

User Manual

TOTOLINK Wireless-N Router



www.totolink.net

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1. ABOUT THIS GUIDE

Thank you very much for purchasing this Wireless N Router. This guide will introduce the features of this device and tell you how to connect, use and configure the Router to connect with Internet. Please follow the instructions in this guide to avoid affecting the Router's performance by improper operation.

1.1 Overview of the User's Guide

Introduction: Describes the Wireless N Router, its appearance and features.

Hardware Installation: Describes the packaging, the hardware installation and how to set up the computer.

Connecting to Internet: Tells how to connect your computer to Internet successfully via the Router.

Advanced Settings: Lists all technical functions including Wireless, Network, NAT/Routing, Firewall, Utility, Traffic and System of the Router.

2. INTRODUCTION

2.1 Overview

This Router is a combined wired/wireless network connection device that integrates with internet-sharing router and 4-port switch. It complies with the most advanced IEEE 802.11n technology and supports multiple security methods, including wireless LAN 64/128-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK encryption. Besides, IP, URL and MAC address filtering function makes it easy for user management. Also, the WPS (Wi-Fi Protected Setup) will allow you to connect to secure network simple and fast. In view of the above, it is really a high performance and cost-effective solution for home and small offices.

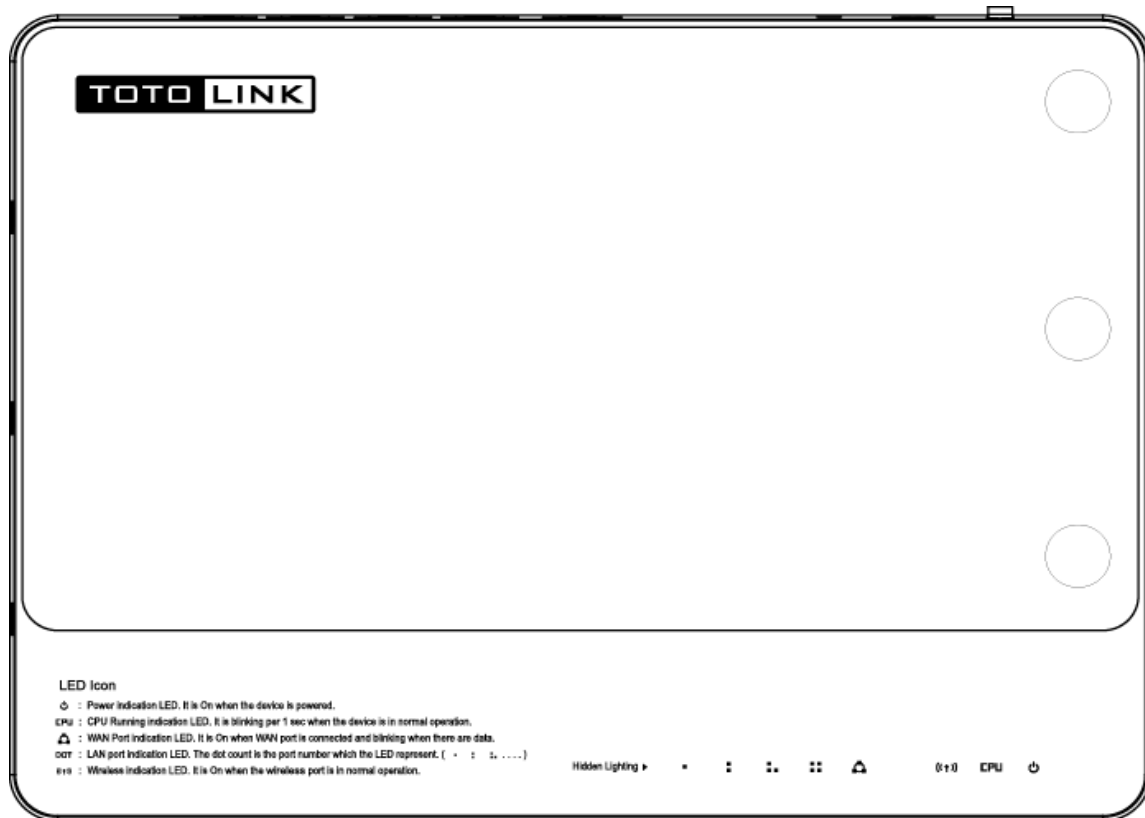
2.2 Features

- Complies with IEEE 802.11n and IEEE802.11g/b standards.
- Supports 64/128-bit WEP, WPA /WPA2 and WPA-PSK/WPA2-PSK encryption.
- Connects to secure network easily and fast using WPS.
- Supports IP/ MAC/URL filtering and Port Forwarding.
- WDS mode makes it simple for WLAN expansion.
- Supports PPPoE, DHCP and Static IP broadband functions.
- QoS function maximizes the bandwidth use.
- Supports UPnP, Static Routing and DMZ host.
- Built-in DHCP server/Client.
- Supports remote/local web management.

2.3 Panel Layout

2.3.1 Front Panel

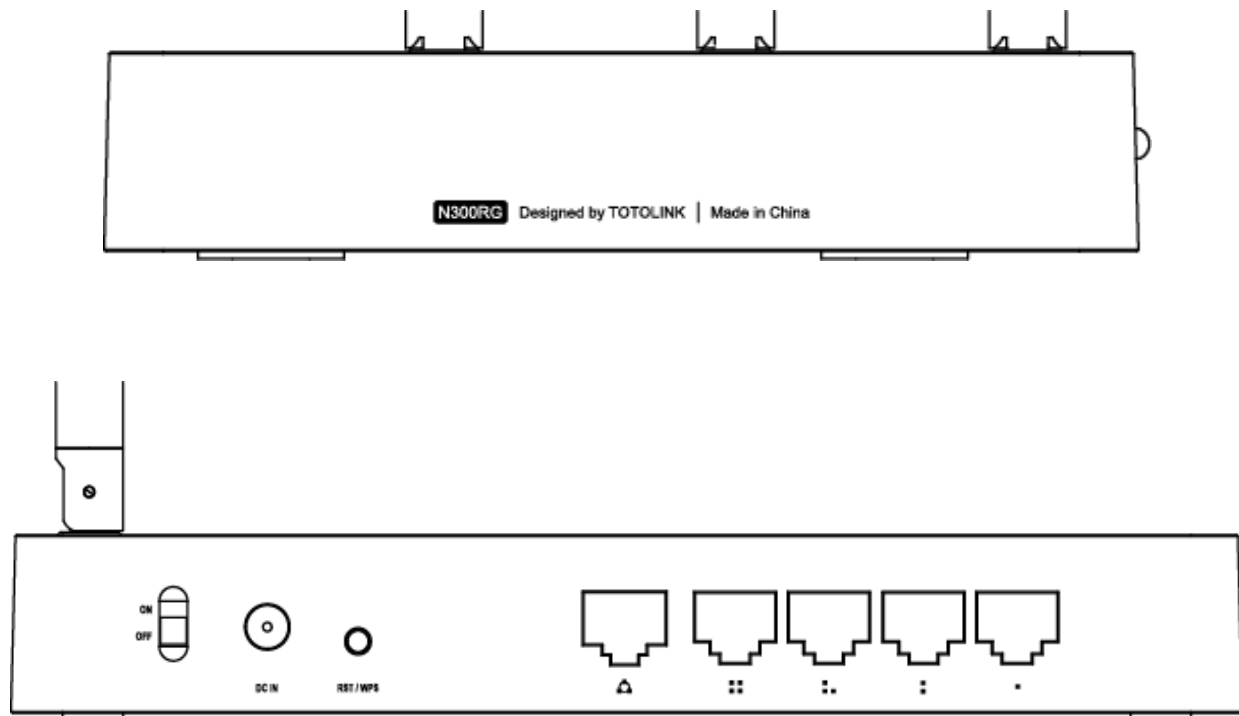
The front panel of this Wireless Router consists of 5 LEDs, which is designed to indicate connection status.



POWER	This indicator lights blue when the router is powered on, otherwise it is off.
CPU	This indicator keeps lighting when router powered on.
WLAN	This indicator lights when there are wireless devices connected and transmitting data to WLAN Router.
WAN	When the WAN port is connected successfully the indicator lights.
	During transmitting or receiving data through the WAN port the indicator blinks.
1/2/3/4 LAN	When one of the LAN ports has a successful connection, the corresponding indicator lights.
	During transmitting or receiving data through the LAN port the corresponding indicator blinks.

2.3.2 Rear Panel

The figure below shows the rear panel of the Router.



DC IN	The Power socket is where you will connect the power adapter.
RST/WPS	RST: With the router powered on, press and hold the button until the CPU LED becomes quick-flash from slow-flash. And then release the button and wait the router to reboot to its factory default settings.
	WPS: If you have client devices you can press this button to quickly establish a router and client devices and automatically configure wireless security for your wireless network.
WAN	This port is where you will connect the DSL/cable Modem, or Ethernet.
1/2/3/4 LAN	This port connects the router to local PC.

Note: Press and hold RST/WPS button for less than 5 seconds, the router will enable WPS function, and CPU LED indicator keeps ON. Press and hold WPS/RST button for more than 5 seconds, the router will enable RESET function, and CPU LED indicator keeps lighting.

3. HARDWARE INSTALLATION

3.1 Hardware Installation

For those computers you wish to connect with Internet by this router, each of the computers must be properly connected with the router through provided UTP LAN Cables.

1. Connect the provided UTP LAN cable to one of the router's LAN port.
2. Connect the other end of the UTP LAN cable to your computer's LAN port.
3. Connect the second UTP LAN cable to router's WAN port.
4. Connect the other end of the UTP LAN cable to ADSL or Modem port.
5. Plug the Power Adapter into the Router and then into an outlet.
6. Turn on your computer.
7. Check and confirm that the Power LED and LAN LED on the router are **ON**.

3.2 Check the Installation

The control LEDs of the WLAN Router are clearly visible and the status of the network link can be seen instantly:

1. With the power source on, once the device is connected to the broadband modem, the Power, CPU, LAN, WLAN and WAN port LEDs of the WLAN Router will blink for one time indicating a normal status.
2. When the WAN Port is connected to the ADSL/Cable modem, the WAN LED will light up.
3. When the LAN Port is connected to the computer system, the LAN LED will light up.

3.3 Set up the Computer

The default IP address of the Router is 192.168.1.1, the default Subnet Mask is 255.255.255.0. Both of these parameters can be changed as you want. In this guide, we will use the default values for description.

Connect the local PC to the LAN port on the Router. There are then two ways to configure the IP address for your PC.

◆ Configure the IP address manually

1. Set up the TCP/IP Protocol for your PC.
2. Configure the network parameters. The IP address is 192.168.1.xxx ("xxx" range from 2 to 254). The Subnet Mask is 255.255.255.0 and Gateway is 192.168.1.1 (Router's default IP address).

◆ Obtain an IP address automatically

1. Set up the TCP/IP Protocol in **Obtain an IP address automatically** mode on your PC.
2. Power off the Router and PC. Then turn on the Router and restart the PC. The built-in DHCP server will assign IP address for the PC.

Now, you can run the Ping command in the **command prompt** to verify the network connection between your PC and the Router. Open a command prompt, and type in **ping 192.168.1.1**, then press **Enter**.

```

C:\Documents and Settings\Administrator>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>_

```

If the result displayed is similar to that shown in above figure, it means that the connection between your PC and the Router has been established.

```

C:\Documents and Settings\Administrator>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\Administrator>_

```

If the result displayed is similar to that shown in the above figure, it means that your PC has not connected to the Router successfully. Please check it following below steps:

- 1. Is the connection between your PC and the Router correct?**

If correct, the LAN port on the Router and LED on your PC's adapter should be lit.

- 2. Is the TCP/IP configuration for your PC correct?**

Since the Router's IP address is 192.168.1.1, your PC's IP address must be within the range of 192.168.1.2 ~ 192.168.1.254, the Gateway must be 192.168.1.1.

4. BASIC CONFIGURATION

This chapter introduces how to configure the basic functions of your Wireless N Router so that you can surf the Internet.

Web page's key functions

4.1 Login Web Interface



With a Web-based utility, for example Internet Explorer, the Wireless N Router is easy to configure and manage.


Connect to the Router by typing 192.168.1.1 in the address field of Web Browser. Then press **Enter** key.

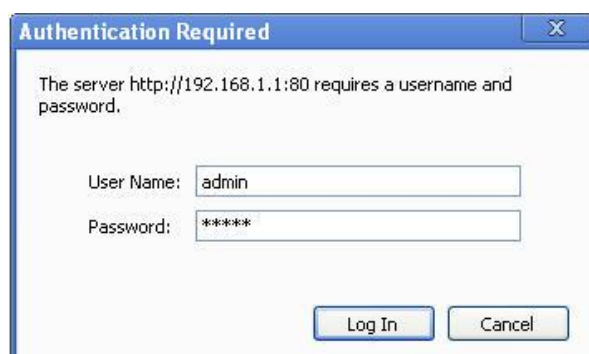


It will show up the following page:



Click Internet Wizard  or Wireless Wizard , it will guide you through step-by-step instructions on how to setup set up your wireless network and how to make it secure. We will mainly introduce the Router's setting Interface in this part.

Click **Setup Tool** icon  to enter the Router's setting interface, then below window will pop up that requires you to enter valid User Name and Password.



Enter **admin** for User Name and Password, both in lower case letters. Then click **Log In**

button or press **Enter** key.

Note: If the above screen does not prompt, it means that your web-browser has been set to using a proxy. Go to **Tools menu>Internet Options>Connections>LAN Settings**, in the screen that appears, cancel the **Using Proxy checkbox**, and click **OK** to finish it.

If the User Name and Password are correct, you can configure the router using the web browser. Please click the **Internet Setup** link on the left main menu and the Internet Setup screen will appear.

Now, you will get into the Router's configuration interface. First, you will see the Status Summary of the Router:

Internet Status	
Internet(WAN) Port Status	WAN port is disconnected
Internet Connection Type	DHCP User(Dynamic IP) WAN IP
Internet connection time	0 Hour 0 Min 0 Sec

LAN Configuration	
LAN IP	192.168.1.1
DHCP Server Status	Running
DHCP IP Pool	192.168.1.2 - 192.168.1.254

Wireless Status	
Wireless Mode	Running - AP Mode - No Encryption
SSID(Network Name)	TOTOLINK
Wireless Multibridge	Stopped

Miscellaneous	
Firmware Version	8.54
Remote Mgmt Information	Remote Management is not configured. You can set up this at [Mgmt Access List] page
System run time	0 Hour 36 Min 28 Sec

On the left, it is the guide bar:

- Config Explorer
 - Basic Setup
 - Status Summary
 - Internet Setup
 - Wireless Setup
 - Firmware Upgrade
 - Advanced Setup
 - Network
 - Wireless
 - NAT/Routering
 - Firewall
 - Utility
 - Traffic
 - System

4.2 Changing Password

Now, we recommend that you change the password to protect the security of your Router. Please go to **System—Admin Setup** change the password required to log into your Router.

Admin Setup	
Login Account Setup	
Current ID & password	ID - admin Password - Configured
New Login ID	<input type="text"/>
New Password	<input type="text"/>
Re-type New Password	<input type="text"/>
<input type="button" value="Apply"/>	

New Login ID: type in the name that you use to login the web interface of the router or change a new one.

New Password: new password is used for administrator authentication.

Re-type New Password: new password should be re-entered to verify its accuracy.

Note: password length is 8 characters maximum, characters after the 8th position will be truncated.

4.3 Internet Setup

This page is used to configure the parameters for Internet Network which connects to your wireless Router WAN port. WAN access modes include DHCP, PPPoE and Static IP.

1. Click **Internet Setup**, it will show you three modes to choose:

Internet Setup	
<input checked="" type="radio"/> DHCP User (FTTH, Optic LAN, Cable Modem, VDSL, LAN, IP ADSL)	
<input type="radio"/> PPPoE User(ADSL)	
<input type="radio"/> Static IP User	
<input type="checkbox"/> MAC Address Clone	<input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/>
<input type="button" value="Search MAC address"/>	
<input checked="" type="checkbox"/> Allow private IP.	
<input type="checkbox"/> Restart DHCP client if the physical WAN link is reconnected.	
<input type="checkbox"/> MTU	<input type="text" value="1500"/>
<input type="checkbox"/> Set DNS server manually	
Primary DNS	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Secondary DNS	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
<input type="button" value="Apply"/>	

4.3.1 DHCP User

If you choose DHCP User, your computer will get dynamic IP address from your ISP (Internet Service Provider) operator automatically.

Internet Setup

☒ **DHCP User** (FTTH, Optic LAN, Cable Modem, VDSL, LAN, IP ADSL)
☐ PPPoE User(ADSL)
☐ Static IP User

☐ MAC Address Clone [] - [] - [] - [] - [] - []
 Search MAC address

☒ Allow private IP.
☐ Restart DHCP client if the physical WAN link is reconnected.
☐ MTU 1500
☐ Set DNS server manually
 Primary DNS [] . [] . [] . []
 Secondary DNS [] . [] . [] . []

Apply

4.3.2 PPPoE User (ADSL)

Point-to-Point Protocol over Ethernet (PPPoE) is a virtual private and secure connection between two systems that enables encapsulated data transport. It relies on two widely accepted standards: PPP and Ethernet. It connects users through an Ethernet to the Internet with a common broadband medium, such as wireless device or cable modem. All the users over the Ethernet can share a common connection. If you use ADSL virtual dial-up to connect Internet, please choose this option.

Internet Setup

☐ DHCP User (FTTH, Optic LAN, Cable Modem, VDSL, LAN, IP ADSL)
☒ **PPPoE User(ADSL)**
☐ Static IP User

User ID [] [] [] [] [] []
 Password [] [] [] [] [] []
 Select ISP ☒ Normal ☐ Racer ☐ Chinanet
☐ MAC Address Clone [] - [] - [] - [] - [] - []
 Search MAC address

☐ MTU 1454
☒ LCP option Interval 30 Sec Count 10
☐ Disconnect PPP session if idle time is longer than [] Min
☒ Connect On Demand ☐ Connect Manually
☐ Set DNS server manually
 Primary DNS [] . [] . [] . []
 Secondary DNS [] . [] . [] . []

Apply

PPPoE Scheduler	<input type="radio"/> Start <input checked="" type="radio"/> Stop	Apply
System Time	Trying to get system time from time server.	
Add ON Schedule	[] : [] - [] : []	Add
Start Time	End Time	Status
PPPoE ON always		
		Del

User ID: a specific valid ADSL user name provided by your ISP.

Password: the corresponding valid password provided by your ISP.

4.3.3 Static IP

Input the IP address that provided by your ISP (Internet Service Provider). If you are not clear about this, please consult with your local ISP.

The 'Internet Setup' window displays three radio button options: 'DHCP User (FTTH, Optic LAN, Cable Modem, VDSL, LAN, IP ADSL)', 'PPPoE User(ADSL)', and 'Static IP User'. The 'Static IP User' option is selected and highlighted with a red rectangle. Below this, there are input fields for 'WAN IP', 'Subnet Mask', 'Default Gateway', 'Primary DNS', and 'Secondary DNS', each consisting of four small boxes for IP octets. There is also an 'MTU' checkbox with a value of '1500' and a 'MAC Address Clone' checkbox with a 'Search MAC address' button. An 'Apply' button is located at the bottom right.

WAN IP: the IP address provided by your ISP.

Subnet Mask: This is used to define the device IP classification for the chosen IP address range. 255.255.255.0 is a typical net mask value for Class C networks. Generally it is provided by your ISP.

Default Gateway: This is the IP address of the host router that resides on the external network and provides the point of connection to the next hop towards the Internet. This can be a DSL modem, Cable modem, or a WISP gateway router. The router will direct all the packets to the gateway if the destination host is not within the local network.

Primary DNS: Domain Name System. Every Internet host must have a unique IP address, also they may have a human-friendly, easy to remember name such as www.yahoo.com. The DNS server converts the user-friendly name into its equivalent IP address. This is provided by your ISP.

After you finish the blank that required, you could click **Apply** to make it work.

4.4 Wireless Setup

Click **Wireless Setup**, you will see below interface. This webpage shows the basic wireless parameters and wireless authentication ways.

The 'Wireless Setup' window shows the following settings: 'Operation' with 'Start' selected; 'SSID' set to 'TOTOLINK' with a 'Check SSID' button; 'Mode' set to 'B,G,N'; 'Region' set to 'Europe'; 'Channel' set to '5 [2.432 GHz,Upper]' with a 'Channel Search' button; 'Operation mode' with 'SSID Broadcast' and 'WMM' both set to 'ON'; 'Authentication' set to 'Automatic'; and 'Encryption' set to 'Disable'. Other encryption options include 'WEP64', 'WEP128', 'TKIP', 'AES', and 'TKIP/AES'. An 'Apply' button is at the bottom right.

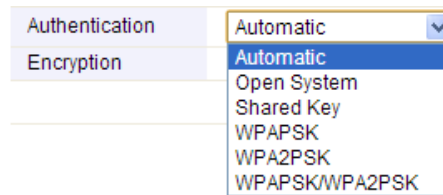
Operation: You can choose Start or Stop the wireless function.

SSID: You can change the SSID for your wireless router.

Mode: If wireless connection conforms to 11g, 11b and 11n standards.

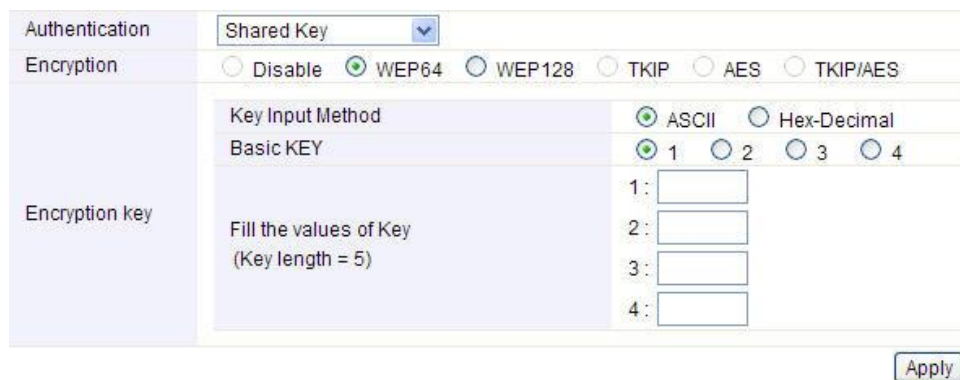
Region: Area where you are using the wireless router.

Channel: Choose the wireless channel in AP mode. If in client mode, channel option is disabled.

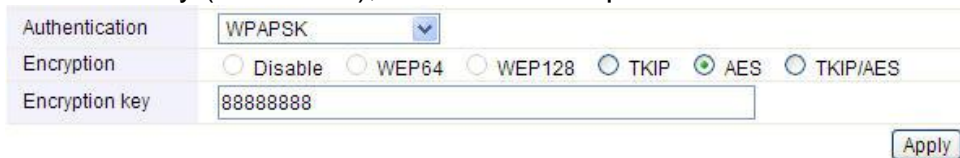


Encryption: You can choose Automatic, Open System, Shared Key, WPAPSK, WPA2PSK, WPAPSK/WPA2PSK.

WEP: Wired Equivalent Protocol is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. Enabling WEP allows you to increase security by encryption data being transferred over your wireless network. WEP is the oldest security algorithm, and there are few applications that can decrypt the WEP key in less than 10 minutes.



WPA: WiFi Protected Access, WPA is an intermediate solution for the security issues. It uses Temporal Key Integrity Protocol (TKIP) to replace WEP. It is the most dominating security mechanism in industry. It is separated into two categories: WPA-personal or called WPA Pre-Share Key (WPA/PSK), and WPA-Enterprise or called WPA/802.1x.



WPA2: means Wi-Fi Protected Access 2, it is the current most secure method of wireless security and required for 802.11n performance.


TKIP--Temporal Key Integrity Protocol is one cipher for data encryption supported by WPA. It is a compromise on strong security and possibility to use existing hardware. It still uses RC4 for the encryption like WEP, but with per-packet RC4 keys. In addition, it implements replay protection, keyed packet authentication mechanism (Michael MIC).

AES--Advanced Encryption Standard is another cipher for data encryption supported by WPA.

4.5 Firmware Upgrade

New version of firmware will be released to improve the various efficiency or to fix some bugs. This page allows you to upgrade the Access Point firmware to new version. Following the steps show below so as to realize upgrading.

Please note: DO NOT power off the device during upgrading because it may crash the system.



The screenshot shows a web interface for firmware upgrade. At the top is a blue header bar with the text "Firmware Upgrade". Below this is a table with two rows: "Firmware Version" with the value "8.54" and "Build Date" with the value "Mon Feb 18 20:37:35 KST 2013". Under the table, there is a section titled "To upgrade manually" followed by three numbered steps: 1. Download a firmware at [TOTOLINK Homepage]., 2. Click [Browse] and choose a downloaded firmware, and 3. Click [Upgrade] button. Below the steps are two buttons: "Choose File" and "Upgrade". The "Choose File" button is disabled and has the text "No file chosen" next to it. At the bottom, there is a "Note." section with two bullet points: "Internet will be unavailable for upgrading firmware." and "Power down for updating firmware can be the cause of system halt."

Firmware Upgrade	
Firmware Version	8.54
Build Date	Mon Feb 18 20:37:35 KST 2013

To upgrade manually

1. Download a firmware at [TOTOLINK Homepage].
2. Click [Browse] and choose a downloaded firmware
3. Click [Upgrade] button.

No file chosen

Note.

- Internet will be unavailable for upgrading firmware.
- Power down for updating firmware can be the cause of system halt.

After finishing the settings above, you'd better restart your computer and the Router to connect to Internet successfully. Then you can enjoy the high-speed and high-stability Internet through this Router.

5. ADVANCED SETUP

The Advanced Setup includes Network, Wireless, NAT/Routing, Firewall, Utility, Traffic and System. These settings are only for more technically advanced users who have sufficient knowledge about wireless LAN. Also they should not be changed unless you know what effect the changes will have on your Wireless Router.

5.1 Network

Click the plus sign beside **Network** menu to show up all Network parameters you could set up.



5.1.1 Internet Status

This page shows the Internet Status of this Router.

Internet Status	
Connection Status	WAN port is disconnected
Connection Type	DHCP User(Dynamic IP)
WAN IP	
Subnet Mask	
Default Gateway	
Primary DNS	
Secondary DNS	
MAC Address	78-44-76-00-00-02

Refreshed by 5 seconds [Disconnect](#)

5.1.2 LAN Status

This page shows you LAN Status after your successful settings.

LAN Status		
LAN Configuration		
LAN IP	192.168.1.1	
Subnet Mask	255.255.255.0	
MAC Address	78-44-76-00-00-10	
DHCP IP Pool	192.168.1.2 ~ 192.168.1.254	
# of allocated IP	1	
Allocated IP list		
IP	MAC Address	IP info.
1 192.168.1.2 (MQR91X2P79KCP8Y)	50-46-5D-09-F3-84	Wired

5.1.3 Internet Setup

We have discussed this setting on [4.3 Internet Setup](#). You can reconfigure these settings on this page, please enter the parameters according to what your ISP provided.

Internet Setup	
<input checked="" type="radio"/> DHCP User (FTTH, Optic LAN, Cable Modem, VDSL, LAN, IP ADSL)	
<input type="radio"/> PPPoE User(ADSL)	
<input type="radio"/> Static IP User	
<input type="checkbox"/> MAC Address Clone	<input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/>
	Search MAC address
<input checked="" type="checkbox"/> Allow private IP.	
<input type="checkbox"/> Restart DHCP client if the physical WAN link is reconnected.	
<input type="checkbox"/> MTU	<input type="text"/> 1500
<input type="checkbox"/> Set DNS server manually	
Primary DNS	<input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/>
Secondary DNS	<input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/>

[Apply](#)

5.1.4 LAN/DHCP Server

Click **LAN/DHCP Server**, you will enter the page that allows you configure the LAN port and DHCP Server. Since the LAN configuration we have discussed before, here we will tell you how to set up the DHCP Server parameters.

The screenshot displays the 'LAN/DHCP Server' configuration window, which is divided into three main sections:

- LAN IP Setup:** This section contains fields for 'LAN IP' (192.168.1.1) and 'Subnet Mask' (255.255.255.0). Below these are checkboxes for 'LAN Gateway' and 'LAN DNS', both of which are currently unchecked. An 'Apply & Restart' button is located at the bottom right of this section.
- DHCP Server Setup:** This section includes a 'DHCP Server' status toggle set to 'Start' (with 'Stop' as an option), a 'DNS Suffix' field, a 'DHCP IP Pool' range (192.168.1.2 to 192.168.1.254), and a 'Lease Time' of 7200 seconds. There are also checkboxes for 'DHCP server protection' and 'Enable internet access only for PCs allocated by DHCP Server', both unchecked. An 'Apply' button is at the bottom right.
- DHCP Static Lease Setup:** This section features checkboxes for 'Block MAC address on the list with wrong IP address' and 'Block MAC address not on the list', both unchecked. Below these is a table for static leases with columns for 'Del', 'Static Lease(IP/MAC Address)', and 'IP/MAC Address in local network'. The table currently contains one entry: 192.168.1.2/50-46-5D-09-F3-84, marked as 'PC connected'. An 'Add' button is located above the table. At the bottom, a note states: 'The maximum number of registered MAC Addresses is 200.'

DHCP Server: you can choose to start or stop DHCP.

DHCP IP Pool: it is the IP range that the DHCP server will assign to every PC connected with the router.

Lease Time: the IP addresses given out by the DHCP server will only be valid for the duration specified by the lease time. Increasing the time ensure client operation without interrupt, but could introduce potential conflicts. Lowering the lease time will avoid potential

address conflicts, but might cause more slight interruptions to the client while it will acquire new IP addresses from the DHCP server. The time is expressed in seconds.

Block MAC address on the list with wrong IP address: The PC'S MAC address has existed on the rule but with the wrong IP can't connect to Internet.

Block MAC address not on the list: The PC's MAC address isn't exists on the rule can't connect to Internet.

Static Lease (IP/MAC Address):

Static Lease function allows you reserve IP addresses, and assign the same IP address to the network device with the specified MAC address any time it requests an IP address. This is almost the same as when a device has a static IP address except that the device must still request an IP address from the DHCP server. You can enable or disable this function.

5.2 Wireless

Next, you can set up the Wireless parameters. Click the plus sign beside **Wireless** menu to open up all wireless parameters, see below figure:



5.2.1 Wireless Status

Click **Wireless Status** menu, it will show you the current wireless status about the Router.

Wireless Status

Wireless Configuration

Status	AP Mode - Running
SSID(Network Name)	TOTOLINK
Mode	B,G,N
Region	Europe
Channel	Channel 5 (2.432 GHz,Upper,40 MHz)
SSID broadcasting	Running
Authentication	Automatic
Encryption	Disable
MAC Authentication	Accept All
Wireless MAC Address	78-44-76-00-00-00

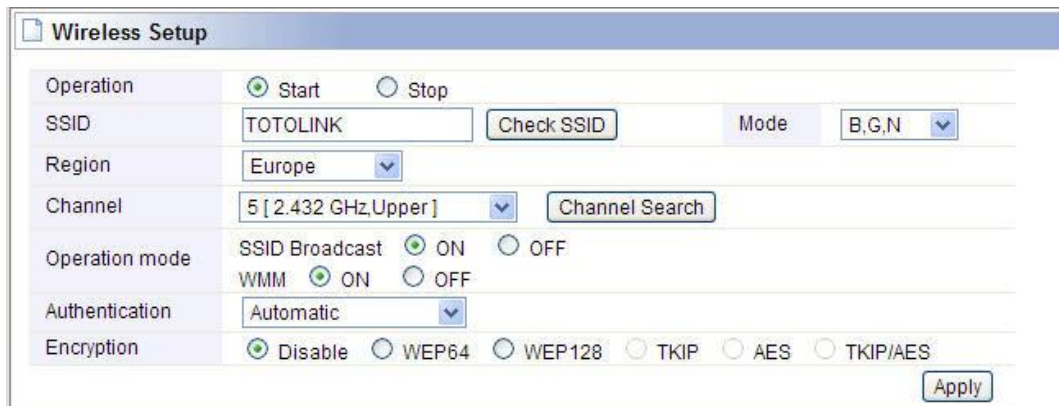
Wireless Station Status

Clear

MAC Address	Link Rate	Rx Packets	Tx Packets	Association Time
-------------	-----------	------------	------------	------------------

5.2.2 Wireless Setup

Click **Wireless Setup**, you will be able to configure the wireless corresponding function. We have discussed this setting on **4.4 Internet Setup**.

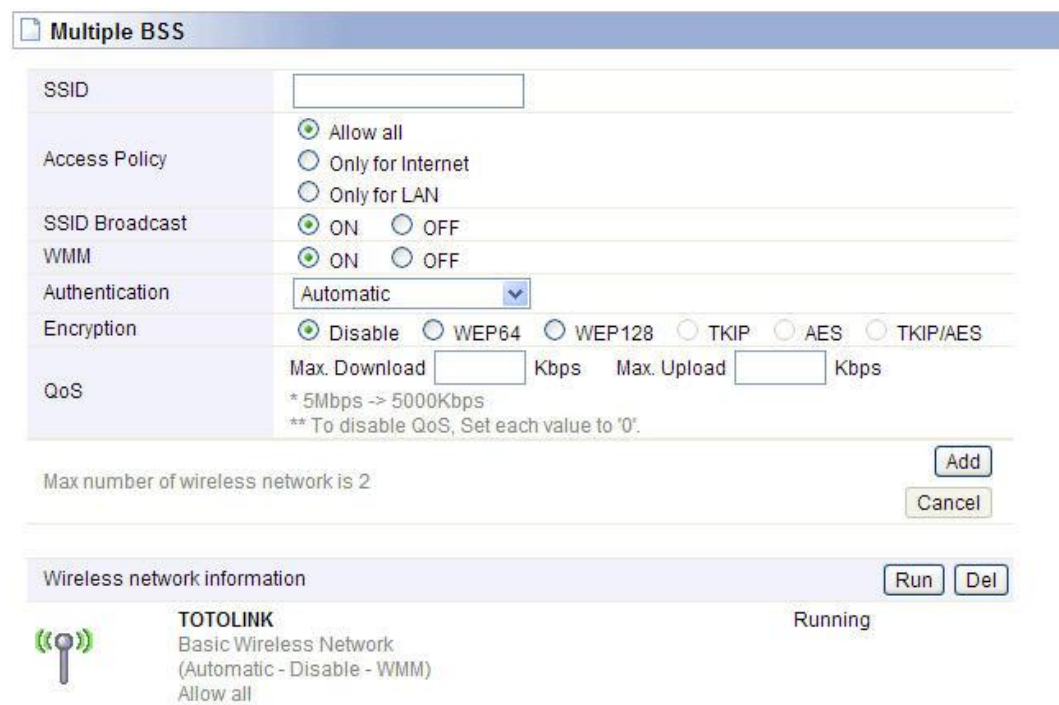


The 'Wireless Setup' page contains the following fields and controls:

- Operation:** Radio buttons for 'Start' (selected) and 'Stop'.
- SSID:** Text input field containing 'TOTOLINK', a 'Check SSID' button, and a 'Mode' dropdown menu set to 'B,G,N'.
- Region:** Dropdown menu set to 'Europe'.
- Channel:** Dropdown menu set to '5 [2.432 GHz,Upper]', with a 'Channel Search' button.
- Operation mode:** Radio buttons for 'SSID Broadcast' (ON selected, OFF) and 'WMM' (ON selected, OFF).
- Authentication:** Dropdown menu set to 'Automatic'.
- Encryption:** Radio buttons for 'Disable' (selected), 'WEP64', 'WEP128', 'TKIP', 'AES', and 'TKIP/AES'.
- Apply:** Button at the bottom right.


5.2.3 Multiple BSS

Multiple BSS function allows you to add other SSID for different needs. What's more, you can setup different encryption for different SSIDs.



The 'Multiple BSS' page contains the following fields and controls:

- SSID:** Empty text input field.
- Access Policy:** Radio buttons for 'Allow all' (selected), 'Only for Internet', and 'Only for LAN'.
- SSID Broadcast:** Radio buttons for 'ON' (selected) and 'OFF'.
- WMM:** Radio buttons for 'ON' (selected) and 'OFF'.
- Authentication:** Dropdown menu set to 'Automatic'.
- Encryption:** Radio buttons for 'Disable' (selected), 'WEP64', 'WEP128', 'TKIP', 'AES', and 'TKIP/AES'.
- QoS:** Fields for 'Max. Download' and 'Max. Upload' in Kbps, with a note: '* 5Mbps -> 5000Kbps' and '** To disable QoS, Set each value to '0'.'.
- Add:** Button at the bottom right.
- Cancel:** Button at the bottom right.
- Max number of wireless network is 2:** Text label.
- Wireless network information:** Section header with 'Run' and 'Del' buttons.
- Network List:** A table showing the current network configuration:

Icon	SSID	Status
	TOTOLINK Basic Wireless Network (Automatic - Disable - WMM) Allow all	Running

SSID: define the SSID by yourself.

Access Policy: setup the access policy as you want. Allow all, only for Internet or only for LAN according to your need.

SSID Broadcast: choose to hide or broadcast your SSID.

WMM: it is an abbreviation of Wi-Fi Multimedia. It defines the priority levels for four access categories derived from 802.1d (prioritization tabs). The categories are designed with specific types of traffic, voice, video, best effort and low priority data.

Encryption: you can choose the encryption method for WMM. Please refer to wireless security setup.

QoS: this option allows you to limit the download and upload data rate for every PCs connected with the router. So the bandwidth can be used reasonably.

5.2.4 Wireless Multibridge

When the wireless signal is too weak as the long distance, you can enable this function to extend the WiFi coverage.

Wireless Multibridge	
Operation	<input type="radio"/> Start <input checked="" type="radio"/> Stop
Wireless Mode	<input checked="" type="radio"/> Use Wireless Bridge <input type="radio"/> Use Wireless WAN
Bridge(Station) MAC Address	78:44:76:00:00:03
Wireless Status	Stopped
SSID	<input type="text"/> <input type="button" value="Search AP"/>
Channel	5 [2.432 GHz,Upper]
Authentication	Open System
Encryption	<input checked="" type="radio"/> Disable <input type="radio"/> WEP64 <input type="radio"/> WEP128 <input type="radio"/> TKIP <input type="radio"/> AES
<input type="button" value="Apply"/>	

Wireless Bridge: In this mode, the router is used as an AP to get other router's signal.

Wireless WAN: The same function as **Wireless Bridge**, but the only setting difference is that Wireless WAN need not to stop the DHCP Server.

SSID: Click **Search AP**; choose the SSID of your Primary Router and then enter the encryption key of the upper AP if the encryption is enabled.

Note: Both these two repeater methods can help you to expand the wireless coverage and allow more terminals to access Internet. But since Wireless WAN need not stop DHCP Server, all PCs' IP Addresses are assigned by the Secondary Router itself. So this method allows more PCs to access Internet than Wireless Bridge. In Wireless Bridge mode, the PCs' permissions to access Internet are decided by Primary Router which can make users to manage the LAN more easily.

5.2.5 MAC Authentication

You can control the PC to connect the wireless Router through MAC authentication. At first, you should select the SSID of your wireless network. Then you can setup to allow all or just allow the specific PCs to connect to your wireless network.

MAC Authentication	
Select wireless network	TOTOLINK
<input checked="" type="radio"/> Accept All	
<input type="radio"/> Accept MAC address registered	
<input type="radio"/> Reject MAC address registered	
<input type="button" value="Apply"/>	

<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <input type="button" value="Del"/> <div style="float: right;">Registered MAC address list</div> <div style="clear: both;"></div> </div>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <input type="button" value="Add"/> <div style="float: right;">MAC address List in wireless</div> <div style="clear: both;"></div> <div style="text-align: right; margin-top: -20px;"><input type="button" value="Search"/></div> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> <div style="display: flex; justify-content: space-between; width: 100%;"> <div style="width: 20%;"></div> <div style="width: 20%;"></div> <div style="width: 20%;"></div> <div style="width: 20%;"></div> <div style="width: 20%;"></div> </div> </div> <div style="margin-top: 5px;"> <div style="display: flex; justify-content: space-between;"> <div></div> <div>Description</div> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td><input type="checkbox"/></td><td>68-94-23-8B-A9-AC</td></tr> <tr><td><input type="checkbox"/></td><td>78-44-76-1E-27-C7</td></tr> <tr><td><input type="checkbox"/></td><td>14-5A-05-59-FF-96</td></tr> <tr><td><input type="checkbox"/></td><td>00-0C-43-30-70-01</td></tr> <tr><td><input type="checkbox"/></td><td>00-37-6D-EE-D3-91</td></tr> <tr><td><input type="checkbox"/></td><td>00-24-2C-E7-FC-4B</td></tr> <tr><td><input type="checkbox"/></td><td>00-66-4B-5D-E4-86</td></tr> <tr><td><input type="checkbox"/></td><td>78-44-76-B5-CA-BB</td></tr> <tr><td><input type="checkbox"/></td><td>50-EA-D6-25-25-BC</td></tr> </table> </div> </div> </div>	<input type="checkbox"/>	68-94-23-8B-A9-AC	<input type="checkbox"/>	78-44-76-1E-27-C7	<input type="checkbox"/>	14-5A-05-59-FF-96	<input type="checkbox"/>	00-0C-43-30-70-01	<input type="checkbox"/>	00-37-6D-EE-D3-91	<input type="checkbox"/>	00-24-2C-E7-FC-4B	<input type="checkbox"/>	00-66-4B-5D-E4-86	<input type="checkbox"/>	78-44-76-B5-CA-BB	<input type="checkbox"/>	50-EA-D6-25-25-BC
<input type="checkbox"/>	68-94-23-8B-A9-AC																		
<input type="checkbox"/>	78-44-76-1E-27-C7																		
<input type="checkbox"/>	14-5A-05-59-FF-96																		
<input type="checkbox"/>	00-0C-43-30-70-01																		
<input type="checkbox"/>	00-37-6D-EE-D3-91																		
<input type="checkbox"/>	00-24-2C-E7-FC-4B																		
<input type="checkbox"/>	00-66-4B-5D-E4-86																		
<input type="checkbox"/>	78-44-76-B5-CA-BB																		
<input type="checkbox"/>	50-EA-D6-25-25-BC																		

The maximum number of registered MAC Addresses is 50.

5.2.6 WDS Setup

WDS means Wireless Distribution System. It is a protocol for connecting two access points wirelessly. Usually, it can be used for the following application:

1. Provide bridge traffic between two LANs though the air.
2. Extend the coverage range of a WLAN.

To meet the above requirement, you must set these APs in the same channel and set MAC address of other APs which you want to communicate with in the table and then enable the WDS.

AP's BSSID

-
 -
 -
 -
 -

Description

Max number of AP is 4.

AP's BSSID	Description

5.2.7 WPS Setup

WPS (Wi-Fi Protected Setup) provides easy procedure to make network connection between wireless station and wireless access point with the encryption of WPA and WPA2. It is enabled by default.

WPS Setup

WPS Setup

WPS Activation

☒ ON
☐ OFF

WPS Config

☒ Use predefined config
☐ Use auto-generated SSID & Key

WPS Status

Configured by current setting

WPS Configuration Init

Apply

Connect WPS

Connect WPS

☒ PBC Button
☐ Pin Connect

LAN Card PIN

5.2.8 Advanced Setup

Advanced Setup is for advanced parameter settings. For common users, please just keep the default configuration.

Advanced Setup

The following functions are settings for wireless expert.

Channel Bandwidth

☒ 20/40 MHz
☐ 20 MHz

Channel bonding option according to 802.11n Draft.

Reverse Direct Grant

☒ ON
☐ OFF

RDG can increase the wireless throughput.

Tx Power

100

% (1 ~ 100)

The wireless coverage is adjusted by increasing or decreasing the Tx Power.
The range of value is 1 ~ 100. The higher power means the longer wireless coverage

Tx Burst

☒ Start
☐ Stop

Tx Burst may increase the performance.
But, in the environment of many simultaneous wireless connections, Disabling this feature can be better solution.

Preamble Length

☒ Long Preamble
☐ Short Preamble

Short Preamble may increase the performance slightly.
But for compatibility with old 802.11 lan card, use Long Preamble.

RTS Threshold

2347

bytes

The frames which have more length than RTS threshold are transmitted using RTS/CTS method
The less RTS threshold make wireless communication be more stable, but have less maximum throughput.
The valid range is 1 ~ 2347.

Fragmentation Threshold

2346

bytes

The frames which have more length than fragmentation threshold are transmitted after fragmented with setting value
The less Fragmentation Threshold may make wireless communication more stable, but have less maximum throughput.
The valid range is 256 ~ 2346.

Beacon Period

100

ms

Normally use 100ms
The range should be from 50ms to 1024ms.

Wireless Multicast

☐ Auto
☒ Always ON

Transmit multicast data to Wireless interface.

Initial Values

Apply

Channel Width: this is the spectral width of the radio channel. Supported wireless channel spectrum widths:

20MHz is the standard channel spectrum width.

40MHz is the channel spectrum with the width of 40MHz (selected by default).

Reverse Direct Grant: this option can increase the wireless throughput.

TX Power: please refer to the description on the page.

Rx Power: please refer to the description on the page.

Preamble Length: this option is to define the length of the sync field in an 802.11 packet. Most modern wireless network uses short preamble with 56 bit sync field instead of long preamble with 128 bit sync field. However, some original 11b wireless network devices only support long preamble.

RTS Threshold: determines the packet size of a transmission and, through the use of an access point, helps control traffic flow. The range is 0-2347 bytes. The default value is 2347, which means that RTS is disabled.

RTS/CTS (Request to Send / Clear to send) are the mechanism used by the 802.11 wireless networking protocols to reduce frame collisions introduced by the hidden terminal problem. RTS/CTS packet size threshold is 0-2347 bytes. If the packet size the node wants to transmit is larger than the threshold, the RTS/CTS handshake gets triggered. If the packet size is equal to or less than threshold the data frame gets sent immediately.

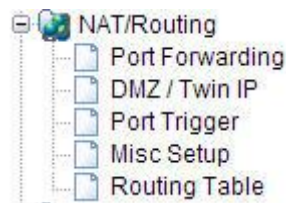
System uses Request to Send/Clear to send frames for the handshake that provide collision reduction for an access point with hidden stations. The stations are sending a RTS frame first while data is sent only after a handshake with an AP is completed. Stations respond with the CTS frame to the RTS, which provide clear media for the requesting station to send the data. CTS collision control management has a time interval defined during which all the other stations hold off the transmission and wait until the requesting station will finish transmission.

Fragment Threshold: specifies the maximum size for a packet before data is fragmented into multiple packets. The range is 256-2346 bytes. Setting the Fragment Threshold too low may result in poor network performance. The use of fragment can increase the reliability of frame transmissions. Because of sending smaller frames, collisions are much less likely to occur. However, lower values of the Fragment Threshold will result in lower throughput as well. Minor or no modifications of the Fragmentation Threshold value is recommended while default setting of 2346 is optimum in most of the wireless network use cases.

Beacon Period: By default, it is set to 100ms. Higher Beacon interval will improve the device's wireless performance and is also power-saving for client side. If this value set lower than 100ms, it will speed up the wireless client connection.

5.3 NAT/Routing

Click the plus sign beside **NAT/Routing** menu to open up all the parameters contained, see below:



5.3.1 Port Forwarding

On this page, you can redirect common network services automatically to a specific device behind the NAT firewall. This setting is only necessary when you want to host some sort of servers like a Web server or mail server on the private local network behind your Gateway's NAT firewall.

LAN IP: You can set the IP Address that you defined the rule for.

Protocol: Choose which particular protocol type should be forwarding. Here you can choose UDP/TCP.

External Port: Set the WAN range.

Internal Port: Set the LAN range.

5.3.2 DMZ/Twin IP

The DMZ (Demilitarized Zone) host feature allows one local host to be exposed to the Internet for a special-purpose service such as Online Game and video conferencing. DMZ host forwards all the ports at the same time. Any PCs whose port is being forwarded must have its DHCP client function disabled and should have a new static IP Address assigned to it, because its IP Address may be changed when using the DHCP function.

While you select DMZ option, you should enter the LAN IP address and click Apply to save configuration.

DMZ / Twin IP

☐ OFF
☒ DMZ (All connections from internet will be forwarded to DMZ PC)
☐ Twin IP (The TwinIP PC will have a public IP address.)

LAN IP . . .

☐ Set connected PC's IP address(192.168.1.2)

Apply

While you choose the Twin IP option, you should enter the MAC address and IP address.

DMZ / Twin IP

☐ OFF
☐ DMZ (All connections from internet will be forwarded to DMZ PC)
☒ Twin IP (The TwinIP PC will have a public IP address.)

☐ Set connected PC's MAC address
 MAC Address - - - - -

IP renew period Sec

Apply

5.3.3 Port Trigger

Port Trigger is used to realize that when there comes the Outbound streaming from a specified network port (triggered port), automatically opens the gateway WAN-side interfaces specified port (forwarded port), and the streams will forward to the triggered ports. You can achieve some special purposes by this setting.

Port Trigger

Rule Name		<input type="text"/>
Port Trigger	Protocol	TCP
	Port Range	<input type="text"/> ~ <input type="text"/>
Port Forward	Protocol	TCP
	Port Range	<input type="text"/>

Max number of rule is 10.

Rule Name	Trigger Condition	Forward Condition	<input type="checkbox"/>
			<input type="button" value="Del"/>

5.3.4 Misc Setup

Misc setup provides FTP Private Port, Multicast Forward and NAT on/off setup.

Misc Setup	
FTP Private Port	Port <input type="text"/> <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="button" value="Add"/> <input type="button" value="Del"/>
Multicast Forward(IGMP)	<input type="radio"/> Start <input type="button" value="Group List"/> <input checked="" type="radio"/> Stop To receive/send a Multicast data <input type="button" value="Apply"/>
NAT On/Off Setup	<input checked="" type="radio"/> Start <input type="radio"/> Stop <input type="button" value="Apply & Restart"/> If NAT is stopped, this router will act as just pure router.
PPPoE Relay	<input type="radio"/> Start <input checked="" type="radio"/> Stop <input type="button" value="Apply"/> Enable PPPoE Relay for LAN interface

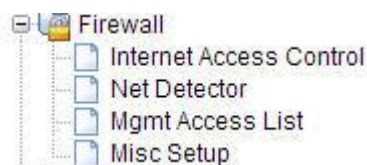
5.3.5 Routing Table

You can add or delete the static routing rules here.

Routing Table				
Type	Target	Mask	Gateway	
Net <input type="button" value="v"/>	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>	<input type="text"/>	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>	<input type="button" value="Add"/>
Max number of routing table is 20				
Type	Target	Mask	Gateway	<input type="button" value="Del"/> <input type="checkbox"/>

5.4 Firewall

Click the plus sign beside **Firewall** menu to show up all the parameters contained, see below:



5.4.1 Internet Access Control

Internet Access Control provides multiple security protection. It can achieve MAC/Port/IP filtering, Internet access time control and other functions that enable user to control Internet access.

Internet Access Control

Input Type	Basic Setup	Rule Name	
Source IP Address	<input checked="" type="radio"/> 192 . 168 . 1 . ~ 192 . 168 . 1 . <input type="checkbox"/> ALL IP		
Source MAC Address	<input type="radio"/> - - - - - <input type="text"/> Search MAC address		
Accept/Drop	Drop	Priority	0
<input type="checkbox"/> Rule Scheduling			
Max number of setting is 200.			
<input type="button" value="Add"/> <input type="button" value="Cancel"/>			
The lower number, the higher priority. To modify a rule, click the name of rule.			
<input type="button" value="Run"/>	Rule Name	Schedule	Filtering Rule
			Accept/Drop
			<input type="button" value="Del"/>

5.4.2 Net Detector

Net Detector provides some basic virus protection function that allows user to have a safer network communication.

Net Detector

Net Detector Setup

Operation	<input type="radio"/> Start <input checked="" type="radio"/> Stop
Detection Port	<input checked="" type="radio"/> Well-known Worm Virus Ports <input type="radio"/> All Ports
Detection Level	<input checked="" type="radio"/> Mid <input type="radio"/> 0 connections/sec
Burst Drop	<input type="button" value="No"/> <input type="checkbox"/> Only drop worm virus port
E-mail Policy	Please, set the email address of administrator & SMTP mail server.
<input type="button" value="Apply"/>	

Net Detector Log

Detection Time	IP	Protocol	Frequency	Comment [Red:User Warning OFF]
----------------	----	----------	-----------	-----------------------------------

5.4.3 Mgmt Access List

Mgmt Access List

Remote Accesslist

<input type="checkbox"/> Remote Mgmt port #	0
<input type="checkbox"/> Use Remote Accesslist	<input type="button" value="Apply"/>
IP allowed	
Description	<input type="button" value="Add"/>
Max number of IP is 10	
IP	Description
	<input type="button" value="Del"/>

Internal Accesslist

<input type="checkbox"/> Use Internal Accesslist	<input type="button" value="Apply"/>
IP allowed	192 . 168 . 1 .
Description	<input type="button" value="Add"/>
Max number of IP is 10	
IP	Description
	<input type="button" value="Del"/>

5.4.4 Misc Setup

Recommend to keep the default settings.

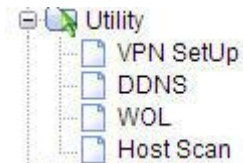
Misc Setup

SYN Flood	<input checked="" type="radio"/> Start <input type="radio"/> Stop The SYN flood is a form of denial-of-service attack in which an attacker sends a succession of SYN requests to a target's system.
Smurf	<input checked="" type="radio"/> Start <input type="radio"/> Stop The smurf attack, named after its exploit program, is a denial-of-service attack that uses spoofed broadcast ping messages to flood a target system.
IP source routing	<input checked="" type="radio"/> Start <input type="radio"/> Stop The source routing allows a sender of a packet to specify the route the packet takes through the network, so if cracker can generate a source routing packet then cracker can deceive a target host as a trusted host.
IP Spoofing	<input checked="" type="radio"/> Start <input type="radio"/> Stop The IP address spoofing is the creation of IP packets with a forged (spoofed) source IP address with the purpose to conceal the identity of the sender or impersonating another computing system.
ARP Virus Protection	<input type="radio"/> Start <input checked="" type="radio"/> Stop Send <input type="text" value="10"/> ARP packets per 1 second to <input type="text" value="Wired Network"/> ARP Virus Protection prevents from ARP snoofing attack
Blocking ICMP(ping) from internet	<input type="radio"/> Start <input checked="" type="radio"/> Stop
Blocking ICMP(ping) from LAN to internet	<input type="radio"/> Start <input checked="" type="radio"/> Stop

Apply

5.5 Utility

Click the plus sign beside **Utility** menu to open up all the parameters contained, please see below:



5.5.1 VPN Setup

The wireless router provides PPTP protocol VPN connection, and it supports 5 VPN users at most. Please enter the account information to connect the VPN server.

VPN SetUp

VPN(PPTP) Setup

Mode

☐ Start
☒ Stop

Encryption(MPPE)

☒ MPPE encryption
☐ No encryption

Apply

VPN(PPTP) Account

VPN Account

VPN Password

Assigned IP

192 . 168 . 1 .

Maximum number of VPN User is 5.

Add

VPN Account	Assigned IP	Status	Disconnect	Del
-------------	-------------	--------	------------	-----

VPN (PPTP) Setup

Mode: Click Start to enable VPN server and otherwise disable.

Encryption (MPPE): MPPE encryption

Click **Apply** (this is very important, if you don't click **Apply**, the settings below will not work).

VPN (PPTP) Account

VPN Account & Password: Set the VPN account and password for verifying.

Assigned IP: This should be in the same network with your LAN IP.

Click **Add**. You can create at most 5 VPN accounts by this router. After setup, you need to provide the VPN Account, Password and your WAN IP address to anyone that needs them. The VPN Client should follow right steps to make a successful VPN connection.

5.5.2 DDNS

DDNS (Dynamic Domain Name Server) is to achieve a fixed domain name to dynamic IP resolution. For dynamic IP address users, if there is any Internet access to their IP address, they need to show a fixed domain name to them. So their IP address will be sent to the DDNS service provider from the dynamic analysis server (3322, dyndns.org) and to update the DNS database. Then DDNS will bind the dynamic IP address to a fixed domain name. When other users on the Internet want to access this domain name, the dynamic DNS server will return the correct IP address. In this way, most users do not need to use fixed IP and can also name the fixed network system.

DDNS

DDNS Service Provider

No-IP - www.no-ip.com

Host Name

User ID

Password

Add

Host Name	DDNS Status	Refresh	Update	Del
-----------	-------------	---------	--------	-----

In order to set up DDNS, please follow the below steps:

1. Choose your service provider.

DDNS Service Provider	No-IP - www.no-ip.com
Host Name	No-IP - www.no-ip.com
User ID	Changelp - www.changeip.com
Password	DtDNS - www.dtdns.com
	2221.org - www.2221.org
	3322.org - www.3322.org
	dyndns.org(DynDNS)

2. Type in User Name for your DDNS account.

3. Type in Password for your DDNS account.

4. Host Name-the domain names are displayed here. Click **Add** to apply the modification.

5.5.3 WOL

Users can use this Wake On Line function to start the PC remotely.

WOL

MAC Address

☐ Set connected PC's address

- - - - -

PC Name

Max number of setting is 100.

MAC Address	PC Name	<input type="button" value="Wake Up"/>	<input type="button" value="Del"/>
-------------	---------	--	------------------------------------

5.5.4 Host Scan

It allows user to view the working status of the PC, including status of ICMP, ARP package sending and receiving and TCP port communication information.

Host Scan

☒ Ping Test

ICMP

IP . . .

Count: times

Time Out: Sec

Data Size: bytes

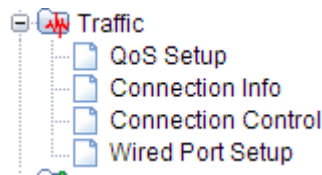
☐ TCP PORT SCAN

IP . . .

Port Range: ~

5.6 Traffic

Click the plus sign beside the Traffic menu to show up all the parameters contained, see below:



5.6.1 QoS Setup

QoS Setup

QoS Basic Setup

Operation

☐ Start ☒ Stop

Internet Type

User Defined

Download

0

Kbps

Upload

0

Kbps

Apply

Not allow to use a radix point. ex) 2.5Mbps -> 2500Kbps

QoS Rule Setup

☐ Smart QoS

Apply

☒ User defined Rule ☐ Predefined Rule

Mode

Max. Limit

Download

0

Kbps

Upload

0

Kbps

IP

☒ 192 . 168 . 1 . ~ 192 . 168 . 1 . ☐

Bandwidth Per IP (BPI)

☐ Twin IP

Protocol

External Port

 ~

Max number of rule is 127.

Apply

The lower number, the higher priority.
Priority of 'Min. Guarantee' mode is higher than priority of 'Max. Limit' mode

☒ Max. Limit ☐ Min. Guarantee

IP	Condition	Mode	Download	Upload	Del
					<input type="checkbox"/>

This page is used to improve your online gaming experience by ensuring that your game traffic is prioritized over network traffic, such as FTP or Web.

Operation: You can choose to Start or Stop this function on your Router.

Internet Type: Any Internet type you want to control bandwidth.

Download/Upload: Set the bandwidth range of the Router.

QoS Rule Setup

Smart QoS: You can choose to use Smart QoS for convenient. If you select this option, you don't need to do the below settings.

Mode: You could select Max. Limit (maximum limited bandwidth) or Min. Guarantee (minimum guaranteed bandwidth).

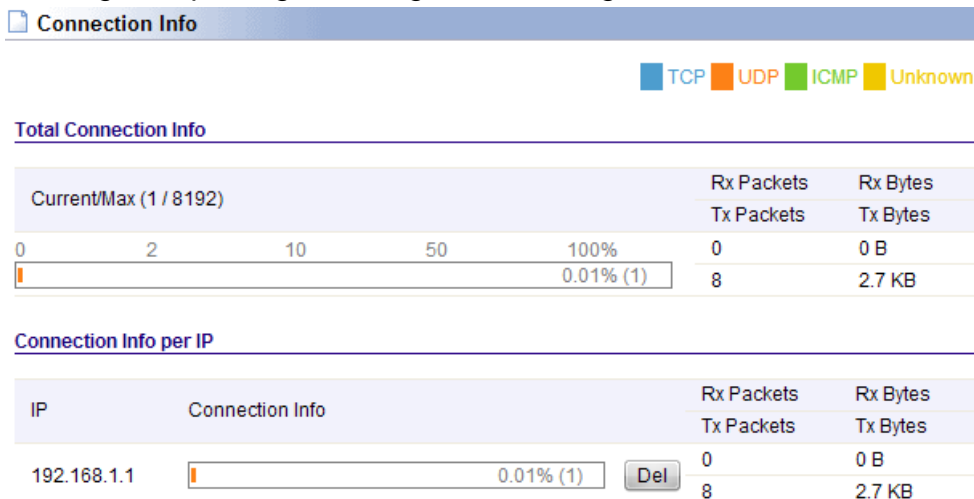
IP: You should type in the IP addresses range of PC in LAN.

Protocol: Any Protocol you want to control bandwidth.

External Port: You need to enter the range of external ports that you want to control bandwidth.

5.6.2 Connection Info

This page indicates the present connection information of the Wireless Router using graphics and data including data package sending and receiving status of each PC in connection.



5.6.3 Connection Control

Connection Control shows the Max connection, Max UDP connection, Max ICMP connection and Max connection of each PC. These settings are only for advanced users, common users are not recommended to change them.

Connection Control

Max connection	8192	(0 : No limit, 512 ~)
Max UDP connection	4096	(0 : No limit, 10 ~ Max connection)
Max ICMP connection	1024	(0 : No limit, 1 ~ Max connection)
Max connection rate per 1 PC	0	% (0 : No limit, 1 ~ 100)

[Initial Values](#) [Apply](#)

* Warning.
1. This page is only for network expert.
2. Max connection rate per 1 PC option works only when internal network is C class.


Control Connection Timeout

TCP SYN SENT TIMEOUT	20	TCP SYN RECV TIMEOUT	60
	Sec		Sec
TCP ESTABLISHED TIMEOUT	86400	TCP FIN WAIT TIMEOUT	120
	Sec		Sec
TCP CLOSE WAIT TIMEOUT	60	TCP LAST ACK TIMEOUT	30
	Sec		Sec
TCP TIME WAIT TIMEOUT	10	TCP CLOSE TIMEOUT	10
	Sec		Sec
UDP TIMEOUT	30	UDP STREAM TIMEOUT	180
	Sec		Sec
ICMP TIMEOUT	30	GENERIC TIMEOUT	600
	Sec		Sec

[Initial Values](#) [Apply](#)

5.6.4 Wired Port Setup

This page shows the connection status of the PC connected with your router by cables.

 **Wired Port Setup**

Wired Port Link Status

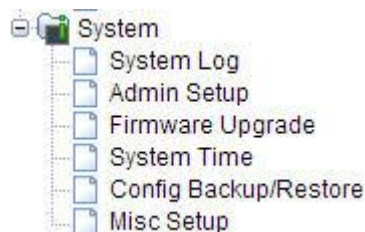
Port	WAN	1	2	3	4
Link	Off	Off	Off	On	Off
Speed	--	--	--	100	--
Duplex	--	--	--	Full	--

Wired Port Link Setup

Port	Mode	Speed	Duplex	
WAN	Auto	100Mbps	FULL	<input type="button" value="Apply"/>
1	Auto	100Mbps	FULL	<input type="button" value="Apply"/>
2	Auto	100Mbps	FULL	<input type="button" value="Apply"/>
3	Auto	100Mbps	FULL	<input type="button" value="Apply"/>


5.7 System

Click the plus sign beside the System menu to open up all the parameters contained, please see below:



5.7.1 System Log

System Log shows the working status of the wireless router, user can check the running status information here:

 **System Log**

System Log Setup

Operation	<input checked="" type="radio"/> Start <input type="radio"/> Stop	<input type="button" value="Apply"/>
Status	Log Count(Max Count) : 5(400)	<input type="button" value="Clear"/>
E-mail Report	Please, set the email address of administrator & SMTP mail server.	

System Log View

Timestamp	System Log Contents
*****	IP : 192.168.1.2 LOGIN Success
*****	All configurations are saved
*****	All configurations are saved
*****	No response from DHCP Server in WAN (wan1)
*****	System restarted (Version: 8.54)

5.7.2 Admin Setup

Here you can change the login account name and password, and administrator email information.

First please input your old ID and password, then input your expected new ones. If you input your old ID and password correctly, then click **Apply** to change it.

Admin E-Mail Setup: If you want to receive IP routing log, set up Email address and SMTP server to receive it.

Admin Setup	
<u>Login Account Setup</u>	
Current ID & password	ID - admin Password - Configured
New Login ID	<input type="text"/>
New Password	<input type="text"/>
Re-type New Password	<input type="text"/>
<input type="button" value="Apply"/>	
<u>Admin E-mail Setup</u>	
Admin E-mail	<input type="text"/>
Mail Server(SMTP)	<input type="text"/>
E-mail of sender	<input type="text"/>
Use Authentication	<input type="radio"/> Use <input checked="" type="radio"/> Not Use
SMTP Account	<input type="text"/>
SMTP Password	<input type="text"/>
<input type="button" value="Apply"/>	

5.7.3 Firmware Upgrade

This page allows you to upgrade the Access Point firmware to new version. Please note: DO NOT power off the device during the upload because it may crash the system.

Firmware Upgrade	
Firmware Version	8.54
Build Date	Mon Feb 18 20:37:35 KST 2013
To upgrade manually 1. Download a firmware at [TOTOLINK Homepage]. 2. Click [Browse] and choose a downloaded firmware 3. Click [Upgrade] button.	
<input type="button" value="Choose File"/> No file chosen	<input type="button" value="Upgrade"/>
Note. <ul style="list-style-type: none">• Internet will be unavailable for upgrading firmware.• Power down for updating firmware can be the cause of system halt.	

5.7.4 System Time

You can set the time server and time zone for your wireless Router system time.

System Time	
System Time	Failed to get system time from time server.
Time Server	<div>time.windows.com</div> <div>time.windows.com</div>
	<input type="checkbox"/> Summer Time
Standard Time Zone	(GMT+08:00) Beijing,Hongkong,Taiwan,Manila,Kuala Lumpur,Singapore
<input type="button" value="Apply"/>	

5.7.5 Config Backup/Restore

This webpage allows you to save current settings to a file and reload the settings from the file which was saved previously. Besides, you could reset the current configuration to factory default.

Config Backup/Restore	
<input type="button" value="Config Backup"/>	Download configuration file on your PC
<input type="button" value="Choose File"/> No file chosen	
<input type="button" value="Config Restore"/>	Restore configuration by using Downloaded configuration
<input type="button" value="Factory Default"/>	To restore the factory default configuration, click this button.

5.7.6 Misc Setup

Misc Setup provides Host name, Auto Saving, Auto Redirection, Login page setup, UPNP setup and Restart System functions.

Misc Setup	
Hostname	<div></div> <input type="button" value="Apply"/>
Auto Saving	<input checked="" type="radio"/> Start <input type="radio"/> Stop <input type="button" value="Apply"/>
Auto Redirection	<input type="radio"/> Start <input checked="" type="radio"/> Stop <input type="button" value="Apply"/> Redirect web connection to the router's setup page, when internet is disconnected
Login Page Setup	<input checked="" type="radio"/> The login page would be displayed <input type="radio"/> The login page would not be displayed <input type="button" value="Apply"/>
How to run Setup Window	<input type="radio"/> Use Popup <input checked="" type="radio"/> Use current window <input type="button" value="Apply"/>
UPNP Setup	<input checked="" type="radio"/> Start <input type="radio"/> Stop <input type="button" value="Apply"/> <div>UPNP Port Forwarding List</div>
Restart System	<input type="button" value="Apply"/>