

User Guide

www.tenda.cn



3G150M 300Mbps Wireless Router

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Chapter 1 Introduction

1.1 Introduction.

Thank you for purchasing Tenda 3G 150Mbps Portable 3G Wireless Router.

3G150M is a high speed 150Mbps Wireless Router, which complies with the latest IEEE802.11n and IEEE802.11b/g standards and provides up to 150Mbps wireless receiving and transmitting rate with its wireless transmitting distance 3 times farther than G-products. It includes 3G Router, Wireless Router, WISP and Wireless AP in one.

3G Router Mode: If you have a 3G or 4G wireless broadband USB modem and service, you can plug the device into the router and share the internet.

The Router can be powered by a laptop USB port to share internet access in cars, trains, and other mobile or remote locations.

Wireless AP Mode: Connect a single Ethernet cable to the access point or let it pick up another wireless device's transmission, and make a wireless connection available to all in range.

WISP Mode: This is mainly used in hotspot access. Not only your computer can connect to the Internet via a router in WISP mode, but other Wi-Fi devices (PDA, PSP, Wi-Fi phone) can access the Internet without running up bills.

Wireless Router Mode: Use this mode to form a wireless local network that has broadband access via an Ethernet cable.

In addition to having the flexibility of connecting a mobile broadband USB modem to share the internet and files through the 3G150M, users retain a full range of previous generation networking options. A key feature of the 3G150M is “Mode” button – greatly convenient for working modes switching.

The 3G150M is an easy to carry and easy to use, feature-rich router that opens new opportunities in connectivity. It makes an ideal choice for those in need of a mobile networking solution employing a 3G/4G connection and providing WLAN internet access.

1.2 Product Features

- Complies with IEEE 802.11n, IEEE 802.11g, IEEE 802.11b, IEEE 802.3, and IEEE 802.3u standards
- Adopts the advanced 11N technology; internal high performance antenna; 3 times wireless network coverage than that of 54M products
- Includes four working modes in one: 3G Router, Wireless AP, WISP and Wireless Router
- Meets 64/128-bit WEP, WPA2 security standards
- Simple WPS encryption by pushing the button without

memorizing long passwords

- Provides one 10/100Mbps Auto-Negotiation Ethernet

LAN/WAN port

- Supports xDSL/cable modem static, dynamic connections
- Supports remote/local web management
- Supports wireless roaming technology for highly efficient connections
- Supports SSID stealth mode and a MAC address access control(up to 30 entries)
- Provides a router system log
- Supports auto negotiation/manual mode for 802.11b/802.11g/802.11n
- Supports UPnP and DDNS
- Supports LAN access control over Internet connection
- Supports virtual server, DMZ host
- QoS bandwidth control

1.3 Package Contents

Please unpack the box and check the following items:

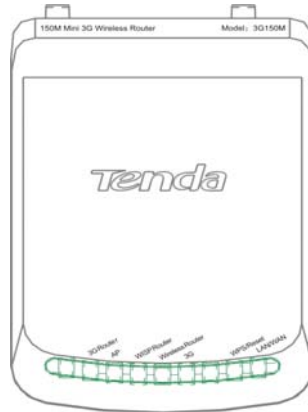
- One 3G150M 150Mbps Wireless Router
- One power adapter
- One Quick Installation Guide
- One CD-ROM

- One common USB line (connect with the power adapter)
- One Y type USB line(connect with computer's USB port for Power supply)

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

1.4 LED Indicator and Port Description

Front Panel and LED Indicator Show



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

- **3G Router**

Always blue indicates the device is in 3G Router working mode.

➤ **AP**

Always blue indicates the device is in wireless AP working mode.

➤ **WISP Router**

Always blue indicates the device is in WISP Router working mode.

➤ **Wireless Router**

Always blue indicates the device is in Wireless Router working mode.

➤ **3G**

Insert the 3G USB modem card. When the indicator turns blue, it indicates the device is well connected. Blinking indicates it is transmitting data packets.

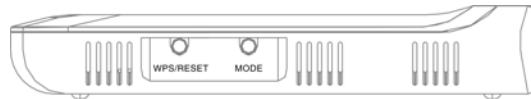
➤ **WPS/Reset**

Press the button for one second, the indicator will blink. It means the device is negotiating with the Client in WPS mode.

➤ **WAN/LAN**

Always blue indicates the Ethernet cable is well connected and blinking indicates it is transmitting data packets.

1.4.2 Description on side panel



➤ **WPS/RESRT**

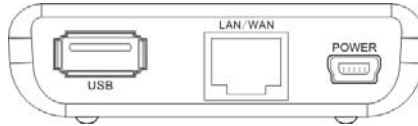
Wi-Fi Protection Setup button and system reset button. Press it

about 1 second, the WPS feature will be enabled and WPS indicator will be shown blinking. 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.

➤ **MODE**

Press this button to change working modes and the matching indicator will turn blue.

1.4.3 Rear Panel Show:



Rear Panel: (From L to R)

➤ **POWER**

The port is for USB line connection. Please use the included USB line connected with the power adapter or the USB port of computer.

➤ **LAN/WAN**

The 100Mbps Ethernet port, in 3G Router/Wireless Router mode, it is a WAN access port to connect the DSL, MODEM generally. While in AP, WISP mode, it is a LAN port to connect the PC, Ethernet Switch.

➤ **USB**

USB 2.0 port is for 3G Modem card access, such as TD-SCDMA, WCDMA2000, and WCDMA.

Chapter 2 Hardware Installation

2.1 How to Install the Router

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

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.)



2.2 Network Application Plan

2.2.1 3G Router Mode

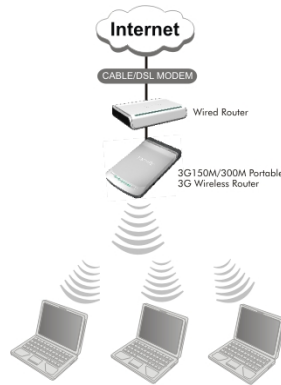
If you have a 3G or 4G wireless broadband USB modem and service, you can plug the device into the router and share the connection.

Application: The router can be powered by a laptop USB port to share internet access in cars, trains, and other mobile or remote locations.



2.2.2 Wireless AP Mode

Connect a single Ethernet cable to the access point or let it pick up another wireless device's transmission, and make a wireless connection available to all in range.



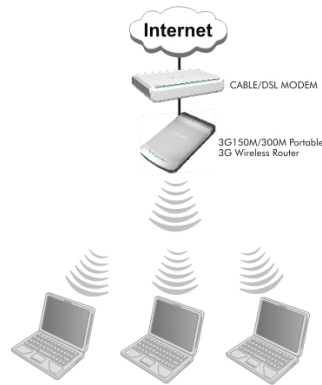
2.2.3 WISP Mode

This is mainly used in hotspot access. Not only your computer can connect to the Internet via a router in WISP mode, but other Wi-Fi devices (PDA, PSP, Wi-Fi phone) can access the Internet without running up bills.



2.2.4 Wireless Router Mode

Use this mode to form a wireless local network that has broadband access via an Ethernet cable.



Chapter 3 How to Login to the Router

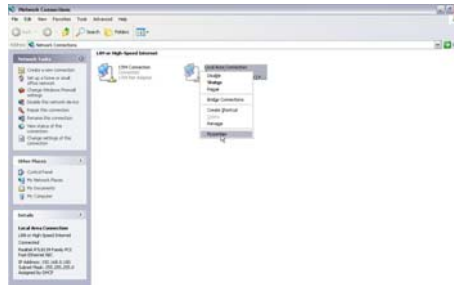
The chapter mainly presents how to enter the Router's Web page. After you have finished the hardware installation (Please refer to chapter2.), the following steps will assist you to set the network configurations for you computer. The default web page login is IP:192.168.0.1

3.1 How to Set the Wired Network Configurations

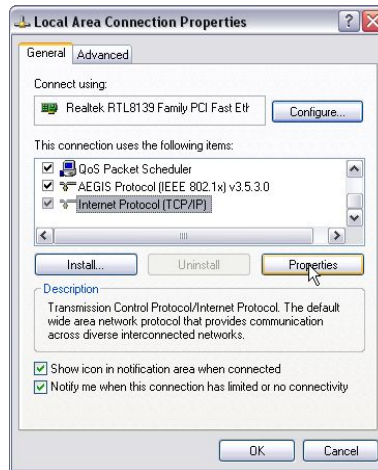
3.1.1 On your computer desktop right click "My Network Places" and select "Properties".



3.1.2 Right click “Local Area Network Connection” and select “Properties”.

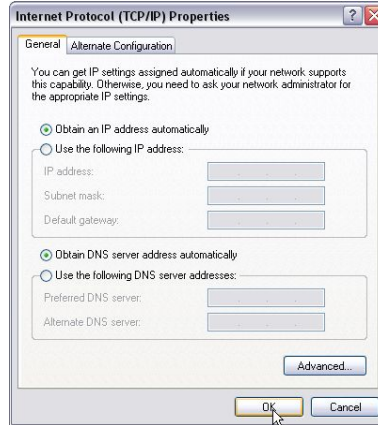


3.1.3 Select “Internet Protocol (TCP/IP)” and click “Properties”.



3.1.4 Select “Obtain an IP address automatically” or select “Use the following IP address (S)”.

A. “Obtain an IP address automatically” as the following diagram:



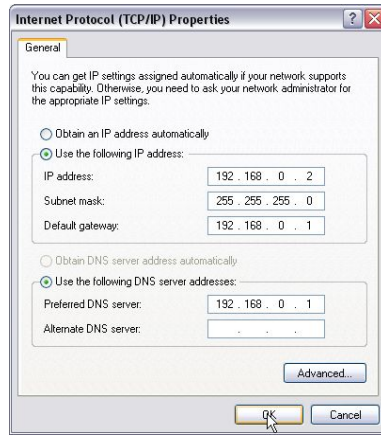
B. “Use the following IP address (S)”

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

Subnet Mask: 255.255.255.0

Gateway: 192.168.0.1

DNS Server: 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.

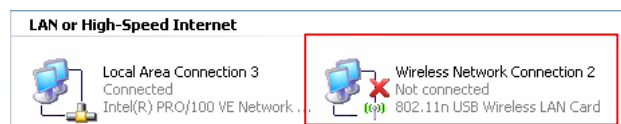


Tip: If you are not sure of the DNS server address, we recommend you to select “Obtain an IP address automatically (O)” and “Obtain a DNS server address automatically”.

3.2 How to Set the Wireless Network Connection

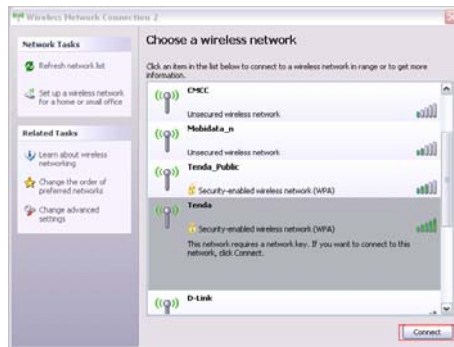
If you choose the Wireless Router mode, you should make sure that you have a wireless network adapter. Then set the wireless connection as below.

3.2.1 On your computer desktop right click “My Network Places” and select “Properties”.



3.2.2 Right click “Wireless Network Connection” and select “Properties” then configure the IP address as 3.1.3 and 3.1.4.

3.2.3 Right click “Wireless Network Connection” and select “View Available Wireless Network”. The entire wireless signal will be shown in the interface. Please select “Tenda”. If you don’t find it, please click “Refresh Network List”.



3.2.4 Select “Tenda” and click “Connect” or double-click “Tenda” to enter into the Router’s interface.

3.3 Login to the Web Interface

After you set you computer as 3.1 and 3.2, you can follow the below steps to access the Router’s web interface.

Chapter 4 Modes Setup Wizard

There are four working modes: 3G Router, Wireless AP, WISP, Wireless Router. This chapter will describe the basic settings of modes using Setup Wizard,

4.1 3G Router Mode

4.1.2 Login to the interface

In “3G Router” mode, click “Setup Wizard” in the left column and then click “Next”.

4.1.3 Configure the Connection Method

Connection Method

Network Settings :

3G Card Type: ZTE MU350

ISP: China Mobile

Authentication Method: SIM

Enter PIN Code:

Access Point Name: CMNET

Dial: *99***1#

Advanced PPP Settings :

Username: CMNET

Password:

Notice: Please enter the correct parameters according to the requirements of your ISP. After finishing and saving the settings, please check the connection status on the running status page. It costs about 1 minute to Dial-up, but the time needed is different according to different model of USB modem card. If you still can't successfully Dial-up, please try to unplug and plug the USB modem card again or reboot the Router.

Back | Next

First, select your 3G card type.

Second, select your ISP.

Third, click “Next” to enter Wireless Basic Settings interface.

Tip: If your ISP is not in the list, consult your ISP for detail parameters and manual input.

4.1.4 Wireless Basic Setting

The screenshot shows the 'Wireless Basic Setting' configuration page. It contains the following settings:

- Network Mode: 11b/g/n mixed mode
- SSID: Tenda
- Broadcast SSID: Enable Disable
- BSSID: 00:B0:20:01:98:10
- Channel: 2437MHz (Channel 6)
- Operating Mode: Mixed Mode Green Field
- Channel Bandwidth: 20 20/40
- Guard Interval: long Auto
- MCS: Auto
- Reverse Direction Grant: Disable Enable
- Extend Channel: 2417MHz (Channel 2)
- Aggregation MSDU(A-MSDU): Disable Enable

➤ **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.

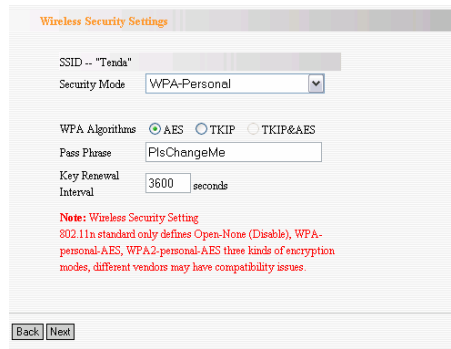
11g mode: Allow the 11g/11n-compliant client device to connect with the AP at the maximum speed of 54Mbps.

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.
- **Channel:** Specify the effective channel (from 1 to 13\Auto) of the wireless network
- **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.
- **Extend 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.

4.1.5 Wireless Security Setting



Wireless Security Settings

SSID -- "Tenda"

Security Mode: WPA-Personal

WPA Algorithms: AES TKIP TKIP&AES

Pass Phrase: PlsChangeMe

Key Renewal Interval: 3600 seconds

Note: Wireless Security Setting 802.11n standard only defines Open-None (Disable), WPA-personal-AES, WPA2-personal-AES these kinds of encryption modes, different vendors may have compatibility issues.

Back Next

It is suggested you choose WPA-personal for "Security Mode" and AES for "WPA Algorithms." Click "Next" to save the configuration. More details please refer to the following chapter.

4.1.6 Click "Apply" to save the settings.



Setup Wizard

The configuration is completed, Click Apply to activate your settings or press Back to change your settings.

Back Apply

The Router is rebooting now, please wait for a few minutes and DO NOT power off it.



Reboot

16%

Progress bar showing 16% completion.

4.2 Wireless AP Mode

In “Wireless AP”, click “Setup Wizard” in the left column and then click “Next”. The setting methods please refer to 4.1.4 to 4.1.6.

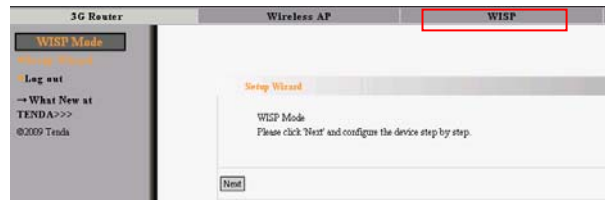


In this mode, the device is a converter that can convert the wireless and wired signals. You can connect a single Ethernet cable to the access point or let it pick up another wireless device's transmission, and make a wireless connection available to all in range. You can also adjust the connection properties to obtain an IP address automatically in Internet protocol.

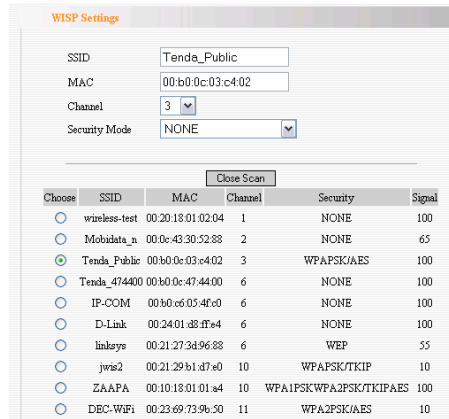
4.3 WISP Mode

If you are provided the wired wan access by your ISP to access the Internet, you should select WISP mode. Please follow the “Setup Wizard” to configure the device.

4.3.1 In WISP mode, click “Setup Wizard” in the left column and then click “Next”.



4.3.2 In WISP settings interface, select the channel you want to use and then click “Scan” to scan the wireless signals.



- **SSID:** SSID (Service Set Identifier) is the unique name of the wireless network.
- **MAC Address:** The Router’s physical MAC address as seen on your local network is unchangeable. Input the MAC address of the AP you want to choose. Sometimes, MAC

address is also named BSSID. (**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. The channel you select must be correspondence with the AP provided by your ISP.
- **Security Mode:** The security mode you set should be the same as the AP. More details please refer to the Wireless Security Settings chapter.

We recommend you “Scan” the Aps and then select the SSID in your scanned SSID list for convenience.

Click “Next” to the following interface.

4.3.3 Connection method

In WISP mode, there are three ways of access methods: ADSL Virtual Dial-up (via PPPoE), Dynamic IP (via DHCP) and Static IP. It is suggested to choose Dynamic IP and click “Next”. Other setting methods please refer to 4.1.4 to 4.1.6.

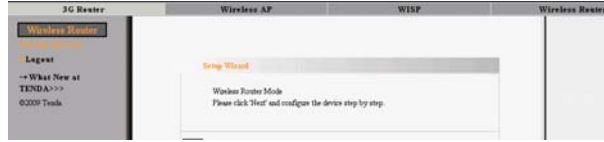


The screenshot shows a web interface titled "Connection Method". It contains five radio button options for selecting a connection method. The first option, "Dynamic IP (via DHCP)", is selected. The other options are "Static IP", "ADSL Virtual Dial-up (via PPPoE)", "L2TP", and "PPTP". At the bottom of the form, there are two buttons: "Back" and "Next".

4.4 Wireless Router Mode

In the wireless router mode, you can use this device as the router directly connected to DSL modem, CABLE modem such broadband devices or home broadband cable directly. First, login to the interface as chapter 3 described.

4.4.1 Select the “Setup Wizard” in the left column and then click “Next”.



4.4.2 Configure the “Access Methods”

a. Dynamic IP(DHCP)

The default access method is DHCP. If your ISP provides you the Dynamic IP, you can choose DHCP access way. Every time you access the internet, you will get different IP. Select “Dynamic IP” and click “Next”. For following steps, please refer to 4.1.4 to 4.1.6.



b. Static IP

If your ISP provides you the Static IP, please select Static IP access way. You should input the IP address, Subnet Mask, Gateway, DNS sever and the secondary DNS sever provided by your ISP, then click “Next”. Other steps refer to 4.1.4 to 4.1.6.

Connection Method	
<input type="radio"/> Dynamic IP (via DHCP)	
<input checked="" type="radio"/> Static IP	
<input type="radio"/> ADSL Virtual Dial-up (via PPPoE)	
<input type="radio"/> L2TP	
<input type="radio"/> PPTP	
IP Address	192.168.1.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
Primary DNS	210.21.196.6
Secondary DNS	211.5.88.88
<input type="button" value="Back"/> <input type="button" value="Next"/>	

c. ADSL Virtual Dial-up (via PPPoE)

This way is used when the Router is connected to the wireless modem or you want to amplify wireless signals and share the Internet with multiple computers. Enter the Account and Password provided by your ISP, and click “Next”. If you are not clear, please contact your ISP.

For example:

If the Account is pppoe_user and Password s 123456, you need to enter the information as the diagram below. Please enter the

Account and Password provided by your ISP.

Connection Method

Dynamic IP (via DHCP)

Static IP

ADSL Virtual Dial-up (via PPPoE)

L2TP

PPTP

User Name

Password

Note: If you choose this access way, the LAN/WAN port is only worked as the WAN port. The mode will take effect once you set it; you need to login to the Router's WEB interface to configure the device (Details refer to 3.2). After configuration, you should adjust the connection properties to obtain an IP address automatically in Internet protocol (details refer to Appendix One).

d . PPTP and L2TP

Configure L2TP and PPTP. Take PPTP as an example.

Connection Method

Dynamic IP (via DHCP)

Static IP

ADSL Virtual Dial-up (via PPPoE)

L2TP

PPTP

PPTP Server: (IP or Domain name)

User Name:

Password:

Address Mode:

IP Address:

Subnet Mask:

Default Gateway:

PPTP Server: Enter the IP address or PPTP Server domain name

User Name: Enter your PPTP user name

Password: Input your PPTP password

Address Mode: Static mode and Dynamic mode.

Select Dynamic mode to get IP automatically.

If you select Static mode, you need to manually set the IP address,

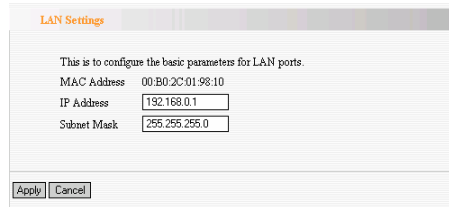
Subnet Mask, Default Gateway.

Chapter 5 Advanced Settings

5.1 LAN Setting

This section will describe how to configure the TCP/IP parameters.

5.1.1 In 3G Router mode, WISP mode, Wireless Router mode, please configures the LAN port parameters as the below diagram (Note: In Wireless mode, you can only configure the device until you using the wireless access way.).



LAN Settings

This is to configure the basic parameters for LAN ports.

MAC Address 00:80:2C:01:98:10

IP Address 192.168.0.1

Subnet Mask 255.255.255.0

Apply Cancel

- **MAC Address:** The device's physical MAC address as seen on your local network 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.

Notice: Once you modify the IP address, you need to remember

it for the Web-based Utility login next time.

5.1.2 LAN Settings in Wireless AP Mode

LAN Settings

This is to configure the basic parameters for LAN ports.

MAC Address 00:B0:2C:01:98:10

IP Mode Static IP

IP Address 192.168.0.1

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.254

Primary DNS sever 0.0.0.0

Secondary DNS sever 0.0.0.0

Host name Tenda

Apply Cancel

- **MAC Address:** The device's physical MAC address as seen on your local network is unchangeable.
- **IP Mode:** There are two modes, Static IP and Dynamic IP. If you select Static IP, you need to input the parameters provided by your ISP. If you choose Dynamic IP, you should adjust the connection properties to obtain an IP address and DNS sever automatically in Internet protocol.
- **IP Address:** The device's LAN IP addresses (not your PC's IP address). 192.168.0.1 is the default value.

If you change it, you need to use the new IP to login to the Web interface.

- **Subnet Mask:** It's shown the device's subnet mask for

measurement of the network size. 255.255.255.0 is the default value.

- **Default Gateway:** Input the Gateway provided by your ISP. If you are not sure, please consult your ISP.
- **Primary DNS Sever:** Input the primary DNS sever provided by your ISP.
- **Secondary DNS Sever:** you can input it or empty it. The parameters are also provided by your ISP
- **Host Name:** The device's wins name which you can use it to visit the device.

Notice: once you changed the IP address of the LAN port, you should use the new IP to enter into the WEB interface.

5.2 WAN Settings

5.2.1 3G WAN

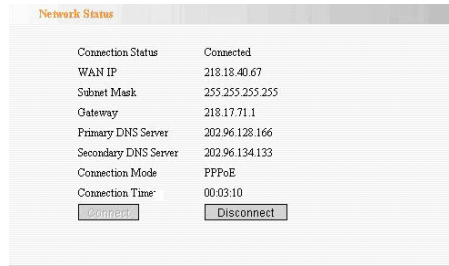
The screenshot shows the 'WAN Settings' dialog box. It is divided into several sections:

- Network Settings :**
 - 3G Card Type: ZTE MU350 (dropdown menu)
 - ISP: China Mobile (dropdown menu)
 - Enter PIN Code: (empty text field)
 - Access Point Name: CMNET (text field)
 - Dial: *99**1# (text field)
- Advanced PPP Settings :**
 - Username: CMNET (text field)
 - Password: (password field with masked characters)
- Internet Connection Option:**
 - Connect Automatically
 - Connect Manually
 - Connect on Demand
 - Max Idle Time: 60 (60-3600 seconds)
 - Connect on Fixed Time
- IMPORTANT:** Please set the time in system Tools, before you select this Internet connection.

Network Setting

- 3G Card Type: Select you 3G USB Modem card type from the list.
- ISP: Select your ISP.
- Apply: Click “Apply” button after configuration.
- Cancel: Click “Cancel” to the former settings when you make a mistake.
- Click “System Status” to scan the information. If the Connection Status of WAN Status shows “Connected”, you

can share the internet.



Internet Connection Option:

There are four Connection Options: Connect Automatically, Connect Manually, Connect on Demand, Connect on Fixed Time. Please select according to your needs.

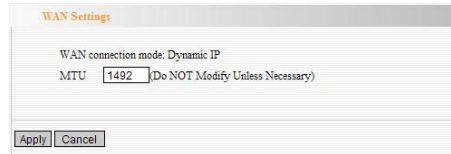
- **Connect Automatically:** Connect automatically to the Internet after rebooting the system or connection failure.
- **Connect Manually:** Connect to the Internet by users manually.
- **Connect on Demand:** Re-establish your connection to the Internet after the specific time (Max Idle Time). Zero means 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.

Note: it is suggested you choosing Connect on Demand without running up bills, because it can disconnect the internet automatically when there is no data transmitting or the computer closed. If you access the internet, it will dial up automatically which is very convenient.

5.2.2 WAN Settings in WISP Mode and Wireless Router Mode

Depending on your access ways of WAN port, there are three ways of configuration.

a. Dynamic IP



The screenshot shows a dialog box titled "WAN Settings". Inside, it displays "WAN connection mode: Dynamic IP" and "MTU 1492 (Do NOT Modify Unless Necessary)". At the bottom, there are "Apply" and "Cancel" buttons.

- **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 some specific website or web application software can not be open or enabled, you can have a try to change the MTU value as 1450, 1400, etc.

b. ADSL Virtual Dial-up(via PPPoE)

The screenshot shows a 'WAN Settings' dialog box. At the top, it says 'WAN connection mode: PPPoE'. Below this are several input fields: 'Account' with the value 'szfcq179@163.gd', 'Password' with a masked field of 8 dots, 'MTU' with the value '1492' and a note '(Default by 1492. Do NOT Modify Unless Necessary)', 'Service Name' with an empty field and a note '(Do NOT Modify Unless Necessary)', and 'AC Name' with an empty field and a note '(Do NOT Modify Unless Necessary)'. Underneath is the 'Internet Connection Option' section with three radio buttons: 'Connect Automatically' (selected), 'Connect Manually', and 'Connect on Demand'. Below 'Connect on Demand' is a 'Max Idle Time' field with the value '160' and a note '(60—3600 seconds)'. Below 'Connect on Fixed Time' is an 'IMPORTANT: Please set the time in "System Tools" before you select this Internet connection.' section with a 'Time From' field showing '0 h 0 m T 23 h 00 m'. At the bottom are 'Apply' and 'Cancel' buttons.

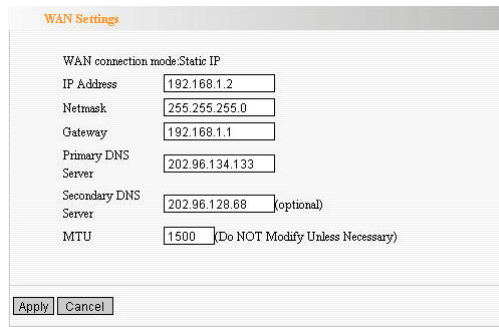
- **Connection Method:** It shows the current connection method.
- **User Name:** Input the user name provided by your ISP.
- **Password:** Enter the password provided by your ISP.
- **MTU:** Maximum Transmission Unit. It is the size of largest datagram that can be sent over a network. The default value is 1492. Do NOT modify it unless necessary. But if some specific website or web application software can not be open or enabled, you can 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”.

c. Static IP



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

Field	Value
WAN connection mode	Static IP
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)

Buttons: Apply, Cancel

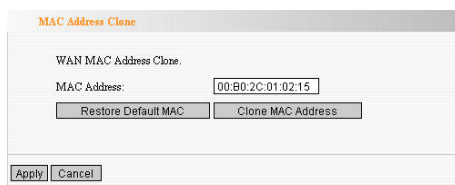
If your connection mode is static IP, you can modify the following addressing information.

- **IP Address:** Here enter the WAN IP address provided by your ISP. If you are not clear, consult you ISP please.
- **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.
- **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 some specific website or web application software can not be open

or enabled, you can have a try to change the MTU value as 1450, 1400, etc.

5.3 MAC Address Clone

This page is for the Router's MAC address to WAN.(Only in Wireless Router mode)



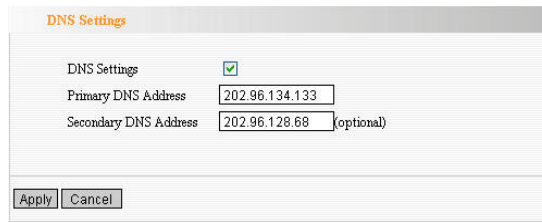
Some ISPs require end-user's MAC address to access their network. This feature copies the MAC address of your network device to the Router.

- **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 shows the 'Basic Settings' configuration page for wireless features. At the top, there is a checkbox labeled 'Enable Wireless' which is checked. Below this, various settings are listed with their current values or selected options:

- Network Mode: 11b/g/n mixed mode (dropdown menu)
- Main SSID: Tenda (text input)
- Minor SSID: (empty text input)
- Broadcast(SSID): Enable Disable
- MBSSID AP Isolation: Enable Disable
- AP Isolation: Enable Disable
- BSSID: 00:B0:2C:01:02:10 (text input)
- Channel: AutoSelect (dropdown menu)
- Operating Mode: Mixed Mode Green Field
- Channel Bandwidth: 20 20/40
- Guard Interval: long Auto
- MCS: Auto (dropdown menu)
- Reverse Direction Grant(RDG): Disable Enable
- Extension Channel: Auto Select (dropdown menu)
- Aggregation MSDU (A-MSDU): Disable Enable

At the bottom of the form, there are two buttons: 'Apply' and '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 main SSID is necessary.
- **Broadcast (SSID):** Select “Enable” to enable the device's SSID to be visible by wireless clients. The default is enabled. If you disable it, the clients must know the SSID to communicate.
- **BSSID:** Basic Service Set Identifier of wireless network. In IEEE802.11, BSSID is the MAC address of wireless access point.
- **Standard 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.

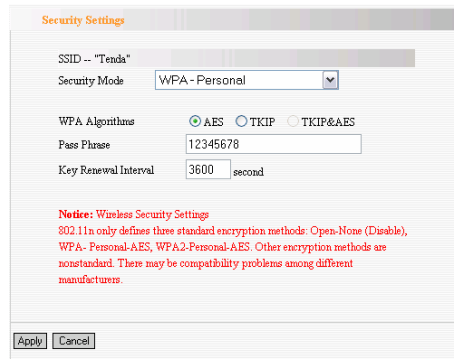
- **Channel Bandwidth:** Select the channel bandwidth to improve the wireless performance. When the network has 11b/g and 11n clients, you can select the 40M; when it is an 11n network, select 20/40M to improve its throughput.

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 WPA-personal, WPA2-personal, Mixed WAP/WAP2-Personla, Mixed WEP, Open, Shared. It is suggested you choose WPA-personal for "Security Mode" and AES for "WPA Algorithms." Please note that all connecting wireless devices will need to match these security settings in their connection settings. More details please refer to the Appendix Two. In this section, three common encryption methods are introduced.

6.2.1 WPA-Personal

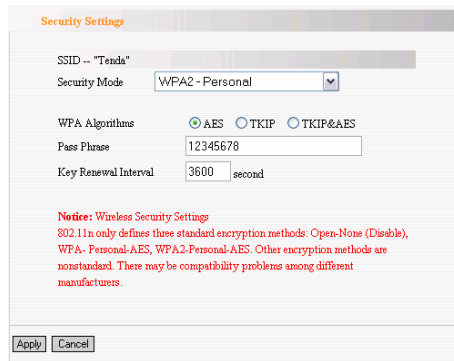
WPA (Wi-Fi Protected Access), a Wi-Fi standard, is a more recent wireless encryption scheme, designed to improve the security features of WEP. It applies more powerful encryption types (such as TKIP [Temporal Key Integrity Protocol] or AES [Advanced Encryption Standard]) and can change the keys dynamically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



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

6.2.2 WPA2- Personal

WPA2 (Wi-Fi Protected Access version 2) provides higher security than WEP (Wireless Equivalent Privacy) or WPA (Wi-Fi Protected Access). Besides TKIP encryption, new AES encryption mode is provided.



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

6.2.3 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:

Security Settings

SSID -- "Tenda"

Security Mode: Mixed WEP

Default Key: Key 1

WEP Key 1: 333333 Hex

WEP Key 2: Hex

WEP Key 3: Hex

WEP Key 4: Hex

Notice: Wireless Security Settings
 802.11n only defines three standard encryption methods: Open-None (Disable),
 WPA- Personal-AES, WPA2-Personal-AES. Other encryption methods are
 nonstandard. There may be compatibility problems among different
 manufacturers.

Apply Cancel

- **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 Key:** Set the WEP key with the format of ASCII and Hex.
- **Key Explanation:** 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

6.3 Advanced Settings

This section is to configure the advanced wireless setting of the Router, including the BG Protection Mode, Basic Data Rates, Fragmentation Threshold, RTS Threshold, and WMM 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	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
AFSD Capable	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<input type="button" value="Apply"/> <input type="button" value="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 WPS button on the panel to configure it without selecting

encryption method and secret keys by manual. In the “WLAN 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:	WPA2-PSK
WPS Encryp Type:	AES
WPS Default Key Index:	2
WPS Key(ASCII):	88888888
AP PIN:	01090727

- **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 WPS button on the back 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 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 “WLAN Setting->Access Control” to display the following screen:

MAC Address Management	
MAC Address	Action
00 11 22 33 44 55	Add
00:11:22:33:44:55	Delete

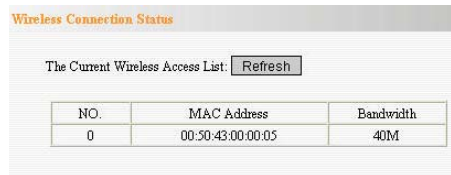
- **MAC Address Filter:** Allow/Block MAC address filter. Select “off” to malfunction MAC address; “Block” to

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 Address list:** Show the added MAC addresses. You can add or delete them.

6.6 Connection Status

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



The screenshot shows a web interface titled "Wireless Connection Status". Below the title, there is a label "The Current Wireless Access List:" followed by a "Refresh" button. A table is displayed with three columns: "NO.", "MAC Address", and "Bandwidth". The table contains one row of data.

NO.	MAC Address	Bandwidth
0	00:50:43:00:00:05	40M

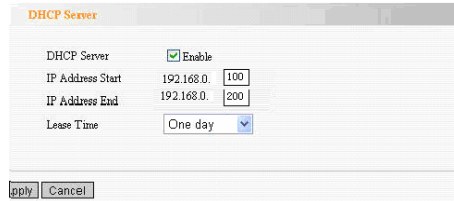
- **MAC Address:** Shows current MAC addresses of the hosts connecting to the Router.
- **Bandwidth :** Shows current frequency bandwidth the wireless client used.

Chapter 7 DHCP Server

DHCP server is for the 3G Router, signal amplification and wireless Router mode.

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	192.168.0. <input type="text" value="100"/>
IP Address End	192.168.0. <input type="text" value="200"/>
Lease Time	<input type="text" value="One day"/> ▼

Apply Cancel

- **DHCP Server:** Activate the checkbox to enable DHCP server.
- **IP Address Start:** Enter the range of IP address pool for DHCP server distribution.
- **IP Address End:** Enter the range of IP address pool 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 each hour.

7.2 DHCP List and Binding

DHCP client can display computers' IP address; MAC address, host name and other information which are assigned by the DHCP sever. You can manually enter the IP and MAC address; it would be converted to static allocation. According to the computer's MAC address, DHCP will assign the appropriate IP address. If you can not find the corresponding static binding entry, assign a IP from the DHCP pool to the computer. If the computer had been bound for the IP address and MAC and they do not correspond, then the computer will be unable to access equipment. (Through binding prevents unauthorized to change the client IP address and to evade the monitoring device)

The screenshot shows a web interface for DHCP List & Binding. It includes a 'Static IP' section with input fields for IP Address (192.168.0.100) and MAC Address (00-B0-8C-07-19-F4), and an 'Add' button. Below this is a table with columns for NO., IP Address, MAC Address, IP-MAC bind, and Delete. The table contains one entry with NO. 1, IP Address 192.168.0.100, MAC Address 00-B0-8C-07-19-F4, and a checked 'IP-MAC bind' box. There are also 'Delete' buttons for each row. At the bottom, there is a 'Refresh' button and a table header with columns for Host Name, IP Address, MAC Address, and Lease.

- **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

Virtual Server feature is only for wireless signal amplification mode and the wireless Router mode.

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.

The Router can be configured as a virtual server on behalf of local services behind the LAN port. The given remote requests will be redirected 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	22	90	192.168.0.10	TCP	<input type="checkbox"/>	<input type="checkbox"/>
2			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
3			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
4			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
5			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
6			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
7			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
8			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
9			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>
10			192.168.0.	TCP	<input type="checkbox"/>	<input type="checkbox"/>

Web-Known Service Port: 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.
- **Enable:** Click to check it for corresponding operation.
- **Delete:** Click to empty the parameters.
- **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.

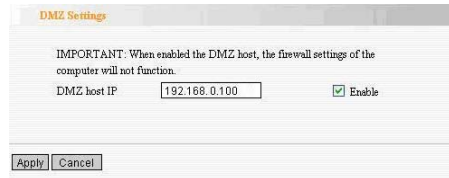
For example:

The server at the IP address of 192.168.0.10 in LAN provides WEB service at the port of 80 and Telnet service at the port of 23. If you want the clients on the Internet to visit this server, please set the device as the diagram above.

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 Host IP Address:** The IP address of the computer you want to expose.
- **Enable:** Click the checkbox to enable the DMZ host.

For example:

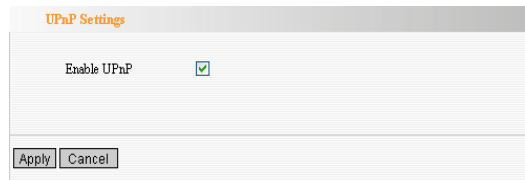
Set the computer at the IP address of 192.168.0.100 in LAN as a DMZ Host to intercommunicate with another host on the Internet.

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

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.

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 Address:** The range of IP addresses, it can be a single IP

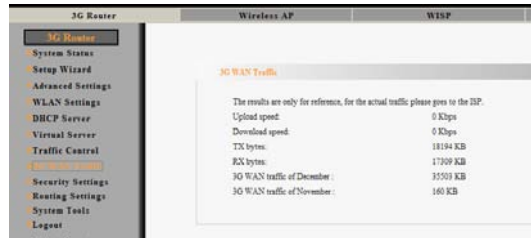
or IP segment.

- **UP/Down:** To specify the traffic heading way for the selected IP addresses: uploading or downloading.
- **Bandwidth Range:** 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.

Chapter 10 3G WAN Traffic and Connection Timer

10.1 3G WAN Traffic

In 3G WAN mode, 3G WAN traffic function is supported. Click "3G WAN traffic" you can check the router's Internet traffic, transmission rate, transmission data volume and traffic for nearly two months, so that you can know how much the traffic that the 3G modem card accesses the Internet without running up bills.



Notice: this function is only for 3G WAN.

In 3G Router mode, 3G WAN traffic is used to calculate the traffics of WAN port. Click "3G WAN Traffic" then you can inquiry the status such as the status

10.2 Connection Timer

In 3G WAN mode, Connection Timer function is supported. Click "System Status" then you can see the WAN port connection time, internet access time of this month and other status.

The screenshot shows a 'WAN Status' window with the following information:

Connection Status	Connected
WAN IP	10.233.13.251
Subnet Mask	255.255.255.255
Gateway	192.168.0.1
Primary DNS Server	211.136.192.6
Secondary DNS Server	
Connection Mode	3G WAN
Connection Time	00:02:39
Timer of this month	01:35:06

At the bottom of the window, there are two buttons: 'Connect' and 'Disconnect'.

Note:The result of 3G WAN Traffic and Connection Timer are only for reference. This device can only calculate the status that the 3G modem card plugs into the device. The actual statistics is subject to the ISP.

Chapter 11 Security Settings

The security settings are for the 3G Router, the Wireless signal amplification mode and the Wireless Router mode. The security settings of wireless access point (AP) mode please refer to Chapter 6.

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 filters function.

Client Filter

Client Filtering Settings

Access Policy: 10

Enable: Delete the Policy:

Filtering Mode: Disable Enable access the Internet

Policy Name: 100

Start IP: 192.168.0.100

End IP: 192.168.0.100

Port: 1-85535

Type: TCP

Times: 9:00 - 18:00

Date: Everyday Sun Mon Tue Wen Thr Fri Sat

- **Client Filter:** Check to enable client filter.

- **Access Policy:** Select one number from the drop-down menu.
- **Enable:** Check to enable the access 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:** Enter the port range based over the protocol for access policy.
- **Type:** 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.

For example:

If you don't want the computer at the IP address of 192.168.0.100 to access the Internet from 9: 00 to 18: 00 everyday without restrictions to other computers in LAN, you need to set the packet filtering list as the above diagram.

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.

URL Filter

URL Filtering Setting: Enable

Access Policy: 10

Enable: Delete the Policy

Filtering Mode: Disable Enable access the Internet

Policy Name: 123

Start IP: 192.168.0 123

End IP: 192.168.0 123

URL: sina.sohu,yahoo

Times: 9 0 18 0

Date: Everyday Sun Mon Tue Wen Thr Fri Sat

- **URL Filter:** Check to enable URL filter.
- **Access Policy:** Select one number from the drop-down menu.
- **Enable:** Check to enable the access 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:** 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.

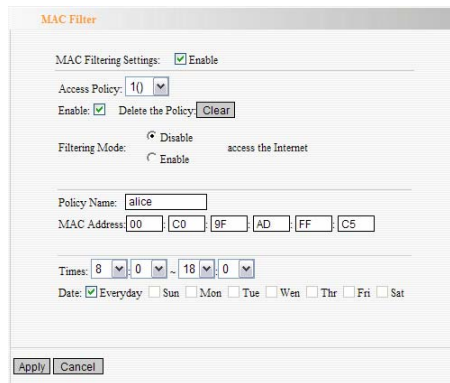
- **Days:** Select the day(s) to run the access policy.
- **Apply:** Select Apply to enable the settings.

For example:

If you want the computer at the IP address of 192.168.0.123 to access the Internet from 9: 00 to 18: 00 everyday and only can search the WEB pages contain the strings such as sina, sohu, and yahoo, you need to set the packet filtering list as the above diagram. (Notice: different strings need to be aparted by a comma.)

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 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.
- **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:** Select Apply to enable the settings.

For example:

If you want to configure the host with MAC address 00:22:15:55:2A:15 not to access the Internet at 9: 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.

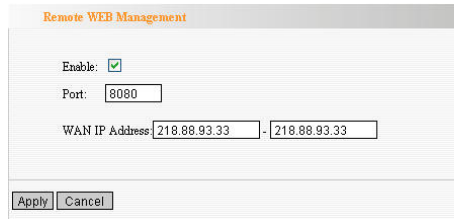
The attacker's IP address can be found from the "System Log".

- **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”.



- **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://220.135.211.56:8080*) 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 above.

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 the Ping from WAN:**

Check to ignore the ping request and give no reply.

Chapter 12 Routing Setting

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

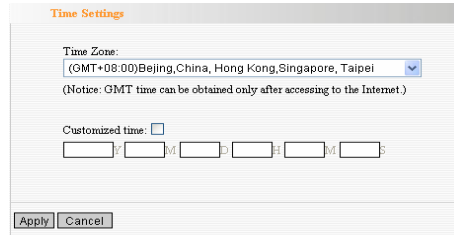
Destination IP	Subnet Mask	Gateway	Metric	Interface
192.168.0.1	255.255.255.255	0.0.0.0	0	ppp0
239.255.255.250	255.255.255.255	0.0.0.0	0	br0
192.168.0.0	255.255.255.0	0.0.0.0	0	br0
0.0.0.0	0.0.0.0	0.0.0.0	0	ppp0

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 'Time Settings' dialog box. It has a title bar with the text 'Time Settings'. Inside, there is a 'Time Zone:' label and a drop-down menu currently displaying '(GMT+08:00)Beijing,China, Hong Kong,Singapore, Taipei'. Below the menu is a note: '(Notice: GMT time can be obtained only after accessing to the Internet.)'. There is a 'Customized time:' label followed by a small square checkbox. Below the checkbox are six input fields for time: two for hours (0-23), two for minutes (0-59), and two for seconds (0-59). At the bottom of the dialog are 'Apply' and 'Cancel' buttons.

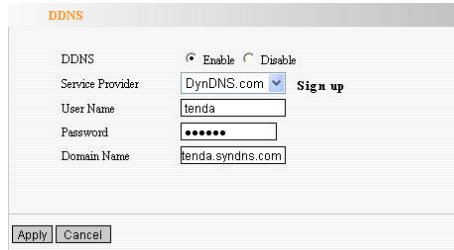
- **Time Zone:** Select your time zone from the drop-down menu.
- **Customized time:** Enter the time you customize.

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 a web interface for configuring DDNS. At the top, the title "DDNS" is displayed in orange. Below the title, there are several configuration fields:

- DDNS:** A radio button labeled "Enable" is selected, and a radio button labeled "Disable" is unselected.
- Service Provider:** A dropdown menu is set to "DynDNS.com". To the right of the dropdown is a "Sign up" link.
- User Name:** A text input field containing the text "tenda".
- Password:** A text input field containing seven dots, representing a masked password.
- Domain Name:** A text input field containing the text "tenda.syndns.com".

At the bottom of the form, there are two buttons: "Apply" and "Cancel".

➤ **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:

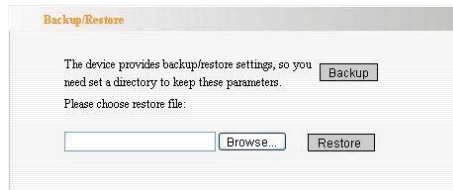
In the local host 192.168.0.10 establish a Web server, and register in 3322.org as follows:

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.

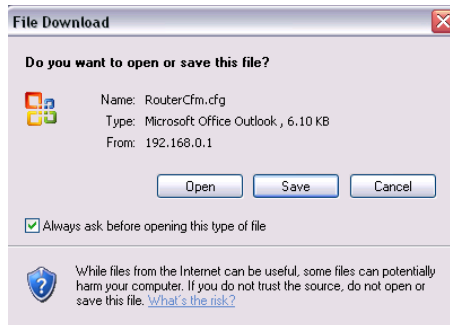
13.3 Backup/Restore Settings

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



➤ **Backup Setting:**

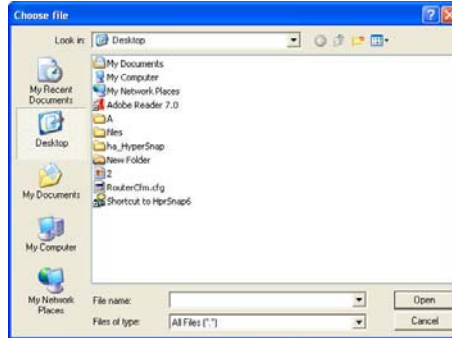
Click “Backup” button to back up the Router’s settings and select the path for save.



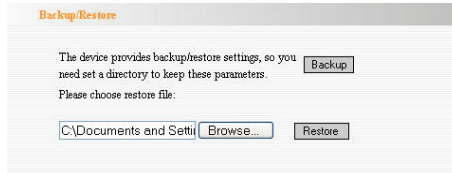
Click “Save” to save the configuration files.

➤ **Restore Setting:**

Click “Browse” button to select the backup files.

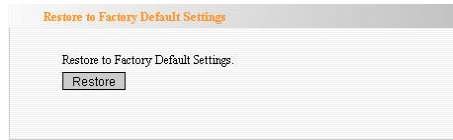


Click “Restore” button to restore previous settings.



14.4 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.

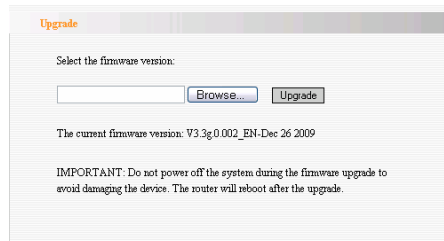


- **Restore:** Click this button to restore to default settings.
- **Factory Default Settings:**
 - User Name: admin
 - Password: admin
 - IP Address: 192.168.0.1
 - Subnet Mask: 255.255.255.0

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.

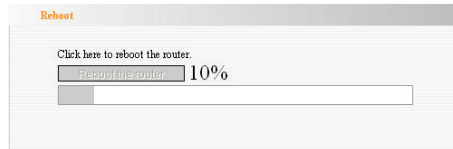


- **Browse:** click this button to select the upgrade file.
- **Upgrade:** click this button to start the upgrading process.
After the upgrade is completed, the Router will reboot automatically.

Note: Do not disconnect the device during the upgrade.

13.6 Reboot the Router

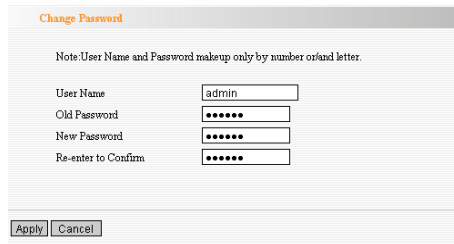
Rebooting the Router makes the settings configured go into effect or to set the Router again if setting failure happens.



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.



The image shows a 'Change Password' dialog box. At the top, it says 'Change Password' in orange. Below that is a note: 'Note: User Name and Password makeup only by number or/and letter.' There are four input fields: 'User Name' with the text 'admin', 'Old Password' with seven dots, 'New Password' with seven dots, and 'Re-enter to Confirm' with seven dots. At the bottom, there are two buttons: 'Apply' and 'Cancel'.

- **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	2007-03-29 09:36:15	System	system start.
2	2007-03-29 09:36:21	DHCP	Send discover
3	2007-03-29 09:36:21	DHCP	Get ip success
[1]			
Refresh Clear			

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

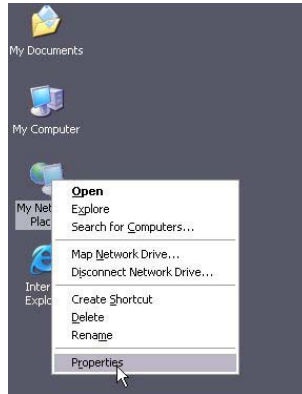
13.9 Logout

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

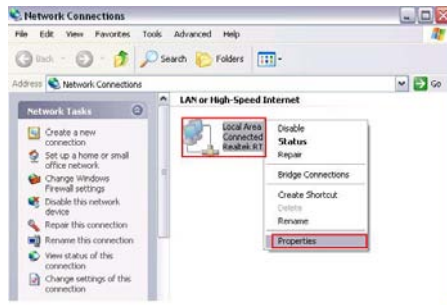
Appendix I : How to “Obtain an IP Automatically”

If you enable DHCP (default), you can get the IP address, Gateway, DNS automatically to access the internet. Please set you device as below.

1. On your computer desktop right click “My Network Places” and select “Properties”.



2. Right click “Local Area Network Connection” and select “Properties”. If you use wireless connection, please click “Wireless Network Connection”.



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



4. Select “Obtain an IP address automatically”



5. Select “Status” within “Local Area Connection ” – click "support "dialog box, you can see whether you have the IP.



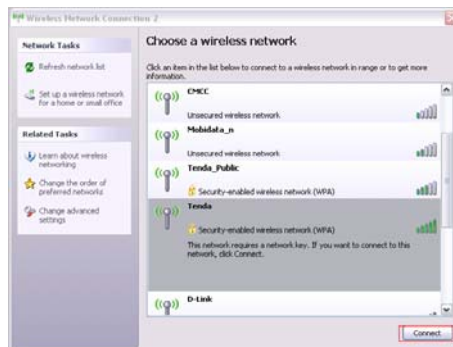
Appendix II: How to set the network adapter after device encrypted

When the device is encrypted, you need to enter password to connect to the wireless device to access the internet. Set up a wireless network adapter as follows:

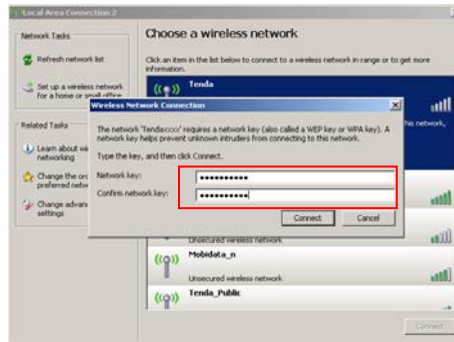
1. On your computer desktop right click “My Network Places” and select “Properties”.



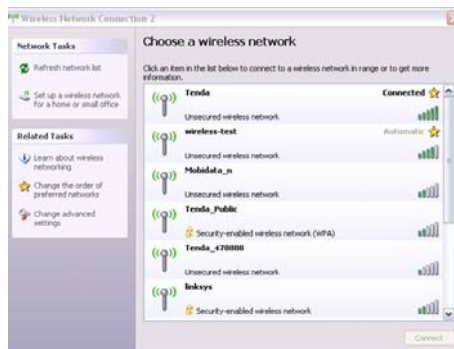
2. Right click “Wireless Network Connection” and select “View Available Wireless Network”. The entire wireless signal will be shown in the interface. Please select “Tenda”. If you don’t find it, please click “Refresh Network List”.



3. Select “Tenda” and click “Connect” or double-click “Tenda”, input the “Network key” and “Confirm network key” to connect the Router



4. “Connected” will be shown in the interface as the following diagram.



Appendix III Glossary

3G

3G, the 3rd Generation, refers to the third digital communication technology. It can manage multi-media such as image, audio, and video streams etc. and provide different communication services such as web browse, telephone session, and electronic business etc.

CDMA2000

CDMA2000, also called CDMA Multi-Carrier, is one of the current three 3G standards in the world which was put forward by an American company. The system derives from narrow frequency CDMAOne digital standard. You can upgrade the original CDMAOne structure to 3G with cheap construction cost.

WCDMA

WCDMA (Wideband CDMA), also called CDMA Direct Spread, is the broadband CDMA technology which was put forward by Europe. It is the standard of 3G technology which was developed from GSM network. The standard has put forward the evolved strategy. The system can be established on the present GSM network. The system provider can change into this system easily and it would be accepted widely in Asia. Thus, W-CDMA has a born advantage in market and is one of the three 3G standards in

the world.

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 IV: Troubleshooting

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 or send an E-mail to support@tenda.cn, and we will reply you in the earliest time.

1. Enter the IP address but can not visit the WEB management interface. What can I do?

Please make sure the cable is well connected and the corresponding indicator is light.

Make sure the device is not in Wireless Router mode. In this mode, you can visit the WEB interface only by Wireless network.

In the wireless access point (AP) mode, your computer must specify an IP (192.168.0.2 ~ 192.168.0.254) to access the device.

Please click

"Start" - "Run" to enter "ping 192.168.0.1" to diagnose whether the device is connected. If it can ping pass, then check whether your browser enable a proxy server. If enabled please disable it. If you can not ping pass, you can hold down the "RESET" button for 7 seconds to restore the factory settings, and "ping 192.168.0.1" again.

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. My computer can not log in equipment; can not access the internet, and a yellow triangle with exclamation point symbols shows, how to deal with?

This problem is due to your network card is not assigned the IP address. If set your computer to automatically obtain IP, please ensure that the source of the router's DHCP is turned on. DHCP can automatically assign an IP address to your computer. If there is no DHCP, please set a static IP address and fill in gateways and DNS, otherwise you can not access Internet.

5. 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.

6. How can I 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.

7. 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

8. Why can't I use wireless WAN function to access the Internet?

- a. Please make sure that the wireless adapter can access the Internet when connected to the computer, wireless signals scanned by the adapter are strong enough, and quality of signals is good enough. If it can scan too many wireless signals, we recommend you to use 11b/g mode for reducing interference.

- b. Please make sure that the needed parameters such as SSID, MAC address etc. are correct. It is recommended to use Auto Scan to finish the settings in the setup process.
 - c. Please make sure that IP address range obtained at WAN port are different as the one obtained at LAN port. If they are at the same range, you can modify the LAN IP address to solve the problem.
 - d. Please do not detach any antenna of the wireless Router when you are using the Router.
- After trying all the above steps, if you still can't access the Internet, you can contact us for support.

Appendix V : Complied 3G Modem Card List

Brand	Model	Brand	Model
Tenda	3G189C	D-LINK	DWM_162U5
HUAWEI	EC169	D-LINK	DWM_162
HUAWEI	EC169 New	DCWL	390
HUAWEI	EC1260 China	Ruijie	EV2000
HUAWEI	EC1260 New	GXZG	GX100C
HUAWEI	EC1260 India	MACAO	CTM H21
HUAWEI	EC1261	WEWINS	U602D
HUAWEI	ET128	ChangHe	868
HUAWEI	E1750	HiNet	E220
HUAWEI	EC226	TURKCELL	E176G
HUAWEI	E1630 TMobile	Vodafone	E220
HUAWEI	E176G	Vodafone	K3520
HUAWEI	E176 Chile	Cricket	UM185C
HUAWEI	E180	Cricket	A600
HUAWEI	EC170 BT	T-Mobile	UMG181
HUAWEI	EC168C_Reliance	AT&T	USBConnect mercury
HUAWEI	EC168C_Tata	AT&T	GI0322

HUAWEI	MD-@ HSUPA	Sprint	USB 598
HUAWEI	E160E	Sprint	U150
HUAWEI	E1550	Sprint	U760
HUAWEI	EZ220 3G UK	Verizon	USB760
HUAWEI	BASE e.plus E169	Verizon	UMW190VW
Vtition	E1916	Verizon	UMW190
ZTE	MU351	Verizon	UMW175VW
ZTE	AC580	Ttec	WS 119
ZTE	AC581	Ttec	WS220
ZTE	AC581 New1	CCU	680
ZTE	AC581 New2	CCU	650
ZTE	AC560	Intertel leader	C810
ZTE	AC560-New	Sierra	USB306
ZTE	MF626 Chile	BeiFang Qingniao	EC805U
ZTE	MF626 TMobile	DTM	5731E
ZTE	AC2736	DeUnite	DU360

ZTE	AC2746	DeUnite	DU456
ZTE	AC8710	DeUnite	DU458
ZTE	MF637U	JinXunChi	EV169
ZTE	MU350	TIMESPOWER	WM2080A-110
ZTE	MF622	T-Linking	T-Linking
ZTE	MF627		CM810EV
ZTE	AC2726		MC727
ZTE	AC2726 Reliance		LKT 828
ZTE	AC8700 BSNL		Modem LC625
ZTE	AC8710 TATA		
ChangHong	CH600		
Datang	AirCard 901		

Remark:

1. The 3G modem cards in the above list are compatible with this 3G Router. Please confirm that the 3G modem card you purchased is in the compatibility list. Only the cards in the compatibility list can be supported by this Router.
2. We will keep updating the firmware to support the new 3G

modem cards. If you find that our Router can not support your 3G modem card, please visit our official website www.tenda.cn to download new firmware.

3. Huawei EC226、EC122、E176G, Viton E1916, ZTE MU351 and GXZG LKT828 are added in V0.5.
4. You are recommended to use the extended USB line to connect your 3G modem card with the 3G Router to reach a better effect.
5. New functions supported in this version:
 - a. Dial on demand: when there is no access to the Internet, the network will be automatically disconnected to save network costs.
 - b. 3G WAN Traffic and Connection Timer function are supported so that you can clearly know the using time and traffics without running up bills.

FCC Statement

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

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

To assure continued compliance, any changes or modifications not expressly approved by the party

responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices).

Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body and must not be co-located or operating in conjunction with any other antenna or transmitter.

Operation is subject to the following two conditions:

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

Caution!

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

Canada Statement

This Device complies with RSS-210 of the IC Rules,
Operation is subject to the following two conditions:

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

To reduce potential radio interference to other users, the
antenna type and its gain should be so chosen that the
EIRP is not more than required for successful
communication

To prevent radio interference to the licensed service, this
device is intended to be operated indoors and away from
windows to provide maximum shielding