



# User Guide

[www.tenda.cn](http://www.tenda.cn)



W268R  
Wireless-N Broadband Router  
with Internal Antenna

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## **Chapter 1: Introduction**

Thank you for purchasing Tenda 11N Wireless Broadband Router!

W268R utilizes advanced MIMO technology and increases over 8 times transmission range of ordinary 802.11g products. Compatible with IEEE802.11n (Draft 4.0) and IEEE802.11g/b standards, it can provide up to 150Mbps stable transmission rate. Additionally, it includes router, wireless access point, four-port switch and firewall in one, dedicated to SOHOs (Small Office/Home Office) and family networking.

It supports WDS (Wireless Distribution System) function for repeating and amplifying the signals to extend the wireless network coverage. Besides, the Router also supports all of the latest wireless security features, such as 64/128-bit WEP, WPA, WPA2, WPA&WPA and WPS (PBC and PIN) encryption methods, packet filtering and port forwarding, to prevent unauthorized access and protect your network against malicious attack.

In addition, URL and MAC address filtering can take it easy for parents and network administrator to manage network

life and QoS bandwidth control over specific computer's downloading speed is supported as well. Moreover, UPnP and WMM support can smooth your MSN voice better, and the included Setup Wizard on CD-ROM will be easy and fast for non-savvy users to install the device and access to the Internet.

## **1.1 Product Features**

- Includes router, wireless access point, four-port switch and firewall in one
- Provides up to 150Mbps uploading and downloading speed
- Supports two WPS (Wi-Fi Protected Setup) encryption methods: PBC and PIN
- Compliant to IEEE802.11n, IEEE802.11g, IEEE802.11b, IEEE802.3 and IEEE802.3u standards
- Supports over 8 times transmission range of 11G products
- Supports 64/128-bit WEP, WPA, WPA2, WPA&WPA2 encryption methods
- Supports RTS/CTS protocol and data partitioning function
- Provides one 10/100Mbps Auto-Negotiation Ethernet WAN port

- Provides four 10/100Mbps Auto-Negotiation Ethernet LAN ports
- Supports xDSL/Cable MODEM, static and dynamic IP in community networking
- Supports remote/local Web management
- Supports WMM to better smooth your voice and video
- Supports SSID stealth mode and access control based over MAC address (up to 30 entries)
- Supports Auto MDI/MDIX
- Supports wireless Roaming technology for high-efficient wireless connections
- Supports auto negotiation/manual mode for 802.11b/802.11g/802.11n
- Supports UPnP and DDNS
- Supports Firefox 1.0, IE5.5 or above
- Supports SNTP
- Supports virtual server, DMZ host
- Built-in firewall for hacker's attack prevention
- Supports DHCP server/client
- Supports auto wireless channel selection
- Supports LAN access control to the Internet
- Provides syslog to record the status of the router
- Supports WDS wireless network extension
- Supports QoS function
- Built-in two omni-directional antennas



## 1.2 Package Contents

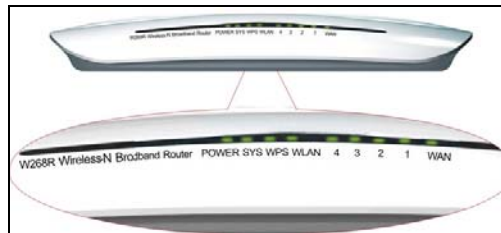
Please unpack the box and check the following items:

- One W268R 11N Wireless Broadband Router
- One Quick Installation Guide
- One Power Adapter
- One CD-ROM

If any of listed items are missing or damaged, please contact the Tenda reseller from whom you purchased for replacement immediately.

## 1.3 LED Indicator and Port Description

Front Panel and LED Indicator Show



**LED indicator description on front panel (from L to R)**

### **POWER**

When turns green, Always ON indicates the power connects well.

**SYS**

When turns green, blinking indicates the system runs well.

**WPS**

When blinking, it indicates the device is negotiating with client in WPS mode.

**WLAN**

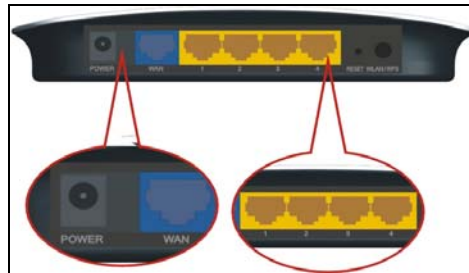
Wireless signal LED indicator. When turns green, blinking indicates the wireless function is enabled;

**LAN (4,3,2,1)**

Wired local network LED indicator. Always ON indicates it is connected with Ethernet device; blinking indicates the device is transmitting and/or receiving data.

**WAN**

Wide area network indicator. Always ON indicates the Router's WAN port is connected well; blinking indicates the port is being transmitted and received data packets.

**Back Panel Show:**

**Rear Panel: (From L to R)*****POWER***

The jack is for power adapter connection. Please use the included 9V DC power adapter.

***WAN***

A 100Mbps Ethernet port, can be connected with MODEM, Switch, Router and other Ethernet device for Internet connecting to DSL MODEM, Cable MODEM and ISP.

***LAN (1, 2, 3, 4)***

4 10/100Mbps Ethernet ports can be connected with Ethernet switch, Ethernet router and NIC card.

***RESET***

The system reset button. Press this button for 7 seconds, the settings configured in this device will be deleted and it will restore the settings to the default one.

***WLAN/WPS***

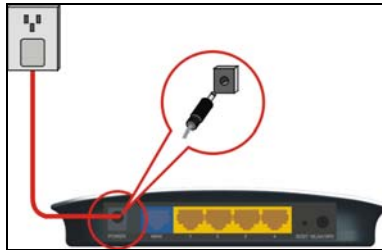
WPS button. Press it for 1 second, the WPS feature will be enabled and WPS indicator will be shown blinking.

## Chapter 2 Hardware Installation

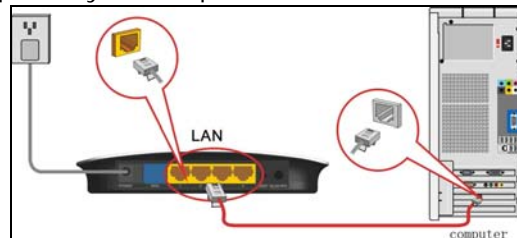
### 2.1 How to Install the Router

After you unpack the box, please follow the steps below to connect. For better wireless performance, please put the device in the middle of wireless coverage area.

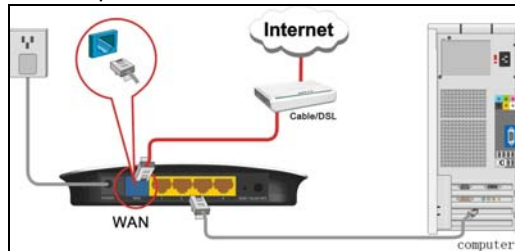
1. Please use the included power adapter to power on the Router. IMPORTANT: Use of a different power adapter could cause damage and void the warranty for this product.



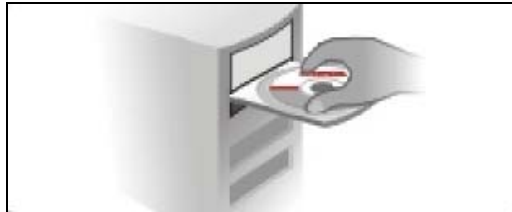
2. Please connect the LAN port of the Router to the network adapter of your computer with a cable.



3. Please connect your broadband line provided by your ISP to the WAN port.

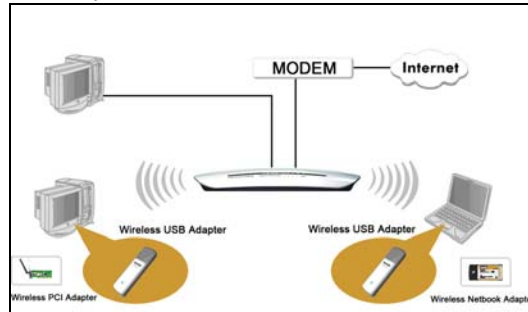


4. Insert the included CD-ROM into the CD-ROM drive, double click the "Setup" icon and follow the instructions to complete the installation. Or you can enter the Router's Web page to configure it. (More details please refer to Chapter 3.)



## 2.2 Network Application Plan

Usually wireless LAN Network is deployed in a planned environment where each access point is located in a steady place with certain wireless coverage area for communication service. Generally speaking, it is in the center of the area to reduce "dead spot".

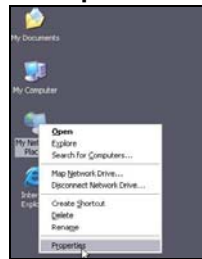


## Chapter 3 How to Login to the Router

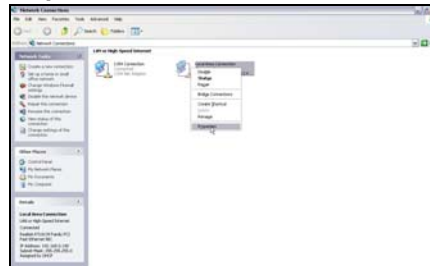
The chapter mainly presents how to enter the Router's Web page. After you have finished the hardware installation, the following steps will assist you to set the network configurations for you computer.

### 3.1 How to Set the Network Configurations

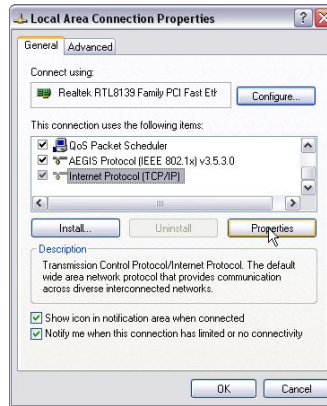
1. On your computer desktop right click **"My Network Places"** and select **"Properties"**.



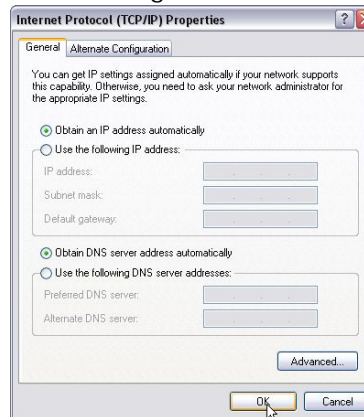
2. Right click **"Local Area Network Connection"** and select **"Properties"**.



- 3 . Select **“Internet Protocol (TCP/IP)”** and click **“Properties”**.



- 4 . Select **“Obtain an IP address automatically”** and **“Obtain DNS server address automatically”**. Click **“OK”** to save the configurations.





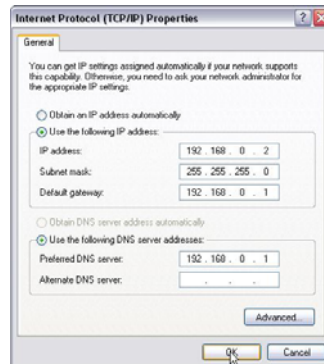
Or select **“Use the following IP address”** and enter the IP address, Subnet mask, Default gateway as follows:

**IP Address:** 192.168.0.XXX: (XXX is a number from 2~254)

**Subnet Mask:** 255.255.255.0

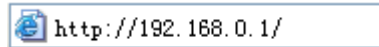
**Gateway:** 192.168.0.1

Certainly you need to input the DNS server address provided by your ISP. Otherwise, you can use the Router's default gateway as the DNS proxy server. Click **“OK”** to save the configurations.



### 3.2 Login to the Router

1. To access the Router's Web-based interface, launch a web browser such as Internet Explorer or Firefox and enter the Router's default IP address, <http://192.168.0.1>. Press **“Enter”**.



2. Input the “**admin**” in both User Name and Password.  
Click “**OK**”.



3. If you enter the correct user name and password, the screen will be the next one.

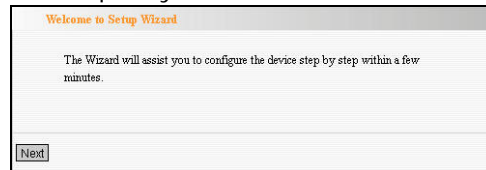


## Chapter 4: Quick Setup Guide

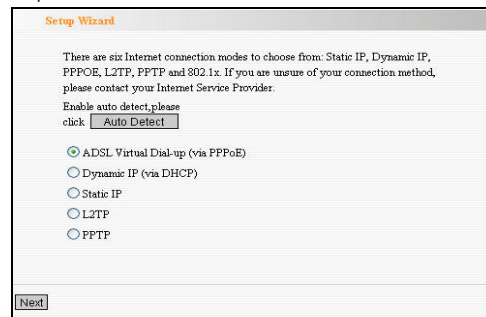
This chapter deals with how to access the Internet quickly. Please follow this guide to connect your Router to the Internet.

### 4.1 Setup Wizard

1. Here is the “**Welcome to Setup Wizard**” for configuring your Router quickly. Click “**Next**”.



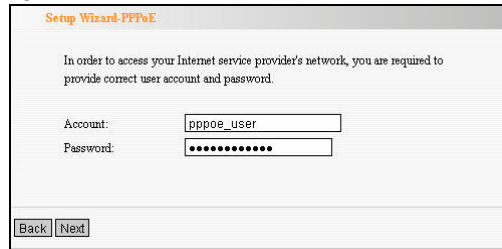
2. In this screen, select one mode of your Internet connection you use. If you are not clear, press the “**Detect**” button or contact your Internet Service Provider, and click “**Next**”.



### ADSL Virtual Dial-up (Via PPPoE)

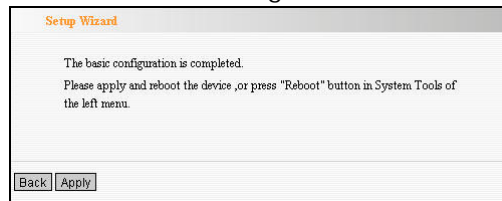
Enter the Account and Password provided by your ISP, and click **“Next”**.

*For example:*



### Dynamic IP (Via DHCP)

If your connection mode is Dynamic IP, it means your IP address keeps changing every time you connect. You do not need to enter the information like other modes. Click **“Next”** and **“Save”** to finish the settings.



### Static IP

In this screen, fill the network address information from your ISP in the IP Address, Subnet Mask, Gateway and Primary

DNS server fields and click **"Next"**.

***For example:***

ISP provides the following TCP/IP parameters as follows:

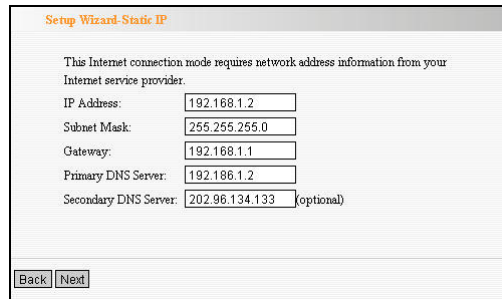
**IP Address:** 192.168.1.2

**Subnet Mask:** 255.255.255.0

**Gateway:** 192.168.1.1

**Primary DNS Server:** 192.168.1.2

**Alternate DNS Server:** 202.96.134.133

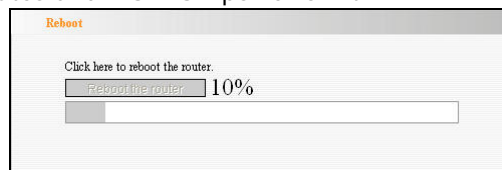


The screenshot shows a web-based configuration window titled "Setup Wizard-Static IP". It contains a message: "This Internet connection mode requires network address information from your Internet service provider." Below this, there are input fields for the following parameters:

Parameter	Value
IP Address:	192.168.1.2
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.1
Primary DNS Server:	192.168.1.2
Secondary DNS Server:	202.96.134.133 (optional)

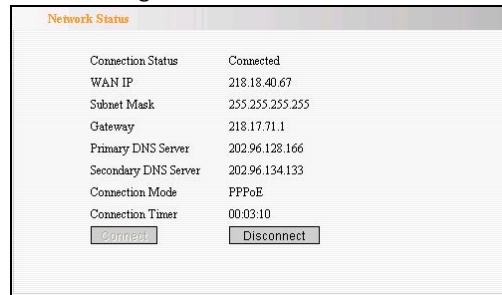
At the bottom left, there are two buttons: "Back" and "Next".

Click **"Save"** to complete the setup wizard. The Router will record the settings you made. To activate the settings, it is recommended to select "Reboot the Router" from "System Tool" of the left menu. It is rebooting now, please wait for a few minutes and **DO NOT** power off it.



The screenshot shows a web-based window titled "Reboot". It contains the text: "Click here to reboot the router." Below this, there is a button labeled "Reboot the router" and a progress bar showing 10% completion.

Click the "**System Status**" in the left menu of the Web-based Utility to find out the current network and system information. If the "**Connection Status**" is "**Connected**", Congratulations you on completing the Router's basic settings. You are on the Internet now. If you want to configure more, please proceed to the following explanations for Advanced Settings.



Connection Status	Connected
WAN IP	218.18.40.67
Subnet Mask	255.255.255.255
Gateway	218.17.71.1
Primary DNS Server	202.96.128.166
Secondary DNS Server	202.96.134.133
Connection Mode	PPPoE
Connection Timer	00:03:10
<input type="button" value="Connect"/> <input type="button" value="Disconnect"/>	

## L2TP

**L2TP Server IP:** Enter the Server IP provided by your ISP.

**User Name:** Enter L2TP username.

**Password:** Enter L2TP password.

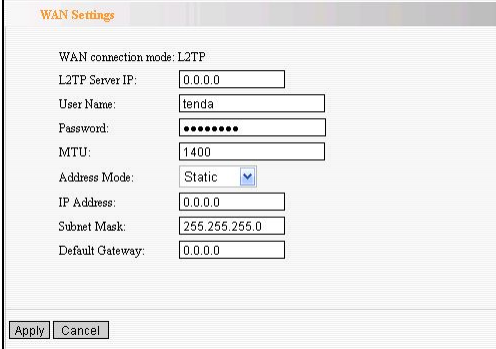
**MTU:** Maximum Transmission Unit, you may need to change it for optimal performance with your specific ISP. 1400 is the default MTU.

**Address Mode:** Select "Static" if your ISP supplies you with the IP address, subnet mask, and gateway. In most cases, select Dynamic.

**IP Address:** Enter the L2TP IP address supplied by your ISP.

**Subnet Mask:** Enter the Subnet Mask supplied by your ISP.

**Default Gateway:** Enter the Default Gateway supplied by your ISP.



The screenshot shows a 'WAN Settings' window with the following fields and values:

Field	Value
WAN connection mode	L2TP
L2TP Server IP	0.0.0.0
User Name	tenda
Password	*****
MTU	1400
Address Mode	Static
IP Address	0.0.0.0
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0

At the bottom of the window are 'Apply' and 'Cancel' buttons.

## PPTP

**PPTP Server IP:** Enter the Server IP provided by your ISP.

**User Name:** Enter PPTP username provided by your ISP.

**Password:** Enter PPTP password provided by your ISP.

**Address Mode:** Select "Static" if your ISP supplies you with the IP address, subnet mask, and gateway. In most cases, select Dynamic.

**IP Address:** Enter the PPTP IP address supplied by your ISP.

**Subnet Mask:** Enter the Subnet Mask supplied by your ISP.

**Default Gateway:** Enter the Default Gateway supplied by your ISP.

Setup Wizard-PPTP

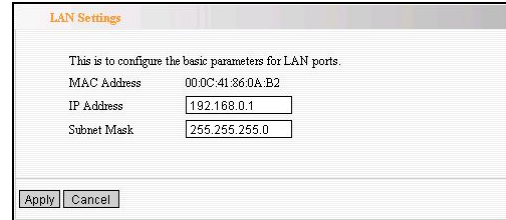
PPTP Server IP Address:	<input type="text" value="0.0.0.0"/>
User Name:	<input type="text" value="tenda"/>
Password:	<input type="password" value="••••••"/>
Address Mode:	Static <input checked="" type="button" value="v"/>
IP Address:	<input type="text" value="0.0.0.0"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
Default Gateway:	<input type="text" value="0.0.0.0"/>



## Chapter 5: Advanced Settings

### 5.1 LAN Settings

LAN Settings are for the basic TCP/IP parameters of LAN ports.



LAN Settings

This is to configure the basic parameters for LAN ports.

MAC Address 00:0C:41:36:0A:B2

IP Address 192.168.0.1

Subnet Mask 255.255.255.0

Apply Cancel

- ✧ **MAC Address:** The Router's physical MAC address as seen on your local network, which is unchangeable.
- ✧ **IP Address:** The Router's LAN IP addresses (not your PC's IP address). 192.168.0.1 is the default value.
- ✧ **Subnet Mask:** It's shown the Router's subnet mask for measurement of the network size. 255.255.255.0 is the default value.
- ✧ **IMPORTANT:** Once you modify the IP address, you need to remember it for the Web-based Utility login next time.

## 5.2 WAN Settings

After you have selected the ISP connection type in “Setup Wizard” and you want to modify the related settings, here you can modify and configure the settings in details.

### Virtual Dial-up (PPPoE)

The screenshot shows the 'WAN Settings' window with the following fields and options:

- WAN connection mode:** PPPoE
- Account:** szfq179@163.gd
- Password:** [masked]
- MTU:** 1492 (Default by 1492. Do NOT Modify Unless Necessary)
- Service Name:** [empty] (Do NOT Modify Unless Necessary)
- AC Name:** [empty] (Do NOT Modify Unless Necessary)
- Internet Connection Option:**
  - ☒ Connect Automatically.
  - ☐ Connect Manually.
  - ☐ Connect on Demand
    - Max Idle Time: 160 (60—3600 seconds)
  - ☐ Connect on Fixed Time
    - IMPORTANT: Please set the time in "System Tools" before you select this Internet connection.
    - Time From: 0 h 0 m T 23 h 00 m
- Buttons:** Apply, Cancel

- ✧ **Connection Mode:** Show your current connection mode.
- ✧ **Account:** Enter them provided by your ISP.
- ✧ **Password:** Enter them provided by your ISP.
- ✧ **MTU:** Maximum Transmission Unit. It is the size of largest datagram that can be sent over a network. The

default value is 1492. Do NOT modify it unless necessary. But if when some specific website or web application software can not be open or enabled, have a try to change the MTU value as 1450, 1400, etc.

- ✧ **Service Name:** It is defined as a set of characteristics that are applied to a PPPoE connection. Enter it if provided. Do NOT modify it unless necessary.
- ✧ **AC Name:** Enter it if provided. Do NOT modify it unless necessary.
- ✧ **Connect Automatically:** Connect automatically to the Internet after rebooting the system or connection failure.
- ✧ **Connect Manually:** Connect to the Internet by users manually.
- ✧ **Connect on Demand:** Re-establish your connection to the Internet after the specific time (Max Idle Time). Zero means your Internet connection at all time. Otherwise, enter the minutes to be elapsed before you want to disconnect the Internet access.
- ✧ **Connect on Fixed Time:** Connect to the Internet during the time you fix.

**Notice:**

**The "Connect on Fixed Time" can be deployed only when you have set the current time in "Time Settings" from "System Tools".**

## Static IP

The screenshot shows the 'WAN Settings' window with the 'WAN connection mode' set to 'Static IP'. The following fields are visible:

Field	Value
IP Address	192.168.1.2
Netmask	255.255.255.0
Gateway	192.168.1.1
Primary DNS Server	202.96.134.133
Secondary DNS Server	202.96.128.68 (optional)
MTU	1500 (Do NOT Modify Unless Necessary)

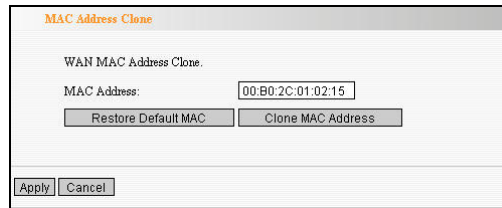
At the bottom of the window are 'Apply' and 'Cancel' buttons.

If your connection mode, static IP is chosen, you can modify the following addressing information.

- ✧ **IP Address:** Here enter the WAN IP address provided by your ISP.
- ✧ **Subnet Mask:** Enter the WAN Subnet Mask here.
- ✧ **Gateway:** Enter the WAN Gateway here.
- ✧ **Primary DNS Server:** Enter the Primary DNS server provided by your ISP.
- ✧ **Secondary DNS Server:** Enter the secondary DNS.

### 5.3 MAC Address Clone

This page is for the Router's MAC address to WAN.



MAC Address Clone

WAN MAC Address Clone.

MAC Address: 00:80:2C:01:02:15

Restore Default MAC Clone MAC Address

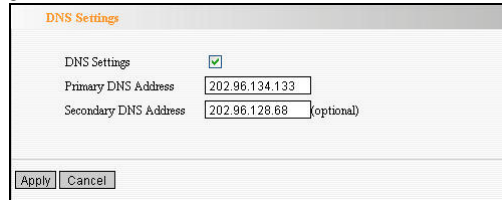
Apply Cancel

Some ISPs require end-user's MAC address to access their network. This feature copies the MAC address of your network device to the Router.

- ✧ **MAC Address:** The MAC address to be registered with your Internet service provider.
- ✧ **Clone MAC Address:** Register your PC's MAC address.
- ✧ **Restore Default MAC Address:** Restore to the default hardware MAC address.

## 5.4 DNS Settings

DNS is short for Domain Name System (or Service), an Internet service that translate domain names into IP addresses which are provided by your Internet Service Provider. Please consult your Internet Service Provider for details if you do not have them.



DNS Settings	
DNS Settings	<input checked="" type="checkbox"/>
Primary DNS Address	<input type="text" value="202.96.134.133"/>
Secondary DNS Address	<input type="text" value="202.96.128.68"/> (optional)
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

- ✧ **DNS:** Click the checkbox to enable the DNS server. The Router's DHCP sever will answer the client's requests and distribute DNS address.
- ✧ **Primary DNS Address:** Enter the necessary address provided by your ISP.
- ✧ **Secondary DNS Address:** Enter the second address if your ISP provides, which is optional.

**Notice:**

**After the settings are completed, reboot the device to activate the modified settings.**

## Chapter 6: Wireless Setting

### 6.1 Basic Settings

The screenshot displays the 'Basic Settings' window for a Tenda router. The 'Enable Wireless' checkbox is checked. The 'Network Mode' is set to '11b/g/n mixed mode'. The 'SSID' is 'Tenda'. 'Broadcast(SSID)' is set to 'Enable'. The 'BSSID' is '00:B0:2C:01:02:10'. The 'Channel' is set to 'AutoSelect'. The 'Operating Mode' is 'Mixed Mode'. 'Channel BandWidth' is set to '20/40'. 'Guard Interval' is set to 'Auto'. 'MCS' is set to 'Auto'. 'Reverse Direction Grant(RDG)' is set to 'Enable'. 'Extension Channel' is set to 'Auto Select'. 'Aggregation MSDU (A-MSDU)' is set to 'Disable'. At the bottom, there are 'Apply' and 'Cancel' buttons.

Basic Settings	
<input checked="" type="checkbox"/> Enable Wireless	
Network Mode	11b/g/n mixed mode
SSID	Tenda
Broadcast(SSID)	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
BSSID	00:B0:2C:01:02:10
Channel	AutoSelect
Operating Mode	<input checked="" type="radio"/> Mixed Mode <input type="radio"/> Green Field
Channel BandWidth	<input type="radio"/> 20 <input checked="" type="radio"/> 20/40
Guard Interval	<input type="radio"/> long <input checked="" type="radio"/> Auto
MCS	Auto
Reverse Direction Grant(RDG)	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
Extension Channel	Auto Select
Aggregation MSDU (A-MSDU)	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

- ✧ **Enable Wireless:** Check to enable the Router's wireless features; uncheck to disable it.
- ✧ **Network Mode:** Select one mode from the following. The default is 11b/g/n mode.
- ✧ **11b mode:** Allow the wireless client to connect with the device in 11b mode at the maximum speed of 11Mbps.
- ✧ **11g mode:** Allow the 11g/11n-compliant client device to connect with the AP at the maximum speed of 54Mbps.

- ✧ **11b/g mode:** Allow the 11b/g-compliant client device to connect with the AP with auto-negotiation speed, and 11n wireless client to connect the device with 11g speed.
- ✧ **11b/g/n mode:** Allow 11b/g/n-compliant client device to connect with the AP with auto-negotiation speed.
- ✧ **SSID:** SSID (Service Set Identifier) is the unique name of the wireless network. This device has two SSID and the SSID is necessary.
- ✧ **Broadcast (SSID):** Select "Enable" to enable the device's SSID to be visible by wireless clients. The default is enabled.
- ✧ **BSSID:** Basic Service Set Identifier of wireless network. In IEEE802.11, BSSID is the MAC address of wireless access point.
- ✧ **Channel :** Specify the effective channel (from 1 to 13\Auto) of the wireless network.
- ✧ **Extension Channel:** To increase data throughput of wireless network, the extension channel range is used in 11n mode.
- ✧ **Channel Bandwidth:** Select the channel bandwidth to improve the wireless performance. When the network has 11b/g and 11n clients, you can select the 40M; when it is an 11n network, select 20/40M to improve its throughput.



## 6.2 Wireless Security Setting

It is used to configure the AP network's security setting. Here presents the common six (ten in all) encryption methods, including Mixed WEP, WPA-personal, WPA2-personal, etc.

### 6.2.1 Mixed WEP

WEP (Wired Equivalent Privacy), a basic encryption method, usually encrypts wireless data using a series of digital keys (64 bits or 128 bits in length). By using the same keys on each of your wireless network devices, you can prevent unauthorized wireless devices from monitoring your transmissions or using your wireless resources. Select Mixed WEP to enter the following window:

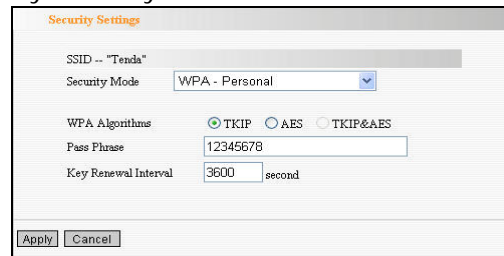
The screenshot shows the 'Security Settings' window. At the top, the title is 'Security Settings'. Below it, there is a dropdown menu for 'SSID -- "Tenda"'. Underneath, the 'Security Mode' is set to 'Mixed WEP'. Below that, there is a 'Default Key' dropdown menu set to 'Key 1'. Then, there are four rows for 'WEP Key 1:', 'WEP Key 2:', 'WEP Key 3:', and 'WEP Key 4:'. Each row has a text input field and a 'Hex' dropdown menu. The 'WEP Key 1' input field contains the text '1111111111'. At the bottom of the window, there are 'Apply' and 'Cancel' buttons.

- ✧ **Select SSID:** Select the SSID (main SSID or minor SSID) to configure security setting from the drop-down menu.

- ✧ **Security Mode:** From the drop-down menu select the corresponding security encryption modes.
- ✧ **WEP Key1~4:** Set the WEP key with the format of ASCII and Hex. You can enter ASCII code (5 or 13 ASCII characters. Illegal character as "/" is not allowed.) Or 10/26 hex characters.
- ✧ **Default Key:** Select one key from the four configured keys as the current available one.

### 6.2.2 WPA-Personal

WPA (Wi-Fi Protected Access), a Wi-Fi standard, is a more recent wireless encryption scheme, designed to improve the security features of WEP. It applies more powerful encryption types (such as TKIP [Temporal Key Integrity Protocol] or AES [Advanced Encryption Standard]) and can change the keys dynamically on every authorized wireless device.



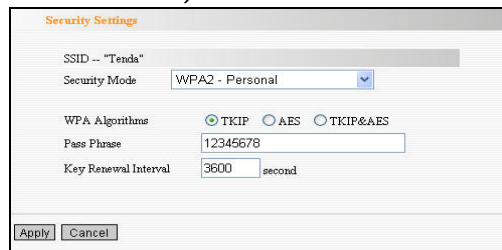
The screenshot shows the 'Security Settings' window. At the top, the title is 'Security Settings'. Below it, there is a text field for 'SSID -- "Tenda"'. Underneath is a 'Security Mode' dropdown menu currently set to 'WPA - Personal'. Below that is the 'WPA Algorithms' section with three radio buttons: 'TKIP' (selected), 'AES', and 'TKIP&AES'. Below the algorithms is a 'Pass Phrase' text field containing '12345678'. Below that is a 'Key Renewal Interval' section with a text field containing '3600' and the unit 'second'. At the bottom of the window are 'Apply' and 'Cancel' buttons.

- ✧ **Select SSID:** Select the SSID (main SSID or minor SSID) to configure security setting from the drop-down menu.

- ✧ **WPA Algorithms :** Provides TKIP [Temporal Key Integrity Protocol] or AES [Advanced Encryption Standard]. The default is TKIP mode.
- ✧ **Pass Phrase :** Enter the encrypted characters with 8-63 ASCII characters.
- ✧ **Key Renewal Interval:** Set the key's renewal period.

### 6.2.3 WPA2- Personal

WPA2 (Wi-Fi Protected Access version 2) provides higher security than WEP (Wireless Equivalent Privacy) and WPA (Wi-Fi Protected Access).



The screenshot shows a 'Security Settings' dialog box. At the top, it says 'SSID -- "Tenda"'. Below that, 'Security Mode' is set to 'WPA2 - Personal' in a dropdown menu. Under 'WPA Algorithms', there are three radio buttons: 'TKIP' (which is selected), 'AES', and 'TKIP&AES'. The 'Pass Phrase' field contains the text '12345678'. The 'Key Renewal Interval' is set to '3600' with the unit 'second' next to it. At the bottom left, there are 'Apply' and 'Cancel' buttons.

- ✧ **Select SSID:** Select the SSID (main SSID or minor SSID) to configure security setting from the drop-down menu.
- ✧ **WPA Algorithms :** Provides TKIP [Temporal Key Integrity Protocol] or AES [Advanced Encryption Standard]. The default is TKIP mode.
- ✧ **Pass Phrase :** Enter the encrypted characters with 8-63 ASCII characters.

- ✧ **Key renewal Interval:** Set the key's renewal period.

### 6.3 Advanced Settings

This section is to configure the advanced wireless setting of the Router, including the Radio Preamble, 802.11g/n Rate, Fragmentation Threshold, RTS Threshold, etc.

Advanced Settings

BG Protection Mode	Auto
Basic Data Rates	Default(1-2-5.5-11 Mbps)
Beacon Interval	100 ms (range 20 - 999, default 100)
Fragment Threshold	2346 (range 256 - 2346, default 2346)
RTS Threshold	2347 (range 1 - 2347, default 2347)
TX Power	100 (range 1 - 100, default 100)

WMM Capable ☒ Enable ☐ Disable

APSD Capable ☐ Enable ☒ Disable

Apply Cancel

- ✧ **BG protection Mode:** Auto by default. It is for 11b/g wireless client to connect 11n wireless network smoothly in a complicated wireless area.
- ✧ **Basic Data Rates:** For different requirement, you can select one of the suitable Basic Data Rates. Here, default value is (1-2-5.5.-11Mbps...). It is recommended not to modify this value.
- ✧ **Beacon Interval:** Set the beacon interval of wireless radio. Default value is 100. It is recommended not to modify this value.

- ✧ **Fragment Threshold:** The fragmentation threshold defines the maximum transmission packet size in bytes. The packet will be fragmented if the arrival is bigger than the threshold setting. The default size is 2346 bytes. It is recommended not to modify this value.
- ✧ **RTS Threshold:** RTS stands for "Request to Send". This parameter controls what size data packet the frequency protocol issues to RTS packet. The default value of the attribute is 2346. It is recommended not to modify this value in SOHO environment.
- ✧ **TX Power:** Set the output power of wireless radio. The default value is 100.
- ✧ **WMM Capable:** It will enhance the data transfer performance of multimedia data when they're being transferred over wireless network. It is recommended to enable this option.
- ✧ **APSD Capable:** It is used for auto power-saved service. The default is disabled.

## 6.4 WPS Settings

WPS (Wi-Fi Protected Setting) can be easy and quick to establish the connection between the wireless network clients and the device through encrypted contents. The users only enter PIN code or press WLAN/WPA button on the panel

to configure it without selecting encryption method and secret keys by manual. In the “Wireless settings” menu, click “WPS settings” to enter the next screen.

WPS Summary	
WPS Current Status:	Idle
WPS Configured:	No
WPS SSID:	Tenda
WPS Auth Mode:	Open
WPS Encryp Type:	None
WPS Default Key Index:	1
WPS Key(ASCII):	
AP PIN:	00660648

- ✧ **WPS settings:** To enable or disable WPS function. The default is “disable”.
- ✧ **WPS mode :** Provide two ways: PBC (Push-Button Configuration) and PIN code.
- ✧ **PBC :** Select the PBC or press the WLAN/WPS button on the front panel of the device for about one second (Press the button for about one second and WPS indicator will be blinking for 2 minutes, which means the WPS is enabled. During the blinking time, you can enable another device to implement the WPS/PBC negotiation between them. Two minutes later, the WPS indicator will be off, which means the WPS connection is completed. If

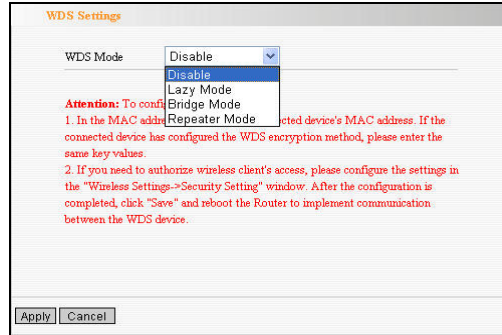
more clients are added, repeat the above steps. At present, the WPS supports up to 32 clients access.)

- ✧ **PIN:** If this option is enabled, you need to enter a wireless client's PIN code in the field and keep the same code in the WPS client.
- ✧ **WPS Summary :** Show the current state of Wi-Fi protected setting, including authorized mode, encryption type, default key and other information.
- ✧ **WPS Current Status:** Idle means WPS in idle state. Start MSC process means the process has been started and waits for being connected. Configured means the negotiation is successful between server and clients.
- ✧ **WPS Configured:** "yes" means WPS feature is enabled and goes into effect. "not used" means it is not used. Usually the AP-security has been enabled, here will displayed "not used".
- ✧ **WPS SSID:** Show the main SSID set by WPS.
- ✧ **WPS Auth. Mode:** The authorization mode deployed by WPS, generally WPA/WPA2-personal mode.
- ✧ **WPS Encrypt Type:** The encryption type used by WPS, generally AES/TKIP.
- ✧ **WPS key :** The effective key generated by AP automatically.
- ✧ **AP PIN (KEY) :** The PIN code used by default.
- ✧ **Reset OOB:** When this button is pressed, the WPS client will be idle state, and WPS indicator will be turned off. AP will not respond the WPS client's requests and the set

the security mode as WPA mode.

## 6.5 WDS Settings

WDS (Wireless Distribution System) is used to expand wireless coverage area. This Router provides three modes: Lazy, Bridge and Repeater.



- ✧ **Lazy:** In this mode, the connected device can be Bridge mode or Repeater mode and enter the Router's BSSID to establish the connection.
- ✧ **Bridge:** You can wirelessly connect two or more wired networks via this mode. In this mode, you need to add the Wireless MAC address of the connecting device into the Router's AP MAC address table or select one from the scanning table.
- ✧ **Repeater Mode:** In this mode, add the opposing MAC address into each own AP MAC address table by manual or scanner to enlarge and extend the wireless radio.



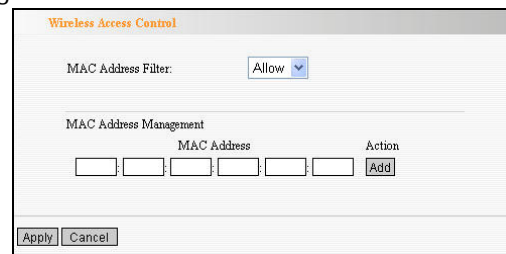
- ✧ **Encrypt Type:** Select one from WEP, TKIP, AES for security here.
- ✧ **Pass phrase:** Enter the encrypted key for wireless devices.
- ✧ **AP MAC:** Input the MAC address of another (opposing) wireless router you want to connect.

**NOTE:**

**It is recommended that two wireless routers keep the same bandwidth, channel number, and security settings. Apply the settings and reboot the Router to activate it.**

## 6.6 Wireless Access Control

To secure your wireless LAN, the wireless access control is actually based on the MAC address management to allow or block the specific clients to access the wireless network. Select "Wireless Setting->Access Control" to display the following screen:



The screenshot shows the 'Wireless Access Control' configuration page. At the top, the title 'Wireless Access Control' is displayed. Below it, there is a 'MAC Address Filter:' label followed by a dropdown menu currently set to 'Allow'. Underneath, the 'MAC Address Management' section contains a table with two columns: 'MAC Address' and 'Action'. The 'MAC Address' column has six empty input boxes for entering addresses. The 'Action' column has an 'Add' button. At the bottom of the page, there are 'Apply' and 'Cancel' buttons.

MAC Address	Action
<input type="text"/>	<input type="button" value="Add"/>
<input type="text"/>	
<input type="text"/>	
<input type="text"/>	
<input type="text"/>	
<input type="text"/>	

- ✧ **MAC Address Filter:** Enable/disable MAC address filter. Select “Close” to malfunction MAC address; “disable” to prevent the MAC addresses in the list from accessing the wireless network; “Allow” to allow the MAC address in the list to access the wireless network.
- ✧ **MAC Address Management:** Input the MAC address to implement the filter policy. Click “Add” to finish the MAC add operation.
- ✧ **MAC list:** Show the added MAC addresses. You can add or delete them.

## 6.7 Connection Status

This page shows wireless client's connection status, including MAC address, Channel bandwidth, etc. Select “Wireless Setting->connection status” to enter the following screen:

Wireless Connection Status		
The Current Wireless Access List: <input type="button" value="Refresh"/>		
NO.	MAC Address	Bandwidth
0	00:50:43:00:00:05	40M

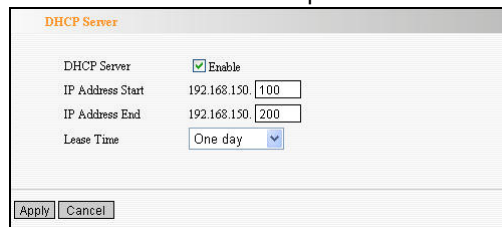
- ✧ **MAC Address:** Shows current MAC addresses of the hosts connecting to the Router.
- ✧ **Bandwidth:** Shows current bandwidth of the hosts

(wireless client).

## Chapter 7: DHCP Server

### 7.1 DHCP Settings

**DHCP (Dynamic Host Control Protocol)** is to assign an IP address to the computers on the LAN/private network. When you enable the DHCP Server, the DHCP Server will allocate automatically an unused IP address from the IP address pool to the requesting computer in premise of activating “Obtain an IP Address Automatically”. So specifying the starting and ending address of the IP Address pool is needed.



DHCP Server	
DHCP Server	<input checked="" type="checkbox"/> Enable
IP Address Start	192.168.150. <input type="text" value="100"/>
IP Address End	192.168.150. <input type="text" value="200"/>
Lease Time	<input type="text" value="One day"/>
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

- ✧ **DHCP Server:** Activate the checkbox to enable DHCP server.
- ✧ **IP Address Start/End:** Enter the range of IP address for DHCP server distribution.
- ✧ **Lease Time:** The length of the IP address lease.

***For example:***

If the lease time is an hour, then DHCP server will reclaim the

IP address in each hour.

## 7.2 DHCP List and Binding

The Static IP assignment is to add a specifically static IP address to the assigned MAC address. You can view the related information in the DHCP server list.

**Static IP**

IP Address 192.168.150.11

MAC Address 22 22 22 22 22 22

NO.	IP Address	MAC Address	IP-MAC bind	Delete
1	192.168.150.11	22:22:22:22:22:22	<input checked="" type="checkbox"/>	<input type="button" value="Delete"/>

Host Name	IP Address	MAC Address	Lease
8322a576b33e423	192.168.150.100	00:50:43:00:00:05	23:24:52
Office	192.168.150.101	00:13:02:11:65:B3	00:00:00
Office	192.168.150.102	00:19:21:9E:35:20	00:00:00

- ✧ **IP Address:** Enter the IP address which needs to be bound.
- ✧ **MAC Address:** Enter the MAC address of the computer you want to assign the above IP address. Click "Add" to add the entry in the list.
- ✧ **Hostname:** The name of the computer which is added a new IP address.
- ✧ **Lease Time:** The left time length of the corresponding

IP address lease.

## Chapter 8 Virtual Server

### 8.1 Port Range Forwarding

This section deals with the port range forwarding mainly. The Port Range Forwarding allows you to set up a range of public services such as web servers, ftp, e-mail and other specialized Internet applications to an assigned IP address on your LAN.

**Port Range Forwarding**

The Router can be configured as a virtual server on behalf of local services behind the LAN port. The given remote requests will be re-directed to the local servers via the virtual server. This section deals with the port range forwarding mainly. The Port Range Forwarding allows you to set up kinds of public services such as web servers, ftp, e-mail and other specialized Internet applications on your network.

NO.	Start Port-End Port	To IP Address	Protocol	Enable	Delete
1.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	<input type="text"/> - <input type="text"/>	192.168.1.50 <input type="text"/>	TCP <input type="button" value="v"/>	<input type="checkbox"/>	<input type="checkbox"/>

Well-Known:   ID:

✧ **Start/End Port:** Enter the start/end port number which

ranges the External ports used to set the server or Internet applications.

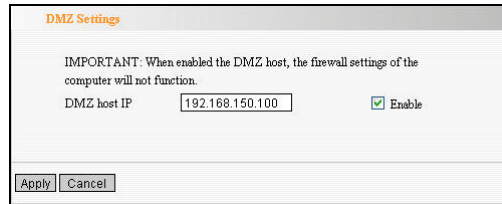
- ✧ **IP Address:** Enter the IP address of the PC where you want to set the applications.
- ✧ **Protocol:** Select the protocol (TCP/UDP/Both) for the application.
- ✧ **Delete/Enable:** Click to check it for corresponding operation.
- ✧ **Well-Known Service Port:** Select the well-known services as DNS, FTP from the drop-down menu to add to the configured one above.
- ✧ **Add:** Add the selected well-known port to the policy ID.

**NOTE:**

**If you set the virtual server of the service port as 80, you must set the Web management port on Remote Web Management page to be any value except 80 such as 8080. Otherwise, there will be a conflict to disable the virtual server.**

## 8.2 DMZ Settings

The DMZ function is to allow one computer in LAN to be exposed to the Internet for a special-purpose service as Internet gaming or videoconferencing.



DMZ Settings

IMPORTANT: When enabled the DMZ host, the firewall settings of the computer will not function.

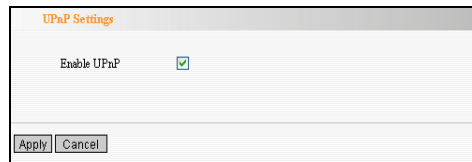
DMZ host IP  ☒ Enable

Apply Cancel

- ✧ **DMZ Host IP Address:** The IP address of the computer you want to expose.
- ✧ **Enable:** Click the checkbox to enable the DMZ host.
- ✧ **IMPORTANT:** When the DMZ host is enabled, the firewall settings of the DMZ host will not function.

### 8.3 UPNP Settings

It supports latest Universal Plug and Play. This function goes into effect on Windows XP or Windows ME or this function would go into effect if you have installed software that supports UPnP. With the UPnP function, host in LAN can request the router to process some special port switching so as to enable host outside to visit the resources in the internal host.



**Enable UPnP:** Click the checkbox to enable the UPnP.



## Chapter 9 Traffic Control

### 9.1 Traffic Control

Traffic control is used to limit communication speed in the LAN and WAN. Up to 20 entries can be supported with the capability for at most 254 PCs' speed control, including for IP address range configuration.

The screenshot shows the 'Traffic Control Settings' window. At the top, 'Traffic Control' is checked. Below, the 'Interface' section has 'WAN' selected. The 'Upload BW' is set to 512 and 'Download BW' is set to 2048, with a note '(KB/s, The bandwidth can not be zero)'. The 'Services' section has 'TCP&UDP' selected for 'Protocol', '0' for 'Port', and 'All' for 'Service'. The 'IP' section has '192.168.0.' for 'IP' and a range selector. The 'Up/Down' section has 'Up' selected. The 'BW Range' section has a range selector with a note '(KB/s, The bandwidth can not be zero)'. There is an 'Apply' checkbox. Below these fields is an 'Add' button. At the bottom is a table with columns: Num, Port, IP, Up/Down, BW Range, Apply, Edit, Del. At the very bottom are 'Apply' and 'Cancel' buttons.

Num	Port	IP	Up/Down	BW Range	Apply	Edit	Del
-----	------	----	---------	----------	-------	------	-----

- ✧ **Enable Traffic Control:** To enable or disable the internal IP bandwidth control. The default is disabled.
- ✧ **Interface:** To limit the uploading and downloading bandwidth in WAN port.
- ✧ **Service:** To select the controlled service type, such as HTTP service.

- ✧ **IP Starting Address:** The first IP address for traffic control.
- ✧ **IP Ending Address:** The last IP address for traffic control.
- ✧ **Uploading/Downloading:** To specify the traffic heading way for the selected IP addresses: uploading or downloading.
- ✧ **Bandwidth:** To specify the uploading/downloading Min./Max. Traffic speed (KB/s), which can not exceed the WAN speed.
- ✧ **Apply:** To enable the current editing rule. If not, the rule will be disabled.
- ✧ **Add:** After edit the rule, click the "add to list" button to add the current rule to rule list.
- ✧ **Apply:** Click "Save" to activate the current rule.
- ✧ **Cancel:** Click "Cancel" to drop all setting saved last time.

## Chapter10 URL Monitor

### 10.1 URL Monitor

This feature is used to record user's Internet activity, so in terms of this feature, the administrator can check out and control what they can do and have done.

URL Monitor

☒ Enable URL Monitor  
☒ Enable Email

Receive Email Address:   
SMTP Server Address:   
Send Email Address:   
User Name:   
Email Password:

☒ Time Triggering Interval:  Minute (Range:30-1440Minute)  
☐ Entry Triggering Interval:  Entry (Range:100-500)

Time	IP Address	Web Site
------	------------	----------

- ✧ **Enable URL Monitor:** After checking this feature, the Router will record LAN computer's URL information, including the visiting Website, your LAN IP address and the time. The Router can record up to 500 entries. If the record is more than 500 entries, the counter will clean all records and restart the URL record again. If the Router is powered off and restarts the device, the records will be also lost. The default setting is disabled.
- ✧ **Enable Email:** To enable this feature, the URL records

will be sent to specified e-mail, which can be solved the problem that the records will be lost when it is over 500 entries.

- ✧ **Receive E-mail Address:** Input the received E-mail's address here. For example: [tenda@sina.com.cn](mailto:tenda@sina.com.cn)
- ✧ **SMTP Server Address:** Input the SMTP server address here. If you are not clear what your SMTP server's address is, you can find them from Help page of the registered e-mail. For example: smtp.sohu.com, smtp.163.com, etc.
- ✧ **Send Email Address:** Input the sending email address here.
- ✧ **User Name:** Input the sending e-mail's user name.
- ✧ **Email Password:** Input the sending e-mail's password.
- ✧ **Time Triggering Interval:** To set sending e-mail's time interval. The time ranges from 30 to 1440 minutes. For example: if you input 30 here, it means the Router will send a email from "Send Email Address" to "Receive Email Address" in every 30 minutes. And then the device will clean all records and start the recording again.
- ✧ **Entry Triggering Interval:** To set sending e-mail's entry interval. The entry ranges from 100 to 500. For example: if you input 100 here, it means the Router will send a email from "Send Email Address" to "Receive Email Address" in every 100 entries. And then the device will clean all records and start the recording again.

## Chapter 11: Security Settings

### 11.1 Client Filter Settings

To benefit your further management to the computers in the LAN, you can control some ports access to Internet by data packet filter function.

The screenshot shows the 'Client Filter' configuration page. At the top, 'Client Filtering Settings' is checked. Below it, 'Access Policy' is set to '10'. The 'Enable' checkbox is checked, and there is a 'Delete the Policy' button labeled 'Clear'. Under 'Filtering Mode', the 'Disable' radio button is selected, with the text 'access the Internet' next to it. The 'Enable' radio button is unselected. Below these are input fields for 'Policy Name', 'Start IP' (192.168.0), 'End IP' (192.168.0), 'Port', and 'Type' (TCP). At the bottom, there are 'Times' and 'Date' settings. 'Times' are set to 0:00 - 0:00. 'Date' has 'Everyday' checked, and other days (Sun, Mon, Tue, Wed, Thu, Fri, Sat) are unchecked. 'Apply' and 'Cancel' buttons are at the very bottom.

- ✧ **Client Filter:** Check to enable client filter.
- ✧ **Access Policy:** Select one number from the drop-down menu.
- ✧ **Enable:** Check to enable the access policy.
- ✧ **Clear the Policy:** Click “Clear” button to clear all settings for the policy.
- ✧ **Filter Mode:** Click one radio button to enable or disable to access the Internet.

- ✧ **Policy Name:** Enter a name for the access policy selected.
- ✧ **IP Start/End:** Enter the starting/ending IP address.
- ✧ **Port No.:** Enter the port range based over the protocol for access policy.
- ✧ **Protocol:** Select one protocol (TCP/UDP/Both) from the drop-down menu.
- ✧ **Times:** Select the time range of client filter.
- ✧ **Days:** Select the day(s) to run the access policy.

## 11.2 URL Filter Settings

In order to control the computer to have access to websites, you can use URL filtering to allow the computer to have access to certain websites at fixed time and forbids it having access to certain websites at fixed time.

The screenshot shows the 'URL Filter' configuration window. At the top, 'URL Filtering Setting' is checked and labeled 'Enable'. Below this, 'Access Policy' is set to '10'. The 'Enable' checkbox is checked, with a 'Delete the Policy' button and a 'Clear' button next to it. The 'Filtering Mode' section has two radio buttons: 'Disable' (selected) and 'Enable' (labeled 'access the Internet'). Below this are input fields for 'Policy Name', 'Start IP' (192.168.150), 'End IP' (192.168.150), and 'URL'. At the bottom, there are 'Times' dropdown menus (0, 0, 0, 0) and a 'Date' section with checkboxes for 'Everyday', 'Sun', 'Mon', 'Tue', 'Wen', 'Thr', 'Fri', and 'Sat'. 'Apply' and 'Cancel' buttons are at the very bottom.

- ✧ **URL Filter:** Check to enable URL filter.
- ✧ **Access Policy:** Select one number from the drop-down menu.
- ✧ **Enable:** Check to enable the access policy.
- ✧ **Clear the Policy:** Click “Clear” button to clear all settings for the policy.
- ✧ **Filter Mode:** Click one radio button to enable or disable to access the Internet.
- ✧ **Policy Name:** Enter a name for the access policy selected.
- ✧ **Start/End IP:** Enter the starting/ending IP address.
- ✧ **URL Strings:** Specify the text strings or keywords needed to be filtered. If any part of the URL contains these strings or words, the web page will not be accessible and displayed.
- ✧ **Times:** Select the time range of client filter.
- ✧ **Days:** Select the day(s) to run the access policy.

### 11.3 MAC Address Filter

In order to manage the computers in LAN better, you could control the computer's access to Internet by MAC Address Filter.

MAC Filter

MAC Filtering Settings: ☒ Enable

Access Policy: 10

Enable: ☒ Delete the Policy

Filtering: ☒ Disable access the Internet

Mode: ☐ Enable

Policy Name: A

MAC Address: AA BB 11 22 33 44

Times: 8:00 - 18:00

Date: ☒ Everyday ☐ Sun ☐ Mon ☐ Tue ☐ Wen ☐ Thr ☐ Fri ☐ Sat

- ✧ **MAC Address Filter:** Check to enable MAC address filter.
- ✧ **Access Policy:** Select one number from the drop-down menu.
- ✧ **Enable:** Check to enable the access policy.
- ✧ **Clear the Policy:** Click “Clear” button to clear all settings for the policy.
- ✧ **Filter Mode:** Click one radio button to enable or disable to access the Internet.
- ✧ **Policy Name:** Enter a name for the access policy selected.
- ✧ **MAC Address:** Enter the MAC address you want to run the access policy.
- ✧ **Times:** Select the time range of client filter.



- ✧ **Days:** Select the day(s) to run the access policy.
- ✧ **Apply:** Click to make the settings go into effect.

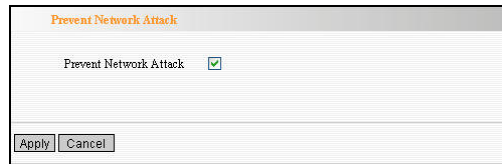
***For example:***

if you want to configure the host with MAC address 00:C0:9F:AD:FF:C5 not to access the Internet at 8:00-18:00, you need to set it as above.

## 11.4 Prevent Network Attack

This section is to protect the internal network from exotic attack such as SYN Flooding attack, Smurf attack, LAND attack, etc. Once detecting the unknown attack, the Router will restrict its bandwidth automatically.

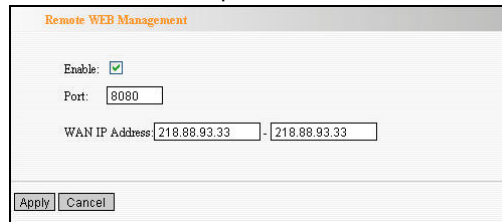
The attacker's IP address can be found from the "System Log".



**Prevent Network Attack:** Check to enable it for attack prevention.

## 11.5 Remote Web Management

This section is to allow the network administrator to manage the Router remotely. If you want to access the Router from outside the local network, please select the “Enable”.



Remote WEB Management

Enable: ☒

Port:

WAN IP Address  -

- ✧ **Enable:** Check to enable remote web management.
- ✧ **Port:** The management port open to outside access. The default value is 80.
- ✧ **WAN IP Address:** Specify the range of the WAN IP address for remote management.

**Note:**

1. If you want to login the device's Web-based interface via port 8080, you need use the format of WAN IP address: port (for example http://219.134.32.101: 8080) to implement remote login.
2. If your WAN IP address starts and ends with 0.0.0.0, it means all hosts in WAN can implement

remote Web management. If you change the WAN IP address as 218.88.93.33-218.88.93.35, then only the IP addresses as 218.88.93.33, 218.88.93.34 and 218.88.93.35 can access the Router.

***For example:***

If you want to configure the IP address 218.88.93.33 to access the device's web interface, please set it as follows:

## 11.6 WAN Ping

The ping test is to check the status of your internet connection. When disabling the test, the system will ignore the ping test from WAN.



- ✧ **Ignore Ping from WAN:** Check to ignore the ping request and give no reply.

## Chapter12 Routing Setting

### 12.1 Routing Table

The main duty for a router is to look for a best path for every data frame, and transfer this data frame to a destination. So, it's essential for the router to choose the best path, i.e. routing arithmetic. In order to finish this function, many transferring paths, i.e. routing table, are saved in the router, for choosing when needed.

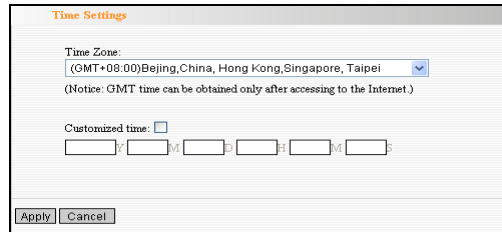
Routing Table				
Destination IP	Subnet Mask	Gateway	Metric	Interface
192.168.100.0	255.255.255.0	0.0.0.0	0	eth2.2
192.168.0.0	255.255.255.0	0.0.0.0	0	br0
0.0.0.0	0.0.0.0	192.168.100.100	0	eth2.2

Refresh

## Chapter 13 System Tools

### 13.1 Time Settings

This section is to select the time zone for your location. If you turn off the Router, the settings for time disappear. However, the Router will automatically obtain the GMT time again once it has access to the Internet.

The screenshot shows a web browser window with the title "Time Settings". Inside the window, there is a "Time Zone:" label followed by a drop-down menu currently showing "(GMT+08:00)Beijing,China, Hong Kong,Singapore, Taipei". Below this is a notice in parentheses: "(Notice: GMT time can be obtained only after accessing to the Internet.)". Further down, there is a "Customized time:" label followed by a small square checkbox. To the right of the checkbox are six input fields for time: two for hours (separated by a colon), two for minutes (separated by a colon), and two for seconds (separated by a colon). At the bottom of the window are two buttons: "Apply" and "Cancel".

**Time Zone:** Select your time zone from the drop-down menu.

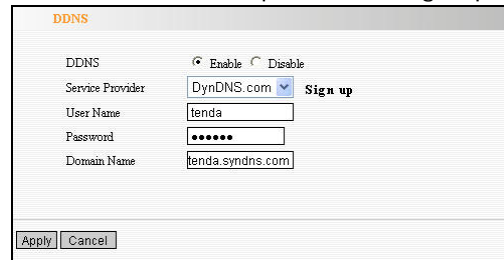
**Customized time:** Enter the time you customize.

**Note:**

**When the Router is powered off, the time setting will be lost. Before the Router will obtain GMT time automatically, you need connect with the Internet and obtain the GMT time, or set the time on this page first. Then the time in other features (e.g. firewall) can be activated.**

## 13.2 DDNS

The **DDNS (Dynamic Domain Name System)** is supported in this Router. It is to assign a fixed host and domain name to a dynamic Internet IP address, which is used to monitor hosting website, FTP server and so on behind the Router. If you want to activate this function, please select “Enable” and a DDNS service provider to sign up.



The screenshot shows the DDNS configuration page. At the top, the title "DDNS" is displayed. Below it, there are two radio buttons: "Enable" (selected) and "Disable". Underneath, there is a "Service Provider" dropdown menu set to "DynDNS.com", followed by a "Sign up" button. Below this, there are four text input fields: "User Name" (containing "tenda"), "Password" (containing six dots), "Domain Name" (containing "tenda.syndns.com"), and a "Domain Name" label. At the bottom, there are "Apply" and "Cancel" buttons.

- ✧ **Main Features:** Owing to ISP most times provides dynamic IP address, DDNS is used to capture the changeable IP address and match the fixed domain. Then users can have access to the Internet to communicate with others.  
DDNS can help you establish virtual host in your home and company.
- ✧ **DDNS:** Click the radio button to enable or disable the DDNS service.
- ✧ **Service Provider:** Select one from the drop-down menu and press “Sign up” for registration.

- ✧ **User Name:** Enter the user name the same as the registration name.
- ✧ **Password:** Enter the password you set.
- ✧ **Domain Name:** Enter the domain name which is optional.

***For example:***

In the local host 192.168.0.10 establish a Web server, and register in 3322.org as follows:

User name	tenda
Password	123456
Domain Name	tenda.vicp.net

After mapping the port in the virtual server, setting account information in DDNS server and in the address field entering <http://tenda.3322.org>, you can access the Web page.

### 13.3 Backup/Restore Settings

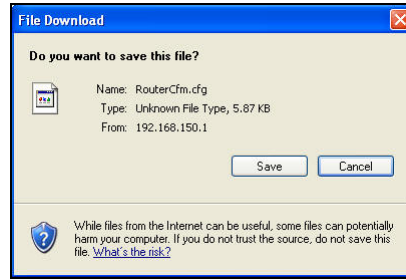
The device provides backup/restore settings, so you need set a directory to keep these parameters.

The screenshot shows a web interface titled "Backup/Restore". It contains the following text and controls:

- Text: "The device provides backup/restore settings, so you need set a directory to keep these parameters."
- Text: "Please choose restore file:"
- A text input field for the restore file path.
- A "Browse..." button next to the input field.
- A "Backup" button.
- A "Restore" button.

**Backup Setting:**

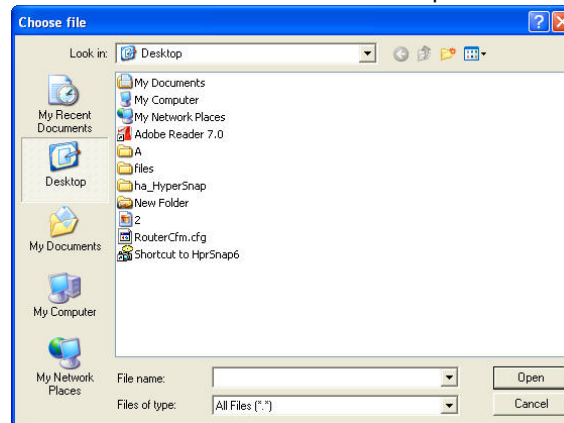
Click “Backup” button to back up the Router’s settings and select the path for save.



Click “Save” to save the configuration files.

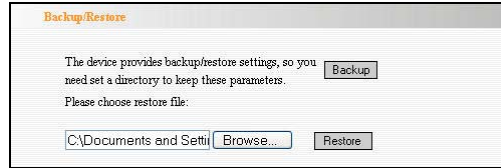
**Restore Setting:**

Click “Browse” button to select the backup files.





Click "Restore" button to restore previous settings.



### 13.4 Restore to Factory Default Setting

This button is to reset all settings to the default values. It means the Router will lose all the settings you have set. So please Note down the related settings if necessary.



✧ **Restore:** Click this button to restore to default settings.

#### Factory Default Settings:

**User Name:** admin

**Password:** admin

**IP Address:** 192.168.0.1

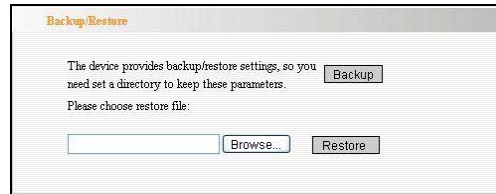
**Subnet Mask:** 255.255.255.0

#### **NOTE:**

**After restoring to default settings, please restart the device, then the default settings can go into effect.**

### 13.5 Upgrade Firmware

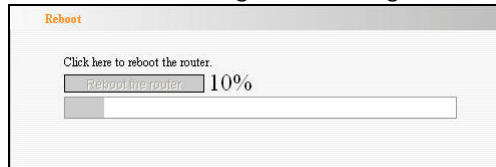
The Router provides the firmware upgrade by clicking the "Upgrade" after browsing the firmware upgrade packet which you can download from [www.tenda.cn](http://www.tenda.cn).



- ✧ **Browse:** click this button to select the upgrade file.
- ✧ **Upgrade:** click this button to start the upgrading process. After the upgrade is completed, the Router will reboot automatically.

### 13.6 Reboot the Router

Rebooting the Router makes the settings configured go into effect or to set the Router again if setting failure happens.



**Reboot the router:** Click this button to reboot the device.

### 13.7 Password Change

This section is to set a new user name and password to better secure your router and network.

Change Password

Note: User Name and Password make up only by number or/and letter.

User Name

Old Password

New Password

Re-enter to Confirm

- ✧ **User Name:** Enter a new user name for the device.
- ✧ **Old Password:** Enter the old password.
- ✧ **New Password:** Enter a new password.
- ✧ **Re-enter to Confirm:** Re-enter to confirm the new password.

**NOTE:**

**It is highly recommended to change the password to secure your network and the Router.**

### 13.8 System Log

The section is to view the system log. Click the “Refresh” to update the log. Click “Clear” to clear all shown information. If the log is over 150 records, it will clear them automatically.

System Log			
Page 1 content			
1	2000-01-01 00:00:09	DHCP	Send discover
2	2000-01-01 00:00:12	DHCP	Send discover
3	2000-01-01 00:00:15	DHCP	Send discover
4	2000-01-01 00:00:21	System	system start.
5	2000-01-01 00:01:18	DHCP	Send discover
6	2000-01-01 00:01:21	DHCP	Send discover
7	2000-01-01 00:01:24	DHCP	Send discover
8	2000-01-01 00:00:09	DHCP	Send discover
9	2000-01-01 00:00:12	DHCP	Send discover
10	2000-01-01 00:00:15	DHCP	Send discover
[1][2][3]			
<input type="button" value="Refresh"/> <input type="button" value="Clear"/>			

- ✧ **Refresh:** Click this button to update the log.
- ✧ **Clear:** Click this button to clear the current shown log.

### 13.9 Logout

After you have finished the settings completely, in logout page click “Yes” to logout the web management page.

## **Appendix 1: Glossary**

**Access Point (AP):** Any entity that has station functionality and provides access to the distribution services, via the wireless medium (WM) for associated stations.

**Channel:** An instance of medium use for the purpose of passing protocol data units (PDUs) that may be used simultaneously, in the same volume of space, with other instances of medium use (on other channels) by other instances of the same physical layer (PHY), with an acceptably low frame error ratio (FER) due to mutual interference.

**SSID:** Service Set identifier. An SSID is the network name shared by all devices in a wireless network. Your network's SSID should be unique to your network and identical for all devices within the network. It is case-sensitive and must not exceed 20 characters (use any of the characters on the keyboard). Make sure this setting is the same for all devices in your wireless network.

**WEP:** Wired Equivalent Privacy (WEP) is the method for secure wireless data transmission. WEP adds data encryption to every single packet transmitted in the wireless network. The 40bit and 64bit encryption are the same

because of out 64 bits, 40 bits are private. Conversely, 104 and 128 bit are the same. WEP uses a common KEY to encode the data. Therefore, all devices on a wireless network must use the same key and same type of encryption. There are 2 methods for entering the KEY; one is to enter a 16-bit HEX digit. Using this method, users must enter a 10-digit number (for 64-bit) or 26-digit number (for 128-bit) in the KEY field. Users must select the same key number for all devices. The other method is to enter a text and let the computer generate the WEP key for you. However, since each product use different method for key generation, it might not work for different products. Therefore, it is NOT recommended using.

**WPA/WPA2:** A security protocol for wireless networks that builds on the basic foundations of WEP. It secures wireless data transmission by using a key similar to WEP, but the added strength of WPA is that the key changes dynamically. The changing key makes it much more difficult for a hacker to learn the key and gain access to the network. WPA2 is the second generation of WPA security and provides a stronger encryption mechanism through Advanced Encryption Standard (AES), which is a requirement for some government users.

## Appendix 2: Ask and Question

In this part some questions and problems shown during the Router's usage and installation will be given suggesting answers. If your problems are not in the list, please log into our website [www.tenda.cn](http://www.tenda.cn) or send an E-mail to [support@tenda.cn](mailto:support@tenda.cn), and we will reply you in the first time.

### 1、 Can not login to the Web interface of the Router after you enter the IP address in the address field?

- ✓ **Step 1:** check the Router if it works well. Once the device is powered on for a few seconds, the SYS indicator on the panel will be turned on. If it is not, please contact us.
- ✓ **Step 2:** check the network cables if it is good and the corresponding indicator is "Always ON". Sometimes, the indicator is "Always ON", but it does not mean it gets through.
- ✓ Run "Ping" command and check if it can ping the Router's LAN IP address 192.168.0.1. If it is OK, please make sure your browser does not access the Internet by proxy server. If the ping fails, you can press the "RESET" button for 7 seconds to restore to default settings. And then repeat the ping operation. If it still does not work, please contact us.

**2、 Forget the login password and can not enter the setting page. What can I do?**

- ✓ Press the "RESET" button for 7 seconds to restore the Router to default settings.

**3、 The computer connected with the Router shows IP address conflict. What can I do?**

- ✓ Check if there are other DHCP servers in the LAN. If there have, disable them. The default IP address of the Router is 192.168.0.1 and please make sure the address is not occupied by other devices. If there are two computers with the same IP addresses, please modify one.

**4、 I can not use E-mail and access the Internet. What can I do?**

- ✓ It happens in ADSL connection and Dynamic IP users. And you need modify the default MTU value (1492). Please in the "WAN Setting" modify the MTU value with the recommended value as 1450 or 1400.



## 5、How to configure and access the Internet via Dynamic IP?

- ✓ In Setup Wizard of the Web utility interface, select “Dynamic IP” connection type and click “Save” to activate it. As some ISPs bind the user computer’s MAC address, you need to clone the Router’s WAN MAC address to the binding PC’s MAC address. Select “MAC Address Clone” in “Advanced Setting” to input your computer’s MAC address and click “Apply” to activate it.

## 6、How to share my computer’s source with other users in Internet?

- ✓ If you want Internet users to access the internal server via the Router such as e-mail server, Web, FTP, you can configure the “Virtual Server” to come true.
- ✓ **Step 1:** create your internal server, make sure the LAN users can access these servers and know related service port. For example, Web server’s port is 80; FTP is 21; SMTP is 25 and POP3 is 110.
- ✓ **Step 2:** in the Router’s web click “Virtual Server” and select “Single Port Forwarding”.
- ✓ **Step 3:** input the external service port given by the Router, for example, 80.
- ✓ **Step 4:** input the internal Web service port, for example, 80.

- ✓ **Step 5:** Input the internal server's IP address. If your Web server's IP address is 192.168.0.10, please input it.
- ✓ **Step 6:** select the communication protocol used by your internal host: TCP, UDP, ICMP.
- ✓ **Step 7:** click "Apply" to activate the settings.
- ✓ The following table has listed the well-known application and service port:

Server	Protocol	Service Port
WEB Server	TCP	80
FTP Server	TCP	21
Telnet	TCP	23
NetMeeting	TCP	1503、1720
MSN Messenger	TCP/UDP	File Send: 6891-6900(TCP) Voice: 1863、6901(TCP) Voice: 1863、5190(UDP)
PPTP VPN	TCP	1723
Iphone5.0	TCP	22555
SMTP	TCP	25
POP3	TCP	110