User Manual

TOTOLINK Wireless-N Portable AP

TOTOLINK

www.totolink.net

TABLE OF CONTENT

1. ABOUT THIS GUIDE

Thank you very much for purchasing this TOTOLINK iPuppy Wireless Portable AP. 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 Navigation of the User's Guide

Product Overview. Describes the router's function, its features and appearance.

Hardware Installation. Describes the hardware installation and settings on computer.

Connecting to Internet. Tells how you can connect your computer to Internet successfully using the Router.

Advanced Settings. Lists all technical functions including Settings for Network, Wireless, Firewall and Management of the Router.

2. PRODUCT OVERVIEW

2.1 Introduction

iPuppy is a 150Mbps Wireless N Portable AP which allows users to access Internet by DHCP/PPPoE/Static IP. With the small size, built-in power supply, iPuppy is very convenient for travelers and home users to access Internet. Besides, it can be used as a repeater to expand the wireless coverage. Generally, it is the perfect solution for travelers and also practical for home users.

2.2 Features

- Complies with IEEE 802.11n and IEEE 802.11g/b standards for 2.4GHz Wireless LAN.
- Up to 150Mbps wireless data rate.
- The USB/Charge port can supply power for many Smart Phones and Pad, like iPhone, Android Phone.
- AP/Router slide switch allows users to enjoy wireless Internet access in different environment.
- Supports PPPoE, DHCP and Static IP broadband functions.
- Provides 64/128-bit WEP and WPA-PSK/WPA2-PSK encryption.
- IP/MAC/URL filtering makes access and time control more flexibly.
- WDS mode makes it simple for WLAN expansion.
- Supports WMM for improved audio and video streaming.
- Multi-SSID allows you to create multiple SSIDs for different purpose.
- Connects to secure network easily and fast using WPS.

- Repeater function allows more PCs to surf Internet.
- Easy to install and configure.

2.3 Panel Layout

2.3.1 Appearance

Below figure shows every panel of iPuppy:

2.3.2 Port and LED Description

Port & LED	Description
Reset	With iPuppy powered on, press and hold the button until the inner LED becomes solid lighting for 3~5 seconds. Then release the button and wait the AP to reboot to its factory default settings.
USB/Charge	Supply power for smart phone or pad.
LAN	This port connects the AP to Internet.

Router/AP	This slide switch allows users to change device working mode between Router & AP.
Status	There is one indicator named Status inside iPuppy without label on outer case. But users can see it lighting blue when it is powered on.

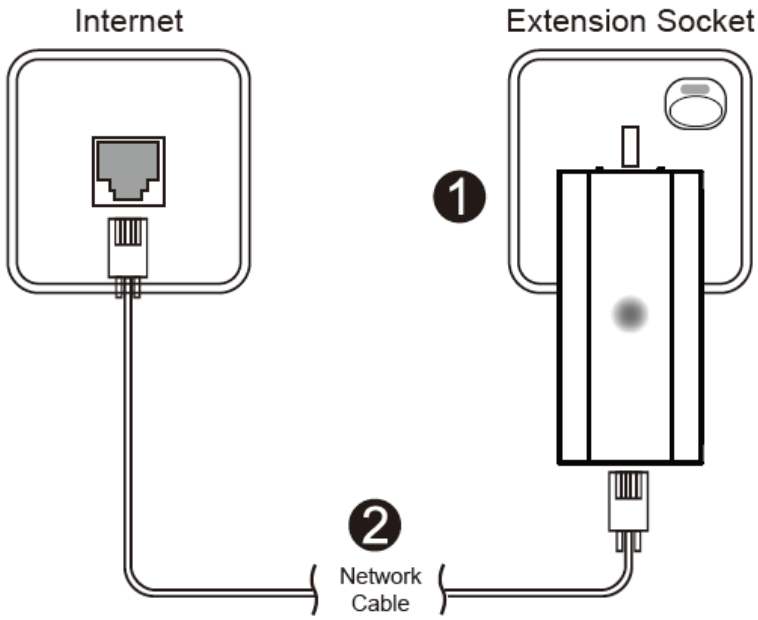
3. HARDWARE INSTALLATION

3.1 Hardware Installation and Confirmation

With the AP/Router slide switch, users can access Internet in different environment. AP mode can convert wired connection to wireless signal. This mode is applied in hotels, restaurants and small offices. Router mode makes iPuppy work like a wireless router, you will have to configure the parameters correctly and then surf Internet through it wirelessly.

3.1.1 AP Mode

In this mode, you can access Internet by just two steps:

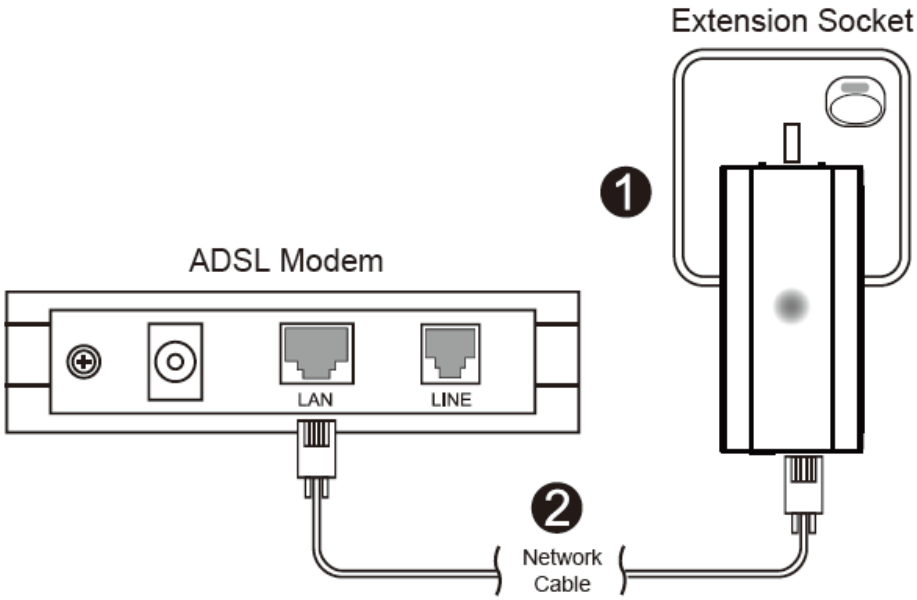


1. Plug existing network cable into the LAN port of iPuppy.
2. Plug iPuppy into power socket.

Now, you can search for the SSID of iPuppy and enter the password to access Internet.

3.1.2 Router Mode

In this mode, iPuppy supports three methods to access Internet: DHCP/PPPoE/Static IP. For example, if you can connect Internet by modem, you will have to:

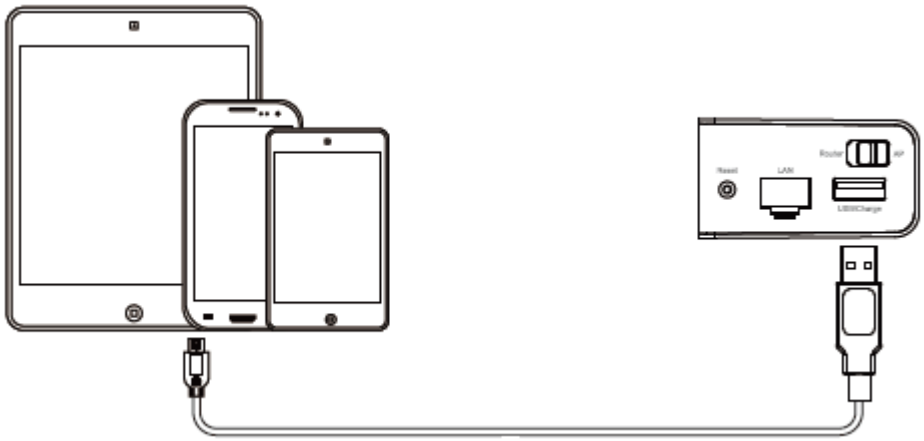


1. Connect your Modem and iPuppy using network cable.
2. Plug iPuppy into power socket.
3. Go to Setup interface of this device to make it connect Internet successfully (Please refer to Section 4 CONNECTING TO INTERNET).

After correct configuration, you can search for the SSID and enter the password to access Internet. This mode is mostly applied at home and in student hostels.

3.1.3 Charge Mode

iPuppy provides one USB 2.0 port to supply power for many Smart Phones and Pad, including iPhone, Android Phone, iPad, mini Pad ect.



1. Connect iPuppy and your phone/pad together using charging wires with USB interface.
2. Plug iPuppy into the power socket.

3.2 Set up the Computer

Generally, iPuppy only allows PCs to connect to it wirelessly. But if you use this device as a repeater and you have set all the repeater parameters right, you can access Internet through iPuppy by wired connection.

In repeater mode, you only need to set up the TCP/IP Protocol to **Obtain an IP address automatically** on your PC.

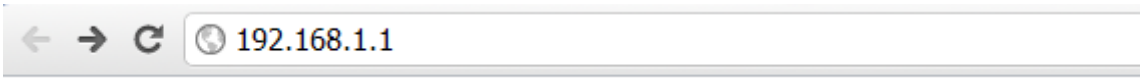
Note: *Before connecting to iPuppy by cable, you must make sure you have chosen AP mode on iPuppy's AP/Router slide switch. Else you can't access this device's configure interface by wired connection in Router mode.*

4. CONNECTING TO INTERNET

This chapter introduces how to configure the **Router** mode to access Internet. First, connect to iPuppy wirelessly. The default SSID is TOTOLINK iPuppy. You can connect to it just by double-click the name.

4.1 Accessing Web page

Log in the configure interface by typing 192.168.1.1 in the address field of Web Browser. Then press **Enter** key.

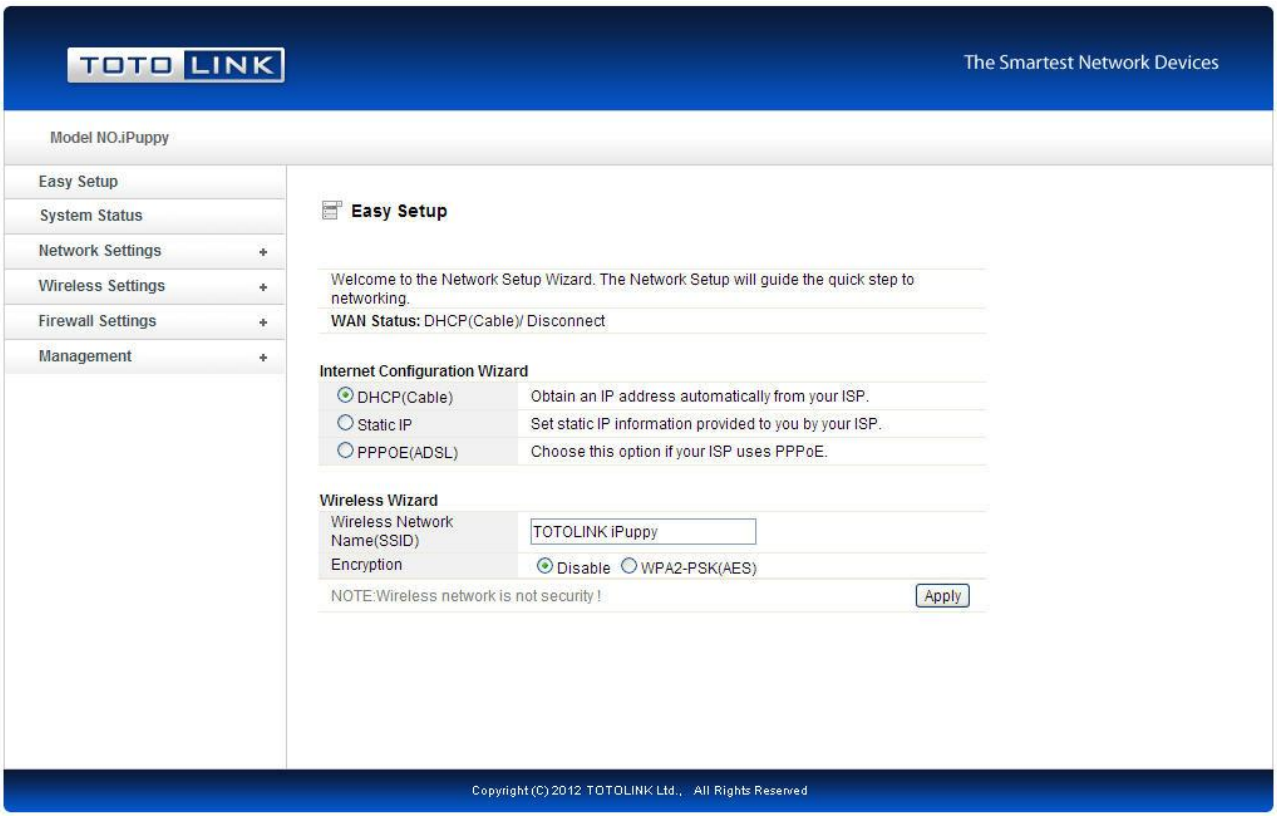


It will show up the following page that requires you to enter valid User Name and Password:

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.*

Now you have logged into the web interface of the AP. On the left, it is a menu bar. The right part shows the parameter settings requiring you to setup.



4.2 Changing Password

First, we recommend that you change the password to protect the security of your AP. Please go to **Management—Password** change the password required to log into your AP.

New Password: new password is used for administrator authentication.

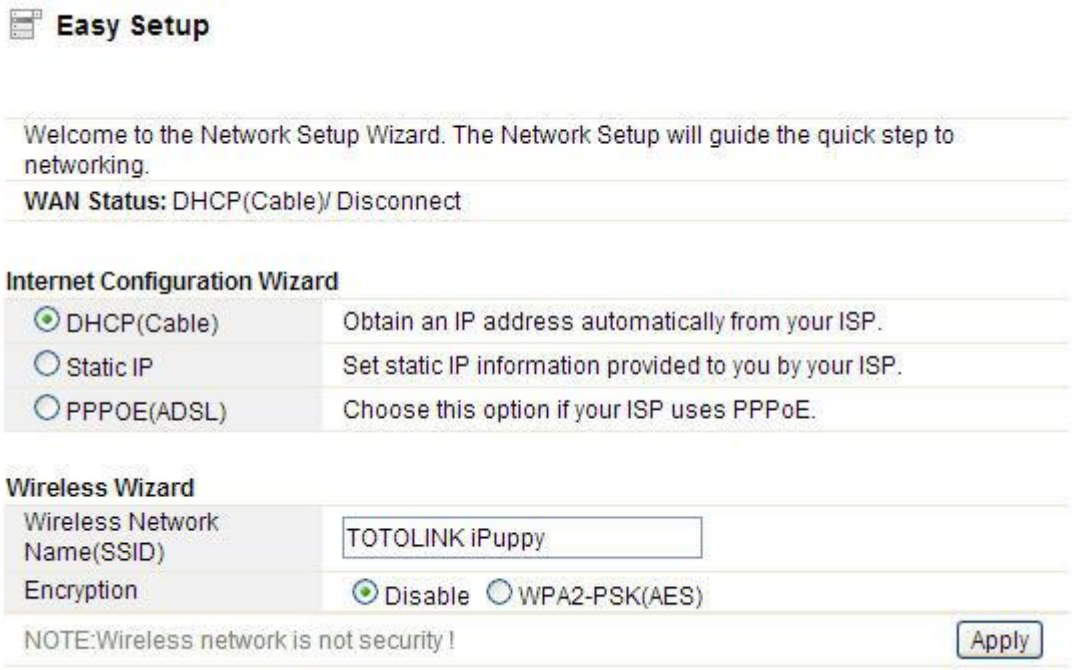
Confirm Password: new password should be re-entered to verify its accuracy.

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

The Remote Management part we will discuss later. Now just keep the setting not change and click **Apply**.

4.3 Easy Setup

Easy Setup is provided as part of the web configuration utility. Users can simply finish the settings on this page to get the Wireless AP ready to access Internet.



4.3.1 Internet Configuration Wizard

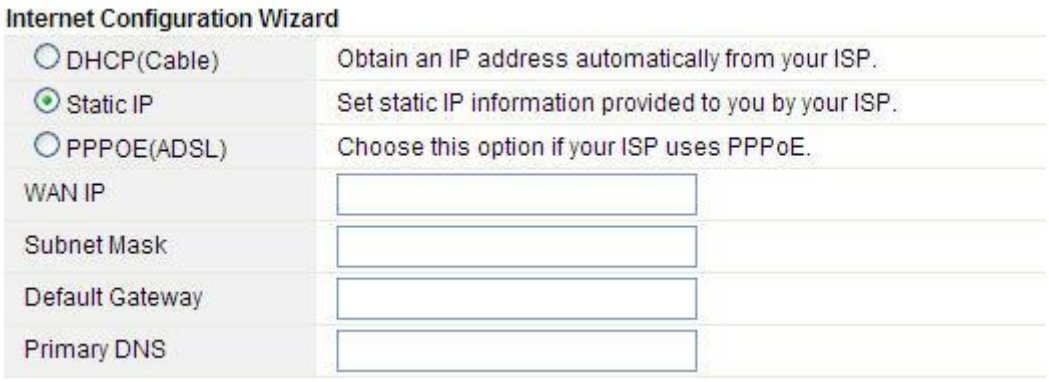
This part is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. There are three methods provided to allow you to access Internet. Please choose the appropriate one according to the information provided by your ISP (Internet Service Provider).

4.3.1.1 DHCP (Cable)

If you choose DHCP (Cable), you will get a dynamic IP address from your ISP automatically and you don’t need to do any settings.

4.3.1.2 Static IP

If your ISP has provided the fixed IP that enable you to access Internet, please choose this option and provide below information.



WAN IP: the IP address provided by your ISP.

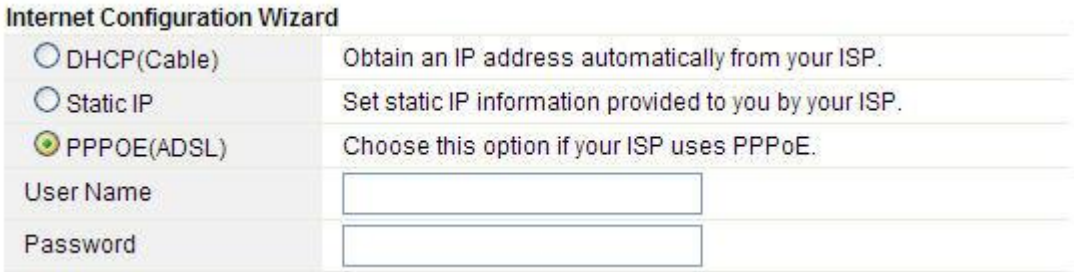
Subnet Mask: This is used to define the device IP classification for the chosen IP address range. 255.255.255.0 is a typical net mask value for Class C networks. Generally it is provided by your ISP.

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 AP will direct all the packets to the gateway if the destination host is not within the local network.

Primary DNS: The Domain Name System (DNS) is an Internet “phone book”, which translates domain names to IP addresses. These fields identify the server IP addresses where the DNS requested are forwarded by this router.

4.3.1.3 PPPoE (ADSL)

Point-to-Point Protocol over Ethernet (PPPoE) is a virtual private and secure connection between two systems that enables encapsulated data transport. It replies 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.



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

Password: the corresponding valid password provided by your ISP.

4.3.2 Wireless Setting

This part is provided for wireless parameter settings. If setup correctly, you can access Internet wirelessly.

Wireless Network Name (SSID): define a name for you wireless network.

Encryption: this step in fact is to set a password for your wireless network to prevent others from using your WLAN.

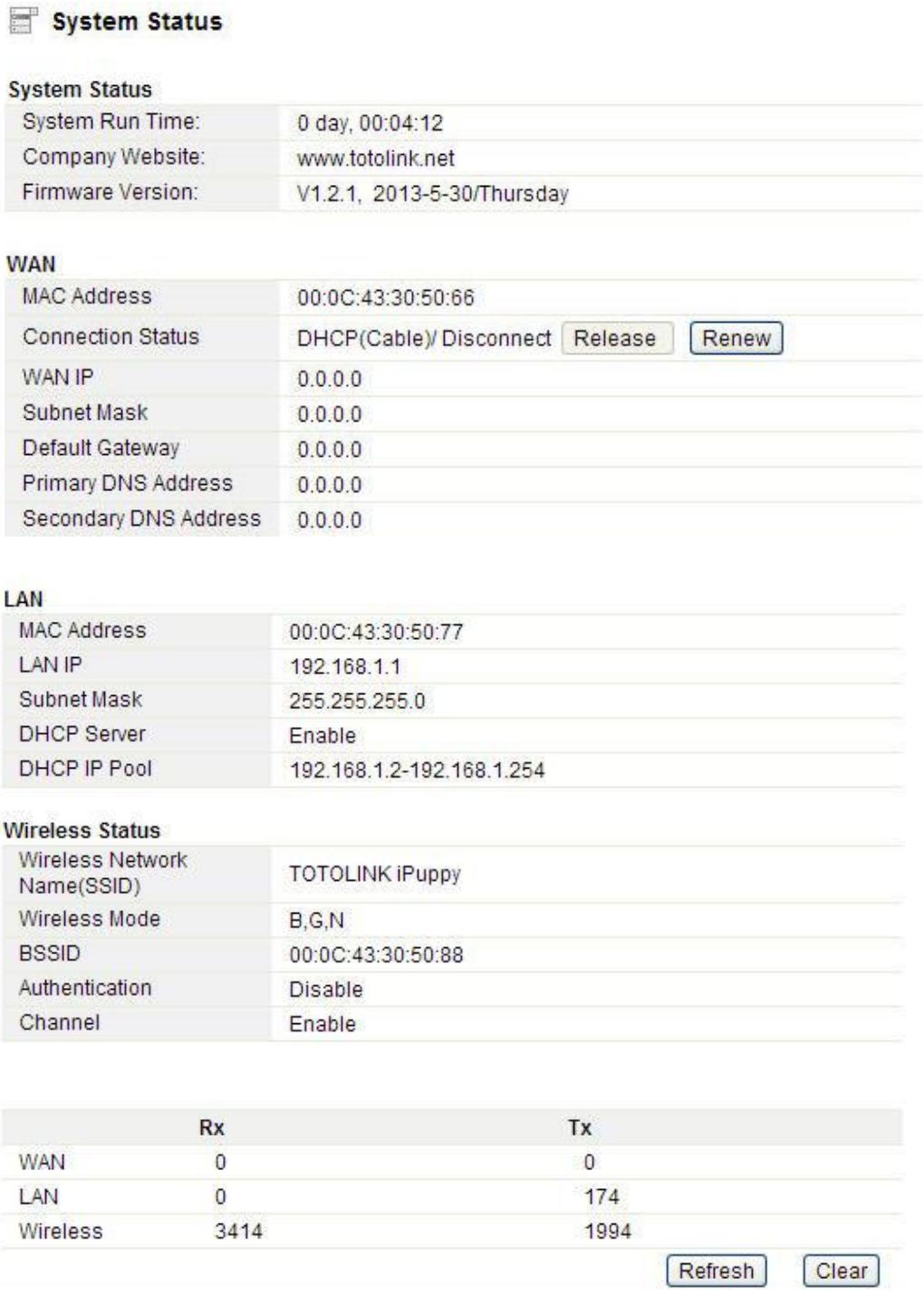
Note: *After you set the Encryption, please remember your Wireless Network Name (SSID). Then search for the SSID on your PC to build a wireless connection with the device. So you can enjoy the wireless function of this Router.*

5. ADVANCED SETTINGS

This chapter allows users to configure advanced settings includes settings for Network, Wireless, Firewall and Management. 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 System Status

The System Status provides current status of this Router, including LAN and WAN interface information, and Wireless settings. Also, you could get the current running firmware version or firmware related information from this presentation.



System Information

System Mode: iPuppy provides two system mode for users: AP & Router. You could change the mode by the switching button on its panel. By default, it is AP mode.
System Run Time: shows how long the system has run.
Firmware Version: displays the current firmware version of the Router.

WAN

MAC Address: displays the MAC address of the WAN interface.
Connection Status: displays the connection type of the WAN port.
WAN IP: shows the IP address of the WAN interface.
Subnet Mask: displays the subnet mask of the WAN interface.
Default Gateway: displays the assigned IP address of the default gateway.
DNS: shows the DNS address.

LAN

MAC Address: shows the MAC address of the LAN interface.
LAN IP: displays the IP address of the LAN interface.
Subnet Mask: shows the subnet mask address of the LAN interface.
DHCP Server: displays the current status of DHCP server of the LAN interface.
DHCP IP Pool: the IP address range that the DHCP server can assign to every PC connected to this device.

Wireless

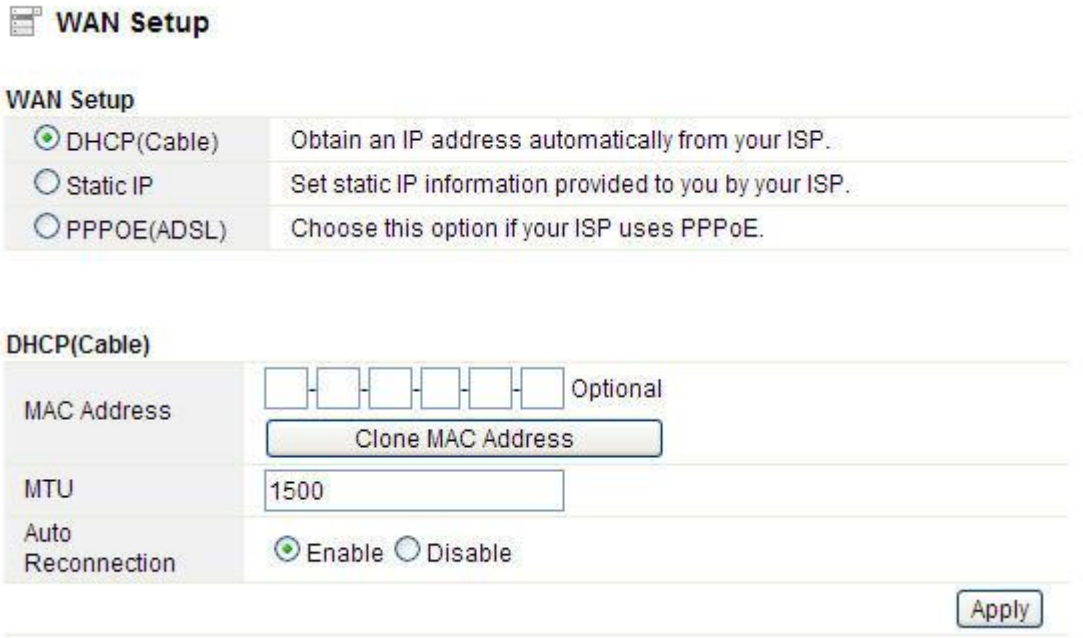
Wireless Network Name (SSID): displays name of your WLAN.
Wireless Mode: shows the IEEE standards it complies with.
Channel: shows the frequency/Channel it works in.
Broadcast SSID: shows you have enabled or disabled to broadcast your WLAN's SSID.

The form on the bottom of this page displays the total packets your router has received or Transmitted.

5.2 Network Settings

5.2.1 WAN Interface

This page is used to configure the parameters for the WAN port of your Access Point. Since we have discussed this setting on **Easy Setup**, here we introduce the **MTU** value.

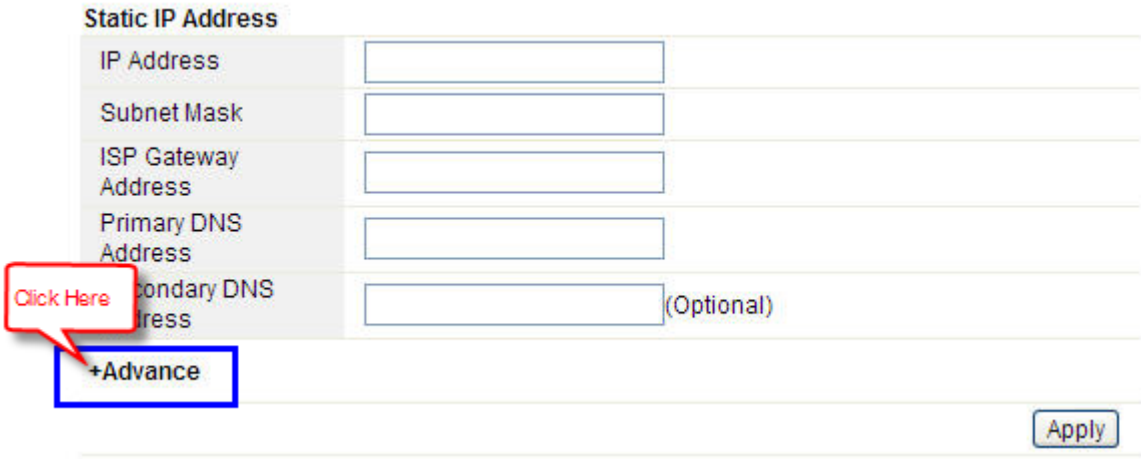


5.2.2.1 DHCP (Cable)

MTU: It means Max Transmit Unit for packet. When using slow links, large packets can cause some delays thereby increasing lag and latency. The default value is 1500.

Auto Reconnection: this function is enabled by default.

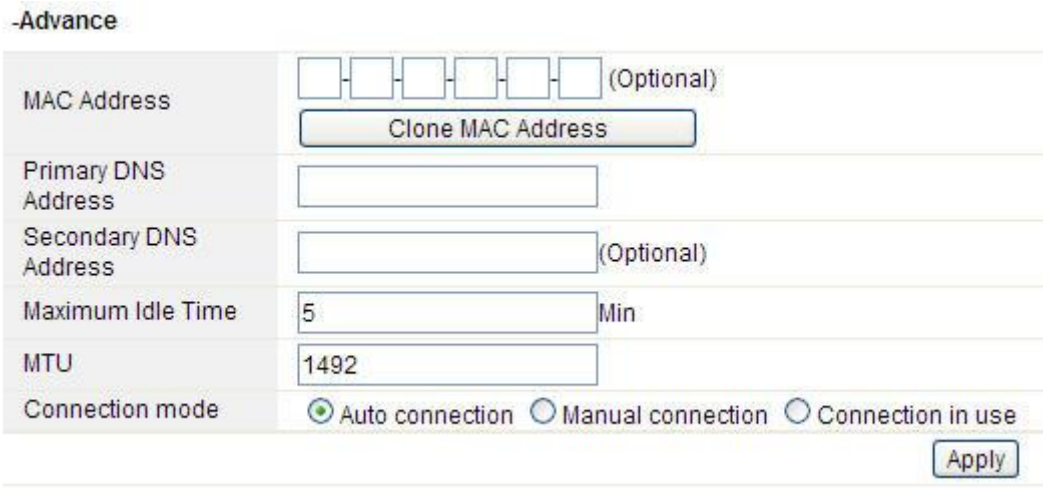
5.2.2.2 Static IP



After click the add symbol, you can see the other settings. Please refer to the setting in DHCP mode.

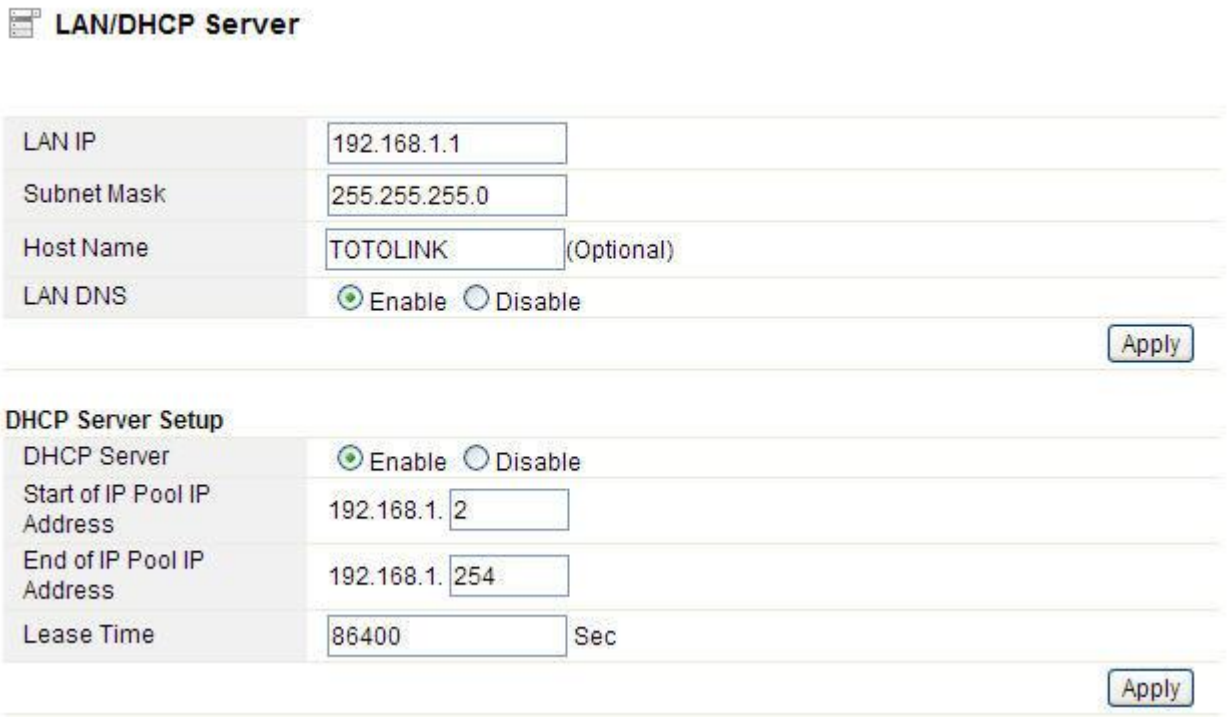
5.2.2.3 PPPoE (ADSL)

After click the add symbol, the settings as below shown will come out. Please refer to the setting in DHCP mode.

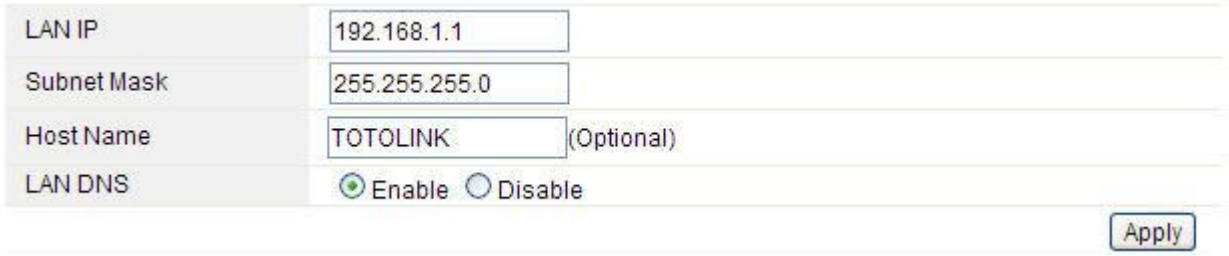


5.2.2 LAN/DHCP Server

Local Area Network (LAN) is a group of subnets regulated and ruled by router. The design of network structure is related to what type of public IP addresses coming from your ISP. This page allows you to configure the parameters for LAN which connects to the LAN port of your Access Point.



5.2.2.1 LAN



IP Address: This is the IP addresses to be represented by the LAN (including WLAN) interface that is connected to the internal network. This IP will be used for the routing of the internal network (it will be the Gateway IP for all the devices connected on the internal network).

Subnet Mask: This is used to define the device IP classification for the chosen IP address range. 255.255.255.0 is a typical netmask value for Class C networks which support IP address range from 192.0.0.x to 223.255.255.x. Class C network netmask uses 24 bits to identify the network and 8 bits to identify the host.

LAN host name: this is optional, by default, it is TOTOLINK.

LAN DNS: you can choose to enable or disable this function. By default, it is Enable selected.

5.2.2.2 DHCP Server Setup

Dynamic Host Configuration Protocol (DHCP) is a local area network protocol. If you enable this function, you will get a dynamic IP address from your ISP automatically. DHCP server means that all the computers connected to this router will get IP address dynamically.

Start of IP Pool IP Address: displays the start IP Address of the range that will be assigned to each computer connected with the router.

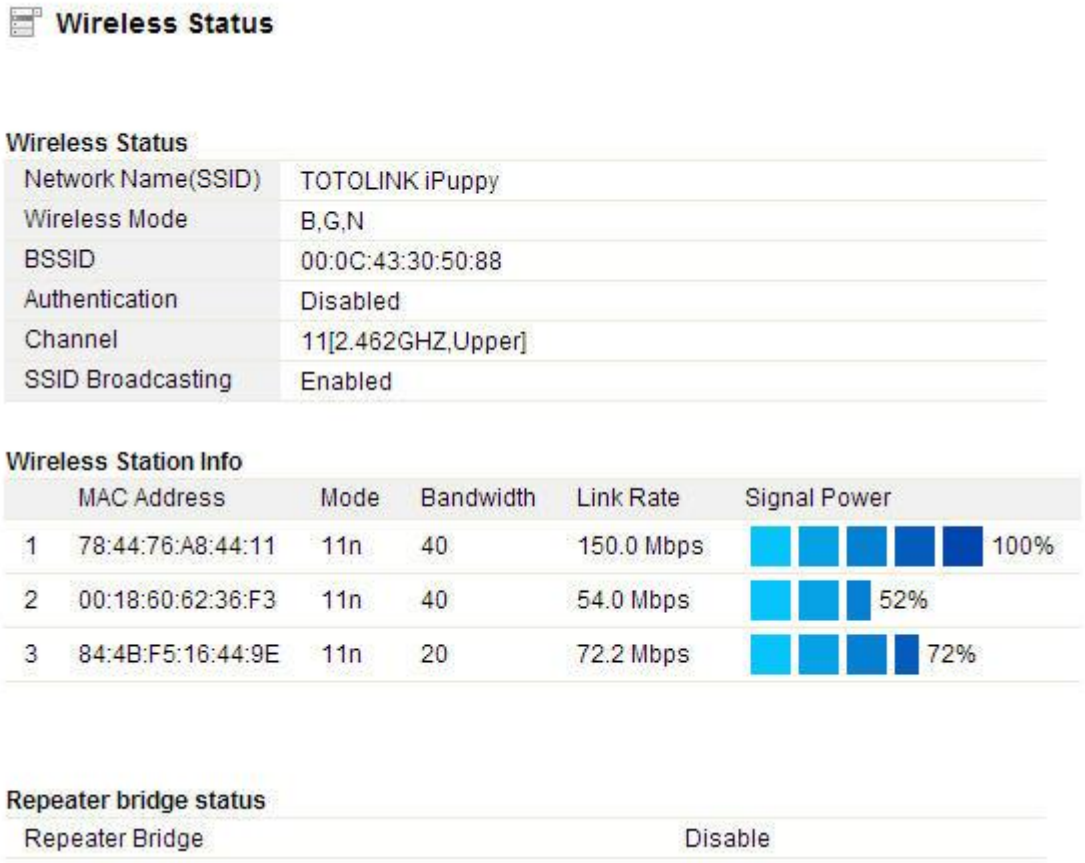
End of IP Pool IP Address: displays the ending IP Address of the range that will be assigned to each computer connected with the router.

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.

5.3 Wireless Settings

5.3.1 Wireless Status

This page displays the current wireless status of the router.



5.3.2 Wireless Setup

On this page, you could configure the parameters for Wireless LAN clients that may connect to your Access Point.

Mode: This option allows you to choose the radio standard for operation of your Router. 802.11b and 802.11g are old 2.4GHz mode, while 802.11n is the latest standard based on faster Orthogonal Frequency Division Multiplexing (OFDM) modulation. Here, by default, the B, G, N Mode is selected, this mode offers better compatibility.

Wireless Network Name (SSID): The name of the wireless network.

SSID Broadcast: you can choose to enable or disable to broadcast your SSID.

Region: this device supports 5 regions: USA, Canada, China, Japan and Europe. You can choose one based on your position.

Channel: This option provides selectable channel numbers.

Bandwidth: 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.

Authentication: you can choose one encryption method for your wireless LAN.

5.3.2.1 WEP

WEP (Wired Equivalent Privacy) 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.

Authentication: One of the following authentication modes should be selected if WEP security method is used:

Open System—station is authenticated automatically by AP.
Shared Key—station is authenticated after the challenge, generated by AP.

Encryption: 64-bit (selected by default) or 128-bit WEP Key length should be selected. The 128-bit option will provide a bit higher level of wireless security.

For 64-bit—specify WEP key as 10 Hex (0-9, A-F or a-f) characters (e.g. 00112233AA) or 5 ASCII characters.
For 128-bit—specify WEP key as 26 Hex (0-9, A-F or a-f) characters (e.g. 00112233445566778899AABBCC) or 13 ASCII characters.

Encryption Key

Key Input Method: Hexadecimal (selected by default) or ASCII option specifies the character format for the WEP key.

5.3.2.2 WPA/WPA2

Wi-Fi Protected Access (WPA) 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: it means Wi-Fi Protected Access 2, it is the current most secure method of wireless security and required for 802.11n performance. This mode allows you to choose **TKIP+AES** Algorithm. If you choose Enterprise related modes, you are required to enter **RADIUS Server.**

WPA Algorithms

TKIP--Temporal Key Integrity Protocol is one cipher for data encryption supported by WPA.

AES--also known as CCMP, Counter Mode with Cipher Block Chaining Message Authentication Code Protocol, which uses the Advanced Encryption Standards (AES) algorithm.

Encryption key: This is a pre-defined key used for encryption during data transmission. It has two formats: Passphrase and Hex (64 characters). Then you need to enter the Pre-Shared Key, either 8~63 ASCII characters, such as 012345678..(or 64 Hexadecimal digits leading by 0x, such as “0x321253abcde…”).

5.3.2.3 WPA/WPA2-PSK

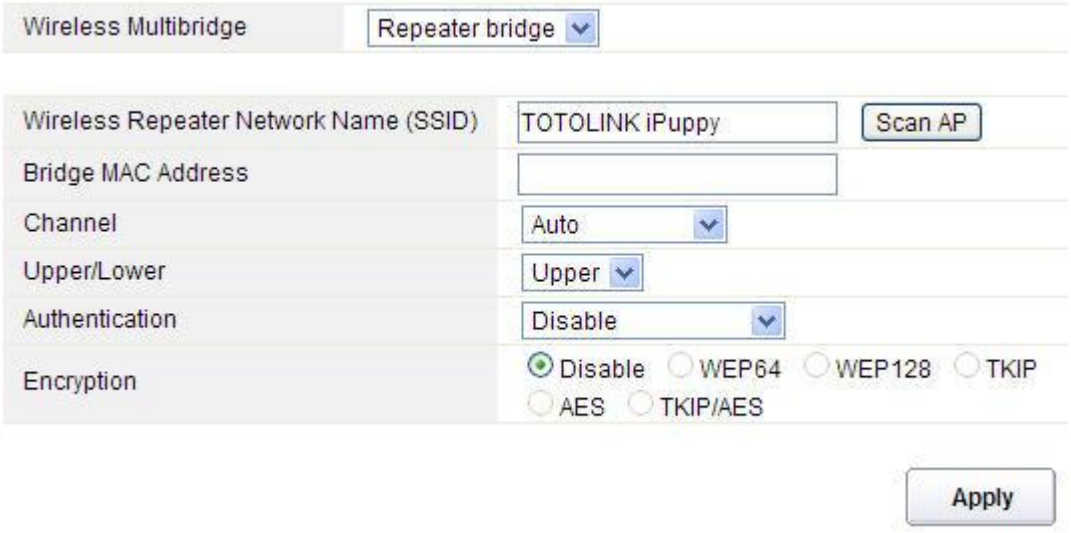
This option mixes WPA/WPA2 together. It will provide the best security for your router.

Note: *Since WEP has been proved vulnerable, you may consider using WPA2 for the most secure connection. You should select the appropriate security mechanism according to your needs. No matter which security suite you select, they all will enhance the over-the-air data protection and/or privacy on your wireless network.*

5.3.3 Wireless Multibridge

5.3.3.1 Repeater bridge/Repeater

These two Repeater methods can help you to expand the wireless coverage and allow more terminals to access Internet.



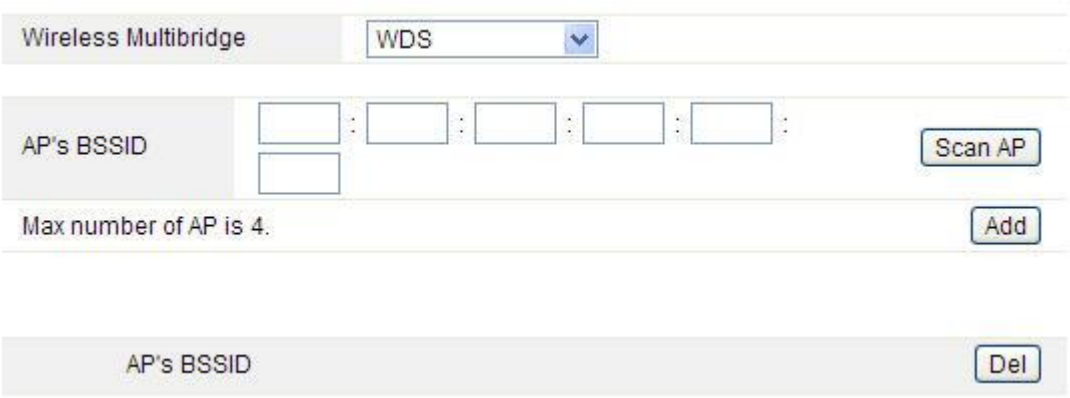
Wireless Repeater Network Name (SSID): choose the SSID you want to implement the repeater function.
Bridge MAC Address: or you can enter the MAC address.
Channel: select one channel according to the main Router and your method.
Upper/Lower: you can keep it the default setting.
Authentication: select one encryption method for this repeater function.
Encryption: please refer to **Wireless Basic Settings**.

5.3.3.2 WDS

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

- Provide bridge traffic between two LANs though the air.
- 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.



5.3.4 Multiple APs

Multiple APs function is designed for users who want to set up extra wireless networks for guests or friends with better access control. Different SSIDs and passwords help to protect your network security from guests.

Wireless Network Name (SSID): define one more SSID for your WLAN.

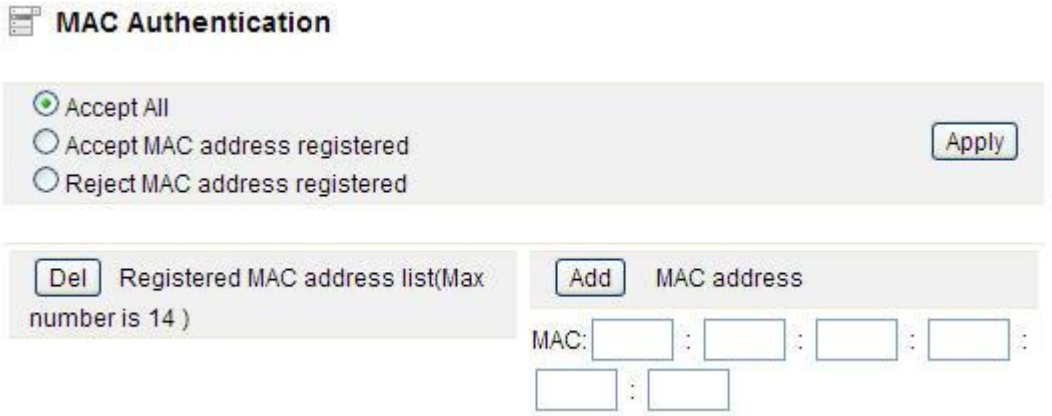
SSID Broadcast: choose to enable or disable this function.

Authentication: please choose one encryption method for this SSID.

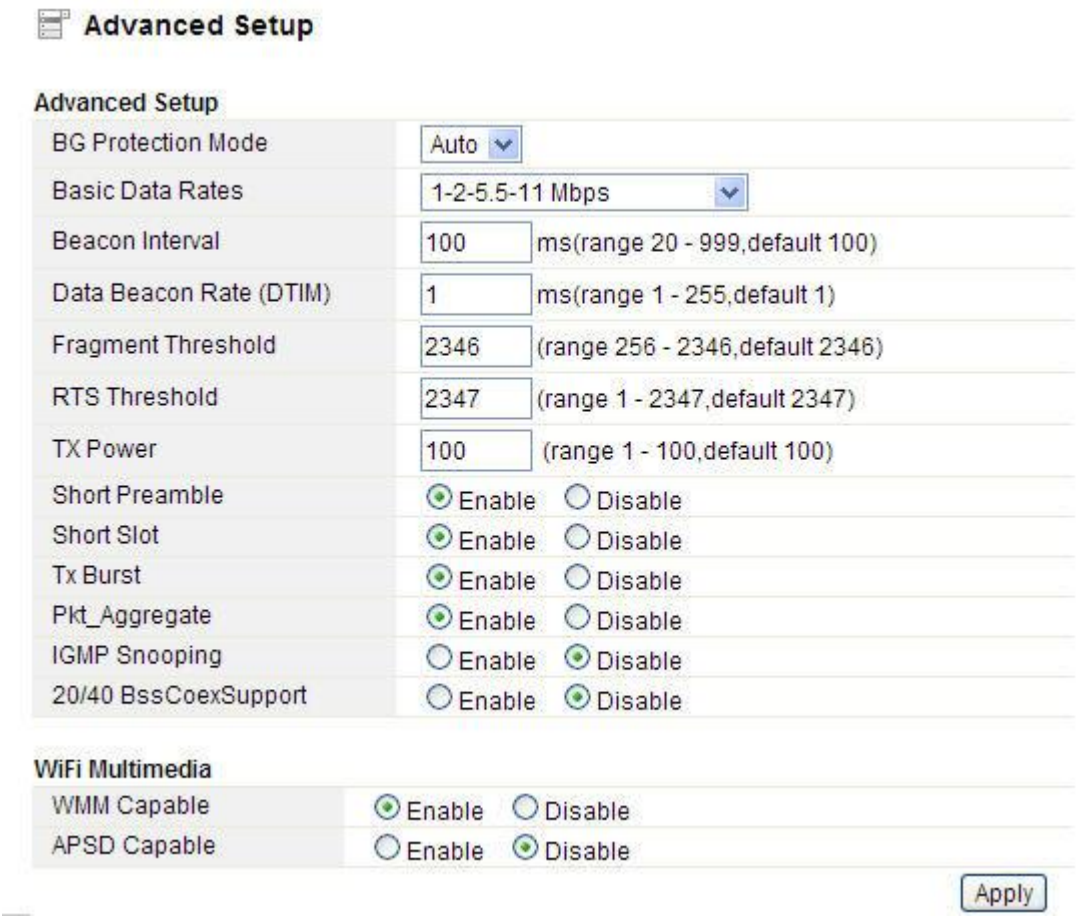
Encryption: please refer to **Wireless Basic Settings**.

5.3.5 MAC Authentication

You can control the PC to connect with the wireless Router through MAC authentication



5.3.6 Advanced Settings



BG Protection Mode: Background Protection Mode, by default, it is Auto selected.

Basic Data Rates: you can choose the wireless data rate. This router provides three options. Be default, it is Default (1-2-5.5-11Mbps).

Beacon Interval: 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.

Data Beacon Rate (DTIM): by default, its value is 1.

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.

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.

TX Power: display the data transmission rate power.

Short Preamble: this option is to define the length of the sync field in an 802.11 packet. Most modern wireless network uses shot preamble with 56 bit sync filed. By default, it is disabled.

Short Slot: by default, this is enabled.

Tx Burst: enable this function will make it easy for you to enhance the performance in data transmission.

Pkt_Aggregate: by default, this is disabled.

20/40 BssCoexSupport: by default, it is enabled. Support 20/40 at the same time.

IGMP Snooping: if you enable this function, multicast traffic will be forwarded to ports that have members of that group. Disabling IGMP snooping will make multicast traffic treated in the same manner as broadcast traffic.

WMM Capable: by default, it is disabled.

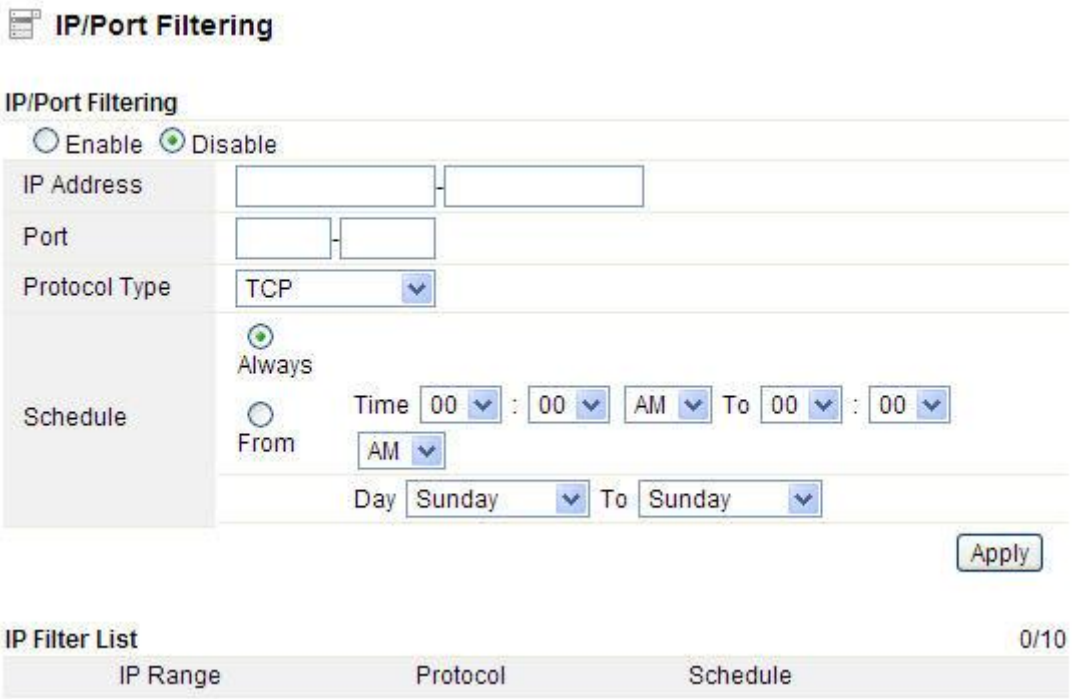
WMM is an abbreviation of Wi-Fi Multimedia. It defines the priority levels for four access categories derived from 802.1d (prioritization tabs). The categories are designed with specific types of traffic, voice, video, best effort and low priority data.

5.4 Firewall

While the broadband users demand more bandwidth for multimedia, interactive applications, or distance learning, security has been always the most concerned. The firewall of this router helps to protect you local network against attack from unauthorized outsiders. It also restricts users in the local network from accessing the Internet. Furthermore, it can filter out specific packets that trigger the router to build an unwanted outgoing connection.

5.4.1 IP/Port Filtering

Depending on whether there is an existing Internet connection, or in other words “the WAN link status is up or down”. You can restrict certain types of data packets from your local network to Internet through the Gateway on this page.



You can select to enable or disable IP/Port Filtering function. By default, it is disabled.

IP Address: the IP address range that you want to filter.

Port: the Port address that you want to filter.

Protocol Type: choose which particular protocol type should be filtered. Here you can

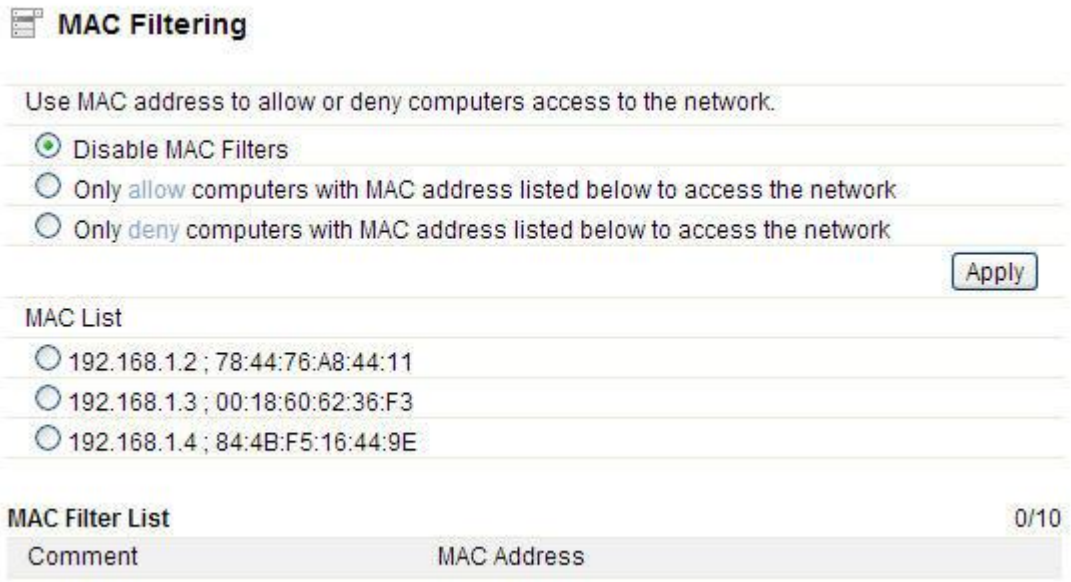
choose UDP/TCP.

Schedule: you can choose to always enable this filter function or create a schedule.

IP Filter List: this table will list the detailed information about the IP addresses that you want to filter.

5.4.3 MAC Filtering

On this page, you can add some MAC addresses to be filtered to isolate users' access from wired LAN.



This router allows you to disable MAC Filtering function or allow/deny MAC address listed.

MAC Name: the name of the computer with the MAC you entered.

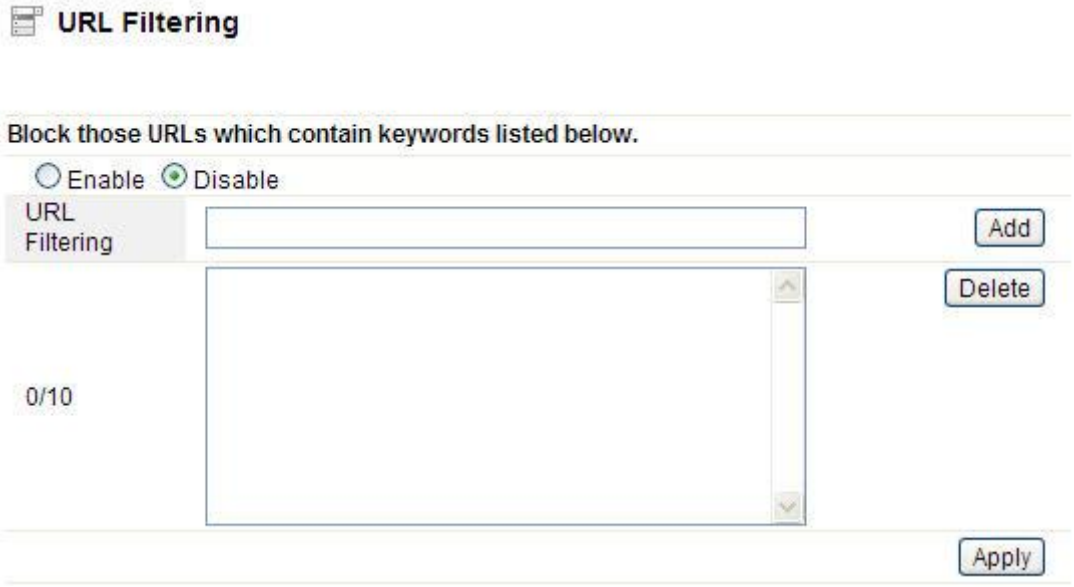
MAC Address: you can enter the MAC addresses that you want to deny or allow.

DHCP Client: display the information about one DHCP client.

MAC Filter List: this table will list the detailed information about the MAC addresses that will be filtered.

5.4.4 URL Filtering

This page is used to deny LAN users from accessing the internet. Block those URLs which contain keywords listed.

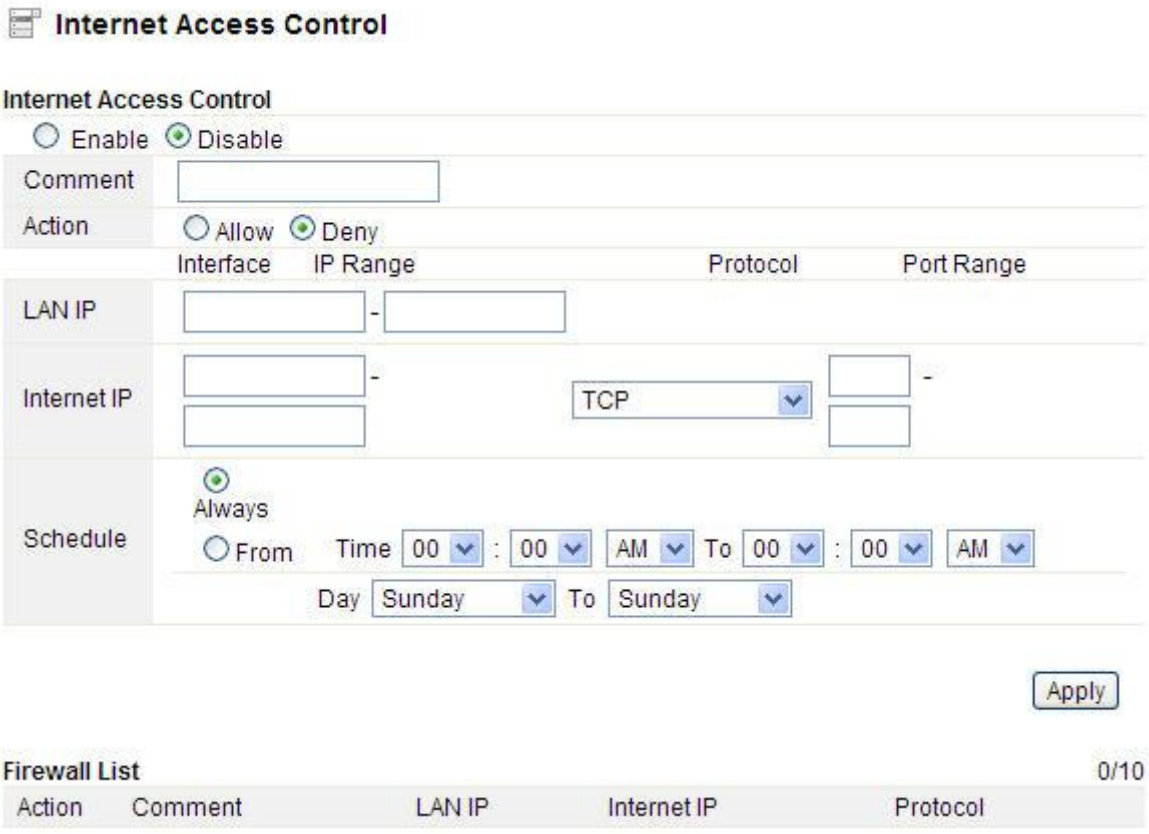


You can choose to enable or disable URL filtering function.

URL string: type in the string contained in URLs that you don't allow LAN users to access.

Enter the URLs that you don't allow LAN users to access. And you can also click **Delete** button to delete the URLs you entered.

5.4.4 Internet Access Control



First, you can choose to enable or disable this function according to your needs.

Name: Enter the name of the router.

Action: you could choose to allow or deny the following addresses entered by you.

Source: select the interface of the address, and enter the starting IP address that you want to deny or allow.

Destination: select the interface of the address, and enter the ending IP address that you want to deny or allow. About the Port Range, choose the protocol and enter IP range.

Schedule: this router has a built-in real time clock which can update itself manually or automatically by means of Network Time Protocol (NTP). As a result, you can not only schedule the router to dialup to the Internet at a specified time, but also restrict Internet access to certain hours so that users can connect to the Internet only during certain hours, say, business hours. The schedule is also applicable to other functions. You have to set your time before set schedule.

5.4.5 Port Trigger

This page allows you to trigger port for the traffic of special applications. Ensure that you keep the application involved up-to-date to avoid falling victim to any security exploits.

Enable/Disable: you can choose to enable or disable this function.

Comment: please enter the reason for this port trigger action.

Trigger Port: type in the starting & ending ports number of the service.

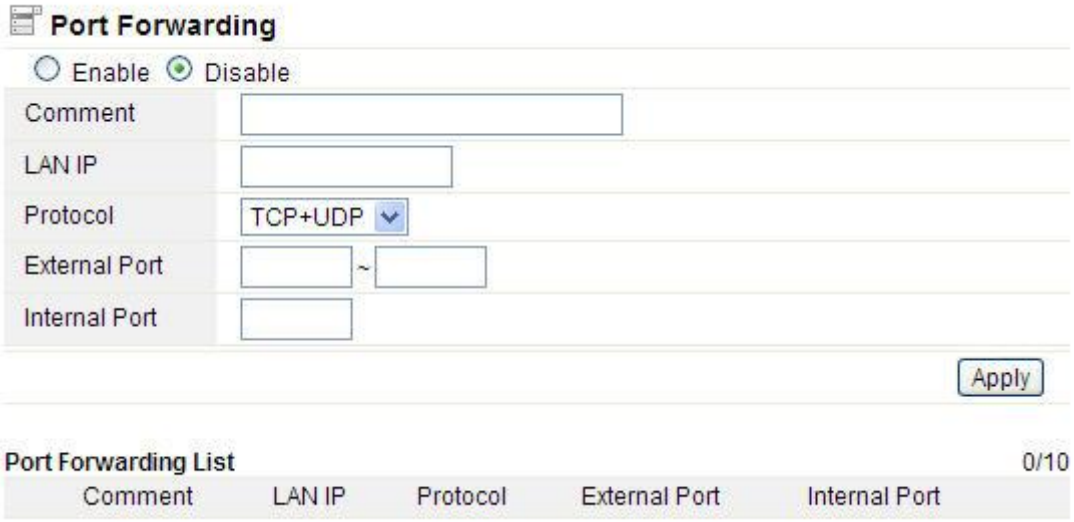
Trigger type: Specify the transport layer protocol. It could be TCP, UDP or both.

Public Port: type in the public port number.

Public Type: choose one transport layer protocol.

Port Trigger List: this table will list the detailed information about the ports that you set before.

5.4.6 Port Forwarding



You could choose to enable or disable this function according to your requirement.

Comment: please enter the reason for this port forwarding action.

LAN IP: the IP of the host that is connected to the internal network and needs to be accessible form external network.

Protocol: the L3 protocol type of the IP Address.

External Port: range of the public port number.

Internal Port: internal port number. It is the TCP/UDP port of the application running on the host that is connected to the internal network.

Port Forwarding List: the port forwarding list will show you the detailed information about the forwarded port.

5.4.7 DMZ

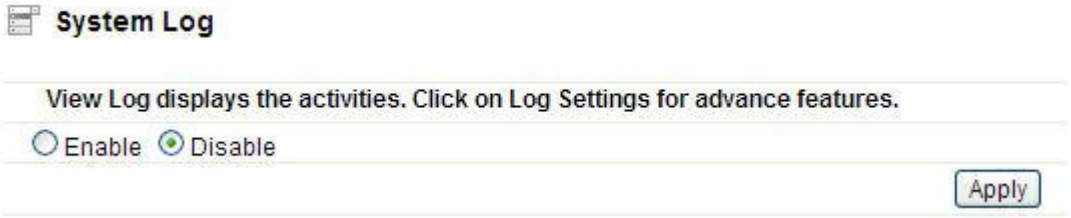
DMZ means Demilitarized Zone. It can be enabled and used as a place where services can be placed such as Web Servers, Proxy Servers and E-mail Servers such that these services can still serve the local network and are at the same time isolated from it for additional security. DMZ is commonly used with the NAT functionality as an alternative for the Port Forwarding while makes all the ports of the host network device be visible form the external network side.

You can choose to enable or disable DMZ function.

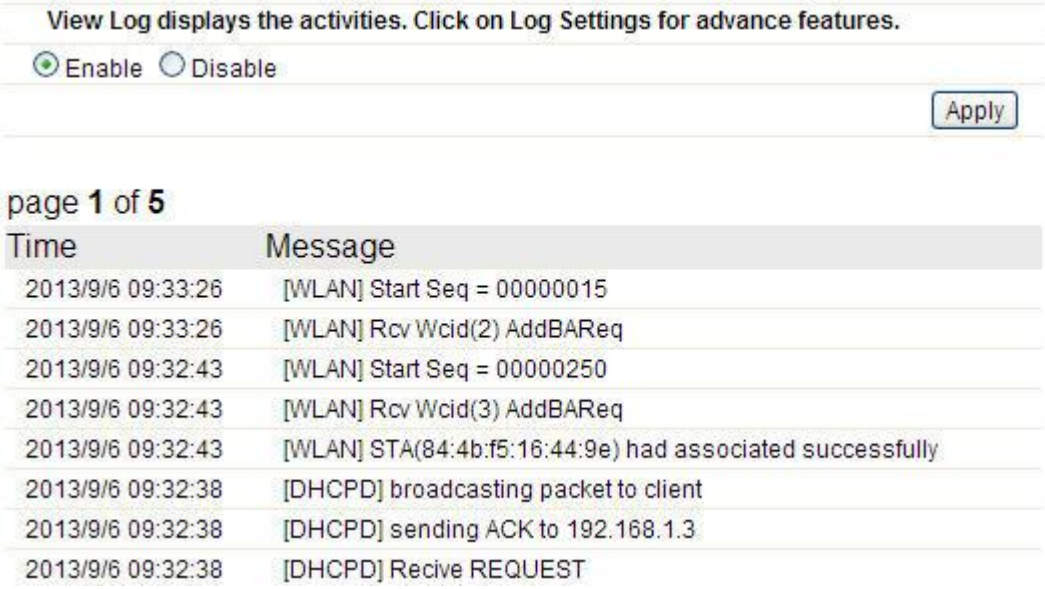
IP Address: types in the IP address of the DMZ host

5.5 Management

5.5.1 System Log



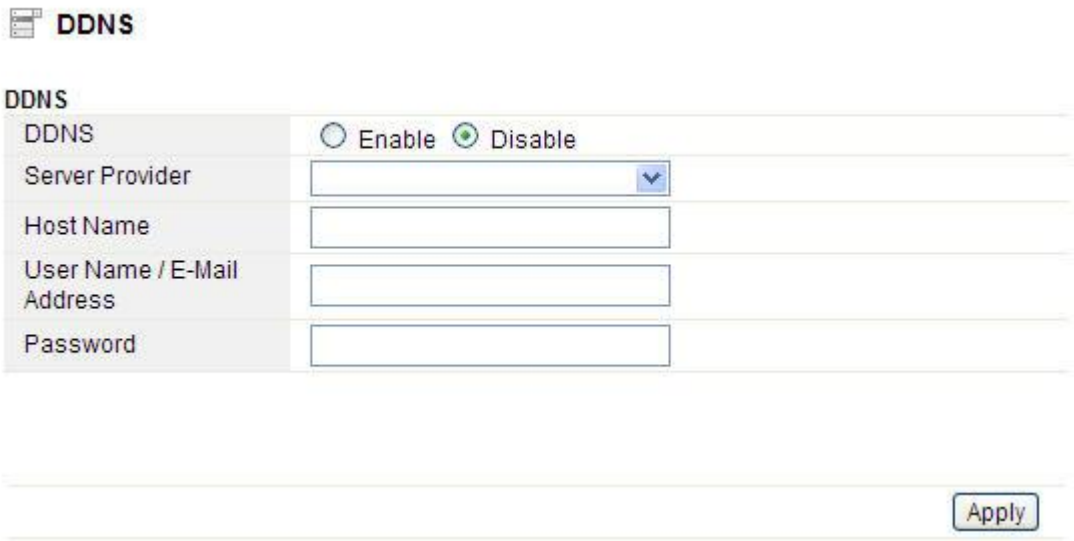
This page can be used to set remote log server and show the system log.



5.5.2 DDNS

DDNS means Dynamic Domain Name System. The ISP often provides you with a dynamic IP address when you connect to the Internet via your ISP. It means that the public IP address assigned to your router changes each time you access the Internet. The Dynamic DNS feature lets you assign a domain name to a dynamic WAN IP address. It allows the router to update its online WAN IP address mappings on the specified Dynamic DNS server. Once the router is online, you will be able to use the registered domain name to access the router or internal virtual servers from the Internet. It is particularly helpful if you host a web server, FTP server, or other server behind the router.

Before you user the Dynamic DNS feature, you have to apply for free DDNS service to the DDNS service providers. The router provides up to three accounts from three different DDNS service providers. This router supports three service providers: DynDns, no-ip and 3322. Please log in the websites to register for free DDNS service.



You could choose to enable or disable DDNS function.

Service Provider: choose one service provider where you have applied for free DDNS service.

Host Name: type in the host name you registered from the DDNS provider.

User Name/Email Address: enter the User Name or Email you registered from the DDNS provider.

Password: enter the Password or Key you set for the User Name.

5.5.3 Time Zone Settings

This page allows you to maintain the system time by synchronizing with a public time server over the Internet.

Local Time: it shows the current time by default.

Enable NTP: NTP means Network Time Protocol which is used to make the computer time synchronized with its server or clock source, such as Quartz and GPS. It can provide high-precision time correction and prevent harmful protocol attack by confirming encryption. You need to check this box to activate this page.

Time Zone: Select the Time Zone where the router is located.

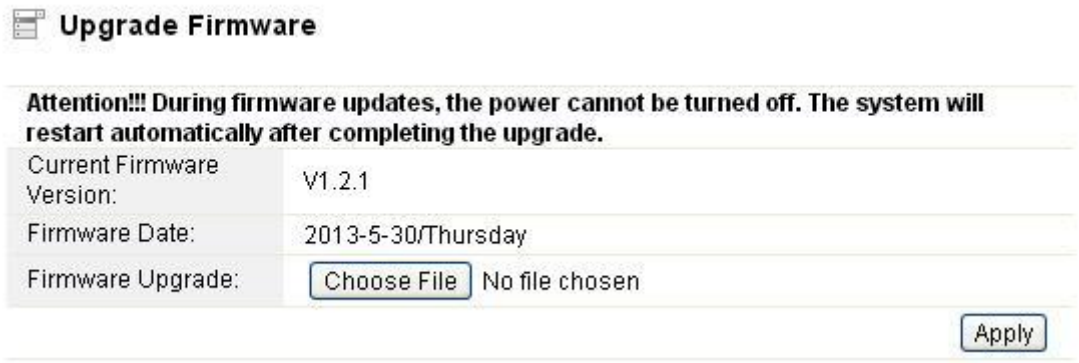
Daylight Saving: If the Time Zone you choose implements daylight saving time, please select this option. By default, it is disabled.

Default NTP Server: Please choose the corresponding NTP server to get right time. This is optional.

Set the Time: please set the right time according to your location.

5.5.4 Upgrade Firmware

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.



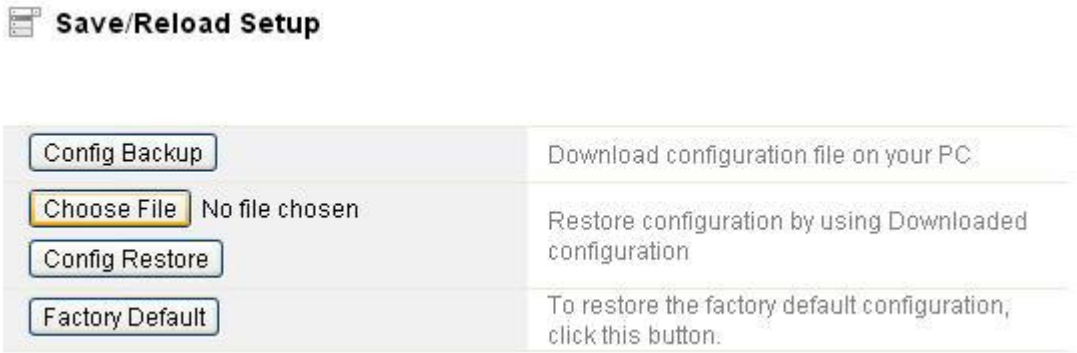
Current Firmware Version: shows the current firmware version.

Firmware Date: the date that you upgrade the current firmware.

Firmware Upgrade: select the firmware version on your computer then click **Apply** to upgrade the firmware version.

5.5.5 Save/Reload Settings

This page allows you to save current settings to a file or reload the settings from the file which was saved previously. Besides, you can reset the current configuration to factory default.



Config Backup: click this button to save current settings to your local computer.

Choose File: if you want to reload the settings from the file saved before, you could click

Choose File button to choose the right file.

Config Restore: you will be asked whether to restore your configuration using saved file before.

Factory Default: click this button to restore the router settings to the default factory settings.

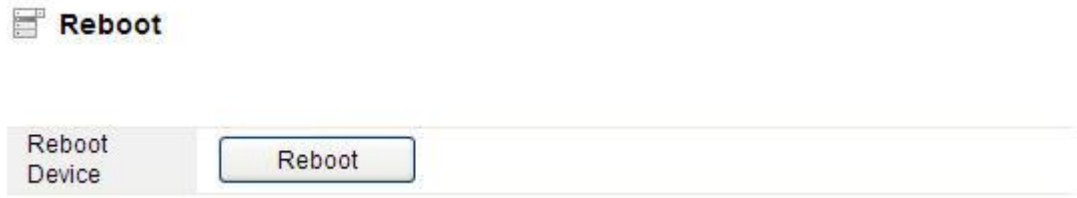
5.5.6 Password

This page allows you to change the password to login web interface of this router. Also you can enable or disable the Remote Management function here.

You could choose to enable or disable Web Server Access on WAN. If you enable this function, you can manage the router remotely.

Port: If you enable this function, you need to provide Access Port. Generally, it is 80.

5.5.7 Reboot



Please click this **Reboot** button to reboot your router quickly.