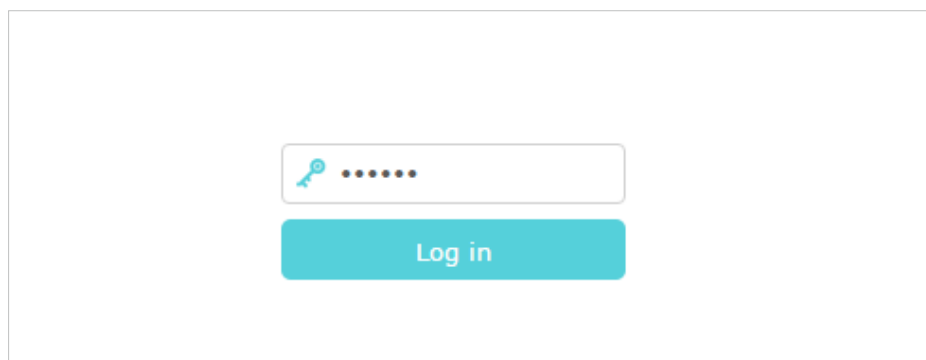


Address

Low Middle High

Save

3. Enter the password you created and click **Log in**.



Log in

Note: For subsequent logins, you only need to enter the password that you have created.

Chapter 4

Set Up Internet Connections

This chapter introduces how to connect your modem router to the Internet. The modem router is equipped with a web-based Quick Setup wizard. It has many ISP information built in, automates many of the steps and verifies that those steps have been successfully completed. Furthermore, you can also set up an IPv6 connection if your ISP provides IPv6 service.

This chapter includes the following sections:

- [Use Quick Setup Wizard](#)
- [Manually Set Up an Internet Connection](#)
- [Test Internet Connectivity](#)
- [Set Up an IPv6 Connection](#)
- [Wireless Router Mode](#)

4. 1. Use Quick Setup Wizard

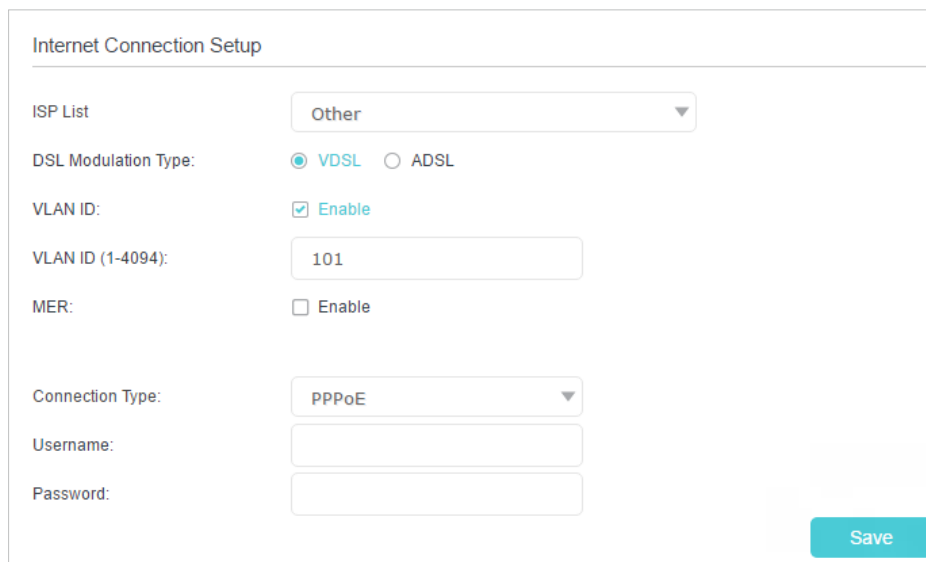
1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Select your [Region](#) and [Time Zone](#), then click [Next](#).
3. Follow the step-by-step instructions of the Quick Setup to complete the initial configuration.

■ **Note:**

During the quick setup process, you can change the preset wireless network name (SSID) and wireless password. After that, all your wireless devices must use the new SSID and password to connect to the modem router.

4. 2. Manually Set Up an Internet Connection

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Basic](#) > [Internet](#) page. Select your ISP, and related information will be automatically filled in. For some ISPs, you may need to manually specify some information provided. If you can't find your ISP in the [ISP List](#), select [Other](#) and then enter the information provided by your ISP.



The screenshot shows the 'Internet Connection Setup' form. It includes the following fields and options:

- ISP List:** A dropdown menu with 'Other' selected.
- DSL Modulation Type:** Radio buttons for 'VDSL' (selected) and 'ADSL'.
- VLAN ID:** A checkbox labeled 'Enable' which is checked.
- VLAN ID (1-4094):** A text input field containing '101'.
- MER:** A checkbox labeled 'Enable' which is unchecked.
- Connection Type:** A dropdown menu with 'PPPoE' selected.
- Username:** An empty text input field.
- Password:** An empty text input field.
- Save:** A blue button located at the bottom right of the form.

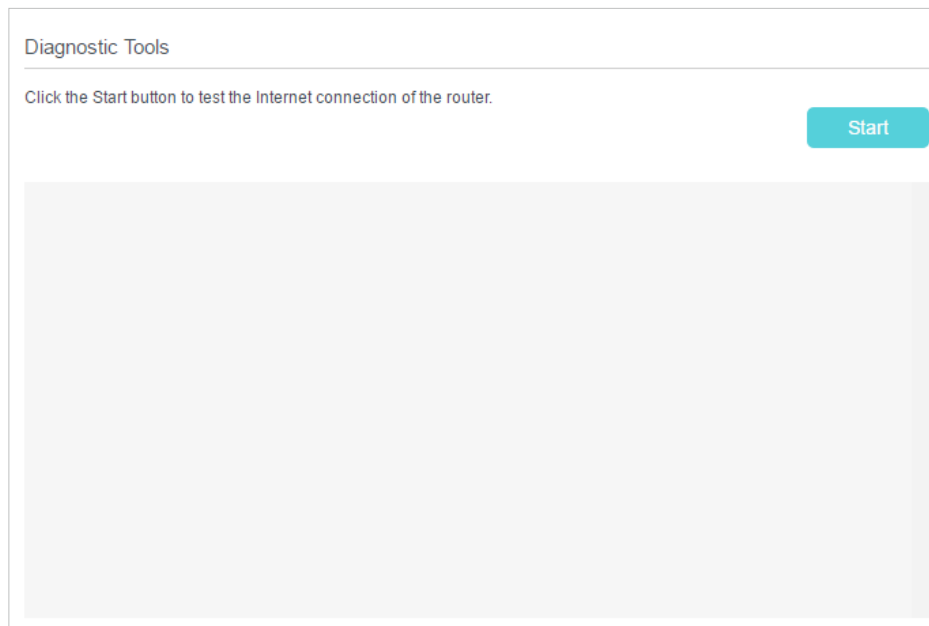
3. Click [Save](#) to make the settings effective, and you can refer to [Test Internet Connectivity](#) to test the Internet connection.

🔗 **Tips:** You can view and edit all Internet connections on [Advanced](#) > [Network](#) > [Internet](#) page.

4.3. Test Internet Connectivity

After manually setting up the Internet connection, you need to test the Internet connectivity. The modem router provides a diagnostic tool to help you locate the malfunction.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [System Tools](#) > [Diagnostics](#) page.



3. Click [Start](#) to test the Internet connectivity and you will see the test result in the gray box.

4.4. Set Up an IPv6 Connection

If your ISP has provided a DSL line that supports IPv6 connection as well as some detailed IPv6 parameters, you can manually set up an IPv6 connection.

If your ISP provides an IPv4-only connection or IPv6 tunnel service, permit IPv6 connection by referring to [Set Up the IPv6 Tunnel](#).

Follow the steps below to set up an IPv6 connection:

1. Make sure you have set up an IPv4 connection by using Quick Setup wizard or manually before setting up an IPv6 connection.
2. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
3. Go to [Advanced](#) > [Network](#) > [Internet](#) page.

WAN Interface Name	VPI/VCI or VID	Status	Operation	Modify
pppoe_8_35_1_d	8/35	Connected	Disconnect	

4. Select your WAN Interface Name (**Status** should be **Connected**) and click the (Edit) icon.
5. Scroll down the page, enable **IPv6**, and configure the IPv6 parameters.

IPv6: Enable

Addressing Type: SLAAC

IPv6 Gateway: Current Connection

Addressing Type: Consult your ISP for the addressing type, DHCPv6 or SLAAC. SLAAC is the most commonly used addressing type.

IPv6 Gateway: Keep the default setting as **Current Connection**.

Note: If your ISP has provided the IPv6 address, click **Advanced** to reveal more settings. Check to use IPv6 specified by ISP and enter the parameters provided by your ISP.

6. Click **OK** to make the settings effective. Now IPv6 service is available for your network.

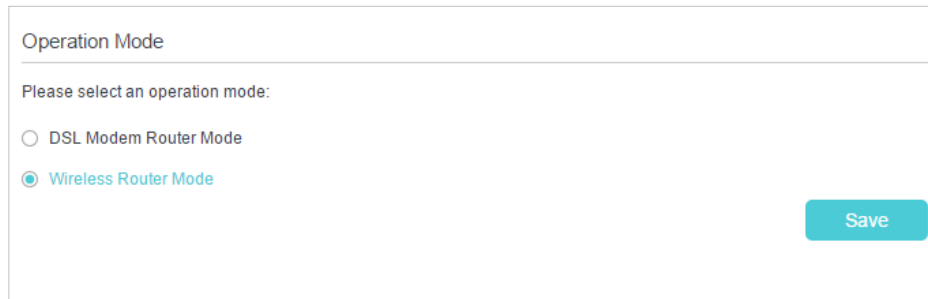
4. 5. Wireless Router Mode

The modem router supports two operation modes: DSL Modem Router Mode and Wireless Router mode. The modem router uses the DSL Modem Router Mode by default, but you can change the mode if needed.

For example, if you already have a modem or your Internet comes via an Ethernet jack on the wall, you can set up the modem router as a regular wireless router to share the Internet.

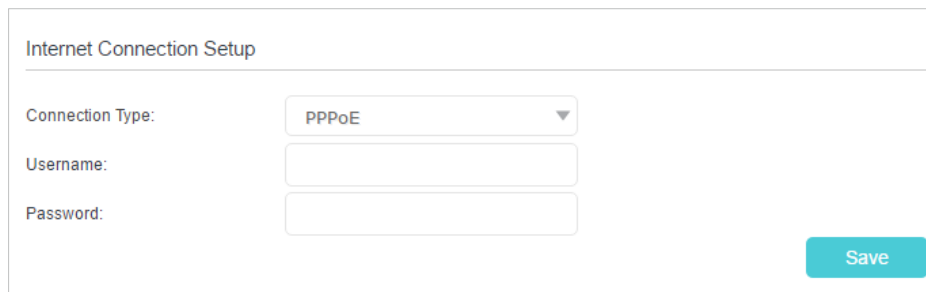
1. Find the WAN port (labeled as “WAN” or “LAN4/WAN”) on the modem router, and connect it to your existing modem or the Ethernet jack on the wall. Then connect the power adapter and turn on the modem router. If you connect an existing modem, reboot it to get the modem router connected to the Internet.

2. Connect your computer to the modem router. For details, refer to [Connect Your Modem Router](#).
3. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
4. Go to [Advanced](#) > [Operation Mode](#), select the [Wireless Router Mode](#), and click [Save](#).



The screenshot shows a web interface titled "Operation Mode". Below the title is a horizontal line. Underneath, the text "Please select an operation mode:" is displayed. There are two radio button options: "DSL Modem Router Mode" and "Wireless Router Mode". The "Wireless Router Mode" option is selected, indicated by a blue dot. A teal "Save" button is located in the bottom right corner of the form.

5. Go to [Basic](#) > [Internet](#), select the [Connection Type](#), and enter the information provided by your ISP.



The screenshot shows a web interface titled "Internet Connection Setup". Below the title is a horizontal line. There are three input fields: "Connection Type:" with a dropdown menu showing "PPPoE", "Username:" with a text input field, and "Password:" with a text input field. A teal "Save" button is located in the bottom right corner of the form.

6. Click [Save](#) to make the settings effective.

 **Tips:**

1. You can view and edit all Internet connections on [Advanced](#) > [Network](#) > [Internet](#) page.
2. In the Wireless Router Mode, you can also permit IPv6 connection by setting up an IPv6 connection or the IPv6 tunnel just as in the DSL Modem Router Mode. For details, refer to [Set Up an IPv6 Connection](#) and [Set Up the IPv6 Tunnel](#).

Chapter 5

Bandwidth Control

The Bandwidth Control feature is used to fully utilize your limited bandwidth and optimize the load respectively. With this feature enabled, you can assign a specific minimum or maximum bandwidth for each computer, thus minimizing the impact caused by heavy load.

I want to: Use an independent bandwidth and enjoy a good Internet experience without being affected by other users who are sharing the same router.

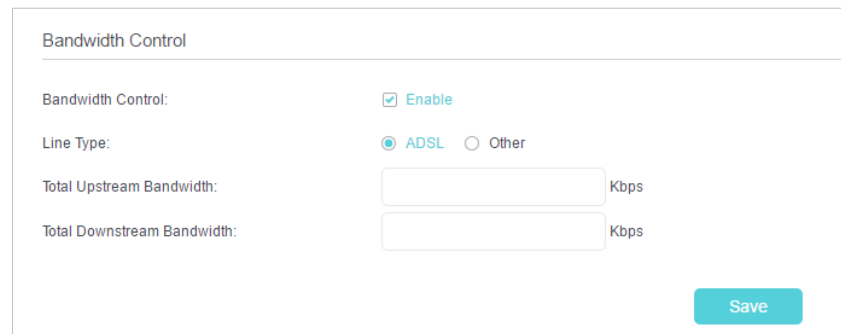
For example, my roommate and I share 512Kbps Upstream Bandwidth and 4Mbps Downstream Bandwidth via this router, she likes to watch live show and play online games, which may take up much bandwidth. I don't want to be affected, so we agree to equally distribute the bandwidth. The IP addresses of our computers are 192.168.1.101 and 192.168.1.110.

Tips: To use the bandwidth control feature, you'd better set static IP Address on each computer to be controlled or configure Address reservation on the modem router in order to manage it easily. About how to configure address reservation, please refer to [Reserve LAN IP Addresses](#).

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.

2. Go to [Advanced > Bandwidth Control](#) page.



The screenshot shows the 'Bandwidth Control' configuration page. It includes the following fields and options:

- Bandwidth Control:** A checkbox labeled 'Enable' which is checked.
- Line Type:** Two radio button options: 'ADSL' (selected) and 'Other'.
- Total Upstream Bandwidth:** An empty text input field followed by 'Kbps'.
- Total Downstream Bandwidth:** An empty text input field followed by 'Kbps'.
- Save:** A teal button located at the bottom right of the form.

3. Enable [Bandwidth Control](#).
4. Choose your [Line Type](#).
5. Enter the [Total Upstream Bandwidth](#) and [Total Downstream Bandwidth](#) given by your ISP (1Mbps=1024kbps). Click [Save](#) to save the settings.
6. Click [Add](#) to add a controlling rule.

Controlling Rules

+ Add - Delete

<input type="checkbox"/>	Description	Priority	Up (min/max)	Down (min/max)	Enable	Modify
--	--	--	--	--	--	--

IP Range: -

Port Range: -

Protocol:

Priority: (1 means the highest priority.)

Upstream: to







Downstream: to

Enable this entry

- 1) **IP Range:** Enter the IP address. The field can be single IP address or IP address range according to your demands. When you configure the single IP address, the computer with this IP address will get independent given bandwidth. When you configure the IP address range, all computers in the range will share the given bandwidth.
- 2) **Port Range:** Keep the default settings. The default port range of TCP protocol or UDP protocol is from 1 to 65535.
- 3) **Protocol:** Keep the default setting. Or you can choose the TCP protocol or UDP protocol or both of them.
- 4) **Priority:** Keep the default setting. You can change the value if you want to first guarantee the bandwidth for one computer. The smaller value has the higher priority.
- 5) **Upstream/Downstream:** Enter the bandwidth according to your division.
- 6) Check to enable this entry and click **OK** to save the settings.
7. Repeat Step 6 to add a rule for the other computer. And then you will get the following table.

Controlling Rules

[+ Add](#) [- Delete](#)

<input type="checkbox"/>	Description	Priority	Up (min/max)	Down (min/max)	Enable	Modify
<input type="checkbox"/>	192.168.1.101	5	250/500 kbps	2000/4000 kbps		 
<input type="checkbox"/>	192.168.1.110	5	250/500 kbps	2000/4000 kbps		 

Done!

Now you and your roommate have an independent bandwidth.

Chapter 6

Network Security

This chapter guides you on how to protect your home network from unauthorized users by implementing these three network security functions. You can block or allow specific client devices to access your wireless network using MAC Filtering, or using Access Control for wired and wireless networks, or you can prevent ARP spoofing and ARP attacks by using IP & MAC Binding.

- [MAC Filtering](#)
- [Access Control](#)
- [IP & MAC Binding](#)

6.1. MAC Filtering

This function exploits the uniqueness of the MAC (Medium Access Control) address, a unique 12-digit hexadecimal address (for example, D8:5D:4C:B4:46:EA) of every network device, to determine if the device can or cannot access your wireless network.

I want to: Prevent unauthorized users from accessing my wireless network by utilizing the network device's MAC address.

For example, I have a computer that is connected to my wireless network. Now, an unknown device (an intruder) is also using my wireless network, which affects my Internet speed. I would like to control my wireless network with the following capabilities:

- My computer is always allowed to access the wireless network.
- The unknown device is not allowed to access the wireless network.
- I don't have to keep changing my wireless password as often.

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the router.
2. Go to **Advanced > Wireless > MAC Filtering** and enable **Wireless MAC Filtering**.

MAC Filter Settings

Wireless MAC Filtering:

Filtering Rules

Select a filtering rule:

Block wireless access from the devices in the list below.

Allow wireless access only from the devices in the list below.

[Save](#)

Devices List

[+](#) Add [-](#) Delete

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

Devices Online

[Refresh](#) [Block](#)

<input type="checkbox"/>	ID	Device Name	IP Address	MAC Address	Connection Type
<input type="checkbox"/>	--	--	--	--	--

3. Select the filtering rule to either block (recommended) or allow the device(s) in the list.

To block/allow specific device(s)

- 1) Select [Block wireless access](#) from the devices in the list below or [Allow wireless access only from the devices in the list below](#) and click [Save](#).
- 2) Click [Add](#).

The screenshot shows a 'Devices List' window. At the top right, there are '+ Add' and '- Delete' buttons. Below is a table with the following columns: ID, MAC Address, Description, Enable, and Modify. The table currently contains one row with dashes in each cell. Below the table is a form with two input fields: 'MAC Address:' and 'Description:'. There is a checked checkbox labeled 'Enable this Entry' and two buttons: 'Cancel' and 'OK'.

- 3) Enter the [MAC Address](#) manually. (You can copy and paste the information from [Devices Online](#) table if the device is connected to your network).
- 4) Enter the [Description](#) of the device.
- 5) Select the check box to enable this entry, and click [OK](#).

Done!

Now MAC Filtering is implemented to protect your wireless network.

6.2. Access Control

Access Control is used to block or allow specific client devices to access your network (via wired or wireless) based on a list of blocked devices (Blacklist) or a list of allowed devices (Whitelist).

I want to:

Block or allow specific client devices to access my network (via wired or wireless).

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the router.
2. Go to [Advanced](#) > [Security](#) > [Access Control](#) and enable [Access Control](#).

Access Control

Access Control:

Access Mode

Default Access Mode: Blacklist
 Whitelist

[Save](#)

Devices in Blacklist

[+ Add](#) [- Delete](#)

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

Devices Online

[Refresh](#) [Block](#)

<input type="checkbox"/>	ID	Device Name	IP Address	MAC Address	Connection Type
<input type="checkbox"/>	1	tpuser	192.168.1.100	74:D4:35:9F:D8:B0	Wired

3. Select the access mode to either block (recommended) or allow the device(s) in the list.

To block specific device(s)

- 1) Select [Blacklist](#) and click [Save](#).
- 2) Select the device(s) to be blocked in the [Devices Online](#) table.
- 3) Click [Block](#) above the [Devices Online](#) table. The selected devices will be added to [Devices in Blacklist](#) automatically.

To allow specific device(s)

- 1) Select [Whitelist](#) and click [Save](#).
- 2) Click [Add](#).

Devices in Whitelist

[+ Add](#) [- Delete](#)

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

Device Name:

MAC Address:

[Cancel](#) [OK](#)

- 3) Enter the **Device Name** and **MAC Address** (You can copy and paste the information from **Devices Online** table if the device is connected to your network).
- 4) Click **OK**.

Done!

Now you can block or allow specific client devices to access your network (via wired or wireless) using the **Blacklist** or **Whitelist**.

6.3. IP & MAC Binding

IP & MAC Binding, namely, ARP (Address Resolution Protocol) Binding, is used to bind network device's IP address to its MAC address. This will prevent ARP spoofing and other ARP attacks by denying network access to a device with matching IP address in the Binding list, but unrecognized MAC address.

I want to:

Prevent ARP spoofing and ARP attacks.

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the router.
2. Go to **Advanced > Security > IP & MAC Binding** and enable **IP & MAC Binding**.

Settings

IP & MAC Binding:

Binding List

+ Add - Delete

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

ARP List

Refresh Bind

<input type="checkbox"/>	ID	Device Name	MAC Address	IP Address	Bound	Modify
<input type="checkbox"/>	1	BRCM-CM	E8:94:F6:DE:AD:07	192.168.1.86	Unloaded	
<input type="checkbox"/>	2	Unknown	50:E5:49:1E:06:80	192.168.1.200	Unloaded	
<input type="checkbox"/>	3	Unknown	A4:2B:B0:C2:6C:5A	192.168.1.70	Unloaded	

3. Bind your device(s) according to your needs.

To bind the connected device(s)

- 1) Select the device(s) to be bound in the **ARP List**.
- 2) Click **Bind** to add to the **Binding List**.

To bind the unconnected device

1) Click **Add**.

Binding List

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

MAC Address:

IP Address:

Enable

2) Enter the **MAC address** and **IP address** that you want to bind.

3) Select the check box to enable the entry and click **OK**.

Done!

Now you don't need to worry about ARP spoofing and ARP attacks.

Chapter 7

IPTV

IPTV is the abbreviation of Internet Protocol Television. The service can only be delivered through the Internet, and our modem router provides a specific LAN port for IPTV.

By automatically separating IPTV from Internet surfing, we guarantee you a high quality of video streaming and a high speed of Internet surfing.

I want to: Configure the modem router to enable Internet Protocol Television (IPTV) Services.

For example, I already bought IPTV service, but this service can only be delivered through the Internet. Therefore, I need to configure my modem router first.

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the router.
2. Go to **Advanced > IPTV** to open the configuration page.

IPTV Settings

IPTV: Enable IPTV

Select a LAN port for the IPTV connection and connect the set-top box to this port.

LAN Port: LAN1 LAN2 LAN3

Please set the following parameters for the IPTV connection.

VPI: (0-255)

VCI: (1-65535)

Save

3. Click **Enable IPTV** to enable this function.
4. Select your DSL modulation type.
5. Specify a LAN port for IPTV connection and connect the set-top box to this port.
6. If you select **VDSL** modulation type, check to enable VLAN and set the **VLAN ID**. If you select **ADSL**, fill in PVC parameters (**VPI** and **VCI**). VLAN ID and PVC parameters are all provided by your IPTV service provider.
7. Click **Save** to make the settings effective.

Done!

Configurations needed on modem router is done now! You may need other configurations on your set-top box before enjoying your TV.

Chapter 8

Parental Controls

This function allows you to block inappropriate, explicit and malicious websites, and control access to specified websites at specified time.

I want to:

Control the times of day my children or other home network users are allowed to access the Internet and even types of websites they can visit.

For example, I want to allow my children's devices (e.g. a computer or a tablet) to access only www.tp-link.com and Wikipedia.org from 18:00 (6PM) to 22:00 (10PM) on weekdays and not other time.

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the router.
2. Go to [Basic](#) or [Advanced](#) > [Parental Controls](#) and enable [Parental Controls](#).

Parental Controls

Status:

Devices Under Parental Controls

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

[Refresh](#) [+](#) Add [-](#) Delete

<input type="checkbox"/>	ID	Device Name	MAC Address	Effective Time	Description	Status	Modify
--	--	--	--	--	--	--	--

Content Restriction

Restriction Type: Blacklist Whitelist

[+](#) Add a New Keyword

Save

3. Click [Add](#).

Devices Under Parental Controls

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

[Refresh](#) [+](#) Add [-](#) Delete

<input type="checkbox"/>	ID	Device Name	MAC Address	Effective Time	Description	Status	Modify
--	--	--	--	--	--	--	--

Device Name: [View Existing Devices](#)


MAC Address:

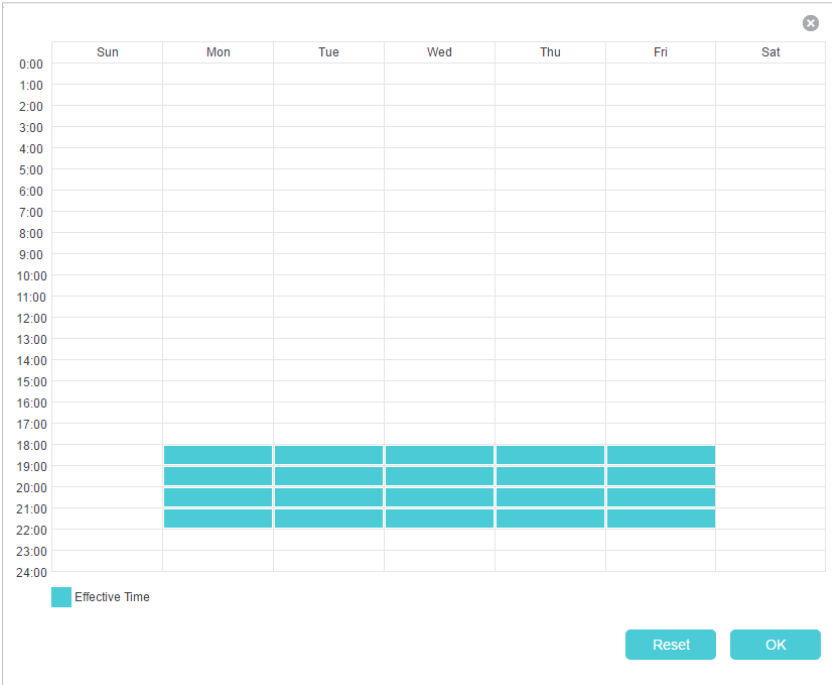
Effective Time:

Description:

Enable

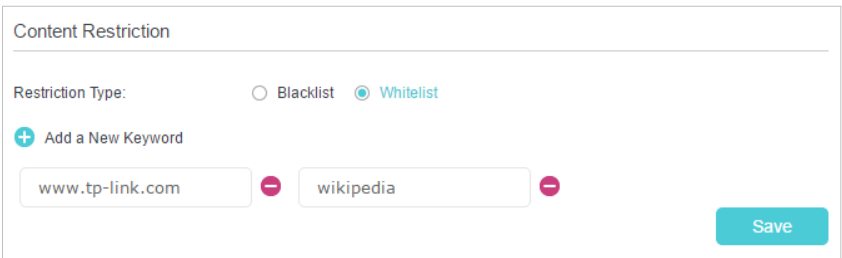
Cancel OK

4. Click [View Existing Devices](#), and select the device to be controlled. Or, enter the [Device Name](#) and [MAC Address](#) manually.
5. Click the  icon to set the [Effective Time](#). Drag the cursor over the appropriate cell(s) and click [OK](#).



The image shows a grid for selecting an effective time. The vertical axis represents time from 0:00 to 24:00 in one-hour increments. The horizontal axis represents the days of the week: Sun, Mon, Tue, Wed, Thu, Fri, and Sat. A legend at the bottom left indicates that teal-colored cells represent 'Effective Time'. In the grid, teal cells are present for Monday through Friday, covering the time interval from 18:00 to 22:00. At the bottom right of the grid, there are two buttons: 'Reset' and 'OK'.

6. Enter a [Description](#) for the entry.
7. Select the checkbox to enable this entry and click [OK](#).
8. Select the restriction mode.
 - 1) With [Blacklist](#) selected, the controlled devices cannot access any websites containing the specified keywords during the Effective Time period.
 - 2) With [Whitelist](#) selected, the controlled devices can only access websites containing the specified keywords during the Effective Time period.



The image shows a 'Content Restriction' configuration form. At the top, it is titled 'Content Restriction'. Below the title, there is a 'Restriction Type:' section with two radio buttons: 'Blacklist' (unselected) and 'Whitelist' (selected). Below this, there is a '+ Add a New Keyword' button. Underneath, there are two input fields for keywords: the first contains 'www.tp-link.com' and the second contains 'wikipedia'. Each input field has a red minus sign to its right. At the bottom right of the form, there is a 'Save' button.

9. Click [Add a New Keyword](#). You can add up to 200 keywords for both Blacklist and Whitelist. Below are some sample entries to allow access.
 - 1) Enter a web address (e.g. www.tp-link.com) or a web address keyword (e.g. wikipedia) to only allow or block access to the websites containing that keyword.
 - 2) If you wish to block all Internet browsing access, do not add any keyword to the [Whitelist](#).
10. Enter the keywords or websites you want to add and click [Save](#).

Done!

Now you can control your children's Internet access according to your needs.

Chapter 9

Guest Network

This function allows you to provide Wi-Fi access for guests without disclosing your main network. When you have guests in your house, apartment, or workplace, you can create a guest network for them. In addition, you can assign network authorities and bandwidth for guests to ensure network security, privacy, and fluency.

- [Create a Network for Guests](#)
- [Customize Guest Network Options](#)

9.1. Create a Network for Guests

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Guest Network](#). Locate the [Wireless](#) section.
3. Create a 2.4GHz guest network.

Wireless

2.4GHz Guest Network: Enable

Guest Network SSID: Hide SSID

Security: None WPA/WPA2 Personal

Version: Auto WPA2-PSK

Encryption: Auto TKIP AES

Password:

[Save](#)

- 1) Enable 2.4GHz guest network.
- 2) Set an easy-to-identify SSID. Don't select [Hide SSID](#) unless you want your guests and other people to manually input this SSID for Wi-Fi access.
- 3) Set [Security](#) to [WPA/WPA2 Personal](#), keep the default [Version](#) and [Encryption](#) values, and set an easy-to-remember password.
4. Click [Save](#). Now your guests can access your guest network using the SSID and password you set!

Tips:

To view guest network information, go to [Advanced](#) > [Status](#) and find the [Guest Network](#) section.

9.2. Customize Guest Network Options

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Guest Network](#). Locate the [Settings](#) section.

Settings

See each other: Allow guests to see each other

Access my local network: Allow guests to access my local network

Bandwidth Control: Enable guest network bandwidth control

[Save](#)

3. Assign network authorities and bandwidth according to your needs.

Note:

Some modem routers may not offer some of these guest network options.

- [Allow guests to see each other](#)

Select this check box to allow the clients in your guest network to access each other.

- [Allow guests to access my local network](#)

Select this check box to allow the clients in your guest network to access your local network, not just Internet access.

- [Enable guest network bandwidth control](#)

Select this check box to assign the upstream and downstream bandwidth of the guest network. This option is available only when Bandwidth Control is enabled on the [Advanced > Bandwidth Control](#) page.

Bandwidth Control:	<input checked="" type="checkbox"/> Enable guest network bandwidth control
Upstream (kbps):	<input type="text" value="100"/> - <input type="text" value="200"/>
Downstream (kbps):	<input type="text" value="100"/> - <input type="text" value="200"/>

[Save](#)

4. Click [Save](#). Now users in your guest network can enjoy only the network authorities and bandwidth you assigned!

Tips:

To view guest network information, go to [Advanced > Status](#) and find the [Guest Network](#) section.

Chapter 10

NAT Forwarding

Modem router's NAT (Network Address Translation) feature makes the devices in the LAN use the same public IP address to communicate in the Internet, which protects the local network by hiding IP addresses of the devices. However, it also brings about the problem that external host cannot initiatively communicate with the specified device in the local network.

With forwarding feature the modem router can penetrate the isolation of NAT and allows the external hosts in the Internet to initiatively communicate with the devices in the local network, thus to realize some special functions.

TP-Link modem router includes four forwarding rules. If two or more rules are set, the priority of implementation from high to low is Virtual Servers, Port Triggering, UPnP and DMZ.

This chapter contains the following sections:

- [Share Local Resources in the Internet by Virtual Server](#)
- [Open Ports Dynamically by Port Triggering](#)
- [Free Applications from Port Restriction by DMZ](#)
- [Make Xbox Online Games Run Smoothly by UPnP](#)

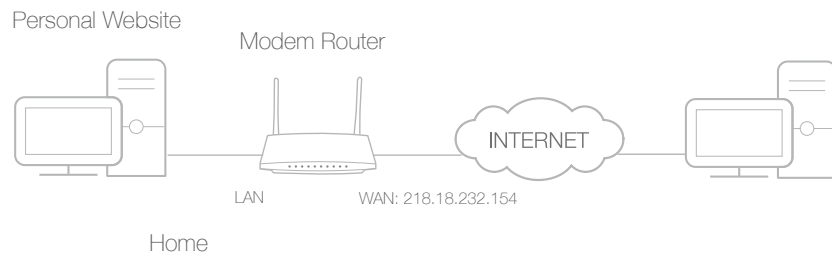
10. 1. Share Local Resources in the Internet by Virtual Server

When you build up a server in the local network and want to share it on the Internet, Virtual Server can realize the service and provide it to the Internet users. At the same time virtual server can keep the local network safe as other services are still invisible from the Internet.

Virtual server can be used for setting up public services in your local network, such as HTTP, FTP, DNS, POP3/SMTP and Telnet. Different service uses different service port. Port 80 is used in HTTP service, port 21 in FTP service, port 25 in SMTP service and port 110 in POP3 service. Please verify the service port number before the configuration.

I want to: Share my personal website I've built in local network with my friends through the Internet.

For example, the personal website has been built in my home PC (192.168.1.100). I hope that my friends in the Internet can visit my website in some way. The PC is connected to the modem router with the WAN IP address 218.18.232.154.



How can I do that?

1. Assign a static IP address to your PC, for example 192.168.1.100.
2. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
3. Go to **Advanced > NAT Forwarding > Virtual Servers**, click **Add**.

Virtual Servers

ID	Service Type	External Port	Internal IP	Internal Port	Protocol	Status	Modify
--	--	--	--	--	--	--	--

Interface Name: pppoe_8_31_1_d

Service Name: HTTP [View Existing Applications](#)

External Port: 80 (XX-XX or XX)

Internal IP: 192.168.1.100

Internal Port: 80 (XX or Blank, 1-65535)

Protocol: TCP

Enable this Entry

[Cancel](#) [OK](#)

4. Click [View Existing Services](#), and choose [HTTP](#). The external port, internal port and protocol will be automatically filled with contents. Enter the PC's IP address 192.168.1.100 in the [Internal IP](#) field.

5. Click [OK](#) to save the settings.

[Tips](#):

1. It is recommended to keep the default settings of [Internal Port](#) and [Protocol](#) if you are not clear about which port and protocol to use.
2. If the service you want to use is not in the [Service Type](#), you can enter the corresponding parameters manually. You should verify the port number that the service needs.
3. You can add multiple virtual server rules if you want to provide several services in a modem router. Please note that the [External Port](#) cannot be overlapped.

Done!

Users in the Internet can enter [http:// WAN IP](#) (in this example: [http:// 218.18.232.154](#)) to visit your personal website.

[Tips](#):

1. WAN IP should be a public IP address. For the WAN IP is assigned dynamically by ISP, it is recommended to apply and register a domain name for the WAN by DDNS, go to [Set Up a Dynamic DNS Service Account](#) for more information. Then you can use [http:// domain name](#) to visit the website.
2. If you have changed the default [External Port](#), you should use [http:// WAN IP: External Port](#) or [http:// domain name: External Port](#) to visit the website.

10.2. Open Ports Dynamically by Port Triggering

Port triggering can specify a triggering port and its corresponding external ports. When a host in the local network initiates a connection to the triggering port, all the external ports will be opened for subsequent connections. The modem router can record the IP address of the host. When the data from the Internet return to the external ports, the

modem router can forward them to the corresponding host. Port triggering is mainly applied to online games, VoIPs and video players. Common applications include MSN Gaming Zone, Dialpad and Quick Time 4 players, etc.

Follow the steps below to configure the port triggering rules:

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [NAT Forwarding](#) > [Port Triggering](#) and click [Add](#).

Port Triggering

+ Add - Delete

<input type="checkbox"/>	ID	Application	Triggering Port	Triggering Protocol	External Port	External Protocol	Status	Modify
--	--	--	--	--	--	--	--	--

Interface Name: pppoe_8_31_1_d

Application: MSN Gaming Zone [View Existing Applications](#)

Triggering Port: 47624 (XX)

Triggering Protocol: TCP

External Port: 2300-2400,28800-29000 (XX or XX-XX or XX,XX-XX)

External Protocol: TCP

Enable this Entry

Cancel OK

3. Click [View Existing Applications](#), and select the desired application. The triggering port and protocol, the external port and protocol will be automatically filled with contents. Here we take application [MSN Gaming Zone](#) as an example.
4. Click [OK](#) to save the settings.

Tips:

1. You can add multiple port triggering rules according to your network need.
2. If the application you need is not listed in the [Existing Applications](#) list, please enter the parameters manually. You should verify the external ports the application uses first and enter them into [External Port](#) field according to the format the page displays.

10.3. Free Applications from Port Restriction by DMZ

When a PC is set to be a DMZ (Demilitarized Zone) host in the local network, it is totally exposed to the Internet. This can realize the unlimited bidirectional communication between internal hosts and external hosts. The DMZ host becomes a virtual server with all ports opened. When you are not clear about which ports to open in some special

applications, like IP camera and database software, you can set the PC to be a DMZ host.

■ **Note:**

DMZ is more applicable in the situation that users are not clear about which ports to open. When it is enabled, the DMZ host is totally exposed to the Internet, which may bring some potential safety hazard. If DMZ is not in use, please disable it in time.

I want to: Make the home PC join the Internet online game without port restriction.

For example, Due to some port restriction, when playing the online games, you can login normally but cannot join a team with other players. To solve this problem, set your PC as a DMZ with all ports opened.

How can I do that?

1. Assign a static IP address to your PC, for example 192.168.1.100.
2. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
3. Go to **Advanced > NAT Forwarding > DMZ** and select the check box to enable DMZ.



4. Enter the IP address 192.168.1.100 in the **DMZ Host IP Address** field.
5. Click **Save** to save the settings.

Done!

The configuration is completed. You've set your PC to a DMZ host and now you can make a team to game with other players.

10.4. Make Xbox Online Games Run Smoothly by UPnP

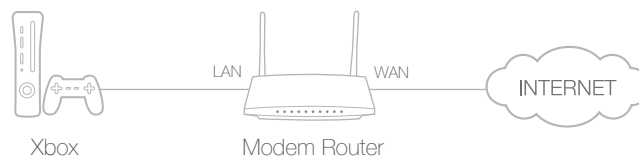
UPnP (Universal Plug and Play) protocol allows the applications or host devices to automatically find the front-end NAT device and send request to it to open the corresponding ports. With UPnP enabled, the applications or host devices in the both sides of NAT device can freely communicate with each other realizing the seamless connection of the network. You may need to enable the UPnP if you want

to use applications for multiplayer gaming, peer-to-peer connections, real-time communication (such as VoIP or telephone conference) or remote assistance, etc.

 **Tips:**

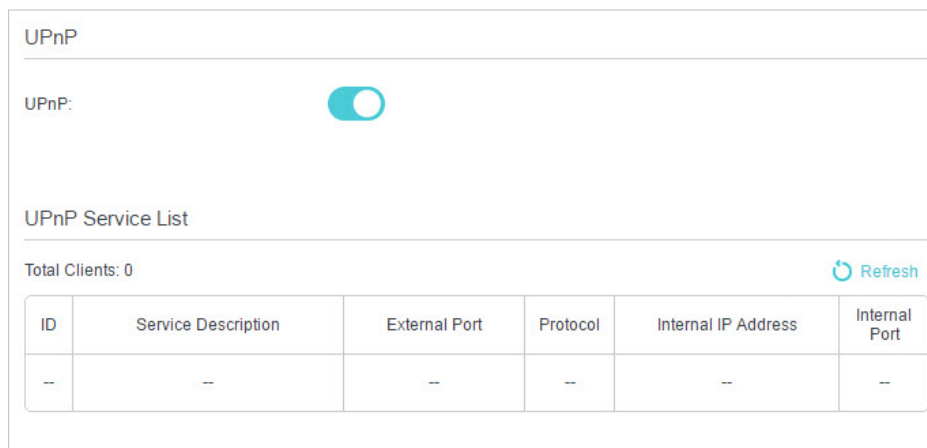
1. UPnP is enabled by default in this modem router.
2. Only the application supporting UPnP protocol can use this feature.
3. UPnP feature needs the support of operating system (e.g. Windows Vista/ Windows 7/ Windows 8, etc. Some of operating system need to install the UPnP components).

For example, When you connect your Xbox to the modem router which has connected to the Internet to play online games, UPnP will send request to the modem router to open the corresponding ports, which allows the following data penetrating the NAT to transmit. Therefore, you can play Xbox online games without a hitch.



If necessary, you can follow the steps to change the status of UPnP.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router;
2. Go to **Advanced > NAT Forwarding > UPnP** and toggle on or off according to your needs.



Chapter 11

Specify Your Network Settings

This chapter introduces how to change the default settings or adjust the basic configuration of the modem router using the web management page.

This chapter contains the following sections:

- [LAN Settings](#)
- [IPv6 LAN Settings](#)
- [Wireless Settings](#)
- [Set Up a Dynamic DNS Service Account](#)
- [Interface Grouping](#)
- [Create Static Routes](#)
- [Set up a VPN Connection](#)
- [Set Up the IPv6 Tunnel](#)

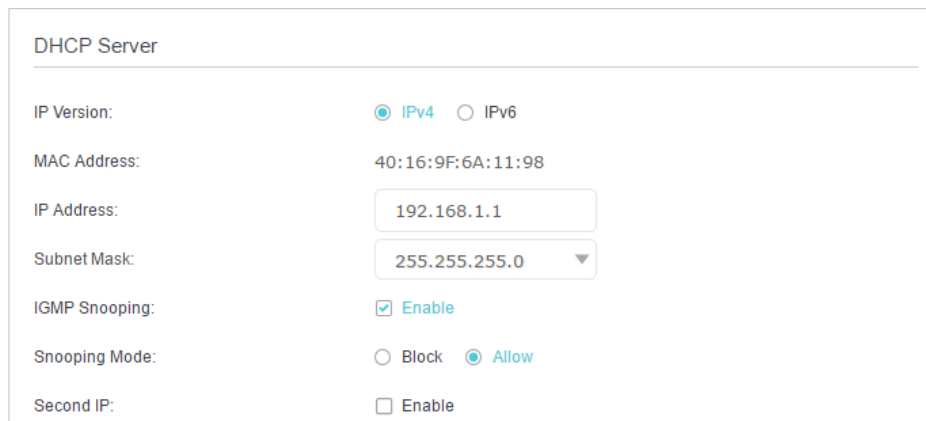
11.1. LAN Settings

11.1.1. Change the LAN IP Address

The modem router is preset with a default LAN IP 192.168.1.1, which you can use to log in to its web management page. The LAN IP address together with the Subnet Mask also defines the subnet that the connected devices are on. If the IP address conflicts with another device in your local network or your network requires a specific IP subnet, you can change it.

Follow the steps below to change your IP address.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [LAN Settings](#) page and select [IPv4](#).



DHCP Server

IP Version: IPv4 IPv6

MAC Address: 40:16:9F:6A:11:98

IP Address:

Subnet Mask:

IGMP Snooping: Enable

Snooping Mode: Block Allow

Second IP: Enable

3. Type in a new [IP Address](#) appropriate to your needs.
4. Select the [Subnet Mask](#) from the drop-down list. The subnet mask together with the IP address identifies the local IP subnet.
5. Keep [IGMP Snooping](#) as enabled by default. IGMP snooping is the process of listening to IGMP (Internet Group Management Protocol) network traffic. The function prevents hosts on a local network from receiving traffic for a multicast group they have not explicitly joined.
6. You can configure the modem router's [Second IP](#) and [Subnet Mask](#) for LAN interface through which you can also access the web management page.
7. Leave the rest of the default settings as they are.
8. Click [Save](#) to make the settings effective.

11. 1. 2. Use the Modem Router as a DHCP Server

You can configure the modem router to act as a DHCP server to assign IP addresses to its clients. To use the DHCP server function of the modem router, you must configure all computers on the LAN to obtain an IP Address automatically.

Follow the steps below to configure DHCP server.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [LAN Settings](#) page and select IPv4.

DHCP: Enable

DHCP Server DHCP Relay

IP Address Pool: 192.168.1.100 - 192.168.1.199

Address Lease Time: 1440 minutes. (1-2880. The default value is 1440.)

Default Gateway: 192.168.1.1 (optional)

Default Domain: (optional)

Primary DNS: 0.0.0.0 (optional)

Secondary DNS: 0.0.0.0 (optional)

Save

3. Select [DHCP](#) to enable the DHCP function and select [DHCP Server](#).
4. Specify the [IP Address Pool](#), the start address and end address must be on the same subnet with LAN IP. The modem router will assign addresses within this specified range to its clients. It is from 192.168.1.100 to 192.168.1.199 by default.
5. Enter a value for the [Address Lease Time](#). The [Address Lease Time](#) is the amount of time in which a DHCP client can lease its current dynamic IP address assigned by the modem router. After the dynamic IP address expires, the user will be automatically assigned a new dynamic IP address. The default is 1440 minutes.
6. Keep the rest of the settings as default and click [Save](#).

■ **Note:**

1. The modem router can be configured to work as a [DHCP Relay](#). A DHCP relay is a computer that forwards DHCP data between computers that request IP addresses and the DHCP server that assigns the addresses. Each of the device's interfaces can be configured as a DHCP relay. If it is enabled, the DHCP requests from local PCs will be forwarded to the DHCP server that runs on WAN side.
2. You can also appoint IP addresses within a specified range to devices of the same type by using [Condition Pool](#) feature. For example, you can assign IP addresses within the range (192.168.1.50 to 192.168.1.80) to Camera devices, thus facilitating the network management. Enable DHCP feature and configure the parameters according to your actual situation on [Advanced](#) > [Network](#) > [LAN Settings](#) page.

11. 1. 3. Reserve LAN IP Addresses

You can view and add a reserved address for a client. When you specify an IP address for a device on the LAN, that device will always receive the same IP address each time when it accesses the DHCP server. If there are some devices in the LAN that require permanent IP addresses, please configure Address Reservation on the router for the purpose.

Follow the steps below to reserve an IP address for your device.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [LAN Settings](#) page and select [IPv4](#).
3. Scroll down to locate the [Address Reservation](#) table and click [Add](#) to add an address reservation entry for your device.

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

<input type="checkbox"/>	MAC Address	Reserved IP	Group	Enable	Modify
--	--	--	--	--	--

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

- MAC Address:
- Reserved IP:
- Group:
- Enable this entry
- Buttons:

4. Enter the [MAC address](#) of the device for which you want to reserve IP address.
5. Specify the IP address which will be reserved by the router.
6. Check to [Enable this entry](#) and click [OK](#) to make the settings effective.

11. 2. IPv6 LAN Settings

Based on the IPv6 protocol, the modem router provides two ways to assign IPv6 LAN addresses:

- Configure the RADVD (Router Advertisement Daemon) address type
- Configure the DHCPv6 Server address type

11.2.1. Configure the RADVD Address Type

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [LAN Settings](#).
3. Select [IPv6](#) to configure IPv6 LAN parameters.

DHCP Server

IP Version: IPv4 IPv6

Group: Default

Address Type: RADVD DHCPv6 Server

Enable RDNSS

Enable ULA Prefix

Site Prefix Type: Delegated Static

Prefix Delegated WAN Connection: No available interface

Save

- 1) Select the [RADVD](#) address type to make the modem router assign IPv6 address prefixes to hosts.

Note:

Do not select the [Enable RDNSS](#) and [Enable ULA Prefix](#) check boxes unless required by your ISP. Otherwise you may not be able to access the IPv6 network. For more information about RDNSS and ULA Prefix, contact our technical support.

- 2) Keep [Site Prefix Type](#) as the default value [Delegated](#). If your ISP has provided a specific IPv6 site prefix, select [Static](#) and enter the prefix.
 - 3) Keep [Prefix Delegated WAN Connection](#) as the default value.
4. Click [Save](#) to make the settings effective.

11.2.2. Configure the DHCPv6 Server Address Type

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [LAN Settings](#).
3. Select [IPv6](#) to configure IPv6 LAN parameters.

DHCP Server

IP Version: IPv4 IPv6

Group: Default

Address Type: RADVD DHCPv6 Server

Starting IPv6 Address: :: 1 (1~FFFE)

Ending IPv6 Address: :: FFFE (1~FFFE)

Leased Time: 86400 seconds

Site Prefix Type: Delegated Static

Prefix Delegated WAN Connection: No available interface

[Save](#)

- 1) Select the **DHCPv6 Server** address type to make the modem router assign IPv6 addresses to hosts.
 - 2) Specify the **Start/End IPv6 Address** for the IPv6 suffixes. The modem router will generate IPv6 addresses within the specified range.
 - 3) Keep **Leased Time** as the default value.
 - 4) Keep **Site Prefix Type** as the default value **Delegated**. If your ISP has provided a specific IPv6 site prefix, select **Static** and enter the prefix.
 - 5) Keep **Prefix Delegated WAN Connection** as the default value.
4. Click **Save** to make the settings effective.

11.3. Wireless Settings

11.3.1. Specify Basic Wireless Settings

The modem router's wireless network name (SSID) and password, and security option are preset in the factory. The preset SSID and password can be found on the product label. You can customize the wireless settings according to your needs.

Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router. Go to **Basic > Wireless** page.

➤ **To enable or disable the wireless function:**

Enable the 2.4 GHz Wireless Network. If you don't want to use the wireless function, just deselect the box. If you disable the wireless function, all the wireless settings won't be effective.

➤ **To change the wireless network name (SSID) and wireless password:**

Enter a new SSID using up to 32 characters. The value is case-sensitive.

■ **Note:**

If you use a wireless device to change the wireless settings, you will be disconnected after the new settings are effective. Please write down the new SSID and password for future use.

➤ **To hide SSID:**

Select Hide SSID, and your SSID will not broadcast. Your SSID won't display on your wireless device when you scan for local wireless network list and you need to manually join the network.

➤ **To change the mode or channel:**

Go to [Advanced](#) > [Wireless](#) > [Wireless Settings](#) page.

Mode: Select the desired mode.

- 802.11n only: Select only if all of your wireless clients are 802.11n devices.
- 802.11gn mixed: Select if you are using both 802.11g and 802.11n wireless clients.
- 802.11bgn mixed: Select if you are using a mix of 802.11b, 11g, and 11n wireless clients.

■ **Note:** When 802.11n only mode is selected, only 802.11n wireless stations can connect to the modem router. It is strongly recommended that you select 802.11bgn mixed, and all of 802.11b, 802.11g, and 802.11n wireless stations can connect to the modem router.

Channel: Select the channel you want to use from the drop-down list. 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.

Channel Width: Select the channel width from the drop-down list. The default setting is [Auto](#), which can adjust the channel width for your clients automatically.

➤ **To change the security option:**

1. Go to [Advanced](#) > [Wireless](#) > [Wireless Settings](#) page.
2. Select an option from the [Security](#) drop-down list. The router provides four options, None, WPA/WPA2 Personal (Recommended), WPA/WPA2 Enterprise, WEP. WPA2 uses the newest standard and the security level is the highest. We recommend you don't change the default settings unless necessary.

11.3.2. Use WPS for Wireless Connection

You can use WPS (Wi-Fi Protected Setup) feature to add a new wireless device to your existing network quickly.

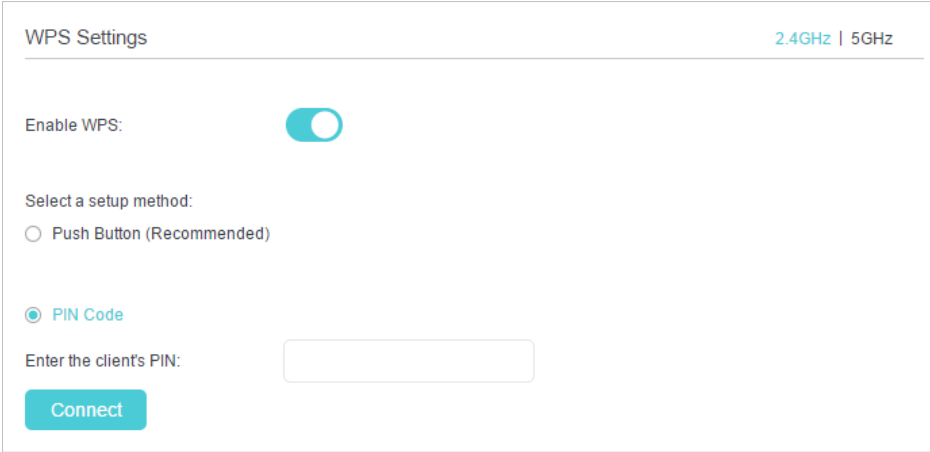
Method 1 Use the WPS Button

Use this method if your client device has a WPS button.

1. Press the WPS button the modem router for 1 second.
2. Press the WPS button of the client device directly.
3. The WPS LED flashes for about 2 minutes during the WPS process.
4. When the WPS LED is on, the client device has successfully connected to the modem router.

Method 2 Enter the client device's PIN on the modem router

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Wireless](#) > [WPS](#) page.



The screenshot shows the 'WPS Settings' page. At the top right, there are links for '2.4GHz' and '5GHz'. The 'Enable WPS' toggle is turned on. Under 'Select a setup method', the 'PIN Code' radio button is selected. Below that is an input field labeled 'Enter the client's PIN:' and a blue 'Connect' button.

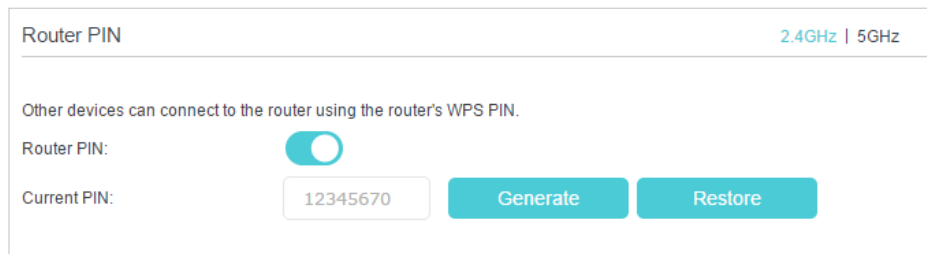
3. Keep the default WPS status as Enabled and select the [PIN Code](#) radio button.
4. Enter the client device's PIN in the field on the above WPS screen. Then click the [Connect](#) button.

5. **Connect successfully** will appear on the above screen, which means the client device has successfully connected to the modem router.

Method 3 Enter the modem router's PIN on your client device

Use this method if your client device asks for the modem router's PIN.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to **Advanced > Wireless > WPS** page.



3. Keep the Router's PIN status as enabled. Take a note of the Current PIN of the modem router. You can also click the **Generate** button to get a new PIN.
4. On the client device, enter the modem router's PIN. (The default PIN is also printed on the label of the modem router.)
5. The WPS LED flashes for about two minutes during the WPS process.
6. When the WPS LED is on, the client device has successfully connected to the modem router.

Note:

1. The WPS LED on the modem router will light on for five minutes if the device has been successfully added to the network.
2. The WPS function cannot be configured if the wireless function of the modem router is disabled. Please make sure the wireless function is enabled before configuring the WPS.

11.3.3. Schedule Your Wireless Function

You can automatically turn off your wireless network when you do not need the wireless connection.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to **Advanced > Wireless > Wireless Schedule** page.
3. Toggle on the button to enable the Wireless Schedule feature.

Wireless Schedule

Wireless Schedule:

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
0:00							
1:00							
2:00							
3:00							
4:00							
5:00							
6:00							
7:00							
8:00		■	■	■	■	■	
9:00		■	■	■	■	■	
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							

■ Wi-Fi Off

Restore Save

4. Set the time. Drag the cursor to cover the time area and click [Save](#) to make the settings effective. The selected time will be in red.


■ **Note:**

1. Make sure that the time of the router is correct before using this function. For details, refer to [Set System Time](#).
2. If you just set time for one wireless band, the other wireless band is still always on, so set time for both of the two bands to schedule your whole wireless network.
3. The wireless LED will turn off if the wireless network is disabled.
4. The wireless network will be automatically turned on after the time period you set.

11.3.4. View Wireless Information

➤ **To view the detailed wireless network settings:**

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Status](#) page. You can see the [Wireless](#) box.



Network Name:	TP-LINK_1198
Wireless Radio:	On
Mode:	802.11bgn mixed
Channel Width:	Auto
Channel:	Auto(1)
MAC Address:	40:16:9F:6A:11:98

🔗 Tips: You can also see the wireless details by clicking the router icon on [Basic > Network Map](#).

➤ **To view the detailed information of the connected wireless clients:**

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced > Wireless > Statistics](#) page.
3. You can view the detailed information of the wireless clients, including its connected wireless band and security option as well as the packets transmitted.

🔗 Tips: You can also see the wireless details by clicking the wireless clients icon on [Basic > Network Map](#).

11.3.5. Advanced Wireless Settings

Advanced wireless settings are for those who have a network concept. If you are not familiar with the settings on this page, it's strongly recommended that you keep the provided default values; otherwise it may result in lower wireless network performance.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced > Wireless > Advanced Settings](#) page.

Advanced Settings

Beacon Interval: (25-1000)

RTS Threshold: (1-2346)

DTIM Interval: (1-255)

Group Key Update Period: seconds

WMM: Enable

Short GI: Enable

AP Isolation: Enable

[Save](#)

WDS Settings(2.4GHz)

WDS Bridging: Enable WDS Bridging

[Save](#)

- **Beacon Interval:** Enter a value between 25 and 1000 in milliseconds to determine the duration between which beacon packets are broadcasted by the router to synchronize the wireless network. The default is 100 milliseconds.
- **RTS Threshold:** Enter a value between 1 and 2346 to determine the packet size of data transmission through the router. By default, the RTS (Request to Send) Threshold size is 2346. If the packet size is greater than the preset threshold, the router sends Request to Send frames to a particular receiving station and negotiates the sending of a data frame, or else the packet will be sent immediately.
- **DTIM Interval:** Enter a value between 1 and 255 to determine the interval of the Delivery Traffic Indication Message (DTIM). 1 indicates the DTIM Interval is the same as **Beacon Interval**.
- **Group Key Update Period:** Enter the number of seconds to control the time interval for the encryption key automatic renewal. The default is 0, indicating no key renewal.
- **WMM:** This feature guarantees the packets with high-priority messages being transmitted preferentially. WMM is enabled compulsively under 802.11n or 802.11ac mode. It is strongly recommended to enable WMM.
- **Short GI:** This feature is enabled by default and recommended to increase the data capacity by reducing the Guard Interval (GI) time.
- **AP Isolation:** Select this check box to enable the AP Isolation feature that allows you to confine and restrict all wireless devices on your network from interacting with each other, but still able to access the Internet. AP isolation is disabled by default.
- **WDS Bridging:** Select this check box to enable the WDS (Wireless Distribution System) Bridging feature to allow the router to bridge with another access point

(AP) in a wireless local area network (WLAN). Refer to [Appendix: Troubleshooting](#) for detailed instructions.

11.4. Set Up a Dynamic DNS Service Account

Most ISPs (Internet service providers) assign a dynamic IP address to the router and you can use this IP address to access your router remotely. However, the IP address can change any time and you don't know when it changes. In this case, you might need the DDNS (Dynamic Domain Name Server) feature on the router to allow you and your friends to access your router and local servers (FTP, HTTP, etc.) using domain name, in no need of checking and remembering the IP address.

Note: DDNS does not work if the ISP assigns a private WAN IP address (such as 192.168.1.x) to the modem router.

To set up DDNS, please follow the instructions below:

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [Dynamic DNS](#).
3. Select the [DDNS service provider](#) (DynDNS or NO-IP). If you don't have a DDNS account, select a service provider and click [Go to register](#).

4. Enter the username, password and domain name of the account (such as lisa.ddns.net).
5. Click [Login](#) and [Save](#).

Tips: If you want to use a new DDNS account, please Logout first, then login with the new account.

11.5. Interface Grouping

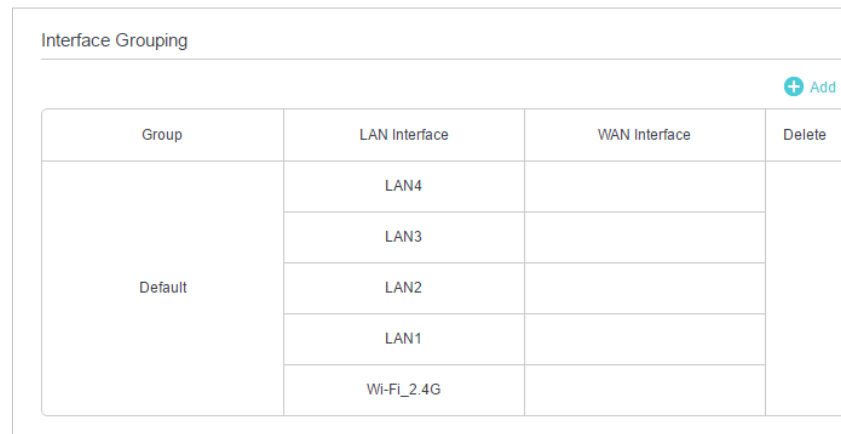
I want to: Divide my devices connected to the modem router into different groups and disallow devices' cross-group communication.

For example, in my house, devices connected to LAN1 and LAN3

are for work, while others for entertainment. I want to isolate working devices from others while keep all devices' access to the Internet.

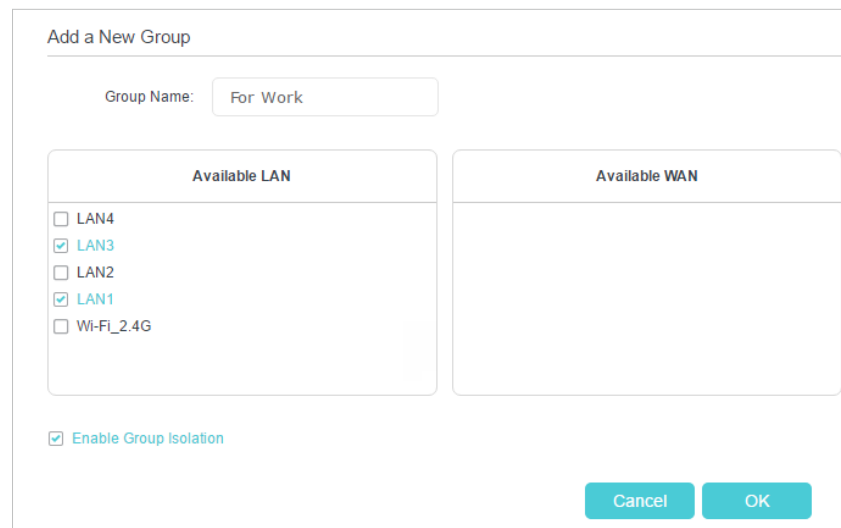
How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to **Advanced > Network > Interface Grouping** to open the configuration page where some interfaces can be grouped together.



Group	LAN Interface	WAN Interface	Delete
Default	LAN4		
	LAN3		
	LAN2		
	LAN1		
	Wi-Fi_2.4G		

3. Click to **Add** a new group.



Add a New Group

Group Name:

Available LAN

- LAN4
- LAN3
- LAN2
- LAN1
- Wi-Fi_2.4G

Available WAN

Enable Group Isolation

4. Name the group.
5. Check the boxes of **LAN1** and **LAN3** in Available LAN. Here **Wi-Fi 2.4G** network is also viewed as a LAN interface.
6. Click **Enable Group Isolation** to isolate working devices and disallow other devices from communicating with them.
7. Click **OK** to save the settings.

Done!

Now your working devices connected to LAN1 and LAN3 are in an isolated group!

■ **Note:** VLAN function is enabled by default. You cannot disable it when IPTV is enabled.

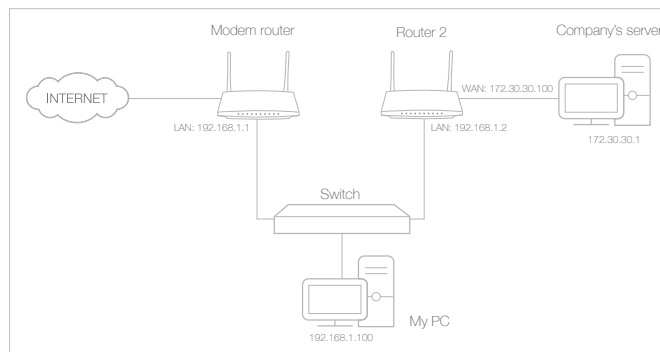
11.6. Create Static Routes

A static route is a pre-determined path that network information must travel to reach a specific host or network. Data from one point to another will always follow the same path regardless of other considerations. Normal Internet usage does not require this setting to be configured.

I want to:

Visit multiple networks and multiple servers at the same time.

For example, in a small office, my PC can surf the Internet, but I also want to visit my company's server. Now I have a switch and another router. I connect the devices as shown in the following figure so that the physical connection between my PC and my company's server is achieved. To surf the Internet and visit my company's network at the same time, I need to configure the static routing.

**How can I do that?**

1. Make sure the routers use different LAN IP addresses on the same subnet. Disable Router 2's DHCP function.
2. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
3. Go to **Advanced > Network > Advanced Routing**. Select your current **WAN Interface** and click **Save**.

Default Gateway Settings
IPv4 | IPv6

Select a WAN interface as the system default gateway.

Select WAN Interface:

[Save](#)

Static Routing

[+ Add](#) [- Delete](#)

<input type="checkbox"/>	ID	Destination IP	Subnet Mask	Gateway	Enable	Modify
--	--	--	--	--	--	--

- Click [Add](#) to add a new static routing entry. Finish the settings according to the following explanations:

Static Routing

[+ Add](#) [- Delete](#)

<input type="checkbox"/>	ID	Destination IP	Subnet Mask	Gateway	Enable	Modify
--	--	--	--	--	--	--

Destination IP:

Subnet Mask:

Gateway:

Interface:

[Enable this entry](#)

[Cancel](#) [OK](#)

- **Destination IP:** The destination IP address that you want to assign to a static route. This IP address cannot be on the same subnet with the WAN IP or LAN IP of the router. In the example, the IP address of the company network is the destination IP address, so here enters 172.30.30.1.
- **Subnet Mask:** Determines the destination network with the destination IP address. If the destination is a single IP address, enter 255.255.255.255; otherwise, enter the subnet mask of the corresponding network IP. In the example, the destination network is a single IP, so here enters 255.255.255.255.
- **Gateway:** The IP address of the gateway device to which the data packets will be sent. This IP address must be on the same subnet with the router's IP which sends out the data. In the example, the data packets will be sent to the LAN port of

Router 2 and then to the Server, so the default gateway should be 192.168.1.2.

- **Interface:** Determined by the port (WAN/LAN) that sends out the data packets. In the example, the data is sent to the gateway through the LAN port, so LAN should be selected.
5. Select the check box to enable this entry.
 6. Click **OK** to save the settings.

Done!

Open a web browser on your PC. Enter the company server's IP address to visit the company network.

11.7. Set up a VPN Connection

VPN (Virtual Private Network) is a private network established across the public network, generally via the Internet. However, the private network is a logical network without any physical network lines, so it is called Virtual Private Network.

With the wide application of the Internet, more and more data are needed to be shared through the Internet. Connecting the local network to the Internet directly, though can allow the data exchange, will cause the private data to be exposed to all the users on the Internet.

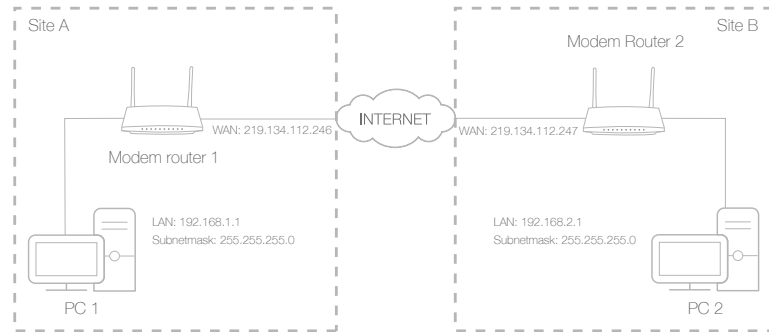
The VPN (Virtual Private Network) technology is developed and used to establish the private network through the public network, which can provides a secure communication to a remote computer or remote network, and guarantee a secured data exchange. IPSec is one of the major implementations of VPNs.

I want to:

Establish an IPSec VPN tunnel to connect two LANs via Internet so that the hosts in different remote LANs are able to communicate with each as if they are in the same LAN.

For example, I am the network administrator of a regional office, I need to let my office staff can visit the headquarter's servers and resources, and vice versa. I know that the modem router in my office and the device in headquarter both support IPSec VPN feature, so I decide to set up a VPN connection with the headquarter office.

The following diagram is a typical VPN topology. Here Site A refers to regional office's network (local network). And Site B refers to the headquarter's network (remote network) which I want to connect.



How can I do that?

1. Make sure of the topology you want to build and record site A (local network) and site B (remote network)'s LAN IP and WAN IP.
2. Configuration on site A (local network).
 - 1) Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
 - 2) Go to **Advanced** > **Network** > **IPSec VPN** to open the configuration page. Click **Add** to set up a VPN tunnel.

IPSec Settings

Dead Peer Detection:

+ Add - Delete

<input type="checkbox"/>	Connection Name	Remote Gateway	Local Address	Remote Address	Status	Enable	Modify
--	--	--	--	--	--	--	--

IPSec Connection Name:

Remote IPSec Gateway (URL): Site B's WAN IP

Tunnel access from local IP addresses:

IP Address for VPN: LAN IP range of Site A

Subnet Mask:

Tunnel access from remote IP addresses:

IP Address for VPN: LAN IP range of Site B

Subnet Mask:

Key Exchange Method:

Authentication Method:

Pre-Shared Key:

Perfect Forward Secrecy:

Advanced

- 3) In the **IPSec Connection Name** column, specify a name.
- 4) In the **Remote IPSec Gateway (URL)** column, Enter Site B's WAN IP address.
- 5) Configure **Site A's LAN**.

In the **Tunnel access from local IP addresses** column, here we take **Subnet Address** as an example. Then input the LAN IP range of Site A in the **IP Address for VPN** column, and input **Subnet Mask** of Site A.

- 6) Configure **Site B's LAN**.

In the **Tunnel access from local IP addresses** column, here we take **Subnet Address** as an example. Then input the LAN IP range of Site B in the **IP Address for VPN** column, and input **Subnet Mask** of Site B.

- 7) Select the **Key Exchange Method** for the policy. We select **Auto(IKE)** here.
- 8) Enter the **Pre-Shared Key** for IKE authentication. Then keep **Perfect Forward Secrecy** enabled.

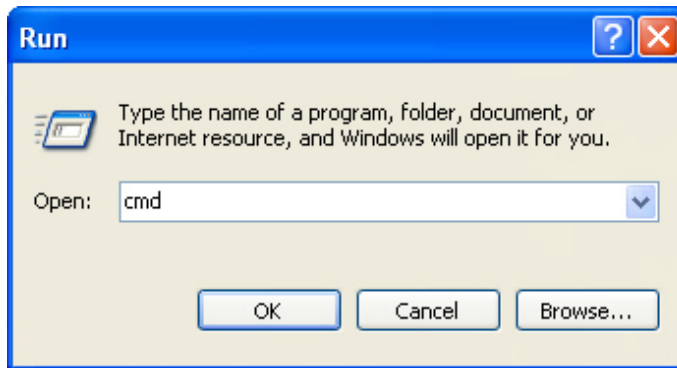
Note:

Make sure Site A and Site B use the same key.

- 9) Leave the **Advanced** Settings as default value. Then click **OK** to save.
3. Configuration on Site B (remote network). Refer to step 2 configuration on Site A and make sure that Site A and Site B use the same **pre-shared keys** and **Perfect Forward Secrecy** settings.
4. The **Status** column will change to **UP** if the VPN connection has been set up successfully.
5. Check the VPN connection. You can ping site B' LAN IP from your computer in site A to verify that the IPsec VPN connection is set up correctly.

☞ **Tips:** To check the VPN connection, you can do the following.

1. On the host in Site A, press [Windows Logo] + [R] to open Run dialog. Input "cmd" and hit OK.



2. In the CLI window, type in "ping 192.168.2.x" ("192.168.2.x" can be IP address of any host in Site B). Then press [Enter].

```

C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Users\Administrator>ping 192.168.2.100

Pinging 192.168.2.100 with 32 bytes of data:

Reply from 192.168.2.100: bytes=32 time<1ms TTL=128
Reply from 192.168.2.100: bytes=32 time<1ms TTL=128
Reply from 192.168.2.100: bytes=32 time<1ms TTL=128
Reply from 192.168.2.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.2.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Administrator>

```

3. If Ping proceeds successfully (gets replies from host in Site B), the IPsec connection is working properly now.

Done! Now IPsec VPN is implemented to establish a connection.

Note:

1. The product supports a maximum of ten simultaneous connections.
2. If one of the site has been offline for a while, for example, if Site A has been disconnected, on Site B you need to click [Disable](#) and then click [Enable](#) after Site A back on line in order to re-establish the IPsec tunnel.

11.8. Set Up the IPv6 Tunnel

The IPv6 Tunnel feature helps you obtain IPv6 resources based on an IPv4 WAN connection or vice versa.

IPv6 Tunnel is a transition mechanism that enables IPv6-only hosts to reach IPv4 services or vice versa and allows isolated IPv6 hosts and networks to reach each other over IPv4-only infrastructure before IPv6 completely supplants IPv4. It is a temporary solution for networks that do not support native dual-stack, where both IPv6 and IPv4 run independently.

The modem router provides three tunneling mechanisms: [6to4](#), [6rd](#) and [DS-Lite](#). The way to set up 6rd and DS-Lite tunnel are similar.

11.8.1. Use the Public IPv6 Tunnel Service-6to4

The 6to4 tunnel is a kind of public service. If there is any 6to4 server in your network, you can use this mechanism to access IPv6 service. If your ISP provides you with an IPv4-only connection but you want to visit IPv6 websites, you can try to set up a 6to4 tunnel.

I want to: Set up the IPv6 tunnel though my ISP doesn't provide me with the tunnel service.

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [IPv6 Tunnel](#).
3. Tick the check box, select [6to4](#) as the tunneling mechanism and select a WAN connection from the drop-down list, then click [Save](#).

IPv6 Tunnel

Note: You must reconfigure the IPv6 Tunnel settings every time you reboot the router. Make sure the desired WAN connection is connected before the configuration.

IPv6 Tunnel: [Enable](#)

Tunneling Mechanism: 6to4

WAN Connection: pppoe_8_31_1_d

[Save](#)

Note:

If there is no available WAN connection to choose, make sure you have connected to the Internet and the connection type is not Bridge.

Done!

Now you can visit the IPv6 websites with the 6to4 tunnel.

Note:

Still not being able to access IPv6 resources means that not any 6to4 public server was found in your network. You can contact your ISP to sign up for IPv6 connection service.

11.8.2. Specify the 6rd Tunnel with Parameters Provided by Your ISP

I want to:

Specify the 6rd tunnel with the parameters provided by my 6rd tunnel service provider.

How can I do that?

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [IPv6 Tunnel](#).
3. Tick the check box, select [6rd](#) as the tunneling mechanism and select a WAN connection from the drop-down list.
4. According to the parameters provided by your ISP, choose [Auto](#) or [Manual](#). More parameters are needed if you choose [Manual](#).
5. Click [Save](#).

IPv6 Tunnel

Note: You must reconfigure the IPv6 Tunnel settings every time you reboot the router. Make sure the desired WAN connection is connected before the configuration.

IPv6 Tunnel: [Enable](#)

Tunneling Mechanism:

WAN Connection:

Configuration Type: [Auto](#) [Manual](#)

IPv4 Mask Length:

6rd Prefix:

6rd Prefix Length:

Border Relay IPv4 Address:

[Save](#)

Note:

If there is no available WAN connection to choose, make sure you have connected to the Internet and the connection type is not Bridge.

Done!

Now you can visit the IPv6 websites with the 6rd tunnel.

Tips:

The way to set up DS-Lite tunnel is similar to that of 6rd tunnel. If you are provided with an IPv6-only WAN connection and have signed up for DS-Lite tunnel service, specify the DS-Lite tunnel by referring to the steps above.

Chapter 12

Administrate Your Network

This chapter introduces how to change the system settings and administrate your modem router's network.

This chapter contains the following sections:

- [Set System Time](#)
- [Update the Firmware](#)
- [Back up and Restore Configuration Settings](#)
- [Change the Administrator Account](#)
- [Local Management](#)
- [Remote Management](#)
- [System Log](#)
- [Monitor the Internet Traffic Statistics](#)
- [CWMP Settings](#)
- [SNMP Settings](#)

12.1. Set System Time

System time is the time displayed while the modem router is running. The system time you configure here will be used for other time-based functions like Parental Controls and Wireless Schedule. You can manually set how to get the system time.

Follow the steps below to set your system time.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [System Tools](#) > [Time Settings](#) page.

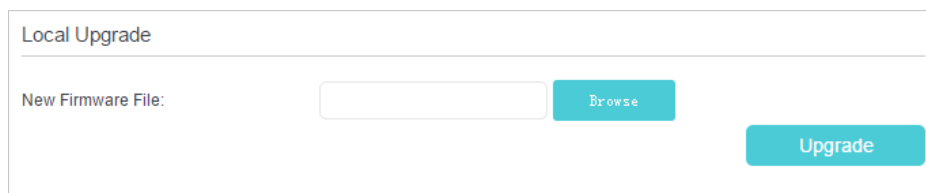
3. Configure the system time using the following methods:
 - Manually:** Select your time zone and enter your local time.
 - Get from PC:** Click this button if you want to use the current managing PC's time.
 - Get GMT:** Click this button if you want to get time from the Internet. Make sure your modem router can access the Internet before you select this way to get system time.
4. Click [Save](#).
5. After setting the system time, you can set [Daylight Saving Time](#) according to your needs. Tick the checkbox to enable [Daylight Saving Time](#), set the start and end time and then click [Save](#) to make the settings effective.

12.2. Update the Firmware

TP-Link is dedicated to improving and enriching the product features, giving you a better network experience. We will release the latest firmware at TP-Link official website, you can download the latest firmware file from our website: www.tp-link.com and upgrade the firmware to the latest version.

Follow the steps below to update your firmware to the latest.

1. Download the latest firmware file for the router from our website www.tp-link.com.
2. Visit <http://tplinkmodem.net>, and log in with the password you set for the router.
3. Go to **Advanced > System Tools > Firmware Upgrade**.
4. Focus on the Device Information section. Make sure the downloaded firmware file matches with the **Hardware Version**.
5. Focus on the **Local Upgrade** section. Click **Browse** to locate the downloaded new firmware file, and click **Upgrade**.



The screenshot shows a web interface titled "Local Upgrade". Below the title is a horizontal line. Underneath, there is a label "New Firmware File:" followed by a text input field. To the right of the input field is a teal button labeled "Browse". Further to the right is another teal button labeled "Upgrade".

6. Wait a few moments for the upgrading and rebooting.

12.3. Back up and Restore Configuration Settings

The configuration settings are stored as a configuration file in the router. You can back up the configuration file to your computer for future use and restore the modem router to a previous settings from the backup file when needed. Moreover, if needed you can erase the current settings and reset the modem router to the default factory settings.

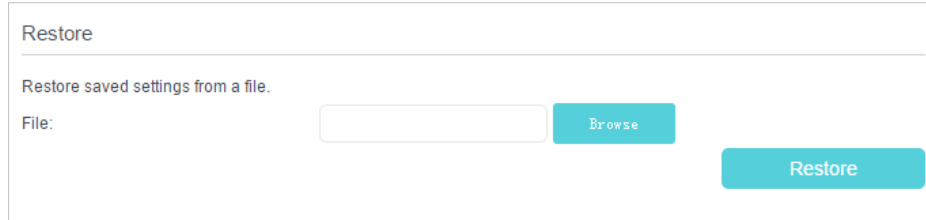
To back up configuration settings

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Click **Advanced > System Tools > Backup & Restore** page.
3. Click **Backup** to save a copy of the current settings to your local computer. A conf. bin file will be stored to your computer.

To restore configuration settings

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.

2. Click [Advanced](#) > [System Tools](#) > [Backup & Restore](#) page.



3. Click [Browse](#) to locate the previous backup configuration file, and click [Restore](#).
4. Wait for the restoring and then the modem router will automatically reboot.

To reset the modem router to factory default settings

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Click [Advanced](#) > [System Tools](#) > [Backup & Restore](#) page.
3. Click [Factory Restore](#) to reset the modem router.
4. Wait for the resetting and then the modem router will automatically reboot.

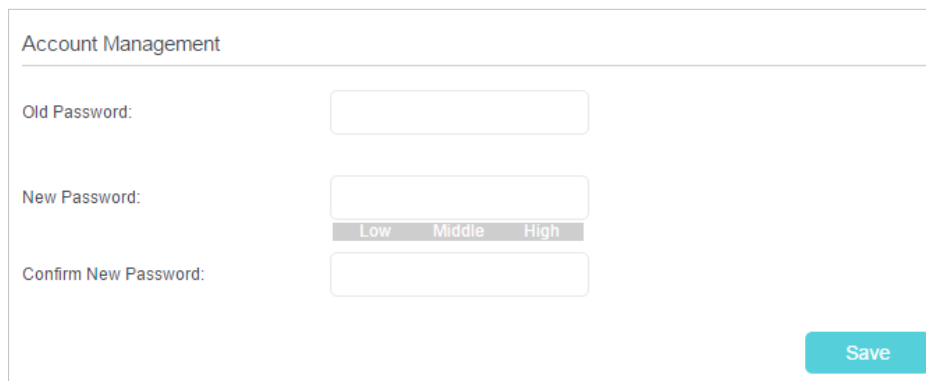
Note:

1. During the resetting process, do not turn off the modem router.
2. We strongly recommend you back up the current configuration settings before resetting the modem router.

12.4. Change the Administrator Account

Admin account is used to log in to the modem router's web management page. You are required to set the admin account at first login. You can also change it on the web page.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [System Tools](#) > [Administration](#) page. Locate the [Account Management](#) section.



3. Enter the old password. Enter the new password and enter again to confirm.

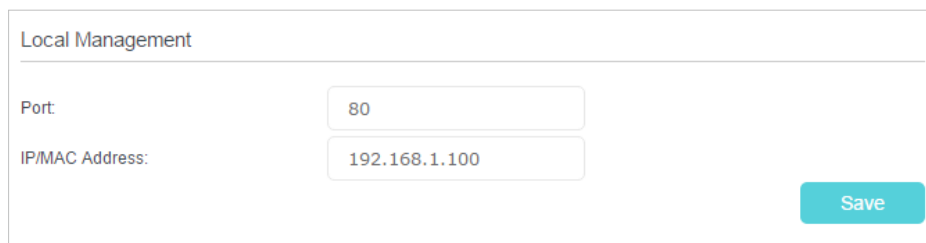
4. Click [Save](#) to make the settings effective.

12.5. Local Management

You can control the local devices' authority to manage the modem router via Local Management feature. By default all local connected devices are allowed to manage the modem router. You can also allow only one device to manage the modem router.

Follow the steps below to specify the local management.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [System Tools](#)> [Administration](#) page. Locate the [Local Management](#) section.
3. Keep the Port as the default setting. Enter the [IP address](#) or [MAC address](#) of the local device to manage the modem router.



Local Management

Port:

IP/MAC Address:

[Save](#)

4. Click [Save](#) to make the settings effective. Now only the device (192.168.1.100) can manage the modem router. If you want that all local devices can manage the modem router, just leave the [IP/MAC Address](#) field blank.

12.6. Remote Management

By default, the remote devices are not allowed to manage the modem router from the Internet.

Follow the steps below to allow remote devices to manage the modem router.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [System Tools](#)> [Administration](#) page. Locate the [Remote Management](#) section.

Remote Management

Remote Management Enable

Remote Management Address of this Device:

Port: 80

IP Address Alled for Remote Management:

Only this IP/MAC Address

Everyone

Save

3. Tick the checkbox to enable [Remote Management](#). Keep the [Port](#) as the default setting. Leave the [IP/MAC Address](#) field blank. If you just want to allow a specific device to manage the modem router, you can enter the IP address of the remote device in the IP/MAC Address field.
4. Click [Save](#) to make the settings effective. Now, all devices on the Internet can log in to <http://modem router's WAN IP address : port number> (such as <http://113.116.60.229:80>) to manage the modem router.

Tips:

1. You can find the WAN IP address of the router on [Basic > Network Maps > Internet](#).
2. The router's WAN IP is usually a dynamic IP. Please refer to [Set Up a Dynamic DNS Service Account](#) if you want to log in to the router through a domain name.

12.7. System Log

System Log can help you know what happened to your modem router, facilitating you to locate the malfunctions. For example when your modem router does not work properly, you will need to save the system log and send it to the technical support for troubleshooting.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Click [Advanced > System Tools > System Log](#) page.

System Log

Type: ALL

Level: Debug

↻ Refresh
 ✖ Delete All

ID	Time	Type	Level	Log Content
1	1970-01-01 04:55:15	HTTPD	Notice	Clear log.

Log Settings
Save Log

To view the system logs:

You can view specific system logs by selecting the log Type and Level.

Click [Refresh](#) to refresh the log list.

To save the system logs:

You can choose to save the system logs to your local computer or a remote server.

Click [Save Log](#) to save the logs in a txt file to your computer.

Click [Log Settings](#) to set the storage path of logs.

Log Settings

[Save Locally](#)

Minimum Level: Information

[Save Remotely](#)

Minimum Level: Warning

Server IP: 192.168.1.100

Server Port: 514

Local Facility Name: User

Back
Save

- [Save Locally](#): Select this option to cache the system log to the router's local memory, select the minimum level of system log to be saved from the drop-down list. The logs will be shown in the table in descending order on the System Log page.
- [Save Remotely](#): Select this option to send the system log to a remote server, select the minimum level of system log to be saved from the drop-down list and enter the information of the remote server. If the remote server has a log viewer client or a sniffer tool implemented, you can view and analyze the system log remotely in real-time.

12.8. Monitor the Internet Traffic Statistics

The Traffic Statistics page displays the network traffic of the LAN-WAN and WLAN-WAN sent and received packets, allowing you to monitor the volume of Internet traffic statistics.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [System Tools](#) > [Statistics](#).
3. Toggle on [Enable Traffic Statistics](#), and then you can monitor the traffic statistics in [Traffic Statistics List](#) section. This function is disabled by default.

Traffic Statistics

Enable Traffic Statistics:

Traffic Statistics List

[Refresh](#) [Reset](#) [Delete All](#)

IP Address/ MAC Address	Total Packets	Total Bytes	Current Packets	Current Bytes	Current ICMP Tx	Current UDP Tx	Current SYN Tx	Modify
--	--	--	--	--	--	--	--	--

12.9. CWMP Settings

The modem router offers CWMP feature. The function supports TR-069 protocol which collects information, diagnoses the devices and configures the devices automatically via ACS (Auto-Configuration Server).

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to [Advanced](#) > [System Tools](#) > [CWMP Settings](#) page.

CWMP Settings

CPE WAN Management Protocol (also called TR-069) allows Auto-Configuration Server (ACS) to perform auto-configuration, provision, connection, and diagnostics to this device. You may configure this function under your ISP's instructions.

Enable CWMP:

Inform:

Inform Interval(seconds):

ACS URL:

ACS Username:

ACS Password:

Interface used by TR-069 client:

Display SOAP messages on serial console:

Connection Request Authentication

Connection Request Username:

Connection Request Password:

Connection Request Path:

Connection Request Port:

Connection Request URL:

[Get RPC Methods](#)

[Save](#)

- **Enable CWMP:** Toggle On to enable the CWMP (CPE WAN Management Protocol) feature.
- **Inform:** Enable this feature to send an Inform message to the ACS (Auto Configuration Server) periodically.
- **Inform Interval:** Enter the time interval in seconds when the Inform message will be sent to the ACS.
- **ACS URL:** Enter the web address of the ACS which is provided by your ISP.
- **ACS Username/Password:** Enter the username/password to log in to the ACS server.
- **Interface used by TR-069 client:** Select which interface to be used by the TR-069 client.
- **Display SOAP messages on serial console:** Toggle to enable or disable this feature.
- **Connection Request Authentication:** Select this checkbox to enable authentication for the connection request.
- **Connection Request Username/Password:** Enter the username/password for the ACS server to log in to the router.

- **Connection Request Path:** Enter the path for the ACS server to log in to the router.
- **Connection Request Port:** Enter the port that connects to the ACS server.
- **Connection Request URL:** Enter the URL that connects to the ACS server.
- **Get RPC methods:** Click to get the methods to support CWMP.

Click **Save** to make the settings effective.

12. 10. SNMP Settings

SNMP (Simple Network Management Protocol) has been widely applied in the computer networks currently, which is used for ensuring the transmission of the management information between two nodes. In this way, network administrators can easily search and modify the information on any node on the network. Meanwhile, they can locate faults promptly and implement the fault diagnosis, capacity planning and report generating.

An **SNMP Agent** is an application running on the modem router that performs the operational role of receiving and processing SNMP messages, sending responses to the SNMP manager, and sending traps when an event occurs. So a router contains SNMP "agent" software can be monitored and/or controlled by SNMP Manager using SNMP messages.

1. Visit <http://tplinkmodem.net>, and log in with the password you set for the modem router.
2. Go to **Advanced > System Tools > SNMP Settings** page.

SNMP Settings

Simple Network Management Protocol (SNMP) allows management applications to retrieve status updates and statistics from the SNMP agent within this device.

Enable SNMP Agent:

Read-only Community:

Write Community:

System Name:

System Description:

System Location:

System Contact:

Trap Manager IP:

Save

- **Enable SNMP Agent:** Toggle On to enable the built-in SNMP agent that allows the router to operate as the operational role in receiving and processing of SNMP messages, sending responses to the SNMP manager, and triggering SNMP traps when an event occurs.
- **Read-only Community:** Displays the default public community string that protects the router from unauthorized access.
- **Write Community:** Displays the default write community string that protects the router from unauthorized changes.
- **System Name:** Displays the administratively-assigned name for this managed device.
- **System Description:** Displays the textual description of the managed device. This value should include the full name and version identification of the system's hardware type, software operating-system, and networking software.
- **System Location:** Displays the physical location of this device (e.g., telephone closet, 3rd floor).
- **System Contact:** Displays the textual identification of the contact person for this managed device, together with information on how to contact this person.
- **Trap Manager IP:** Displays the IP address of the host to receive the traps.

You are suggested to keep the default settings. Click **Save** to make the settings effective.

Appendix: Troubleshooting

T1. How do I restore my modem router's configuration to its factory default settings?

There are two ways to reset the modem router:

- Method 1: Use the Reset button. For details, refer to the related button description.
- Method 2: Use the [Backup & Restore](#) page. For details, refer to the instructions in [To reset the modem router to factory default settings](#).

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

T2. What can I do if I forgot my password?

Web management page password:

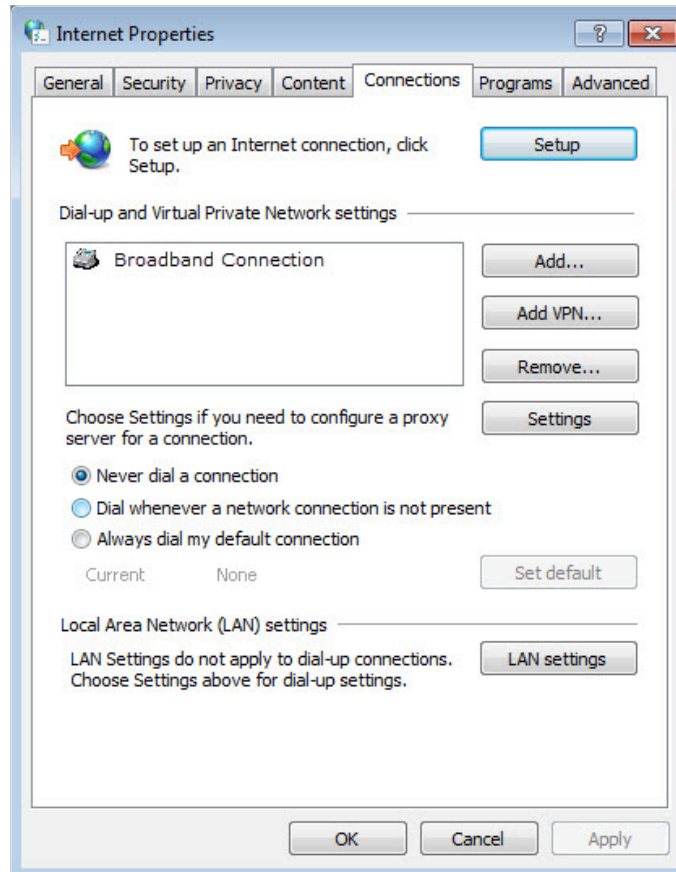
Restore the modem router to its factory default settings and then set a new password.

Wireless network password:

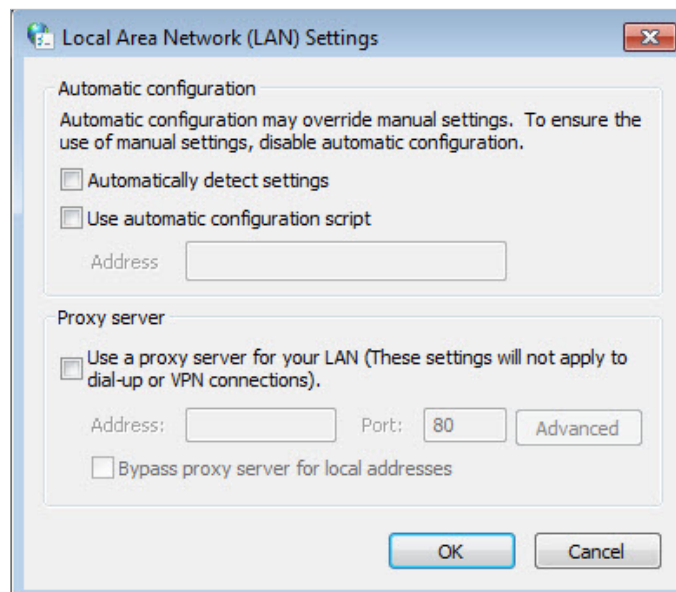
1. The default Wireless Password/PIN is printed on the product label of the modem router.
2. If the default wireless password has been changed, log into the modem router's web management page and go to [Basic > Wireless](#) to retrieve or reset your password.

T3. What can I do if I cannot log in to the modem router's web management page?

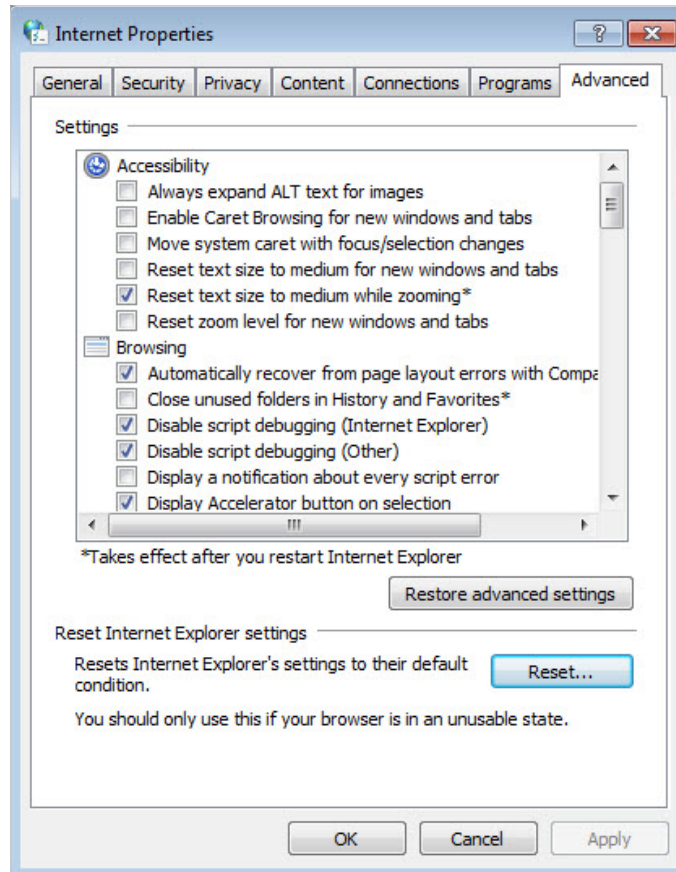
- Make sure the modem router connects to the computer correctly and the corresponding LED indicator(s) light up.
- Make sure the IP address of your computer is configured to obtain an IP address automatically and obtain DNS server address automatically.
- Make sure the default access <http://tplinkmodem.net> or <http://192.168.1.1> is correctly input.
- Check your computer's settings:
 - 1) Go to [Start > Control Panel > Network and Internet](#), and click [View network status and tasks](#);
 - 2) Click [Internet Options](#) on the bottom left;
 - 3) Click [Connections](#), select [Never dial a connection](#);



4) Click [LAN settings](#), deselect the following three options and click [OK](#);



5) Go to [Advanced](#) > [Restore advanced settings](#), click [OK](#) to save the settings.



- Change a web browser or computer and log in again.
- Reset the modem router to factory default settings.

Note: You'll need to reconfigure the modem router to surf the Internet once the modem router is reset.

Open a web browser and log in again. If login fails, please contact the technical support.

T4. What can I do if I cannot access the Internet?

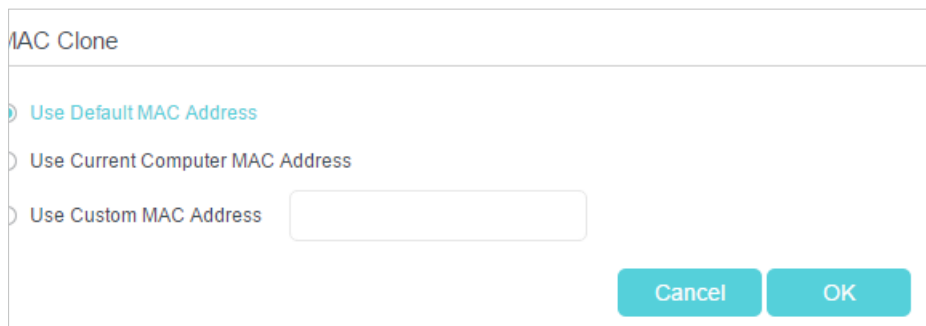
1. Check to see if all the connectors are connected well, including the telephone line, Ethernet cables and power adapter.
2. Check to see if you can log in to the web management page of the modem router. If you can, try the following steps. If you cannot, please set your computer by referring to T3 and then try to see if you can access the Internet. If the problem persists, please go to the next step.
3. Consult your ISP and make sure all the VLAN ID (VDSL), VPI/VCI (ADSL), Connection Type, account username and password are correct. If there are any mistakes, please correct the settings and try again.
4. Refer to T5 to clone the MAC address.

5. If you still cannot access the Internet, please restore your modem router to its factory default settings and reconfigure your modem router by following the instructions in [Use Quick Setup Wizard](#).
6. Please contact our Technical Support if the problem still exists.

T5. How to configure MAC Clone?

You can manually change the MAC address of the modem router. It is helpful when your Internet access account provided by your ISP is bound to one specific MAC address, in other words, your ISP just permits only one computer with the authenticated MAC address to access the Internet. In this case, you can use MAC Clone to allow more computers to access the Internet via the same account.

1. Visit <http://tplinkmodem.net>, and log in with password you set for the modem router.
2. Go to [Advanced](#) > [Network](#) > [Internet](#) page. Click the [Add](#) icon, and scroll down to get the [MAC Clone](#) section.



MAC Clone

Use Default MAC Address

Use Current Computer MAC Address

Use Custom MAC Address

Cancel OK

- If you are using the computer with the authenticated MAC address to access the modem router, please select [Use Current Computer MAC Address](#).
 - If you know the authenticated MAC address, please select [Use Custom MAC Address](#) and then enter the address.
3. Click [OK](#) to make the settings effective.

T6. What can I do if I cannot find my wireless network or I cannot connect the wireless network?

➤ If you fail to find any wireless network, follow the steps below:

1. Make sure the wireless function is enabled if you're using a laptop with built-in wireless adapter. You can refer to the relevant document or contact the laptop manufacturer.
2. Make sure the wireless adapter driver is installed successfully and the wireless adapter is enabled. You can refer to the relevant document or contact the wireless adapter manufacturer.

- If you can find other wireless network except your own, follow the steps below:
 1. Check the Wi-Fi LED indicator on your wireless router/modem;
 2. Make sure your computer/device is still in the range of your router/modem, move closer if it is currently too far away;
 3. Go to [Basic](#) > [Wireless](#) page, and check the wireless settings, double check your Wireless Name and the SSID is not hidden.
 4. Connect to wireless network.

- If you can find your wireless network but fail to connect, follow the steps below:
 1. Authenticating problem, password mismatch.
 - 1) Sometimes it will ask you to type in a PIN number when you connect to the wireless network for the first time. This PIN number is different from the Wireless Password/Network Security Key, usually you can only find it on the label of your modem router.



- 2) If you cannot find the PIN or PIN failed, you may choose "[Connecting using a security key instead](#)", and then type in the Network Security Key/Wireless Password;



- 3) If it continues on saying network security key mismatch, it is suggested to confirm the wireless password on your modem router.

■ Note: Wireless password/Network Security Key is case sensitive.



- 4) Connect to wireless network.
2. Windows was unable to connect to XXXX /Cannot join this network/Taking longer than usual to connect to this network.
 - 1) Check the wireless signal strength of your network, if it is weak (1~3 bars), please move the router closer and try again;
 - 2) Change the wireless Channel of the router to 1,6,or 11 to reduce interference from other networks;
 - 3) Re-install or update the driver for your wireless adapter of the computer;
 - 4) Connect to wireless network.

T7.How can I change my computer's setting to obtain an IP address automatically?

To change the computer's network settings, follow the steps below.

- For MAC OS X:

- 1) Click the Apple icon, and select [System Preferences](#) from the drop-down list.
- 2) Click the Network icon.
- 3) Select [Ethernet](#) (for wired connection) or [Wi-Fi](#) (for wireless connection) in the left panel, then click [Advanced](#).
- 4) Click [TCP/IP](#).
- 5) From the [Configure IPv4](#) drop-down list, select [Using DHCP](#).
- 6) Click [OK](#).

- For Windows 7/8/8.1/10:

- 1) Right-click the Network icon on the system tray and select [Open Network and](#)


Sharing Center > Change adapter settings.

- 2) Right-click your network connection (wired or wireless) and select [Properties](#).
- 3) Double-click [Internet Protocol Version 4 \(TCP/IPv4\)](#).
- 4) Select both [Obtain an IP address automatically](#) and [Obtain DNS server address automatically](#), then click [OK](#).
- 5) Click [OK](#) again to save your configuration.

• **For Windows XP:**

- 1) Right-click the Network icon on the system tray and select [Open Network Connections](#).
- 2) Right-click your network connection (wired or wireless) and select [Properties](#).
- 3) Double-click [Internet Protocol \(TCP/IP\)](#).
- 4) Select both [Obtain an IP address automatically](#) and [Obtain DNS server address automatically](#), then click [OK](#).
- 5) Click [OK](#) again to save your configuration.

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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.



Продукт сертифіковано згідно с правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.






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.

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>