

User Guide

AC2300 MU-MIMO Wi-Fi Router Archer C2300

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About This Guide

This guide is a complement of Quick Installation Guide. The Quick Installation Guide instructs you on quick Internet setup, and this guide provides details of each function and shows you the way to configure these functions appropriate to your needs.

When using this guide, please notice that features available of the router may vary by model and software version. It may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual experience.

Conventions

Convention	Description
Underlined	Underlined words or phrases are hyperlinks. You can click to redirect to a website or a specific section.
Teal	Contents to be emphasized and texts on the web page are in teal, including the menus, items, buttons, etc.
>	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.
Ø Tips:	Indicates important information that helps you make better use of your device.
Symbols on the web page	 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.

In this guide the following conventions are used:

More Info

The latest software, management app and utility can be found at Download Center at https://www.tp-link.com/support.

The Quick Installation Guide can be found where you find this guide or inside the package of the router.

Specifications can be found on the product page at https://www.tp-link.com.

A TP-Link Community is provided for you to discuss our products at <u>https://community.tp-link.com</u>.

Our Technical Support contact information can be found at the Contact Technical Support page at <u>https://www.tp-link.com/support</u>.

Speed/Coverage Disclaimer

*Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput and wireless coverage are not guaranteed and will vary as a result of 1) environmental factors, including building materials, physical objects, and obstacles, 2) network conditions, including local interference, volume and density of traffic, product location, network complexity, and network overhead, and 3) client limitations, including rated performance, location, connection, quality, and client condition.

MU-MIMO Disclaimer

*Use of MU-MIMO requires clients to also support MU-MIMO.

Get to Know About Your Router

This chapter introduces what the router can do and shows its appearance. It contains the following sections:

- Product Overview
- Panel Layout

1.2.

1.1. Product Overview

The TP-Link router is designed to fully meet the need of Small Office/Home Office (SOHO) networks and users demanding higher networking performance. The powerful antennas ensure continuous Wi-Fi signal to all your devices while boosting widespread coverage throughout your home, and the built-in Ethernet ports supply high-speed connection to your wired devices.

Moreover, it is simple and convenient to set up and use the TP-Link router due to its intuitive web interface and the powerful Tether app.

1. 2. 1. The Front Panel

Panel Layout

The router's LEDs are located on the front. You can check the router's working status by following the LED Explanation table.

LED Explanation

Name	Status	Indication		
	On	The system has started up successfully.		
ப் (Power)	Flashing	The system is starting up or the firmware is being upgraded. Do not disconnect or power off your router.		
	Off	Power is off.		
_	On	The 2.4GHz wireless band is enabled.		
ி (2.4GHz Wireless)	Off	The 2.4GHz wireless band is disabled.		
_	On	The 5GHz wireless band is enabled.		
ி (5GHz Wireless)	Off	The 5GHz wireless band is disabled.		
	Blue On	Internet service is available.		
ି (Internet)	Orange On	The router's Internet port is connected, but the internet service is not available.		
	Off	The router's Internet port is unplugged.		
묘 (Ethernet)	On	At least one powered-on device is connected to the router's LAI port.		
	Off	No powered-on device is connected to the router's LAN port.		
(WPS)	On/Off	This light remains on for 5 minutes when a WPS connection is established, then turns off.		
	Flashing	WPS connection is in progress. This may take up to 2 minutes.		
	On	The inserted USB device is ready to use.		
Ų́р (USB)	Flashing	A USB device is being identified.		
	Off	No device is plugged into the USB port.		
(LED On/Off)	On/Off	Press this button to turn on or off the LED.		

1.2.2. The Side Panel



The following parts (view from left to right) are located on the side panel.

Item	Description		
Wi-Fi On/Off ButtonPress and hold the WiFi button for about 2 seconds to turn or wireless function of your router.			
Reset Button	Press and hold this button for more than 5 seconds to reset the router to its factory default settings.		
WPS Button	Press this button to enable the WPS function.		
USB 3.0 Port	For connecting to a USB device.		

1. 2. 3. The Back Panel



The following parts (view from left to right) are located on the back panel.

Item	Description			
Power Port For connecting the router to a power socket via the provided power ad				
Power On/Off Button Press this button to power on or off the router.				
Internet Port	For connecting to a DSL/Cable modem, or an Ethernet jack.			
LAN Ports (1/2/3/4)	For connecting your PC or other Ethernet network devices to the router.			
Antennas	Used for wireless operation and data transmit. Upright them for the best Wi-Fi performance.			

Connect the Hardware

This chapter contains the following sections:

- Position Your Router
- <u>Connect Your Router</u>

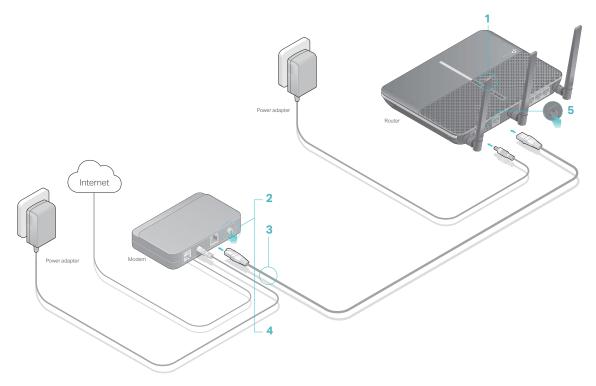
2.1. Position Your Router

- The product should not be located in a place where it will be exposed to moisture or excessive heat.
- Place the router in a location where it can be connected to multiple devices as well as to a power source.
- Make sure the cables and power cord are safely placed out of the way so they do not create a tripping hazard.
- The router can be placed on a shelf or desktop.
- Keep the router away from devices with strong electromagnetic reference, such as Bluetooth devices, cordless phones and microwaves.

2.2. Connect Your Router

Follow the steps below to connect your router.

If your internet connection is through an Ethernet cable directly from the wall instead of through a DSL / Cable / Satellite modem, connect the Ethernet cable to the router's Internet port, and then follow Step 1, 5 and 6 to complete the hardware connection.



- 1. Install the antennas.
- 2. Turn off the powered-off modem, and remove the backup battery if any.
- 3. Connect the modem to your router's Internet port with an Ethernet cable.

- 4. Turn on the modem, and then wait about **2 minutes** for it to restart.
- 5. Connect the power adapter to the router and turn on the router.
- 6. Verify that the following LEDs are on and solid to confirm the harware is connected correctly.



Note:

If the 2.4GHz LED \Im and 5GHz LED \Im are off, press and hold the Wi-Fi On/Off button on the side panel for about 2 seconds. Within a few seconds, both the LEDs shoud turn solid on.

7. Connect your computer to the router.

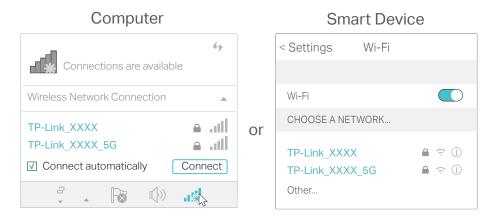
• Method 1: Wired

Turn off the Wi-Fi on your computer and connect the devices as shown below.

Ethernet cable	
----------------	--

• Method 2: Wirelessly

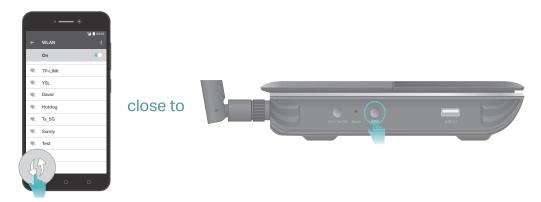
- 1) Find the SSID (Network Name) and Wireless Password printed on the label at the bottom of the router.
- 2) Click the network icon of your computer or go to Wi-Fi Settings of your smart device, and then select the SSID to join the network.



• Method 3: Use the WPS button

Wireless devices that support WPS, including Android phones, tablets, and most USB network adapters, can be connected to your router through this method.

- Note:
- WPS is not supported by iOS devices.
- The WPS function cannot be configured if the wireless function of the 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) Tab the WPS icon on the device's screen. Here we take an Android phone for instance.
 - 2) Within two minutes, press the Reset/WPS button on your router.



Log In to Your Router

With a web-based utility, it is easy to configure and manage the router. The web-based utility 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 in to your router.

- 1. Set up the TCP/IP Protocol in Obtain an IP address automatically mode on your computer.
- 2. Visit <u>http://tplinkwifi.net</u>, and create a login password for secure management purposes. Then click Let's Get Started to log in.

← → C fi □ h	http://tplinkwifi.net	≡
	Please create an administrator password to manage your Wireless Router	

Note:

If the login window does not appear, please refer to the FAQ Section.

Set Up Internet Connection

This chapter introduces how to connect your router to the internet. The router is equipped with a web-based Quick Setup wizard. It has necessary 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.

It contains the following sections:

- Use Quick Setup Wizard
- <u>Manually Set up Your Internet Connection</u>
- <u>Set Up an IPv6 Internet Connection</u>

4.1. Use Quick Setup Wizard

The Quick Setup Wizard will guide you through the process to set up your router.

Ø Tips:

If you need the IPv6 internet connection, please refer to the section of Set Up an IPv6 Internet Connection.

Follow the steps below to set up your router.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with the password you set for the router.
- 2. Click Quick Setup on the top of the page. Then follow the step-by-step instructions to connect your router to the internet.
- 3. To enjoy a more complete service from TP-Link (remote management, TP-Link DDNS, etc.), log in with your TP-Link ID or click Resigter Now to get one. Then follow the instructions to bind the cloud router to your TP-Link ID.

	Internet Connection Type	Wireless S	Settings	TP-Link Cloud Service
Time Zone		•	Summary	
C	ongratulations! Netv For more TP-Link Clou	vork setup successfund functions, please log in with	1	ernet.
		Password S	Forgot password?	
		No TP-Link ID? Register Now		
		Log In Later		

Note:

- To learn more about the TP-Link Cloud service, please refer to the <u>TP-Link Cloud Service</u> section.
- If you do not want to register a TP-Link ID now, you may click Log In Later to proceed.
- If you have changed the preset wireless network name (SSID) and wireless password during the Quick Setup process, all your wireless devices must use the new SSID and password to connect to the router.

4.2. Manually Set up Your Internet Connection

In this part, you can check your current internet connection settings. You can also modify the settings according to the service information provided by your ISP.

Follow the steps below to check or modify your internet connection settings.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > Internet.
- 3. Select your internet connection type from the drop-down list.

Internet			
Auto Detect			
Internet Connection Type:	Dynamic IP	¥	

Note:

If you are unsure of what your connection type is, click Auto Detect. Since different connection types require different cables and connection information, you can also refer to the demonstrations in Step 4 to determine your connection type.

- 4. Follow the instructions on the page to continue the configuration. Parameters on the figures are just used for demonstration.
 - 1) If you choose Dynamic IP, you need to select whether to clone the MAC address. Dynamic IP users are usually equipped with a cable TV or fiber cable.

Internet			
Auto Detect			
Internet Connection Type:	Dynamic IP	•	
Do NOT Clone MAC Address	5		
O Clone Current Computer M			
			Save

2) If you choose Static IP, enter the information provided by your ISP in the corresponding fields.

Auto Detect			
Internet Connection Type:	Static IP	T	
IP Address:			
Subnet Mask:			
Default Gateway:			
Primary DNS:			
Secondary DNS:			(Optional)

3) If you choose PPPoE, enter the username and password provided by your ISP. PPPoE users usually have DSL cable modems.

Internet		
Auto Detect Internet Connection Type:	PPPoE	
Username:		
Password:		

4) If you choose L2TP, enter the username and password and choose the Secondary Connection provided by your ISP. Different parameters are needed according to the Secondary Connection you have chosen.

Internet		
Auto Detect		
Internet Connection Type:	L2TP	•
Username:		
Password:		
Secondary Connection:	Oynamic IP	O Static IP
VPN Server IP/Domain Name:		

5) If you choose PPTP, enter the username and password, and choose the Secondary Connection provided by your ISP. Different parameters are needed according to the Secondary Connection you have chosen.

Internet		
Auto Detect		
Internet Connection Type:	PPTP	•
Username:		
Password:		
Secondary Connection:	Oynamic IP	⊖ Static IP
VPN Server IP/Domain Name:		

5. Click Save.

6. To check your internet connection, click Network Map on the left of the page. After the connection succeeds, the screen will display as follows. Here we take PPPoE as an example.

Note:

It may take 1-2 minutes to make the settings valid.

Internet		Router
۹ Wired Clients	U Wireless Clients	USB Disk
Internet		
Internet Status:	Connected	
Connection Type:	PPPoE	
IP Address:	119.123.164.17	

Ø Tips:

- If your internet connection type is BigPond Cable, please go to Advanced > Network > Internet to set your router.
- If you use Dynamic IP and PPPoE and you are provided with any other parameters that are not required on the page, please go to Advanced > Network > Internet to complete the configuration.
- If you still cannot access the internet, refer to the <u>FAQ</u> section for further instructions.

4.3. Set Up an IPv6 Internet Connection

Your ISP provides information about one of the following IPv6 internet connection types: PPPoE, Dynamic IP (SLAAC/DHCPv6), Static IP, 6to4 tunnel and Pass-Through (Bridge).

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > IPv6.
- 3. Enable IPv6 and select the internet connection type provided by your ISP.

Ø Tips:

If you do not know what your internet connection type is, contact your ISP or judge according to the already known information provided by your ISP.

4. Fill in information as required by different connection types. Red blanks must be filled in.

1) Static IP: Fill in blanks and click Save.

Internet			
IPv6:			
Internet Connection Type:	Static IP	•	
[Pv6 Address:			
Default Gateway:			
Primary DNS:			
Secondary DNS:			
MTU Size:	1500	bytes. (The default is 1500, do not change unless necessary.)	
		Sav	

2) Dynamic IP(SLAAC/DHCPv6): Click Advanced to enable Prefix Delegation and input further information if your ISP requires. Click Save and then click Renew.

Internet		
IPv6:		
Internet Connection Type:	Dynamic IP (SLAAC/DHCPv6)	
IPv6 Address:		
Primary DNS:		
Secondary DNS:		
Renew Release		
Advanced		
		Save

3) PPPoE: By default, the router uses the IPv4 account to connect to the IPv6 server. Click Advanced to enable Prefix Delegation and input further information if your ISP requires. Click Save and then click Connect.

Note:

If your ISP provides two separate accounts for the IPv4 and IPv6 connections, please uncheck the box for Use the same session with IPv4 connection and manually enter the username and password for the IPv6 connection.

Internet		
IPv6:		
Internet Connection Type:	РРРоЕ	
	PPPoE same session with IPv4 connection	
IPv6 Address:		
Advanced		
Connect Disconnect	l .	
	-	Save

4) 6to4 Tunnel: An IPv4 internet connection type is a prerequisite for this connection type (Manually Set up Your Internet Connection). Click Advanced to input further information if your ISP requires. Click Save and then click Connect.

Internet			
IPv6:			
Internet Connection Type:	6to4 Tunnel	•	
IPv4 Address:	0.0.0.0		
IPv4 Subnet Mask:	0.0.00		
IPv4 Default Gateway:	0.0.0		
Tunnel Address:	18		
O Advanced			
Connect Disconnect			Save

5) Pass-Through (Bridge): Click Save and skip to step 6.

Internet			
IPv6:			
Internet Connection Type:	Pass-Through (Bridge)	▼	
			Save

5. Configure LAN ports. Windows users are recommended to choose from the first two types. Fill in Address Prefix provided by your ISP, and click Save.

Ø Tips:

Find Help on the management interface to know more about items.

LAN	
Assigned Type: Address Prefix:	O DHCPv6 SLAAC+Stateless DHCP O SLAAC+RDNSS /64
Address:	FE80::E4A:8FF:FE13:5053/64
	Save

6. Click Status to check whether you have successfully set up an IPv6 connection. The following figure is an example of a successful PPPoE configuration.

💮 Internet 🥝	IPv4 IPv6
MAC Address:	00-0A-EB-AC-25-01
IP Address:	2001:c68:202:2111::120/ 64
Default Gateway:	fe80::edd0:80d2:7f5e:6be 7
Primary DNS:	2001:c68:202:2111::1
Secondary DNS:	2001:c68:202:2111::2
Connection Type:	PPPoE

Ø Tips:

Visit the FAQ section if there is no internet connection.

Set Up the Router as an Access Point

In the Access Point mode, your router connects to a wired or wireless router via an Ethernet cable and extends the wireless coverage of your existing network.

The router can work as an access point, transforming your existing wired network to a wireless one.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Operation Mode, select Access Point and click Save. The router will reboot and switch to Access Point mode.

O Router(Current)	mode)		
			ic IP,PPPoE,L2TP or PPTP,an P server are enabled by defa
	Щ.	ş. (,	
Access Point			
	ge of your existing net		ernet cable and extends the ntrols and QoS are not
	— Щ –	_ Щ	 1
			Save

- 3. After rebooting, connect the router's Internet port to your existing router's Ethernet port via an Ethernet cable.
- 4. Log in again to the web management page <u>http://tplinkwifi.net</u>, and click Quick Setup.
- 5. Configure your wireless settings and click Next.

		Summ
ireless Settings		
2.4GHz Wireless:	Enable Wireless Radio	
Network Name (SSID):	TP-Link_7B00	Hide SSID
Password:	10.0000000000	
5GHz Wireless:	Enable Wireless Radio	
Network Name (SSID):	TP-Link_7B00_5G	Hide SSID
Password:		
		Exit Next

6. Confirm the information and click Finish. Now, you can enjoy Wi-Fi.

			Summar
•			@
Wireless Settings			
	On		
2.4GHz Wireless:	On		
Network Name (SSID):	TP-Link_7B00		
Password:	10040070		
5GHz Wireless:	On		
Network Name (SSID):	TP-Link_7B00_5G		
Password:			
		Back	Save

Ø Tips:

Functions, such as Parental Controls, Qos and NAT Forwarding, are not supported in the Access Point mode.

TP-Link Cloud Service

TP-Link Cloud service provides a better way to manage your cloud devices. Log in to your router with a TP-Link ID, and you can easily monitor and manage your home network when you are out and about via the Tether app on your smartphone or tablet. To ensure that your router stays new and gets better over time, the TP-Link Cloud will notify you when an important firmware upgrade is available. Surely you can also manage multiple TP-Link Cloud devices with a single TP-Link ID.

This chapter introduces how to register a new TP-Link ID, bind or unbind TP-Link IDs to manage your router, and the Tether app with which you can manage your home network no matter where you may find yourself.

It contains the following sections:

- Register a TP-Link ID
- <u>Change Your TP-Link ID Information</u>
- Manage the User TP-Link IDs
- Manage the Router via the TP-Link Tether App

6.1. Register a TP-Link ID

If you have skipped the registration during the Quick Setup process, you can

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with the password you set for the router.
- 2. Go to Basic > TP-Link Cloud.
- 3. Click Register Now and follow the instructions to register a TP-Link ID.

or more TP-Link Cloud functi	ons, please log in with your TP-Link ID. 🕚)
	🕹 Email	
	Password 💋	Forgot password?
	Log In	
	No TP-Link ID?	

4. After activating your TP-Link ID, come back to the TP-Link Cloud page to log in. The TP-Link ID used to log in to the router for the first time will be automatically bound as an Admin.

Note:

- To learn more about the Admin and User TP-Link ID, refer to Manage the User TP-Link IDs.
- Once the router is bound to your TP-Link ID, you need to log in to the router with the TP-Link ID.
- You can register another TP-Link ID via the Tether APP. Please refer to <u>Manage the Router via TP-Link Tether App</u> to install the app and register a new one
- If you want to unbind the admin TP-Link ID from your router, please go to Basic > TP-Link Cloud, click Unbind in the Device Information section.

6.2. Change Your TP-Link ID Information

Follow the steps below to change your email address and password of your TP-Link ID as needed.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID.
- 2. Go to Basic > TP-Link Cloud, and focus on the Account Information section.
- To change your email address:
- 1. Click 🗹 behind the Email.
- 2. Enter the password of your TP-Link ID, then a new email address. And click Save.

Pas:	sword
Nev Nev	v Email
	Save
Note: Ne	ew email or password
may not	sync to client devices
immedia	itely, Please log in again
when yo	our device is connected
to the Ir	nternet to update
	information.

- To change your password:
- 1. Click 🗹 behind the Password.

2. Enter the current password, then a new password twice. And click Save.



6.3. Manage the User TP-Link IDs

The TP-Link ID used to log in to the router for the first time will be automatically bound as the Admin account. An admin account can add or remove other TP-Link IDs to or from the same router as Users. All accounts can monitor and manage the router locally or remotely, but user accounts cannot:

• Reset the router to its factory default settings either on the web management page or in the Tether app.

• Add/remove other TP-Link IDs to/from the router.

6. 3. 1. Add TP-Link ID to Manage the Router

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID.
- 2. Go to Basic > TP-Link Cloud, and focus on the Bound Accounts section.
- 3. Click 🕀 Bind, enter another TP-Link ID as needed and click Save.

Note:

If you need another TP-Link ID, please refer to <u>Manage the Router via TP-Link Tether App</u> to install the app and register a new one.

Email	Add Account	
Email		
	Email	

4. The new TP-Link ID will be displayed in the Bound Accounts table as a User.

ound	Accou	ints		
				🕀 Bind 🛛 🖨 Unbind
	ID	Email	Binding Date	Role
	1	Pargon, reading on	16/11/2016	Admin
	2	shangourlighting\$133.com	16/11/2016	User

6. 3. 2. Remove TP-Link ID(s) from Managing the Router

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID.
- 2. Go to Basic > TP-Link Cloud, and focus on the Bound Accounts section.
- 3. Tick the checkbox(es) of the TP-Link ID(s) you want to remove and click Unbind.

		T	🕀 Bind 🛛 🖨 Unbind
ID	Email	Binding Date	Role
1	Pargor, redresses	16/11/2016	Admin
2	damps of drive \$100 con	16/11/2016	User

6.4. Manage the Router via the TP-Link Tether App

The Tether app runs on iOS and Android devices like smartphones and tablets.

1. Open the Apple App Store or Google Play and search the key word "TP-Link Tether" or simply scan the QR code to download and install the app.



- 2. Connect your device to the router's wireless network.
- 3. Launch the Tether app, select the model of your router and log in with your TP-Link ID or the password your set for the router.
- 4. Manage your router as needed.

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 customize guest network options to ensure network security and privacy.

It contains the following sections:

- <u>Create a Network for Guests</u>
- <u>Customize Guest Network Options</u>

7.1. Create a Network for Guests

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Guest Network. Locate the Wireless section.
- 3. Create a guest network as needed.
 - 1) Tick the checkbox(es) to enable 2.4 GHz Wireless guest network or 5GHz Wireless guest network.
 - 2) Customize the SSID. Don't select Hide SSID unless you want your guests to manually input the SSID for guest network access.
 - 3) Set Security to WPA/WPA2 Personal, keep the default Version and Encryption values, and customize your own password.

Wireless	
2.4GHz Wireless:	Enable Guest Network
Network Name (SSID):	TP-Link_Guest_66A2
5GHz Wireless:	Enable Guest Network
Network Name (SSID):	TP-Link_Guest_66A2_5G Hide SSID
Security:	No Security WPA/WPA2-Personal
Version:	Auto O WPA-PSK O WPA2-PSK
Encryption:	Auto O TKIP O AES
Password:	66378365
	Save

4. Click Save. Now your guests can access your guest network using the SSID and password you set!

Ø Tips:

To view guest network information, go to Advanced > Status and locate the Guest Network section.

7.2. Customize Guest Network Options

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Guest Network. Locate the Settings section.
- 3. Customize guest network options according to your needs.

Settings	
□ Allow guests to see each other	
□ Allow guests to access my local network	
	Save

• Allow guests to see each other

Check this box if you want to allow the wireless clients on your guest network to communicate with each other via methods such as network neighbors and Ping.

• Allow guests to access my local network

Check this box if you want to allow the wireless clients on your guest network to communicate with the devices connected to your router's LAN ports or main network via methods such as network neighbors and Ping.

4. Click Save. Now you can ensure network security and privacy!

Ø Tips:

To view guest network information, go to Advanced > Status and locate the Guest Network section.

Chapter 8

USB Settings

This chapter describes how to use the USB ports to share files and media from the USB storage devices over your home network locally, or remotely through the internet.

The router supports USB external flash drives, hard drives and USB printers.

It contains the following sections:

- <u>Access the USB Storage Device</u>
- Media Sharing
- Time Machine

8.1. Access the USB Storage Device

Insert your USB storage device into the router's USB port and then access files stored there locally or remotely.

Ø Tips:

- If you use USB hubs, make sure no more than 4 devices are connected to the router.
- If the USB storage device requires using bundled external power, make sure the external power has been connected.
- If you use a USB hard drive, make sure its file system is FAT32, exFat, NTFS or HFS+.
- Before you physically disconnect a USB device from the router, safely remove it to avoid data damage: Go to Advanced
 > USB Sharing > USB Storage Device and click Remove

8. 1. 1. Access the USB Device Locally

Insert your USB storage device into the router's USB port and then refer to the following table to access files stored on your USB storage device.

r Name
r

Windows computer	 Method 2: Open the Windows Explorer (or go to Computer) and type the server address \tplinkwifi.net or ftp://tplinkwifi.net in the address bar, and then press Enter.
Мас	 Select Go > Connect to Server Type the server address smb://tplinkwifi.net Click Connect Click Connect to Server Server Address: server Address: server is server server Server Address: Server Address: Server Address: Server is server Server Server
Tablet	Use a third-party app for network files management.

Ø Tips:

You can also access your USB disk by using your Network/Media Server Name as the server address. Refer to <u>To</u> <u>Customize the Address of the USB Disk</u> to learn more.

8. 1. 2. Access the USB Device Remotely

You can access your USB disk outside the local area network. For example, you can:

- Share photos and other large files with your friends without logging in to (and paying for) a photo-sharing site or email system.
- Get a safe backup for the materials for a presentation.
- Remove the files on your camera's memory card from time to time during the journey.

Note:

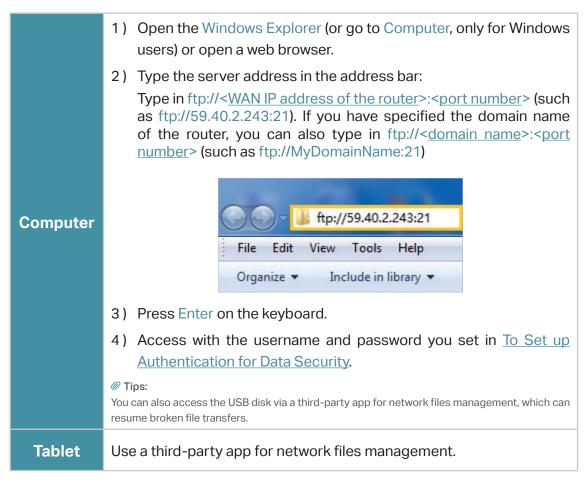
If your ISP assigns a private WAN IP address (such as 192.168.x.x or 10.x.x.x), you cannot use this feature because private addresses are not routed on the internet.

Follow the steps below to configure remote access settings.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > USB Sharing > USB Storage Device page.
- 3. Tick the FTP (Via Internet) checkbox, and then click Save.

letwork/Media S	Server Name:	MyShare	
Enable	Access Method	Address	Port
	Network Neighborhood	\\TP-Share	
	FTP	ftp://192.168.0.1:21	21
	FTP (Via Internet)	ftp://0.0.0.0:21 Edit	21

4. Refer to the following table to access your USB disk remotely.



Ø Tips:

Click Set Up a Dynamic DNS Service Account to learn how to set up a domain name for you router.

8. 1. 3. Customize the Access Settings

By default, all the network clients can access all folders on your USB disk. You can customize your sharing settings by setting a sharing account, sharing specific contents and setting a new sharing address on the router's web management page.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > USB Sharing > USB Storage Device page.

• To Customize the Address of the USB Disk

You can customize the server name and use the name to access your USB disk.

1. On the Access Address part, make sure Network Neighborhood is ticked, and enter a Network/Media Server Name as you like, such as MyShare, and then click Save.

ork/Media S	Server Name:	MyShare	
Enable Access Method		Address	Port
	Network Neighborhood	\\TP-Share	
	FTP	ftp://192.168.0.1:21	21
	FTP (Via Internet)	ftp://0.0.0.0:21 Edit	21

- Now you can access the USB disk by visiting \\MyShare (for Windows) or smb:// MyShare (for Mac).
- To Only Share Specific Content
- On the Sharing Contents and Security part, focus on the Sharing Contents section. Click do change your settings.

	8
Select Folders	
Share All Folders	
G:(PNY)	
🗄 · 🛅 maana	
	Cancel Save

- 2. Select the folder(s) you want to share.
- 3. Click Save.

• To Set up Authentication for Data Security

You can set up authentication for your USB device so that network clients will be required to enter username and password when accessing the USB disk.

1. On the Sharing Contents and Security part, toggle on Access Authentication.

ss Authentication:	s Authentication:			
Account	Passw	ord	Access Permission	Modify
admin		ø	Read and Write	Ø
visit	0000	ø	Only Read	Ø

2. The username and password of the admin account are both admin. Clients accessing with the admin account can both read and write the contents of your USB disk. If you only permit your clients to read the contents of your USB disk, they might access with the visit account. Click I to change the username and password of the admin or visit account.

Account	Pa	ssword	Ac	cess Permission	Modify
admin		ø	F	Read and Write	Ø
visit		ø		Only Read	Ø
Username:	vi	sit			
Password:	-		ø		

Note:

For Windows users, do not set the sharing username the same as the Windows username. Otherwise, Windows credential mechanism may cause the following problems:

- If the sharing password is also the same as the Windows password, authentication will not work since the Windows will automatically use its account information for USB access.
- If the sharing password is different from the Windows password, the Windows will be unable to remember your credentials and you will always be required to enter the sharing password for USB access.

3. Click Save.

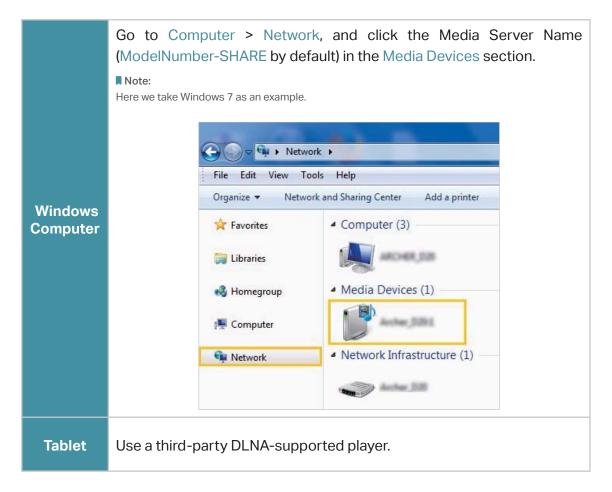
Note:

Due to Windows credential mechanism, you might be unable to access the USB disk after changing Authentication settings. Please log out from the Windows and try to access again. Or you can change the address of the USB disk by referring to <u>To Customize the Address of the USB Disk</u>.

8.2. Media Sharing

The feature of Media Sharing allows you to view photos, play music and watch movies stored on the USB disk directly from DLNA-supported devices, such as your computer, tablet and PS2/3/4. The feature is enabled by default.

- 1. When your USB disk is inseted into the router, your DLNA-supported devices (such as your computer and pad) connected to the router can detect and play the media files on the USB disks.
- 2. Refer to the following table for detailed instructions.



8.3. Time Machine

Time Machine backs up all files on your Mac computer to a USB storage device connected to your router.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > USB Sharing > Time Machine page.
- 3. Tick the checkbox to enable Time Machine.

Time Machine			
Time Machine:	Enable		
Backup Disk:	Select		
	Please select a locatio	on for Time Machine backups	
Size Limit for Backups:	0	GB (0 means no limit.)	
	0GB available		
			Save

4. Click Select to select a location for Time Machine backups.

5. Set the Size Limit for Backups.

Note:

0 means no limit for the space.

6. Click Save.

Chapter 9

HomeCare – Parental Controls, QoS

TP-Link HomeCare provides a kit of features to help you create a personalized network that caters for the whole family. You can ensure appropriate internet access for everyone with Parental Controls and save bandwidth for the things that matter with QoS.

It contains the following sections:

- Parental Controls
- <u>QoS</u>

9.1. Parental Controls

Parental Controls allows you to set up unique restrictions on internet access for each member of your family. You can block inappropriate content, set daily limits for the total time spent online and restrict internet access to certain times of the day.

9.1.1. Scenario 1: Setting Up Access Restrictions

I want to:

Block access to inappropriate online content for my child's devices, restrict internet access to 2 hours every day and block internet access during bed time (10 PM to 7 AM) on weekdays.

How can I do that?

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > HomeCare > Parental Controls or Advanced > Parental Controls.
- 3. Click 😌 Add to create a profile for a family member.
- 4. Add basic profile information.

Profiles					G Ad
Name	Time Limits	Devices	Insights	Internet Access	Modify
	-	(a.e.)			
3		Blocked	Content		
	Basic Info		•	Time Controls	
Name: Nan	ne the Profile				
Devices:					
Add					
					-
				Cancel	Next

- 1) Enter a Name for the profile to make it easier to identify.
- 2) Under Devices, click + .
- 3) Select the devices that belong to this family member. Access restrictions will be applied to these devices. Click Add when finished.

Note: Only devices that have previously been connected to your router's network are listed here. If you are unable to find the device you want to add, connect it to your network and then try again.

- 4) Click Next.
- 5. Customize the Blocked Content according to your needs for this profile.

llock all websites that contain	a specific keyword,	
dd a New Keyword:	e.g., Facebook	
	e d Facebook	Add

- 1) Enter a keyword (for example, "Facebook") or a URL (for example, "www. facebook.com"), then click Add. All websites containing the keywords will be blocked.
- 2) Click Next.
- 6. Set time restrictions on internet access.

			Blocked	Conte	ent											
	•			-					-	-0						
В	asic Ir	110							um	e C	ontr	OIS				
Time Limits																
Set daily time limits	for the	total time spen	t online.													
Monday to Friday		Enable	30mi	n T	2h	<u> </u>		1	1		-		T.	3	ł	a 8h
Saturday and Sunda	ay 💽	Enable	30mi	n r	2h	_	-		X	1		1		1	×	8h
Bed Time																
Set a time period wh	ien th	is profile canno	t access the in	ternet												
School Nights (Sunday - Thursday)	Enable	From:	10 :	00 F	M	\$			T	0:	07	: 01	A C	M	*
Weekend (Friday and Saturda	y)	Enable														
					Cano	el:			В	ack			0	S	Sav	е

- 1) Enable Time Limits on Monday to Friday and Saturday & Sunday then set the allowed online time to 2 hours each day.
- 2) Enable Bed Time and use the up/down arrows or enter times in the fields. Devices under this profile will be unable to access the internet during this time period.
- 3) Click Save.

Done!

The amount of time your child spends online is controlled and inappropriate content is blocked on their devices.

9. 1. 2. Scenario 2: Monitoring Internet Usage

I want to:

Check which websites my child has visited and how much time they have spent online recently.

How can I do that?

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > HomeCare > Parental Controls or Advanced > Parental Controls.

files					0
Name	Time Limits	Devices	Insights	Internet Access	Modify
Child	2h	1	٢		0 1
			Today	×	(E)
	Spent Online		iosapps.itunes.app	p 3min	0
			www.bing.com	3min	0
			uk.yahoo.com	3mîn	0000
	3min		iTunes	3min	0
	Simil	1	Advertisement	3min	0
			tags.tiqcdn.com	2min	0
	\smile		a2.mzstatic.com	2min	0
			pubads.g.doublec	li 2min	0
			p16-buy.itunes.ap	2min	000
			p30-ckdatabase.id	1 1min	0

- Find the correct profile and click o in the Insights column.
 Note: If you have not set up a profile for your child yet, you should do that first by clicking Add, then follow the steps to create a profile. Refer to Scenario 1: Setting Up Access Restrictions for detailed instructions.

Done! You can now check up on your child's online activities.

9.2. QoS

QoS (Quality of Service) allows you to specify prioritization of traffic and minimize the impact caused when the connection is under heavy load.

I want to:

Specify priority levels for some devices or applications.

For example, I have several devices that are connected to my wireless network. I would like to set an intermediate speed on the internet for my computer for the next 2 hours.

How can I do that?

- 1. Enable QoS and set bandwidth allocation.
 - 1) Visit<u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
 - 2) Go to Basic > HomeCare > QoS or Advanced > QoS.
 - 3) Select Enable QoS.
 - 4) Input the maximum upload and download bandwidth provided by your internet service provider. 1Mbps equal s to 1000Kbps.
 - 5) Click Save.

QoS	Enable QoS		
Upload Bandwidth	1000	Mbps 💌	
Download Bandwidth	1000	Mbps 💌	

2. In the Device Priority section, find your computer and toggle on Priority. Click the entry in the Timing column and select 2 hours as the duration you want the device to be prioritized for.

Туре	Information	Dea	I-time Rate	Traffic Usage	Priority	Timing
if be	montation	inca	rume (Add	Traine Usage	intonty	inning
-0	NicoLuo-PC	Ť	0.06KB/s	322.8KB		2 hours
Ē	(IM) 8C:DC:D4:3E:69:CC	Ļ	OKB/s	322.0ND		2 h 0 min Remaining
	Yan	Ť	0KB/s	2010/07/20		
Ē	(145) 38 CA:DA:3A:D8:B1	†	OKB/s	294.9KB		

Done! You can now enjoy using your computer for the next 2 hours.

Chapter 10

Network Security

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

It contains the following sections:

- Firewall
- <u>Access Control</u>
- IP & MAC Binding

10.1. Firewall

The SPI (Stateful Packet Inspection) Firewall protects the router from cyber attacks and validates the traffic that is passing through the router based on the protocol. This function is enabled by default.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Security > Firewall.
- **3.** It's recommended to keep the default settings. If necessary, deselect the corresponding checkbox and click Save.

Firewall		
	Enable SPI Firewall	
	✓ Allow Pings from the WAN Port	
	✓ Allow Pings from the LAN Port	
		Save

10.2. 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Security > Access Control.
- 3. Enable Access Control.

Access Control			
Access Control:			

- 4. 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.

Access Mode			
Access Mode:	Blacklist () Whitelist	
			Save

- 2) Select the device(s) to be blocked in the Online Devices table by ticking the box.
- 3) Click Block above the Online Devices table. The selected devices will be added to Devices in Blacklist automatically.

				🖰 Refresh	S Block
ID	Device Name	IP Address	MAC Address	Connection Type	Modify
1	Roses-iPhone	192.168.0.175	1C-1A-C0-3B-28-4B	Wireless	0
 2	ADMIN-PC	192.168.0.157	C0-4A-00-1A-C3-45	Wireless	0

- To allow specific device(s)
 - 1) Select Whitelist and click Save.

Access Mode		
Access Mode:	O Blacklist Whitelist	
		Save

2) Click Add in the Devices in Whitelist section. Enter the Device Name and MAC Address (You can copy and paste the information from the Online Devices list if the device is connected to your network).

				🔂 Add 😑 Delete
	ID	Device Name	MAC Address	Modify
322	-			
	Device Nan	ne:		
	MAC Addre	ss:		
			Cancel	ОК

5. 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.

10.3. 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 an 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Security > IP & MAC Binding.
- **3.** Enable IP & MAC Binding.



- 4. Bind your device(s) according to your needs.
- To bind the connected device(s):

Click 🧬 to add the corresponding device to the Binding List.

- To bind the unconnected device
 - 1) Click Add in the Binding List section.

- E - E				•	Add 😑 Delete
ID	MAC Address	IP Address	Description	Status	Modify
		127	120		
IP Ac	Address: idress: ription :	Enable This Entry	(Optional)		

- 2) Enter the MAC address and IP address that you want to bind. Enter a Description for this binding entry.
- 3) Check the box for Enable This Entry and click OK.

Done!

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

Chapter 11

NAT Forwarding

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

With the forwarding feature the router can penetrate the isolation of NAT and allows devices on the internet to initiatively communicate with devices on the local network, thus realizing some special functions.

The TP-Link router supports 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.

It contains the following sections:

- Share Local Resources on the Internet by Virtual Servers
- Open Ports Dynamically by Port Triggering
- Make Applications Free from Port Restriction by DMZ
- Make Xbox Online Games Run Smoothly by UPnP

11.1. Share Local Resources on the Internet by Virtual Servers

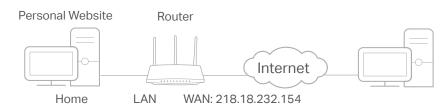
When you build up a server on the local network and want to share it on the internet, Virtual Servers can realize the service and provide it to internet users. At the same time Virtual Servers can keep the local network safe as other services are still invisible from the internet.

Virtual Servers can be used for setting up public services on your local network, such as HTTP, FTP, DNS, POP3/SMTP and Telnet. Different services use different service ports. 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 on my home PC (192.168.0.100). I hope that my friends on the internet can visit my website in some way. The PC is connected to the 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 192.168.0.100.
- 2. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 3. Go to Advanced > NAT Forwarding > Virtual Servers.
- Click Add. Click View Existing Services and select HTTP. The External Port, Internal Port and Protocol will be automatically filled in. Enter the PC's IP address 192.168.0.100 in the Internal IP field.
- 5. Click OK.

							Add 🕀	Delete
ID	Service Type	External Port	Internal IP	Internal I	Port	Protocol	Status	Modify
 220	<u>811</u> 9	322		244		227	144	220
Ser	vice Type:	НТ	ТР		View	Existing Se	rvices	
Ext	ernal Port:	80			(XX-)	XX or XX)		
Inte	ernal IP:	19	2.168.0.100					
Inte	ernal Port:	80			(XX d	or Blank ,1-6	55535)	
Prof	tocol:	тс	Р	¥				
		₽ E	nable This Entr	у				

- Ø Tips:
- 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.
- 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.
- You can add multiple virtual server rules if you want to provide several services in a router. Please note that the External Port should not be overlapped.

Done!

Users on the internet can enter http:// WAN IP (in this example: http:// 218.18.232.154)

to visit your personal website.

Ø Tips:

- The WANIP should be apublic IP address. For the WANIP is assigned dynamically by the ISP, it is recommended to apply and register a domain name for the WAN referring to <u>SetUpaDynamicDNSServiceAccount</u>. Then users on the internet can use http:// domain name to visit the website.
- 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.

11.2. Open Ports Dynamically by Port Triggering

Port Triggering can specify a triggering port and its corresponding external ports. When a host on the local network initiates a connection to the triggering port, all the external ports will be opened for subsequent connections. The router can record the IP address of the host. When the data from the internet return to the external ports, the router can forward them to the corresponding host. Port Triggering is mainly applied to online games, VoIPs, video players and common applications including MSN Gaming Zone, Dialpad and Quick Time 4 players, etc.

Follow the steps below to configure the Port Triggering rules:

1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.

- 2. Go to Advanced > NAT Forwarding > Port Triggering and click Add.
- 3. Click View Existing Applications, and select the desired application. The Triggering Port, External Port and Protocol will be automatically filled in. The following picture takes application MSN Gaming Zone as an example.
- 4. Click OK.

ID Application Triggering Port Triggering Protocol External Port External Protocol Status Modify <									🕀 Add	Delete
Application:MSN Gaming ZoneView Existing ApplicationsTriggering Port:47624(XX,1-65535)Triggering Protocol:ALLExternal Port:2300-2400,28800-29000(XX or XX-XX,1-65535,at most 5 pairs)External Protocol:ALL		ID	Application			Extern	al Port		Status	Modify
Triggering Port:47624(XX,1-65535)Triggering Protocol:ALLExternal Port:2300-2400,28800-29000(XX or XX-XX,1-65535,at most 5 pairs)External Protocol:ALL	*		(75)			-			1000	
Triggering Protocol: ALL External Port: 2300-2400,28800-29000 External Protocol: ALL		Appli	cation :	MSI	I Gaming Zone		View	Existing Appl	ications	
External Port:2300-2400,28800-29000(XX or XX-XX,1-65535,at most 5 pairs)External Protocol:ALL		Trigg	ering Port:	476	24		(XX,1	-65535)		
External Protocol: ALL External Protocol:		Trigg	ering Protocol:	ALL		×				
		Exte	rnal Port:	230	0-2400,28800	-29000			535,at	
Enable This Entry		Exte	rnal Protocol:	ALL						
				En En	able This Entry					

Tips:

- You can add multiple port triggering rules according to your network need.
- The triggering ports can not be overlapped.
- 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.

11.3. Make Applications Free from Port Restriction by DMZ

When a PC is set to be a DMZ (Demilitarized Zone) host on the local network, it is totally exposed to the internet, which 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, such as IP camera and database software, you can set the PC to be a DMZ host.

Note:

When DMZ is enabled, the DMZ host is totally exposed to the internet, which may bring some potential safety hazards. 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 host with all ports open.

How can I do that?

- 1. Assign a static IP address to your PC, for example 192.168.0.100.
- 2. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 3. Go to Advanced > NAT Forwarding > DMZ and select Enable DMZ.
- 4. Enter the IP address 192.168.0.100 in the DMZ Host IP Address filed.

DMZ		
DMZ:	Enable DMZ	
DMZ Host IP Address:	192.168.0.100	

5. Click Save.

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.

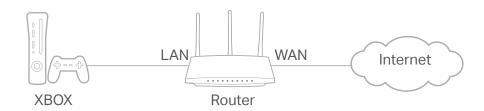
11.4. Make Xbox Online Games Run Smoothly by UPnP

The UPnP (Universal Plug and Play) protocol allows 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 on the local network and the internet can freely communicate with each other thus 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:

- UPnP is enabled by default in this router.
- Only the application supporting UPnP protocol can use this feature.
- 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 router which has connected to the internet to play online games, UPnP will send request to the router to open the corresponding ports allowing 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > NAT Forwarding > UPnP and toggle on or off according to your needs.

UPnP					
UPnP:		D			
UPnP :	Service List				
Fotal Clie	ents: O				O Refres
Total Clie ID	ents: 0 Service Description	External Port	Protocol	Internal IP Address	C Refres

Chapter 12

VPN Server

The VPN (Virtual Private Networking) Server allows you to access your home network in a secured way through internet when you are out of home. The router offers two ways to setup VPN connection: OpenVPN and PPTP (Point to Point Tunneling Protocol) VPN.

OpenVPN is somewhat complex but with greater security and more stable. It is suitable for restricted environment, such as campus network and company intranet.

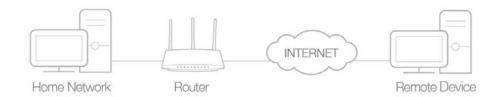
PPTP VPN is more easily used and its speed is faster, it's compatible with most operating systems and also supports mobile devices. Its security is poor and your packets may be cracked easily, and PPTP VPN connection may be prevented by some ISP.

It contains the following sections, please choose the appropriate VPN server connection type as needed.

- <u>Use OpenVPN to Access Your Home Network</u>
- Use PPTP VPN to Access Your Home Network

12.1. Use OpenVPN to Access Your Home Network

In the OpenVPN connection, the home network can act as a server, and the remote device can access the server through the router which acts as an OpenVPN Server gateway. To use the VPN feature, you should enable OpenVPN Server on your router, and install and run VPN client software on the remote device. Please follow the steps below to set up an OpenVPN connection.



- Step1. Set up OpenVPN Server on Your Router
- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > VPN Server > OpenVPN, and select Enable VPN Server.

OpenVPN			
Note: No certificate curre	ntly, please Generate one be	fore enabling VPN Server.	
	Enable VPN Server		
Service Type:	● UDP ○ TCP		
Service Port:	1194		
VPN Subnet/Netmask:	10.8.0.0	255.255.255.0	
Client Access:	Home Network Only	O Internet and Home Network	
			Save

Note:

- Before you enable VPN Server, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for router's WAN port and synchronize your System Time with internet.
- The first time you configure the OpenVPN Server, you may need to Generate a certificate before you enable the VPN Server.
- 3. Select the Servive Type (communication protocol) for OpenVPN Server: UDP, TCP.
- 4. Enter a VPN Service Port to which a VPN device connects, and the port number should be between 1024 and 65535.
- 5. In the VPN Subnet/Netmask fields, enter the range of IP addresses that can be leased to the device by the OpenVPN server.

- 6. Select your Client Access type. Select Home Network Only if you only want the remote device to access your home network; select Internet and Home Network if you also want the remote device to access internet through the VPN Server.
- 7. Click Save.
- 8. Click Generate to get a new certificate.

Generate

Note:

- If you have already generated one, please skip this step, or click Generate to update the certificate.
- 9. Click Export to save the OpenVPN configuration file which will be used by the remote device to access your router.

Configuration File	
Export the configuration.	Export

- Step 2. Configure OpenVPN Connection on Your Remote Device
- 1. Visit <u>http://openvpn.net/index.php/download/community-downloads.html</u> to download the OpenVPN software, and install it on your device where you want to run the OpenVPN client utility.

Note:

You need to install the OpenVPN client utility on each device that you plan to apply the VPN function to access your router. Mobile devices should download a third-party app from Google Play or Apple App Store.

- After the installation, copy the file exported from your router to the OpenVPN client utility's "config" folder (for example, C:\Program Files\OpenVPN\config on Windows). The path depends on where the OpenVPN client utility is installed.
- 3. Run the OpenVPN client utility and connect it to OpenVPN Server.

12.2. Use PPTP VPN to Access Your Home Network

PPTP VPN Server is used to create a VPN connection for remote device. To use the VPN feature, you should enable PPTP VPN Server on your router, and configure the PPTP connection on the remote device. Please follow the steps below to set up a PPTP VPN connection.

Step 1. Set up PPTP VPN Server on Your Router

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > VPN Server > PPTP VPN, and select Enable VPN Server.

	Enable VPN S	erver			
Client IP Address:	10.0.0.11	-10.0.0.	20	(up to 10 clients)	
Advanced					
Allow Samba (Network	Place) access:				
Allow NetBIOS passthro	ough:				
Allow Unencrypted con	nections:				

Note:

Before you enable VPN Server, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for router's WAN port and synchronize your System Time with internet.

- 3. In the Client IP Address filed, enter the range of IP addresses (up to 10) that can be leased to the devices by the PPTP VPN server.
- 4. Select Allow Samba (Network Place) access to allow your VPN client to access your Samba server.
- 5. Select Allow NetBIOS passthrough to allow your VPN client to access your Samba server using NetBIOS name.
- Select Allow Unencrypted connections to allow unencrypted connections to access your VPN server.
- 7. Add the account to authenticate clients to the PPTP VPN server. The default account is admin both for username and password.

ccou	nt List ((up to 16 users)			
					🕒 Add 🛛 😑 Delete
	ID	Username		Password	Modify
277		275			
	Usernar	me:	admin		
	Passwor	rd:	admin		
				Can	cel Save
	1	admin		admin	0

Step 2. Configure PPTP VPN Connection on Your Remote Device

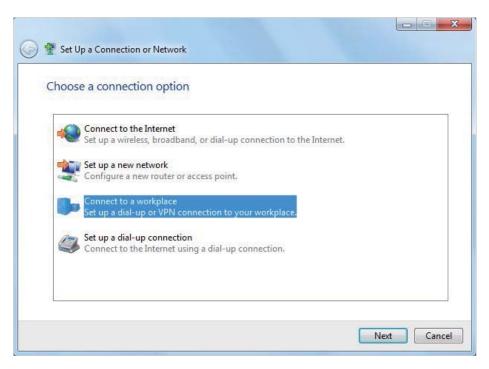
The remote device can use the Windows built-in PPTP software or a third-party PPTP software to connect to PPTP Server. Here we use the Windows built-in PPTP software as an example.

1. Go to Start > Control Panel > Network and Internet > Network and Sharing Center.

2. Select Set up a new connection or network.

Network and Sharing Cer	nt ×		
	Network and Internet Network and Sharing Center	-	Search Control
Control Panel Home	View your basic network information and	l set up connections	
Change adapter settings	A		See full map
Change advanced sharing settings	WIN7-PC Network (This computer)	Internet	
	View your active networks		Connect or disconnect
	Network Work network	Access type: Internet Connections: Uccal Area	a Connection
	Change your networking settings		
	Set up a vireless, broadband, dial-up, ad ho	c, or VPN connection; or set up a	router or access point.
	Connect to a network Connect or reconnect to a wireless, wired, d	lial un ar VDN actuark connectio	
		lai-up, or very network connection	n.
	Choose homegroup and sharing options Access files and printers located on other ne	twork computers, or change char	ing settings
See also		awork computers, or change shar	ing seconds.
HomeGroup	Troubleshoot problems		
	Diagnose and repair network problems, or g	let troubleshooting information.	
Internet Options			

3. Select Connect to a workplace and click Next.



4. Select Use my Internet connection (VPN).

How do you want to connect?	
 Use my Internet connection (VPN) Connect using a virtual private network (VPN) connection through the In 	ternet.
🧶 — 🍥 — 🦫	
Dial directly Connect directly to a phone number without going through the Internet.	
👰 — 🐌	
What is a VPN connection?	

5. Enter the internet IP address of the router (for example: 218.18.1.73) in the Internet address field. Click Next.

🕒 🗽 Connect to a Workpl	ace
Type the Internet a	ddress to connect to
Your network administra	ator can give you this address.
Internet address:	218.18.1.73
Destination name:	VPN Connection
This option allow	ole to use this connection vs anyone with access to this computer to use this connection. ow; just set it up so I can connect later
	Next Cancel

6. Enter the Username and Password you have set for the PPTP VPN server on your router, and click Connect.

1	admin	
User name: Password:		
Password:	Show characters	
	Remember this password	
Domain (optional):		

7. The PPTP VPN connection is created and ready to use.



Chapter 13

Customize Your Network Settings

This chapter guides you on how to configure advanced network features.

It contains the following sections:

- <u>Change the LAN Settings</u>
- <u>Configure to Support IPTV Service</u>
- <u>Specify DHCP Server Settings</u>
- <u>Set Up a Dynamic DNS Service Account</u>
- <u>Create Static Routes</u>
- Specify Wireless Settings
- <u>Use WPS for Wireless Connection</u>
- <u>Schedule Your Wireless Function</u>

13.1. Change the LAN Settings

The router is preset with a default LAN IP 192.168.0.1, 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 on your local network or your network requires a specific IP subnet, you can change it.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Network > LAN.
- 3. Type in a new IP Address appropriate to your needs. And leave the Subnet Mask as the default settings.

LAN		
MAC Address:	50-C7-BF-02-EA-DC	
IP Address:	192.168.0.1	
Subnet Mask:	255.255.255.0	
		- Course
		Save

4. Click Save.

Note:

If you have set the Virtual Server, DMZ or DHCP address reservation, and the new LAN IP address is not in the same subnet with the old one, then you should reconfigure these features.

13.2. Configure to Support IPTV Service

I want to:

Configure IPTV setup to enable Internet/IPTV/Phone service provided by my internet service provider (ISP).

How can I do that?

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Network > IPTV.
- **3.** If your ISP provides the networking service based on IGMP technology, e.g., British Telecom(BT) and Talk Talk in UK:
 - 1) IGMP is used to manage multicasting on TCP/IP networks, which is enabled by default. Select the IGMP Version, either V2 or V3, as required by your ISP.

IPTV		
IGMP Snooping:	Enable	
IGMP Proxy:	Enable	
IGMP Version:	V2 💌	

- 2) Click Save.
- 3) After configuring IGMP proxy, IPTV can work behind your router now. You can connect your set-top box to any of the router's Ethernet port.

If IGMP is not the technology your ISP applies to provide IPTV service:

- 1) Tick Enable IPTV.
- 2) Select the appropriate Mode according to your ISP.
- Select Bridge if your ISP is not listed and no other parameters are required.
- Select Custom if your ISP is not listed but provides necessary parameters.

Mode:	Bridge	
	Singapore-ExStream	
LAN1:	Malaysia-Unifi	
LAN2:	Malaysia-Maxis	
LAN3:	Vietnam-Viettel	
LAN4:	New Zealand-UFB	
	Australia-NBN	
	Portugal-MEO	Sav

- 3) After you have selected a mode, the necessary parameters, including the LAN port for IPTV connection, are predetermined. If not, select the LAN type to determine which port is used to support IPTV service.
- 4) Click Save.
- 5) Connect the set-top box to the corresponding LAN port which is predetermined or you have specified in Step 3.

Done!

Your IPTV setup is done now! You may need to configure your set-top box before enjoying your TV.

Ø Tips:

Qos and IPTV cannot be enabled at the same time.

13.3. Specify DHCP Server Settings

By default, the DHCP (Dynamic Host Configuration Protocol) Server is enabled and the router acts as a DHCP server; it dynamically assigns TCP/IP parameters to client

devices from the IP Address Pool. You can change the settings of the DHCP Server if necessary, and you can reserve LAN IP addresses for specified client devices.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Network > DHCP Server.
- To specify the IP address that the router assigns:

DHCP Server:	Enable DHCP Serve		
IP Address Pool:	192.168.0.100	- 192.168.0.199	
Address Lease Time:	120 minut	es. (1-2880. The default value is 120.)	
Default Gateway:	192.168.0.1	(Optional)	
Primary DNS:		(Optional)	
Secondary DNS:		(Optional)	

- 1. Check the box for Enable DHCP Server.
- 2. Enter the starting and ending IP addresses in the IP Address Pool.
- 3. Enter other parameters if the ISP offers. The Default Gateway is automatically filled in and is the same as the LAN IP address of the router.
- 4. Click Save.
- To reserve an IP address for a specified client device:
- 1. Click Add in the Address Reservation section.

				🔂 Ad	d 😑 Delet
ID	MAC Address	Reserved IP Address	Description	Status	Modify
 e -11	15 .2	2. 57	2.55	-	
IP Address	n:	Enable This Entry	(a-z, A-Z, 0	-9, -, _)	

- 2. Click Scan or enter the MAC address of the client device.
- 3. Enter the IP address to reserve for the client device.
- 4. Enter the Description for this entry.
- 5. Tick the Enable This Entry checkbox and click OK.

13. 4. Set Up a Dynamic DNS Service Account

Most ISPs 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 from time to time and you don't know when it changes. In this case, you might apply 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 a domain name without 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 router.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Network > Dynamic DNS.
- 3. Select the DDNS Service Provider (TP-Link, NO-IP or DynDNS). It is recommended to select TP-Link so that you can enjoy TP-Link's superior DDNS service. Otherwise, please select NO-IP or DynDNS. If you don't have a DDNS account, you have to register first by clicking Go to register.

Dynamic DNS					
Service Provider:	TP-Link	🔿 NO-IP 🔿 DynD	NS		
Current Domain Name:	2. <u></u>				
Domain Name Lis				🖨 Registe	er 🖨 Dele
Domain Name Lis	in Name	Registered Date	Status	Registe Operation	er 😑 Dele Modify

Note:

To enjoy TP-Link's DDNS service, you have to log in with a TP-Link ID. If you have not logged in with one, click Log in.

Dynamic DNS	
Service Provider:	TP-Link ONO-IP ODynDNS
DDNS Unavailable	
To use our superior TP-Link provider.	DDNS service, please Log in with your TP-Link ID, or choose another service

4. Click Register in the Domain Name List if you have chosen TP-Link, and enter the Domain Name as needed.

1000	DNS						
Service Provi	der:	TP-Link	○ NO-IP	O DynDN	S		
Current Dom	nain Name:	2005					
Domain N	lame List					🕂 Registe	r 😑 Dele
Domain N	lame List Domain		Register	red Date	Status	Registe Operation	er 😑 Dele Modify

If you have chosen NO-IP or DynDNS, enter the username, password and domain name of your account.

Service Provider:	🔿 TP-Link 🛛 🧕	NO-IP O DynDNS Go to register
Username:		
Password:		
Domain Name:		
Update Interval:	1 hour	•
WAN IP binding:	O Disable	Enable

5. Click Login and Save.

Ø Tips:

If you want to use a new DDNS account, please click logout first, and then log in with a new account.

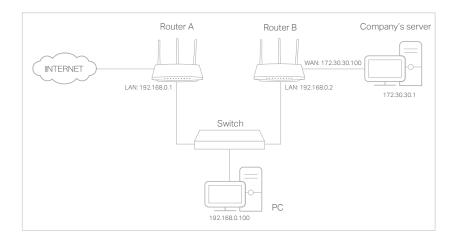
13.5. Create Static Routes

Static routing is a form of routing that is configured manually by a network administrator or a user by adding entries into a routing table. The manually-configured routing information guides the router in forwarding data packets to the specific destination.

I want to:

Visit multiple networks and servers at the same time.

For example, in a small office, my PC can surf the internet through Router A, but I also want to visit my company's network. Now I have a switch and Router B. I connect the devices as shown in the following figure so that the physical connection between my PC and my company's server is established. 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. Change the routers' LAN IP addresses to two different IP addresses on the same subnet. Disable Router B's DHCP function.
- 2. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for Router A.
- 3. Go to Network > Static Routing.
- 4. Click Add and finish the settings according to the following explanations:

							🔂 Add	Delete
	ID	Network Destination	Subnet Mask	Default Gateway	Interface	Description	Status	Modify
			55			(-	
	Ne	twork Destination	172.30.3	1.1				
	Su	bnet Mask:	255.255.	255.255				
	De	fault Gateway:	192.168.	0.2				
	Int	erface:	LAN					
	De	scription:	company	's network				
			Enable 1	This Entry				
						Cancel	Save	_

- Network Destination: 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 Router A. In the example, the IP address of the company network is the destination IP address, so here enter 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 enter 255.255.255.255.
- Default 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 data. In the example, the data packets will be sent to the LAN port of Router B and then to the Server, so the default gateway should be 192.168.0.2.
- Interface: Determined by the port (WAN/LAN) that sends out data packets. In the example, the data are sent to the gateway through the LAN port of Router A, so LAN should be selected.
- Description: Enter a description for this static routing entry.

- 5. Click Save.
- 6. Check the System Routing Table below. If you can find the entry you've set, the static routing is set successfully.

, 500	em Routing Table			
tive	Routes Number: 1			🖰 Refre
ID	Network Destination	Subnet Mask	Gateway	Interface
1	192,168.0.0	255,255,255,0	0.0.0	lan

Done!

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

13.6. Specify Wireless Settings

The 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 label of the router. You can customize the wireless settings according to your needs.

Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.

• To enable or disable the wireless function:

- 1. Go to Basic > Wireless.
- 2. The wireless radio is enabled by default. If you want to disable the wireless function of the router, just uncheck the box for Enable Wireless Radio. In this case, all the wireless settings will be invalid.
- To change the wireless network name (SSID) and wireless password:
- 1. Go to Basic > Wireless.
- 2. Create a new SSID in Network Name (SSID) and customize the password for the network in Password. The value is case-sensitive.

Note:

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

• To hide SSID:

- 1. Go to Basic > Wireless.
- 2. Select Hide SSID, and your SSID won't display when you scan for local wireless networks on your wireless device and you need to manually join the network.

• To use the smart connect function

The smart connect function helps devices run faster by assigning them to best wireless bands based on actual conditions to balance network demands.

- 1. Go to Advanced > Wireless > Wireless Settings.
- 2. Enable Smart Connect and click Save.
- 3. Keep the default or set a new SSID and password, and click Save. This SSID and password will be applied both for 2.4GHz and 5GHz wireless networks.

Smart Connect	
Smart Connect:	
Wireless Settings	
	Enable Wireless Radio
Network Name (SSID):	TP-Link_5053
Security:	WPA/WPA2-Personal (Recommended)
Version :	Auto O WPA-PSK O WPA2-PSK
Encryption:	Auto O TKIP O AES
Password:	66378365
Transmit Power:	C Low C Middle High
Airtime Fairness Feature:	Enable Airtime Fairness

• To change the security option:

- 1. Go to Advanced > Wireless > Wireless Settings.
- 2. Select the wireless network 2.4GHz or 5GHz.
- 3. Select an option from the Security drop-down list. We recommend you don't change the default settings unless necessary. If you select other options, configure the related parameters according to the help page.

In addition

- Mode: Select a transmission mode according to your wireless client devices. It is recommended to just leave it as default.
- Channel Width: Select a channel width (bandwidth) for the wireless network.
- Channel: Select an operating channel for the wireless network. It is recommended to leave the channel to Auto, if you are not experiencing the intermittent wireless connection issue.

• Transmit Power: Select either High, Middle or Low to specify the data transmit power. The default and recommended setting is High.

• To enable the Airtime Fairness feature

The Airtime Fairness feature can improve the overall network performance by sacrificing a little bit of network time on your slow devices. Enable Airtime Fairness when you wish to sacrifice some of the networking time from the slow devices, so that your faster devices can achieve better quality of service.

For example, you have a gaming computer next to the router in the living room, and a slower family computer upstairs. Enable the airtime fairness feature so that your gaming computer can perform as optimally as possible.

1. Go to Advanced > Wireless > Wireless Settings.

- 2. Select the wireless network 2.4GHz or 5GHz.
- 3. Tick the Enable Airtime Fairness checkbox.

4. Click Save.

• To enable the Multi-User MIMO feature

A router with the Multi-User MIMO feature serves 4 devices simultaneously while a traditional router serves only one user at a time. That means Multi-User MIMO can provide a faster, more efficient Wi-Fi network for multiusers.

Note:

Devices supporting 5GHz wireless band can enjoy the Multi-User MIMO service.

- 1. Go to Advanced > Wireless > Wireless Settings.
- 2. Select the wireless network 5GHz.
- 3. Check the box for Enable Multi-User MIMO.
- 4. Click Save.

13.7. 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.

13.7.1. Method 1: Use the WPS Button

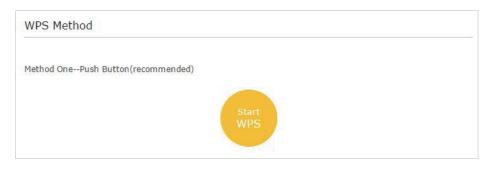
Use this method if your client device has a WPS button.

- 1. Press the WPS button of the 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 router.

13.7.2. Method 2: Use the WPS Button on the Web Management Page

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

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Wireless > WPS.



- 3. Click Start WPS.
- 4. Press the WPS button of the client device directly.
- 5. The WPS LED of the router flashes for about 2 minutes during the WPS process.
- 6. When the WPS LED is on, the client device has successfully connected to the router.

13.7.3. Method 3: Enter the Router's PIN on Your Client Device

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

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Wireless > WPS. Click Method Two--PIN.

Method TwoPIN			
Router's PIN	Client's PIN		
Router's PIN:			
Router's PIN:	31929035	Generate	Default

- 3. Take a note of the router's PIN. You can also click Generate to get a new PIN.
- 4. On the client device, enter the router's PIN. (The default PIN is also printed on the label of the 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 router. Note: The WPS function cannot be configured if the wireless function of the router is disabled. Please make sure the wireless function is enabled before configuring the WPS.

13.7.4. Method 4: Enter the Client Device's PIN on the Router

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Wireless > WPS. Click Method Two--PIN.

Method TwoPIN			
 Router's PIN I Cl 	ient's PIN		
Enter the client's PIN:			
Connect			

- 3. Select Client's PIN.
- 4. Enter the client device's PIN in the field. Then click the Connect button.
- 5. Connect successfully will appear on the above screen, which means the client device has successfully connected to the router.

13.8. Schedule Your Wireless Function

This feature allows you to turn off the wireless netowrks at a specific time automatically when you do not need the wireless connection.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Wireless > Wireless Schedule.
- 3. Toggle on the button to enable the Wireless Schedule feature.

	s Off Time Schedu	le:		
/irele	ess Off Time			
				🔂 Add 🕒 Delet
	ID	Wireless Off Time	Repeat	Modify
			T	-
	From:	00	•	
	то:	06	•	
	Repeat:	O Every Day Sel	ected Day	
	Selected Day:	🗌 Sun 🕑 Mon 🕑	Tue 🕑 Wed 🕑 Thu 🕑	Fri 🗌 Sat
	Note: The rule of	repeatition days is applied to al	time entries.	

4. Click Add to set the Wireless Off Time, and click Save.

5. Repeat Step 3 and 4 to set another entry if needed.

Note:

- Make sure that the time of the router is correct before applying this function. For details, refer to Set Up System Time.
- The wireless LEDs (2.4GHz and 5GHz) will be off if the wireless schedule takes effect.
- The wireless network(s) will be automatically turned on after the time period you have set.

Chapter 14

Manage the Router

This chapter will show you the configuration for managing and maintaining your router.

It contains the following sections:

- <u>Set Up System Time</u>
- <u>Control LEDs</u>
- <u>Test the Network Connectivity</u>
- <u>Upgrade the Firmware</u>
- Backup and Restore Configuration Settings
- Set the Router to Reboot Regularly
- <u>Change the Administrator Account</u>
- Default Password Recovery
- Local Management
- <u>Remote Management</u>
- <u>System Log</u>
- Internet Traffic Statistics
- <u>System Parameters</u>

14.1. Set Up System Time

System time is the time displayed while the router is running. The system time you configure here will be used for other time-based functions like Parental Controls. You can choose the way to obtain the system time as needed.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Time Settings.
- 3. If you want the time to be displayed in 24-hour format, toggle on the 24-Hour Time button.
- To get time from the Internet:
- 1. In the Set Time field, select Get from the Internet.

Current Time:	1:35:00 AM, 10/24/2016	
24-Hour Time:		
Set Time:	Get from the Internet	Get from PC O Manually
Time Zone:	(GMT) Greenwich Mean Tim	re, Dublin, London 🔹
NTP Server I:	time.nist.gov	
NTP Server II:	time-nw.nist.gov	(Optional)

- 2. Select your local Time Zone from the drop-down list.
- 3. In the NTP Server I fileId, enter the IP address or domain name of your desired NTP Server.
- 4. (Optional) In the NTP Server II fileld, enter the IP address or domain name of the second NTP Server.
- 5. Click Obtain to get the current internet time and click Save.
- To get time from PC
- 1. In the Set Time field, select Get from PC.
- 2. The current system time and date of your PC will display below. Click Save.

Ø Tips:

Make sure the time on your PC is correct if you want to get the PC's system time.

System Time	
Current Time:	1:35:00 AM, 10/24/2016
24-Hour Time:	
Set Time:	O Get from the Internet Get from PC Manually
	11/21/2016 17:29:29
	Sav

- To manually set the time:
- 1. In the Set Time field, select Manually.

Current Time:	1:35:00 AM, 10/24/2016		
24-Hour Time:			
Set Time:	O Get from the Internet O Get from PC Manually		
	11/21/2016 17:34:20		
Date:	10/24/2016	(MM/DD/YYYY)	

- 2. Set the current Date (In MM/DD/YYYY format).
- 3. Set the current Time (In HH/MM/SS format).
- 4. Click Save.

• To set up Daylight Saving Time:

1. Select Enable Daylight Saving Time.

	🕑 Ena	ble Daylight S	Saving Time			
Start:	2016	Mar 💌	2nd 🔻	Sun 🔻	2 AM	•
End:	2016	Nov 💌	First 💌	Sun 🔻	2 AM	
Running Status:	Dayligh	t Saving Tim	e is on.			

- 2. Select the correct Start date and time when daylight saving time starts at your local time zone.
- 3. Select the correct End date and time when daylight saving time ends at your local time zone.
- 4. Click Save.

14.2. Control LEDs

The router's LEDs indicate router's activities and status. You can turn on or turn off the LEDs either from the web management page or by pressing the LED button.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > LED Control.
- 3. Tick the Night Mode checkbox.
- 4. Specify a time period in the LED Off Time as needed, and the LEDs will be off during this period.

Night Mode				
Note: Before enablin	g Night Mode, pleas	se make sure the	e System Time is correct.	
Current Time:	09/23/201	9 01:02:49		
Night Mode: (everyday)	Enable			
LED Off Time:	From:	22:00 🌲		
	To:	06:00 🌲	next day	
			-	
			S	Save

5. Click Save.

14.3. Test the Network Connectivity

Diagnostics is used to test the connectivity between the router and the host or other network devices.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Diagnostics.

3. Enter the information with the help of page tips:

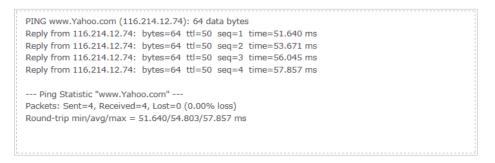
- 1) Choose Ping or Traceroute as the diagnostic tool to test the connectivity;
- Ping is used to test the connectivity between the router and the tested host, and measure the round-trip time.
- Traceroute is used to display the route (path) your router has passed to reach the tested host, and measure transit delays of packets across an Internet Protocol network.
- 2) Enter the IP Address or Domain Name of the tested host.

4. Click Start to begin the diagnostics.

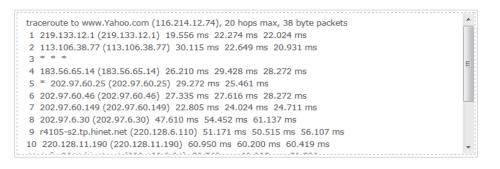
Tips:

Click_Advanced, you can modify the ping count, ping packet size or the Traceroute Max TTL. It's recommended to keep the default value.

The figure below indicates the proper connection between the router and the Yahoo server (www.Yahoo.com) tested through Ping.



The figure below indicates the proper connection between the router and the Yahoo server (www.Yahoo.com) tested through Traceroute.



14.4. Upgrade the Firmware

TP-Link aims at providing better network experience for users.

We will inform you throught the web management page if there's any update firmware available for your router. Also, the latest firmware will be released at the TP-Link official website <u>www.tp-link.com</u>, and you can download it from the <u>Support</u> page for free.

Note:

- Make sure you remove all attached USB devices from the router before the firmware upgrade to prevent data loss.
- Backup your router configuration before firmware upgrade.
- Do NOT turn off the router during the firmware upgrade.

14.4.1. Online Upgrade

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. When the latest firmware is available for your router, the update icon will display in the top-right corner of the page. Click the icon to go to the Firmware Upgrade page.

Alternatively, you can go to Advanced > System Tools > Firmware Upgrade, and click Check for upgrade to see whether the latest firmware is released.

Online Upgrade		
Latest Version :	1.0.0 Bull 20100424 of 26674	
		Check for upgrade

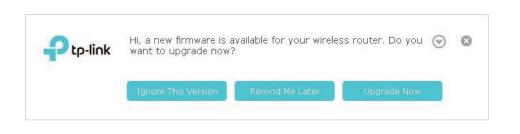
3. Focus on the Online Upgrade section, and click Upgrade.

Online Upgrade	
Latest Version:	
4. sad for including (b)	Upgrade

4. Wait a few minutes for the upgrade and reboot to complete.

Ø Tips:

If there's a new and important firmware update for your router, you will see the notification (similar as shown below) on your computer as long as a web browser is opened. Click Upgrade now, and log into the web management page with the username and password you set for the router. You will see the Firmware Upgrade page.



14.4.2. Local Upgrade

- 1. Download the latest firmware file for the router from <u>www.tp-link.com</u>.
- 2. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or 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 is matched with the Hardware Version.
- 5. Focus on the Local Upgrade section. Click Browse to locate the downloaded new firmware file, and click Upgrade.

Local Upgrade		
New Firmware File:	Browse	
		Upgrade

6. Wait a few minutes for the upgrade and reboot to complete.

14.4.3. Restore Interrupted Upgrade after Power Failure

If your router cannot start up after an upgrade interruption due to power failure, follow the steps below to restore the interrupted upgrade. Otherwise, your router cannot work again.

- 1. Make sure you have the latest firmware file in your computer. If not, try another way to connect your computer to the Internet and download the latest firmware file from www.tp-link.com.
- 2. Connect your computer to the router with an Ethernet cable.
- 3. Visit <u>192.168.0.1</u> and you will see the following upgrade page.

System error. The router cannot start up Please upgrade your router. You can down		-link.com.
New Firmware File:	Browse	March & Low March

- 4. Click Browse and select the downloaded firmware file.
- Click Upgrade and wait for a few minutes until the router completes the upgrading and restarts.

14.5. Backup and Restore Configuration Settings

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

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Backup & Restore.

To backup configuration settings:

Click Backup to save a copy of the current settings to your local computer. A '.bin' file of the current settings will be stored to your computer.

Backup	
Save a copy of your current settings.	
	Backup

• To restore configuration settings:

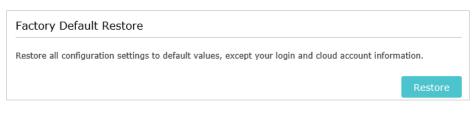
1. Click Browse to locate the backup configuration file stored on your computer, and click Restore.

Restore			
Restore saved setting	gs from a file.		
File:		Browse	
			Restore

2. Wait a few minutes for the restoring and rebooting.

Note: During the restoring process, do not turn off or reset the router.

- To reset the router except your login password and bound TP-Link ID:
- 1. Click Restore under the Factory Default Restore session.



2. Wait a few minutes for the resetting and rebooting.

Note:

- During the resetting process, do not turn off the router.
- After reset, you can still use the current login password or the TP-Link ID to log in to the web management page.

• To reset the router to factory default settings:

1. Click Factory Restore to reset the router.



2. Wait a few minutes for the resetting and rebooting.

Note:

- During the resetting process, do not turn off or reset the router.
- We strongly recommend you backup the current configuration settings before resetting the router.

14.6. Set the Router to Reboot Regularly

The Scheduled Reboot feature cleans the cache to enhance the running performance of the router.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Reboot Schedule.
- 3. Check the box to enable Reboot Schedule.

Reboot Schedule				
Note: Before enabling I	Reboot Schedule, please ma	ke sure the <u>Sys</u>	tem Time is corre	ct.
Current Time:	09/23/2019 01:07:4	5		
Reboot Schedule:	Enable			
Reboot Time:	03:00 🜲			
Repeat:	Every Week 💌	Monday	•	
				Save

- 4. Specify the Reboot Time when the router reboots and Repeat to decide how often it reboots.
- 5. Click Save.

14.7. Change the Administrator Account

The account management feature allows you to change your login password of the web management page.

Note:

If you are using a TP-Link ID to log in to the web management page, the account management feature will be disabled. To manage the TP-Link ID, go to Basic > TP-Link Cloud.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Administration and focus on the Account Management section.

Account Manageme	nt	
Old Password:		
New Password:		
	Low Middle High	
Confirm New Password:		

3. Enter the old password, then a new password twice (both case-sensitive). Click Save.

4. Use the new password for future logins.

14.8. Default Password Recovery

This feature allows you to recover the login password you set for you router in case you forget it.

Note:

If you are using a TP-Link ID to log in to the web management page, the Password Recovery feature will be disabled. To manage the TP-Link ID, go to Basic > TP-Link Cloud.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Administration and focus on the Default Password Recovery section.
- 3. Check the box for Enable Default Password Recovery.
- 4. Specify a mailbox (From) for sending the recovery letter and enter its SMTP Server address. Specify a mailbox (To) for receiving the recovery letter. If the mailbox (From)

to send the recovery letter requires encryption, select Enable Authentication and enter its username and password.

Tips:

- SMTP server is available for users in most webmail systems. For example, the SMTP server address of Gmail is smtp.gmail.com. You can refer to their Help page to learn the SMTP server address.
- Generally, Enable Authentication should be selected if the login of the mailbox requires username and password.

Default Passwo	rd Recovery	
	Enable Default Password Recovery	
From:		
To:		
SMTP Server:		
	Enable Authentication	
Username:		
Password:		
		Test Email Save

5. Click Save.

You can click Test Email to test whether the configuration is successful.

To recover the login password, please visit <u>http://tplinkwifi.net</u>, click Forgot Password? on the login page and follow the instructions to set a new password.

14.9. Local Management

This feature allows you to limit the number of client devices on your LAN from accessing the router by using the MAC address-based authentication.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Administration and complete the settings In Local Management section as needed.
- Allow Local Management via both HTTPS and HTTP:

Toggle on Local Management via HTTPS.

l	ocal Management	
	.ocal Management via HTTPS:	

• Allow all LAN connected devices to manage the router:

Toggle on Access for All LAN Connected Devices.

Local Management	
Local Management via HTTPS:	
Access for All LAN Connected Devices:	Toggle On to enable the management for all devices on LAN or toggle off to enable the management for specific devices.

- Allow specific devices to manage the router:
- 1. Toggle off Access for All LAN Connected Devices.
- 2. Click Add.

Access for All LAN Connected Devices:		L L	oggle On to enable the managem AN or toggle off to enable the ma evices.		
				🕀 Add	O Delete
	ID	MAC Address	Description	Status	Modify
	1	FC0C	Your PC!	Ŷ	C i

- 3. Click Scan and select the device to manage the router from the Existing Devices list, or enter the MAC address of the device manually.
- 4. Specify a Description for this entry.
- 5. Tick the Enable This Entry checkbox and click OK.

14.10. Remote Management

This feature allows you to control remote devices' authority to manage the router.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Administration and complete the settings in Remote Management section as needed.

Remote Management		
Remote Management:	Enable	
Web Address for Management:	https://0.0.0.0:443	
HTTPS Port:	443	
HTTP Port:	80	
Remote Managers:	All Devices	Ŧ

Forbid all devices to manage the router remotely:

Select Disable Remote Management and click Save.

- Allow all devices to manage the router remotely:
- 1. Select Enable Remote Management.
- 2. Use the default value HTTPS Port: 443 and HTTP Port: 80 or enter values between 1024 and 65535.
- 3. Select All Devices in Remote Managers.
- 4. Click Save.
- Allow Specified device to manage the router remotely:
- 1. Select Enable Remote Management.
- 2. Use the default value HTTPS Port: 443 and HTTP Port: 80 or enter values between 1024 and 65535.
- 3. Select Specified Devices in Remote Managers.
- 4. Enter IP address of the device in Only this IP address.
- 5. Click Save.

Devices on the internet can log in to <u>https://Router's WAN IP address: HTTPS port</u> <u>number</u> (such as <u>http://113.116.60.229:1024</u>) or <u>http://Router's WAN IP address: HTTP</u> <u>port number</u> to manage the router.

- Ø Tips:
- You can find the WAN IP address of the router on Basic > Network Maps > Internet.
- The router's WAN IP is usually a dynamic IP. Please refer to <u>Set Up a Dynamic DNS Service Account</u> if you want to log in to the router through a domain name.

14.11. System Log

When the router does not work normally, you can save the system log and send it to the technical support for troubleshooting.

• To save the system log in local:

- 1. Visit <u>http://tplinkwifi.net</u>, and log in your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Log.
- 3. Choose the type and level of the system logs as needed.
- 4. Click Save Log to save the system logs to local.

				👌 Refresh 🛛 🖨 Delete Al
ID	Time	Туре	Level	Log Content
1	2016-06-24 04:28:31	Local Management	NOTICE	[19000] Accessable mode change: Device in the list.
2	2016-06-24 04:25:12	Locale	INFO	[16605] Language is changed to 'en_US
3	2016-06-24 04:25:12	Locale	DEBUG	[16605] Explorer language is 'zh_CN'
4	2016-06-24 04:25:02	Locale	INFO	[16435] Language is changed to 'en_US
5	2016-06-24 04:25:02	Locale	DEBUG	[16435] Explorer language is 'zh_CN'
6	2016-06-24 04:24:58	Locale	INFO	[16283] Language is changed to 'en_US
7	2016-06-24 04:24:58	Locale	DEBUG	[16283] Explorer language is 'zh_CN'

• To send the system log to a mailbox at a fixed time:

For example, I want to check my router's working status at a fixed time every day, however, it's too troublesome to log in to the web management page every time I want to go checking. It would be great if the system logs could be sent to my mailbox at 8 a.m. every day.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Log.
- 3. Click Mail Settings.
- 4. Enter the information required:

Mail Settings		
From:		
To:		
SMTP Server:		
	Enable Authentication	
Username:		
Password:		
	Enable Auto Mail	
	● Log at 00 ▼ : 00 ▼ (HH:MM) everyday	
	O Log every 24 hours	
	s	ave

- 1) From: Enter the email address used for sending the system log.
- 2) To: Enter the recipient's email address, which can be the same as or different from the sender's email address.
- 3) SMTP Server: Enter the SMTP server address.

Tips: SMTP server is available for users in most webmail systems. For example, the SMTP server address of Hotmail is smtp-mail.outlook.com. You can refer to their Help page to learn the SMTP server address.

4) Select Enable Authentication.

Tips: Generally, Enable Authentication should be selected if the login of the mailbox requires username and password.

- 5) Username: Enter the email address used for sending the system log.
- 6) Password: Enter the password to login the sender's email address.
- 7) Select Enable Auto Mail.

Tips: The router will send the system log to the designated email address if this option is enabled.

8) Set a fixed time. The recipient will receive the system log sent at this time every day.

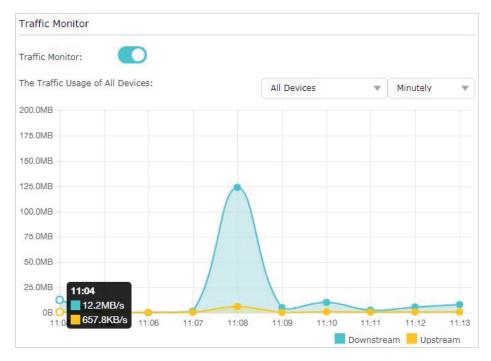
5. Click Save.

14. 12. Internet Traffic Statistics

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

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Traffic Monitor.

3. Toggle on Traffic Monitor, and then you can monitor the traffic usage of all the connected devices or a single device.



4. Check the total traffic statistics of each device on Traffic Monitor List.

Traffic Monitor Li	ist			
			🖒 Refi	resh 🗘 Reset /
	Device Name	MAC Address	Real-Time Rate	Traffic Usage

Click Refresh to update the statistic information on the page.

Click Reset All to reset all statistic values in the list to zero.

14. 13. System Parameters

14. 13. 1. 2.4GHz/5GHz Wireless

You can configure the parameters of traffic transmission rules in wireless networks. It's recommended to keep the default settings if you are not sure of the proper ones in the case.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Parameters. Focus on 2.4GHz/5GHz Wireless section.

2.4GHz Wireless		
Beacon Interval:	100	(40-1000)
RTS Threshold:	2346	(1-2346)
DTIM Interval:	1	(1-15)
Group Key Update Period:	0	seconds
WMM Feature:	Enable WM	IM
Short GI Feature:	Enable Sho	ort GI
AP Isolation Feature:	Enable AP	Isolation
USB 3.0 Interference Reduction:	Enable	
Note: The USB 3.0 will affect the improve 2.4GHz wireless performa		: performance, enabling USB 3.0 Interference Reduction will USB 3.0 data transfer speed. Save

- Bacon Interval Enter a value between 40 and 1000 to determine the duration between beacon packets that 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. The default size is 2346. If the packet size is greater than the preset threshold, the router sends Request of 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 15 to determine the interval of DTIM (Delivery Traffic Indication Message). The default interval is 1, indicating the DTIM interval is the same as Beacon Interval.
- Group Key Update Period Enter the number of seconds between 30 and 86400, or use the default value 0 that indicates no key interval to control the time interval for the encryption key automatic renewal.
- WMM Feature It is enabled by default and highly recommended, for the WMM function guarantees the packets with high-priority messages being transmitted preferentially.
- Short GI Feature It is enabled by default and highly recommended, for it will increase the packet capacity by reducing the GI (Guard Interval) time.
- AP Isolation Feature If you want to confine and restrict all wireless devices connected to the network from interacting with each other, but still able to access the internet, enable AP Isolation feature.
- USB 3.0 Interference Reduction When enabled, 2.4GHz wireless performance will be improved, but USB 3.0 data transfer speed will be lowered.

14. 13. 2. 2.4GHz/5GHz WDS

WDS (Wireless Distribution System) Bridging feature allows you to extend the wireless network coverage by bridging with an AP (access point) in local network. The access point should also support WDS Bridging feature.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Parameters. Focus on 2.4GHz/5GHz WDS section.
- To bridge a network by Survey feature:
- 1. Enable the WDS Bridging feature.

VDS Bridging:	Enable WDS Bridging
SSID (to be bridged):	Survey
1AC Address (to be bridged):	Example: 00-1D-0F-11-22-33
Security:	No Security O WPA-PSK/WPA2-PSK O WEP

- 2. Click Survey to scan all available networks and select the network you want to bridge. The SSID (network name) and MAC Address will be automatically populated. You can also manually fill in these parameters.
- 3. Select a Security type and enter related parameters, which should be the same as the network to be bridged.
- 4. Click Save.

Note: You need to enable and configure the WDS Bridging feature for the access point as well.

- To bridge a network manually:
- 1. Enable the WDS Bridging feature.
- 2. Enter the SSID (network name) and MAC Address of the network to be bridged .
- 3. Select a Security type and enter related parameters, which should be the same as the network to be bridged.
- 4. Click Save.

14.13.3.NAT

The router's NAT (Network Address Translation) feature makes devices on the LAN use the same public IP address to communicate with devices on the internet, which protects the local network by hiding IP addresses of the devices.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Parameters. Focus on NAT section.

Enable NAT	
	Save
	✓ Enable NAT

3. NAT feature is enabled by default and it's highly recommended. If you disable it, you may have no access to the internet and NAT Forwarding will not take effect.

14.13.4. DoS Protection

DoS Protection can protect your home network against DoS attacks from flooding your network with server requests. Follow the steps below to configure DoS Protection. The level of protection is based on the number of traffic packets. The protection will be triggered immediately when the number of packets exceeds the preset threshold value

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Parameters. Focus on DoS Protection section.

ICMP-FLOOD Packets Level	Low:	50	(5-7200)packets/sec
	Middle:	20	(5-7200)packets/sec
	High:	10	(5-7200)packets/sec
UDP-FLOOD Packets Level	Low:	7200	(5-7200)packets/sec
	Middle:	2000	(5-7200)packets/sec
	High:	400	(5-7200)packets/sec
FCP-FLOOD Packets Level	Low:	200	(5-7200)packets/sec
	Middle:	100	(5-7200)packets/sec
	High:	50	(5-7200)packets/sec

- 3. Set the level (Low, Middle or High) of protection and click Save.
 - ICMP-FLOOD Packets Level Enter a value between 5 and 7200 to trigger the ICMP-FLOOD protection immediately when the number of ICMP packets exceeds the preset threshold value.
 - UDP-FIOOD Packets Level Enter a value between 5 and 7200 UDP packets to trigger the UDP-FLOOD protection immediately when the number of UDP packets exceeds the preset threshold value.
 - TCP-FLOOD Packets Level Enter a value between 5 and 7200 TCP-SYN (Transmission Control Protocol-Synchronize) packets to trigger the TCP-SYN-FLOOD protection immediately when the number of TCP packets exceeds the preset threshold value.

14. 13. 5. Internet Port Negotiation Speed Setting

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Parameters. Focus on Internet Port Negotiation Speed Setting section.

Internet Port Negotiatio	n Speed Setting	
Internet Port Negotiation Speed Setting:	Auto Negotiation 🔹	
opeed betting.	Auto Negotiation	
	1000Mbps Full Duplex	Sav
	100Mbps Full Duplex	
	100Mbps Half Duplex	
	10Mbps Full Duplex	
	10Mbps Half Duplex	

3. Select the duplex type from the drop-down list and click Save.

Chapter 14

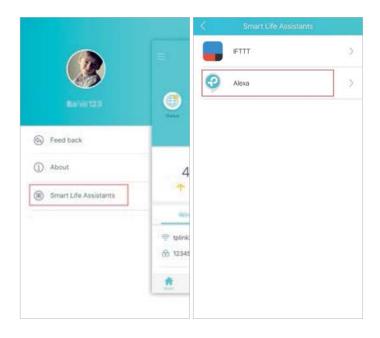
Work with Alexa

This chapter will show you how to configure your router to work with Alexa.

Control your network devices using simply the power of your voice with the TP-Link Router Skill for Amazon. Prioritize the Internet connection of your laptop, switch off your router's LED or ask Alexa to read out the password of the guest network, all without stopping what you're doing.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Smart Life Assistant.
- 3. Follow the on-screen instructions on the Alexa section to set up smart control of your router.

Or download TP-Link Tether app, open it and tap the \equiv icon, then select Smart Life Assistants to complete the setup.



FAQ

Q1. What should I do if I forget my wireless password?

The default wireless password is printed on the label of the router. If the password has been altered:

- 1. Connect your computer to the router using an Ethernet cable.
- 2. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 3. Go to Basic > Wireless to retrieve or reset your wireless password.

Q2. What should I do if I forget my web management password?

- If you are using a TP-Link ID to log in, or you have enabled the Password Recovery feature of the router, click Forgot password on the login page and then follow the instructions to reset it.
- Alternatively, press and hold the Reset button of the router until the Power LED binks to reset it, and then visit http://tplinkwifi.net to create a new login password.

Note:

- Please refer to <u>Default Password Recovery</u> to learn how to configure Password Recovery.
- You'll need to reconfigure the router to surf the internet once the router is reset, and please mark down your new password for future use.

Q3. What should I do if I cannot log in to the router's web management page?

This can happen for a variety of reasons. Please try the methods below to log in again.

- Make sure your computer is connected to the router correctly and the corresponding LED indicator(s) light up.
- Make sure the IP address of your computer is configured as Obtain an IP address automatically and Obtain DNS server address automatically.
- Make sure http://tplinkwifi.net or http://192.168.0.1 is correctly entered.
- 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 and select Never dial a connection.

To set up an Internet connection, dick Setup Dial-up and Virtual Private Network settings Broadband Connection Add Add VPN. Remove.	
Broadband Connection Add Add VPN. Remove.	
Remove.	
)
Choose Settings if you need to configure a proxy server for a connection.	
O Never dial a connection	
Dial whenever a network connection is not present	
Always dial my default connection	
Current None Set defau	ilt
Local Area Network (LAN) settings	
LAN Settings do not apply to dial-up connections. LAN setting Choose Settings above for dial-up settings.	as

4) Click LAN settings and deselect the following three options and click OK.

			de manual se omatic configi		ensure the
Automatic	ally detect	settings			
Use autor	natic configu	uration scr	ipt		
Address					
Proxy server					
	xy server fo VPN connec		N (Th <mark>ese s</mark> etti	ngs will not	apply to
Address:	di l		Port: 80	Ad	vanced
Bypas	s proxy ser	ver for loc	al addresses		

5) Go to Advanced > Restore advanced settings, click OK to save the settings.

General	Security	Privacy	Content	Connections	Programs	Advanced
Setting	s					
	Enable Move Reset Reset Browsing Auton Close Disabl	s expand e Caret Br system ca text size text size zoom leve natically re unused for e script de e script de	aret with for to medium to medium el for new ecover fron olders in His ebugging () ebugging ()	new windows a ocus/selection of for new window while zooming [*] windows and ta n page layout e story and Favor (nternet Explore	hanges ws and tabs bs rrors with Co rites* er)	
•	V Displa	y Accelera	ator buttor	on selection	1	•
	kes effect a			ernet Explorer Restore	advanced s	ettings

- Use another web browser or computer to log in again.
- Reset the router to factory default settings and try again. If login still fails, please contact the technical support.

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

Q4. How do I use the WDS Bridging function to extend my wireless network?

For example, my house covers a large area. The wireless coverage of the router I'm using (the root router) is limited. I want to use an extended router to boost the wireless network of the root router.

Note:

- WDS bridging only requires configuration on the extended router.
- WDS bridging function can be enabled either in 2.4GHz frequency or 5GHz frequency for a dual-band router. We use the WDS bridging function in 2.4GHz frequency as example.
- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Configure the IP address of the router:
 - 1) Go to Advanced > Network > LAN, configure the IP address of the extended router to be in the same subnet with the root router; (For example, the IP address

of the root router is 192.168.0.1, the IP address of the extended router can be 192.168.0.2~192.168.0.254. We take 192.168.0.2 as example.)

2) Click Save.

Note: Log in to the web management page again if the IP address of the router is altered.

LAN		
MAC Address:	50-C7-BF-02-EA-DC	
IP Address:	192.168.0.2	
Subnet Mask:	255.255.255.0	

- 3. Survey the SSID to be bridged:
 - Go to Advanced > System Tools > System Parameters and focus on the 2.4GHz WDS section, click Enable WDS Bridging.
 - 2) Click Survey, locate the root router's SSID and click Choose (Here we take TP-Link_4F98 as example).
 - 3) If the root router has wireless password, you should enter the wireless password of the root router.
 - 4) Click Save.

	Survey		
	Example: 00	-1D-0F-11-22-3	3
	K/WPA2-PSK	O WEP	
			Save
 Enable WDS No Security 	No Security O WPA-PSI	Enable WDS Bridging Survey Example: 00 No Security WPA-PSK/WPA2-PSK	Enable WDS Bridging Survey Example: 00-1D-0F-11-22-3 No Security O WPA-PSK/WPA2-PSK O WEP

4. Disable DHCP:

- 1) Go to Advanced > Network > DHCP Server.
- 2) Deselect Enable DHCP Server and click Save.

Now you can go to Advanced > Status > Wireless to check the WDS status. When the WDS status is Run, it means WDS bridging is successfully built.

Q5. What should I do if I cannot access the internet even though the configuration is finished?

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Status to check internet status:

As the follow picture shows, if IP Address is a valid one, please try the methods below and try again:

💮 Internet 😣	IPv4 IPv6
MAC Address:	50-C7-BF-02-EA-DD
IP Address:	58.61.172.101
Subnet Mask:	255.255.255.255
Default Gateway:	58.61.172.1
Primary DNS:	202.96.134.33
Secondary DNS:	202.96.128.86
Connection Type:	PPPoE

- Your computer might not recognize any DNS server addresses. Please manually configure the DNS server.
 - 1) Go to Advanced > Network > DHCP Server.
 - 2) Enter 8.8.8.8 as Primary DNS, click Save.
 - Tips: 8.8.8 is a safe and public DNS server operated by Google.

DHCP Server:	Enable C	HCP Server		
IP Address Pool:	192.168.	0.100	- 192.168.0.199	
Address Lease Time:	120	minutes.	(1-2880. The default value is 120.)	
Default Gateway:	192.168.	0.2	(Optional)	
Primary DNS:	8.8.8.8		(Optional)	
Secondary DNS:			(Optional)	

- Restart the modem and the router.
 - 1) Power off your modem and router, and leave them off for 1 minute.
 - 2) Power on your modem first, and wait about 2 minutes until it gets a solid cable or Internet light.
 - 3) Power on the router.
 - 4) Wait another 1 or 2 minutes and check the internet access.
- Reset the router to factory default settings and reconfigure the router.
- Upgrade the firmware of the router.
- Check the TCP/IP settings on the particular device if all other devices can get internet from the router.

As the picture below shows, if the IP Address is 0.0.0.0, please try the methods below and try again:

💮 Internet 😣	IPv4 IPv6
MAC Address:	50-C7-BF-02-EA-DD
IP Address:	0.0.0
Subnet Mask:	0.0.0
Default Gateway:	0.0.0.0
Primary DNS:	0.0.0
Secondary DNS:	0.0.0
Connection Type:	PPPoE

- Make sure the physical connection between the router and the modem is proper.
- Clone the MAC address of your computer.
 - 1) Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
 - 2) Go to Advanced > Network > Internet and focus on the MAC Clone section.
 - 3) Choose an option as needed (enter the MAC address if Use Custom MAC Address is selected), and click Save.

IAC Clone	
Use Default MAC Address	
O Use Current Computer MAC Address	
O Use Custom MAC Address	
	Save

Ø Tips:

- Some ISP will register the MAC address of your computer when you access the internet for the first time through their Cable modem, if you add a router into your network to share your internet connection, the ISP will not accept it as the MAC address is changed, so we need to clone your computer's MAC address to the router.
- The MAC addresses of a computer in wired connection and wireless connection are different.

• Modify the LAN IP address of the router.

Note:

Most TP-Link routers use 192.168.0.1/192.168.1.1 as their default LAN IP address, which may conflict with the IP range of your existing ADSL modem/router. If so, the router is not able to communicate with your modem and you can't access the internet. To resolve this problem, we need to change the LAN IP address of the router to avoid such conflict, for example, 192.168.2.1.

- 1) Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2) Go to Advanced > Network > LAN.
- 3) Modify the LAN IP address as the follow picture shows. Here we take 192.168.2.1 as an example.
- 4) Click Save.

LAN		
MAC Address:	50-C7-BF-02-EA-DC	
IP Address:	192.168.2.1	
Subnet Mask:	255.255.255.0 💌	

- Restart the modem and the router.
 - 1) Power off your modem and router, and leave them off for 1 minute.
 - 2) Power on your modem first, and wait about 2 minutes until it get a solid cable or Internet light.
 - 3) Power on the router.
 - 4) Wait another 1 or 2 minutes and check the internet access.
- Double check the internet connection type.

- 1) Confirm your internet connection type, which can be learned from the ISP.
- 2) Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 3) Go to Advanced > Network > Internet.
- 4) Select your Internet Connection Type and fill in other parameters.
- 5) Click Save.

IPv4	
Internet Connection Type:	Dynamic IP 💌
IP Address:	Static IP Dynamic IP
Subnet Mask:	PPPoE
Default Gateway:	BigPond Cable
Primary DNS:	рртр
Secondary DNS:	0.0.0.0
Renew Release	WAN port is unplugged.

- 6) Restart the modem and the router again.
- Please upgrade the firmware of the router.

If you've tried every method above but still cannot access the internet, please contact the technical support.

Q6. What should I do if I cannot find my wireless network or I cannot connect the wireless network?

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

- Make sure the wireless function of your device 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.
- Make sure the wireless adapter driver is installed successfully and the wireless adapter is enabled.
 - On Windows 7
 - 1) If you see the message No connections are available, it is usually because the wireless function is disabled or blocked somehow.

- 2) Click Troubleshoot and windows might be able to fix the problem by itself.
- On Windows XP
- If you see the message Windows cannot configure this wireless connection, this is usually because windows configuration utility is disabled or you are running another wireless configuration tool to connect the wireless.
- 2) Exit the wireless configuration tool (the TP-Link Utility, for example).
- 3) Select and right click on My Computer on desktop, select Manage to open Computer Management window.
- 4) Expand Services and Applications > Services, find and locate Wireless Zero Configuration in the Services list on the right side.
- 5) Right click Wireless Zero Configuration, and then select Properties.
- 6) Change Startup type to Automatic, click on Start button and make sure the Service status is Started. And then click OK.

If you can find other wireless network except your own, please follow the steps below:

- Check the WLAN LED indicator on your wireless router/modem.
- Make sure your computer/device is still in the range of your router/modem. Move it closer if it is currently too far away.
- Go to Advanced > Wireless > Wireless Settings, and check the wireless settings. Double check your Wireless Network Name and SSID is not hided.

Wireless Settings		2.4	IGHz 5GHz
	Enable Wireless Radio		
Network Name (SSID):	TP-Link_7B00	þ	
Security:	WPA/WPA2-Personal (Recommended)	•	
Version:	Auto O WPA-PSK O WPA2-PSK		
Encryption:	Auto O TKIP O AES		
Password:	12345678		
Mode:	802.11b/g/n mixed 💌		
Channel Width:	Auto 💌		
Channel:	Auto 💌		
Transmit Power:	🔿 Low 🔿 Middle 💿 High		
Airtime Fairness Feature:	Enable Airtime Fairness		
			-
			Save

If you can find your wireless network but fail to connect, please follow the steps below:

Authenticating problem/password mismatch:

 Sometimes you will be asked 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 router.

ype the 8	3-digit PIN f	rom the ro ne general	
PIN:			
connect usin	ig a security key	/ instead	

- 2) If you cannot find the PIN or PIN failed, you may choose Connecting using a security key instead, and then type in the Wireless Password/Network Security Key.
- 3) If it continues to show note of Network Security Key Mismatch, it is suggested to confirm the wireless password of your wireless router.

Note: Wireless Password/Network Security Key is case sensitive.

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

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FCC compliance information statement

FC

Product Name: AC2300 MU-MIMO Wi-Fi Router

Model Number: Archer C2300

Component Name	Model
I.T.E POWER SUPPLY	NBS30D120250VU

Responsible party:

TP-Link USA Corporation, d/b/a TP-Link North America, Inc.

Address: 145 South State College Blvd. Suite 400, Brea, CA 92821

Website: http://www.tp-link.com/us/

Tel: +1 626 333 0234

Fax: +1 909 527 6803

E-mail: sales.usa@tp-link.com

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

"To comply with FCC RF exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 30 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter."

We, TP-Link USA Corporation, has determined that the equipment shown as above has been shown to comply with the applicable technical standards, FCC part 15. There is no unauthorized change is made in the equipment and the equipment is properly maintained and operated.

Issue Date: 2019.12.13

FCC compliance information statement

Product Name: I.T.E POWER SUPPLY Model Number: NBS30D120250VU Responsible party: TP-Link USA Corporation, d/b/a TP-Link North America, Inc. Address: 145 South State College Blvd. Suite 400, Brea, CA 92821 Website: http://www.tp-link.com/us/ Tel: +1 626 333 0234 Fax: +1 909 527 6803 E-mail: sales.usa@tp-link.com

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

We, **TP-Link USA Corporation**, has determined that the equipment shown as above has been shown to comply with the applicable technical standards, FCC part 15. There is no unauthorized change is made in the equipment and the equipment is properly maintained and operated.

Issue Date: 2019.12.13

CE Mark Warning

CE

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.

OPERATING FREQUENCY(the maximum transmitted power)

2412MHz-2472MHz (20dBm)

5180MHz—5240MHz (23dBm)

EU declaration of conformity

TP-Link hereby declares that the device is in compliance with the essential requirements and other relevant provisions of directives 2014/53/EU, 2009/125/ EC, 2011/65/EU and (EU)2015/863.

The original EU declaration of conformity may be found at

https://www.tp-link.com/en/ce

RF Exposure Information

This device meets the EU requirements (2014/53/EU 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.

National Restrictions

Attention: This device may only be used indoors in all EU member states and EFTA countries.

AT	BE	BG	СН	CY	CZ	DE	DK
EE	EL	ES	FI	FR	HR	HU	IE
IS	IT	LI	LT	LU	LV	MT	NL
NO	PL	PT	RO	SE	SI	SK	UK

Canadian Compliance Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1) L'appareil ne doit pas produire de brouillage;

2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Caution:

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Avertissement:

Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 30cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 30 cm de distance entre la source de rayonnement et votre corps.

Industry Canada Statement

CAN ICES-3 (B)/NMB-3(B)

Korea Warning Statements:

당해 무선설비는 운용중 전파혼신 가능성이 있음.

NCC Notice & BSMI Notice:

注意!

依據 低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機,非經許可,公司、商號或使用者均 不得擅自變更頻率、加大功率或變更原設計之特性或功能。 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信; 經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。前項合法通信,指依 電信規定作業之無線電信。低功率射頻電機需忍受合法通信或工業、科學以及醫療用電波輻射性電機設備之干擾。

4.7.9.1 應避免影響附近雷達系統之操作。

4.7.9.2 高增益指向性天線只得應用於固定式點對點系統。

安全諮詢及注意事項

- 請使用原裝電源供應器或只能按照本產品注明的電源類型使用本產品。
- 清潔本產品之前請先拔掉電源線。請勿使用液體、噴霧清潔劑或濕布進行清 潔。
- 注意防潮,請勿將水或其他液體潑灑到本產品上。
- 插槽與開口供通風使用,以確保本產品的操作可靠並防止過熱,請勿堵塞或 覆蓋開口。
- 請勿將本產品置放於靠近熱源的地方。除非有正常的通風,否則不可放在密 閉位置中。
- 請不要私自打開機殼,不要嘗試自行維修本產品,請由授權的專業人士進行 此項工作。

	限用物質及其化學符號					
 產品元件名稱	鉛	鎘	汞	六價鉻	多溴聯苯	多溴二苯醚
	Pb	Cd	Hg	CrVI	PBB	PBDE
PCB	0	\bigcirc	\bigcirc	0	0	0
外殼	0	0	0	0	0	0
電源供應器	-	0	0	0	0	0
備考1. 超出0.1 wt %"及 "超出0.01 wt %"系指限用物質之百分比含量超出百分比含量基準值。						
備考2. "〇"系指該項限用物質之百分比含量未超出百分比含量基準值。						
備考3."-"系指該項限用物質為排除項目。						

限用物質含有情況標示聲明書



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

EHC

Safety Information

- Keep the device away from water, fire, humidity or hot environments.
- Do not attempt to disassemble, repair, or modify the device.
- Do not use damaged charger or USB cable to charge the device.

- Do not use any other chargers than those recommended
- Do not use the device where wireless devices are not allowed.
- Adapter shall be installed near the equipment and shall be easily accessible.
- It 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.

Explanations of the symbols on the product label

Symbol	Explanation
	Class II equipment
	DC voltage
\bigtriangleup	Indoor use only
♦ෙ♦	Polarity of output terminals
X	RECYCLING 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. 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.