Tenda

User Guide

AH302

Wireless N300 High Power Universal Range Extender

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Preface

Thank you for purchasing Tenda wireless range extender. Before configuring it, please read this user guide carefully.

Conventions

Note: Information you need to pay attention to.

Tip: Additional information to help you save time or resources.

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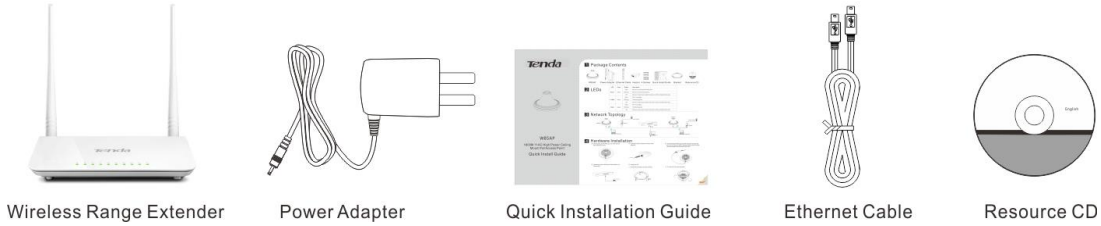
Chapter 1 Product Overview

1 Package Contents

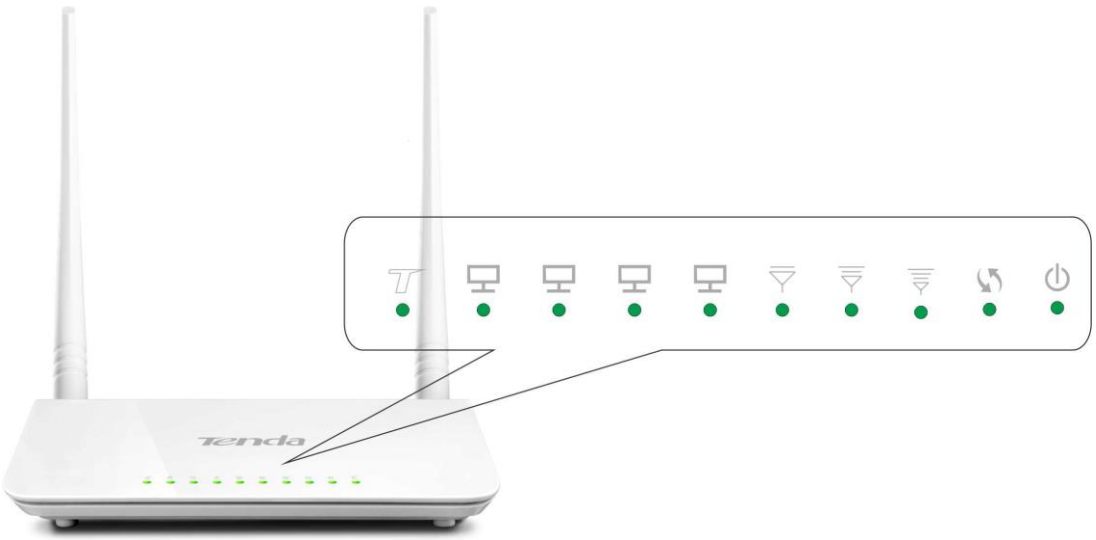
Unpack the package carefully and verify the following items are included:



If any of the above items are incorrect, missing, or damaged, please contact your Tenda reseller for immediate replacement.

2 Getting to Know Your Wireless Range Extender

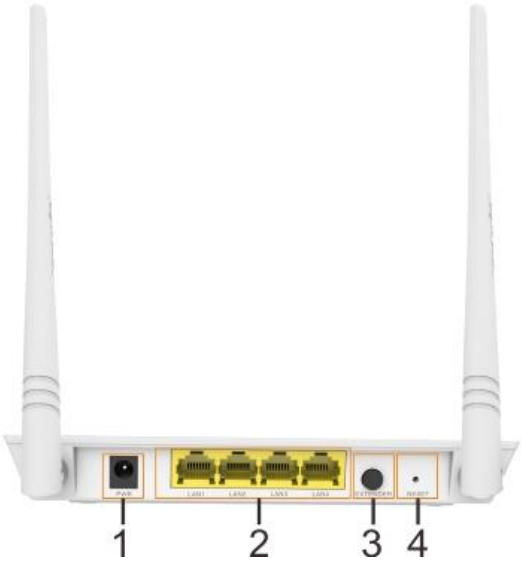
LED



LED	Description
	Solid: Proper connection is established on the LAN port.
	Blinking: Transferring data on the LAN port.
	Off: No connection is established on the LAN port.
	Weak signal strength (-80dBm~-61dBm).

	Medium signal strength (-60dBm~-41dBm).
	Strong signal strength (within -40dBm).
	Blinking: Negotiating key.
	Solid: Bridged successfully.
	Off: Not bridged.
	Solid: Proper connection to power supply.
	Blinking: The system is functioning properly.
	Off: Improper connection to power supply.
	This icon is for decoration only.

Interfaces and Buttons



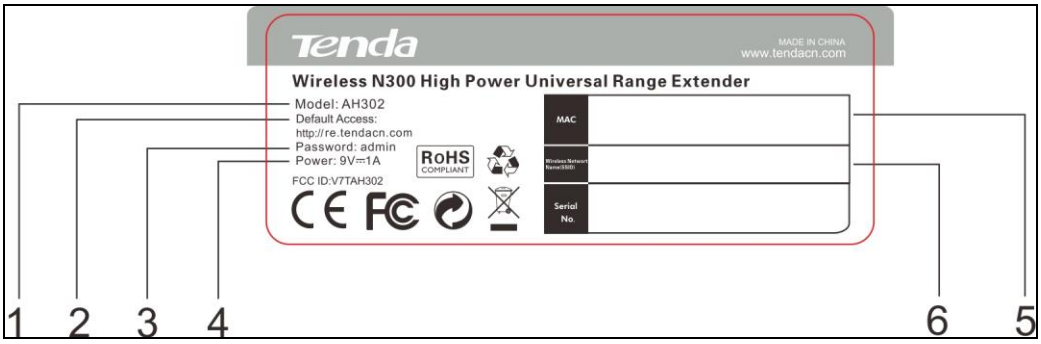
1 **PWR:** Port for connecting to power supply.

2 **LAN（1/2/3/4）：** Ports for connecting to PCs, switches or routers.

3 **EXTENDER：** Press the WPS or QSS button for about 1~3 seconds and then press this button within 2 minutes for network connection. When the EXTENDER LED displays a solid light, bridged successfully.

4 **RESET:** Press it for about 10 seconds until the Power/SYS LED is no longer blinking to restore default factory settings. For default settings, please refer to Appendix 2.

Label



You can acquire the following information from Label:

1. **Model:** Displays the product model.
2. **Default Access:** The default web login is http://re.tendacn.com.
3. **Password:** The default password is admin.
4. **Power:** The power specification is 9V 1A.
5. **MAC:** Displays the device's default MAC address.
6. **Default SSID:** Displays the device's default SSID name.

3 Position Your Wireless Range Extender

For best performance, please place your wireless range extender:

1. Near the center of the area where your computers and other devices operate, and preferably within line of sight to your wireless devices.
2. Accessible to an AC power outlet and near Ethernet cables for wired computers.
3. In an elevated location such as a high shelf, keeping the number of walls and ceilings between the range extender and your other devices to a minimum.
4. Away from electrical devices that are potential sources of interference, such as ceiling fans, home security systems, microwaves, PCs, the base of a cordless phone, or a 2.4GHz cordless phone.
5. Away from any large metal surfaces, such as a solid metal door or aluminum studs. Large expanses of other materials such as glass, insulated walls, fish tanks, mirrors, brick, and concrete can also affect your wireless signal.

Chapter 2 Internet Connection Setup

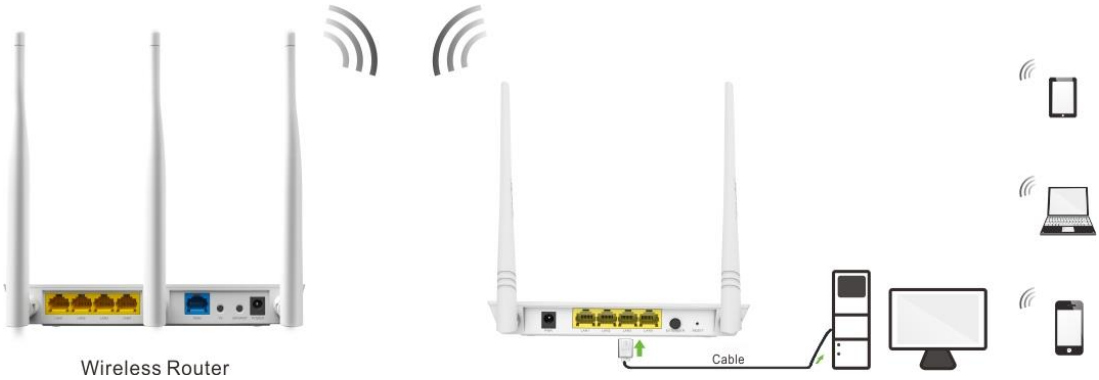
1 Preparation

Before connecting Ethernet cables, please verify the following items:

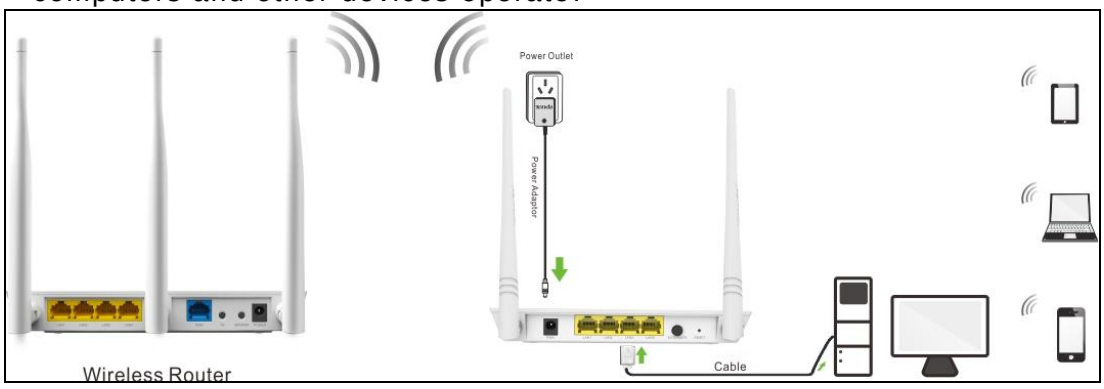
Item	Description
Wireless Range Extender	Inculded in the package
Wireless Router	Purchased by yourself
PC	Installed with IE8 or other better web browsers.
Ethernet Cables	Used for connecting PC to the wireless range extender

2 Hardware Installation

1. Connect the wireless range extender to your PC wirelessly or with an Ethernet cable;



2. Connect to power supply with the provided power adapter. For better performance, place the device near the center of the area where your computers and other devices operate.



Note----------

Please use the provided power adapter, otherwise the device may be damaged.

---

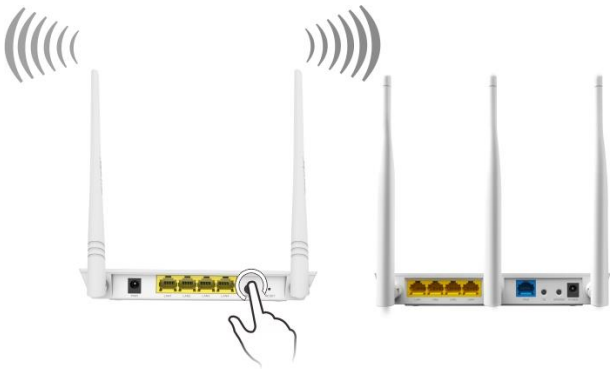
3 Setup by Button

By pressing the EXTENDER button, you can achieve wireless bridging for extending wireless network without complicated procedures. This feature will only be effective in range extender mode.

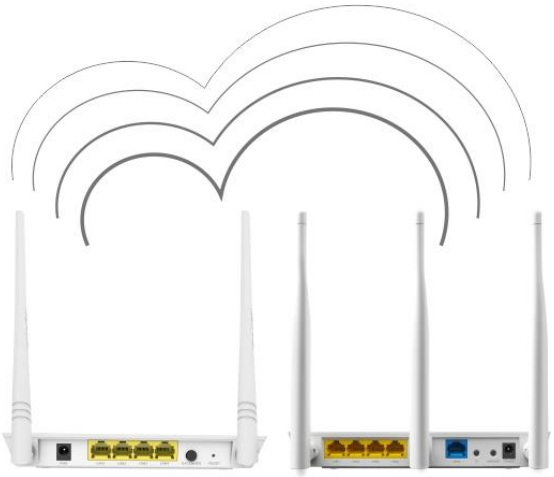
Configuration procedures:

1. Press the WPS or QSS button on your wireless router for 1~3 seconds;

2. Press the EXTENDER button on the wireless range extender for 1~3 seconds within 2 minutes;



3. When the Range Extender LED is solid light, the wireless range extender will be connected to your desired router successfully. You can also login to the web management interface to check bridge status.



Tip----------

Ensure the wireless range extender is placed near the wireless router for better performance.

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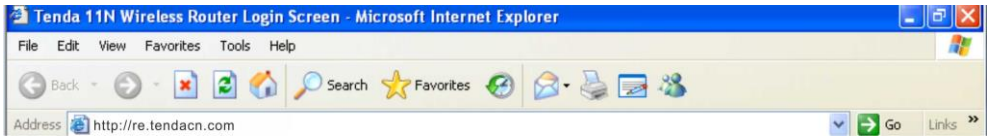
4 Internet Connection Setup

Configure IP

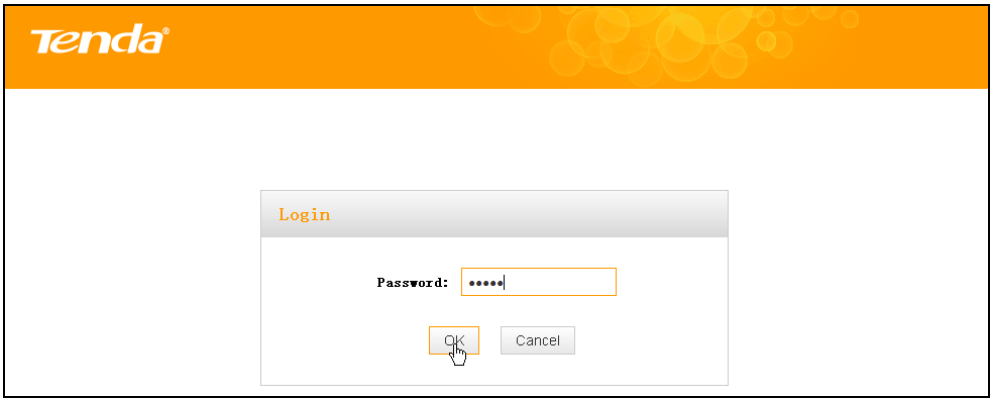
Configure your PC obtain IP address automatically. If you are not clear about this, please refer to Appendix 1 Configure IP.

Configure the wireless range extender Login

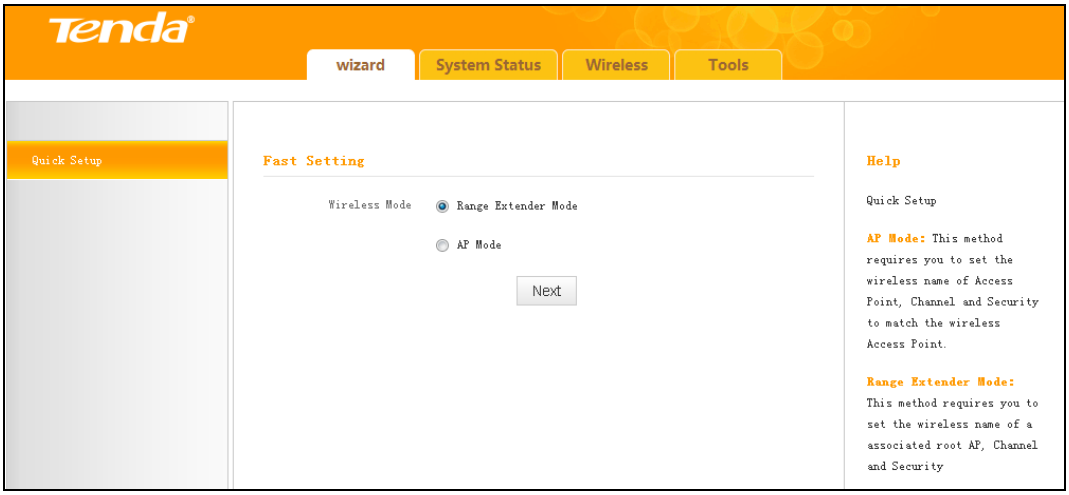
1. Launch a browser, and usually it will login automatically. If not, input http://re.tendacn.com in the address bar and press Enter.



2. Enter the default password admin and click **OK**.



3. Then the following page will appear.

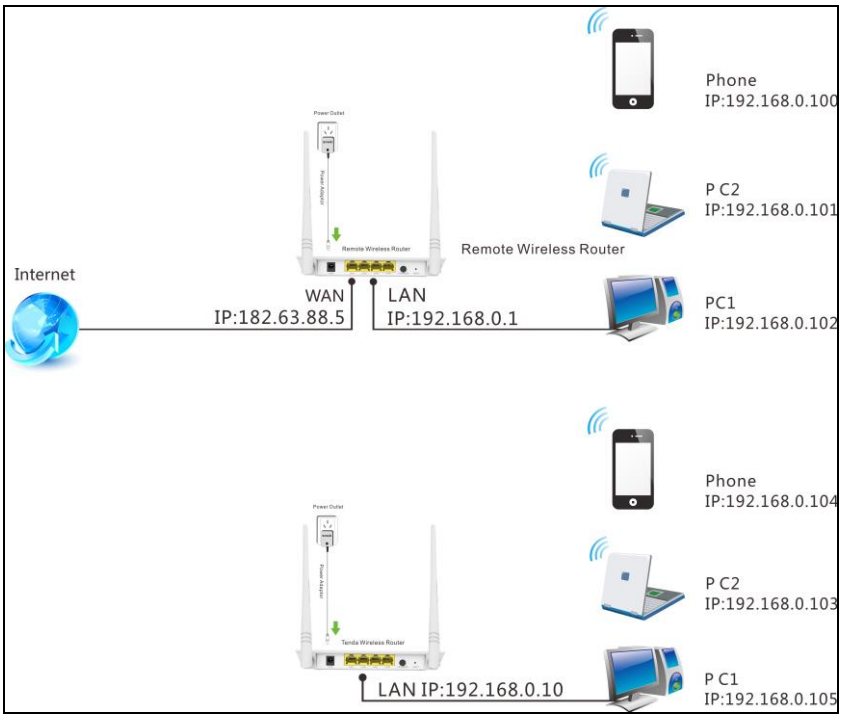


Internet Connection Setup

Two working modes are available here: range extender mode and AP mode. The default is range extender mode.

Range Extender Mode

Wireless bridging allows a wireless network to be expanded using multiple access points. The network topology is shown below:



In this mode, you just need to configure the wireless range extender unilaterally as below:

Range Extender Mode Setup: Bridging the remote device for wireless extension.

Tip----------

Before configuring it by web-based management page, make sure you have the following information:

1. Remote router's SSID, security mode, cipher type and security key.
2. Remote router's LAN IP address.

Range extender application example:

Assuming the remote wireless router has the following information:

SSID: Tenda_130518

Security Mode: WPA-PSK

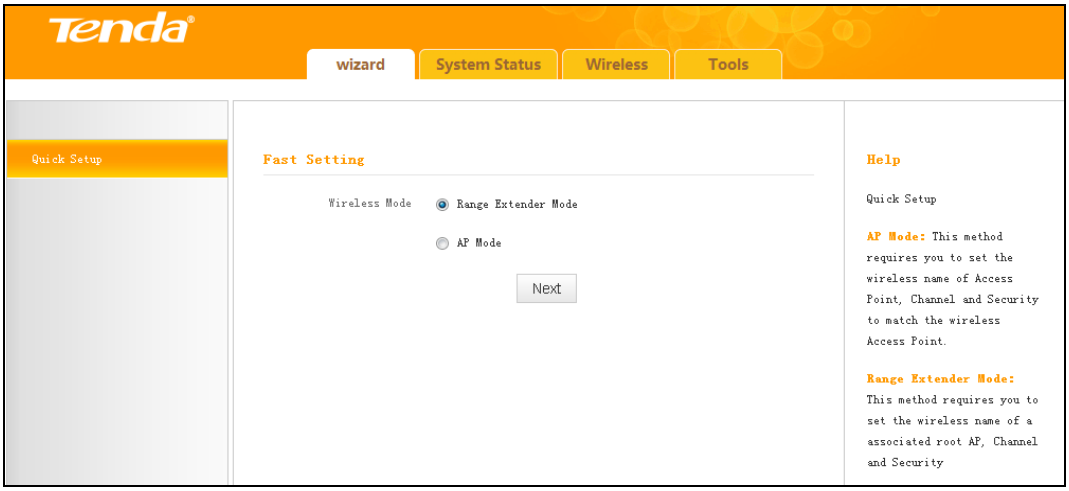
Cipher Type: AES

Security Key: 12345678

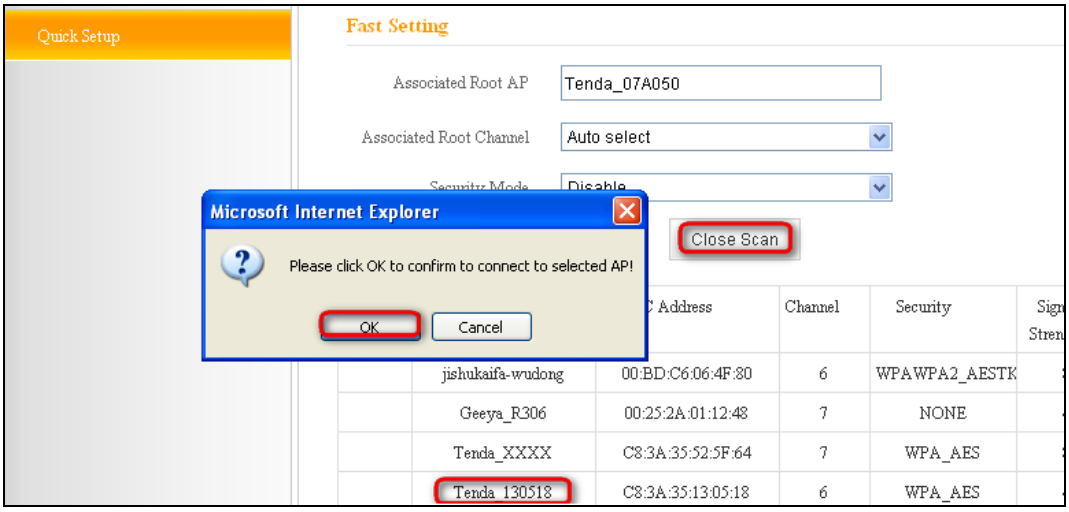
LAN IP Address: 192.168.0.1

Configuration procedures:

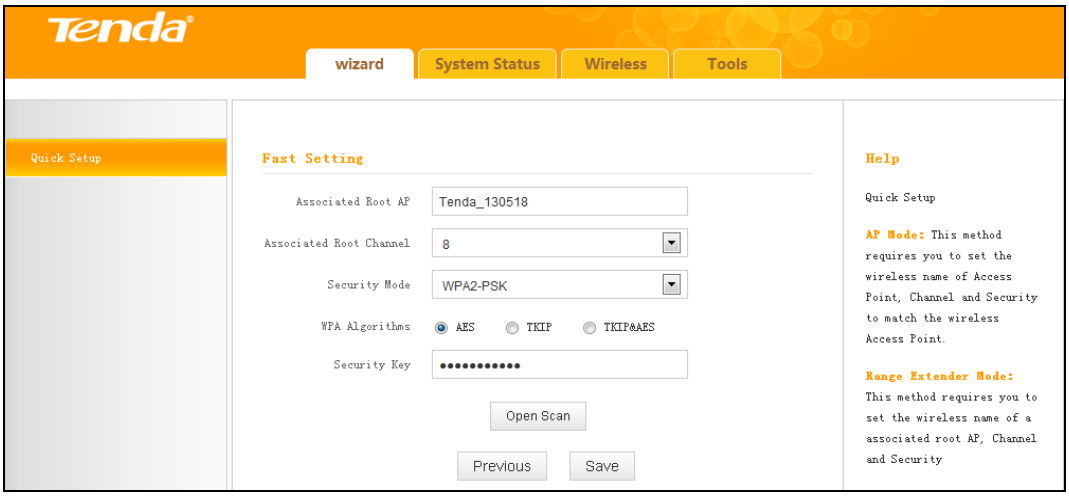
1. Click **Wizard**, select **Range Extender Mode** and click **Next**;



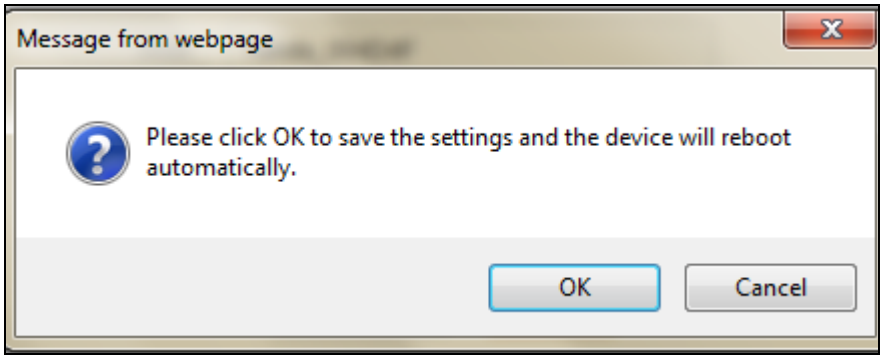
2. Click **Open Scan**, select the remote router's wireless network (SSID), say Tenda_130518, click **OK** and Close **Scan**.



3. Enter the remote device's security key and click **Save**;



4. In the appearing dialogue box click **OK**;



5. Click **System Status** to check the bridge status. When the bridge status displays **Connected**, bridged successfully.

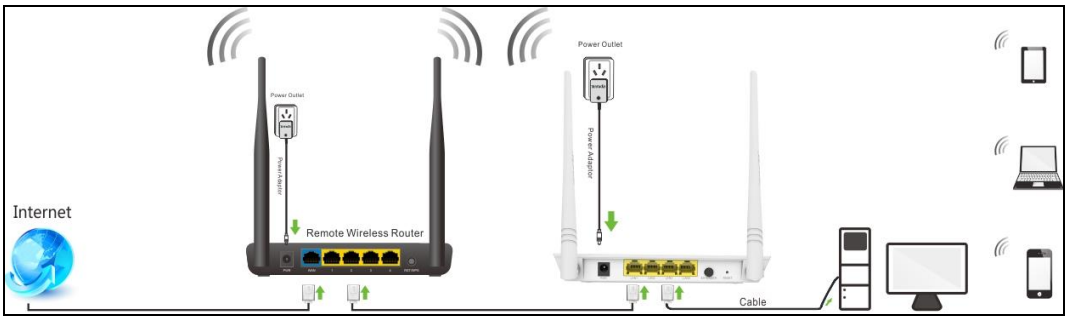
Tip ----------

1. If the wireless range extender is connected to the remote router within 20 seconds, the wireless range extender's DHCP server will be disabled automatically. Thus, the wireless range extender will get the IP assigned from the remote router and then you can access to the Internet.

2. If the wireless range extender isn't connected to the remote router within 20 seconds, the wireless range extender's DHCP server will be enabled automatically. The wireless range extender will get the IP assigned from the wireless range extender itself. Thus, you can't access to the Internet.
3. When bridged successfully, the range extender's SSID and security mode will be the same as that of the remote router.

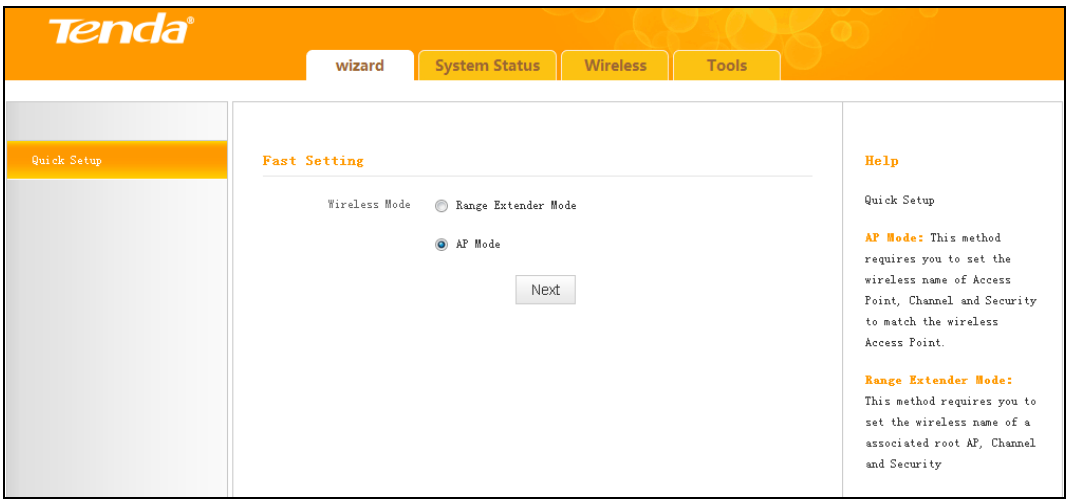
AP Mode

In this mode, the wireless range extender is connected to the remote router for Internet access via an Ethernet cable. And your PC is connected to the wireless range extender via a wired or wireless connection. The network topology is shown below:

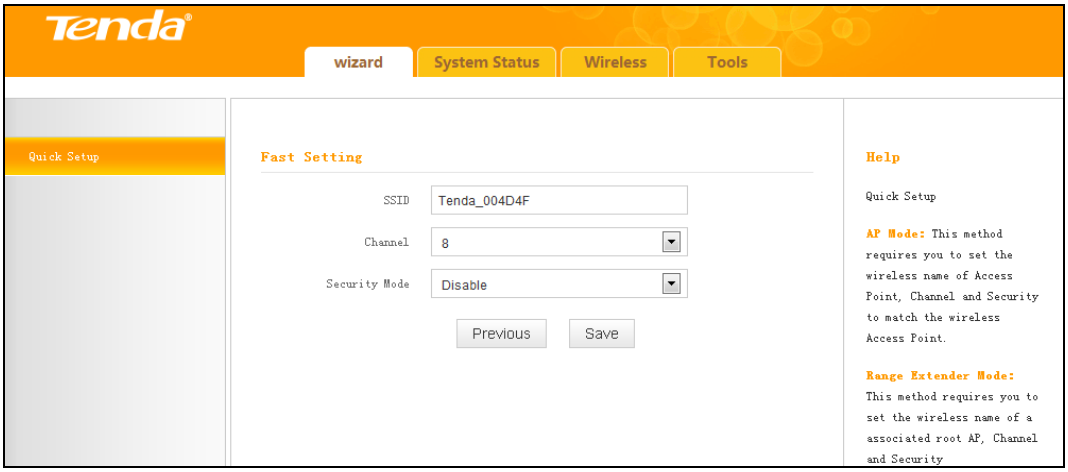


Configuration procedures:

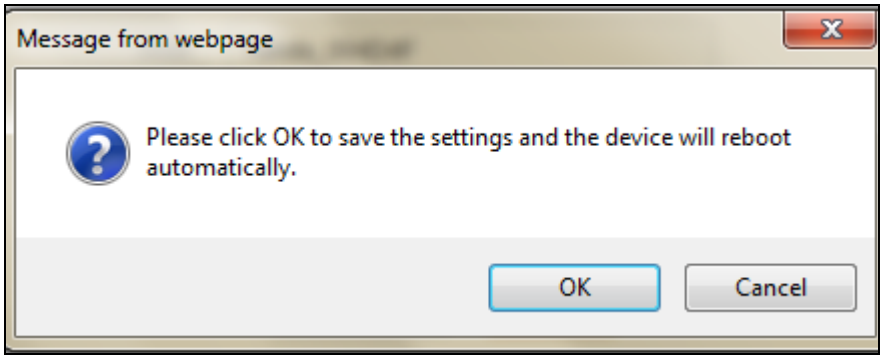
1. Select **AP Mode** and click **Next;**



2. Configure the fast settings: channel, security mode and security key. Click **Save**.



3. In the appearing dialogue box click **OK**.



Tip----------

1. Configure your PC obtain IP address automatically. For specific procedures, please refer to Appendix 1 Configure IP.
2. Gateway of the PC (client) is assigned from the remote router.

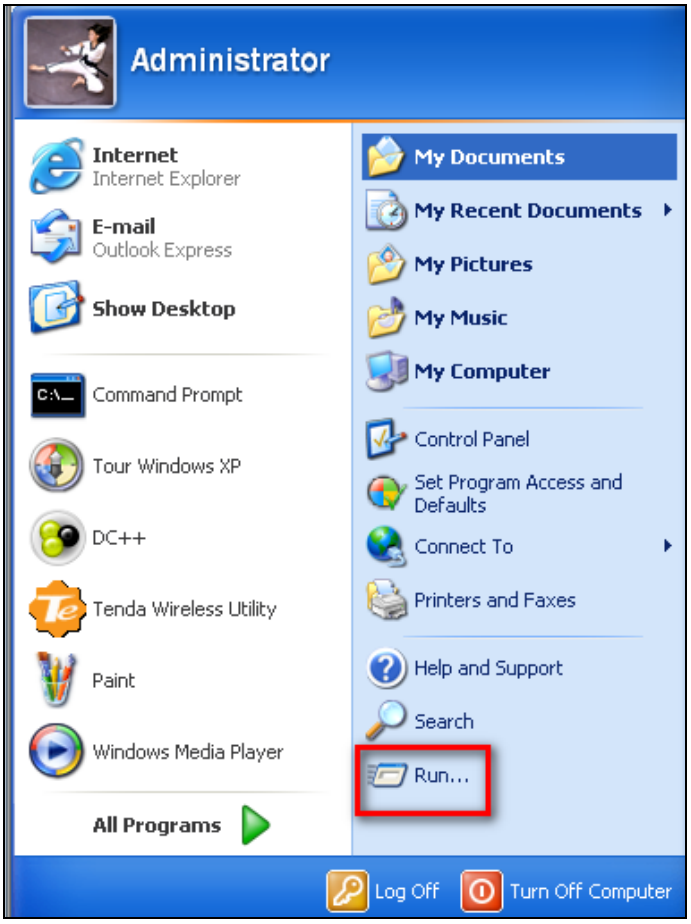
---

5 Verify Internet Connection

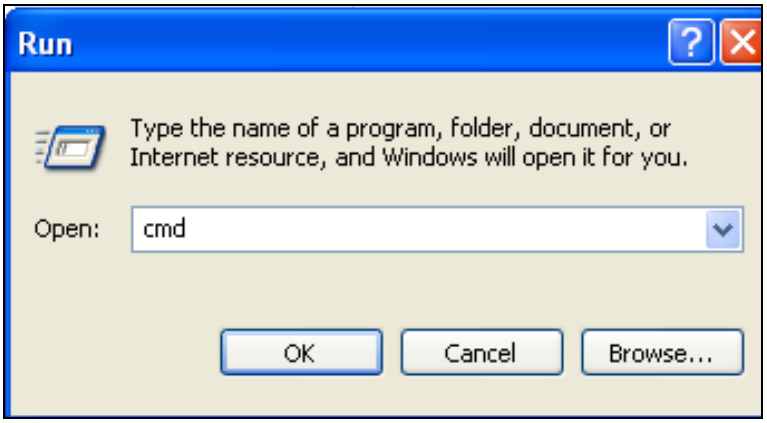
Range Extender Mode

After the above configurations, you can verify the connection by pinging the remote router's IP. Steps are as follows (Take Windows XP OS for example):

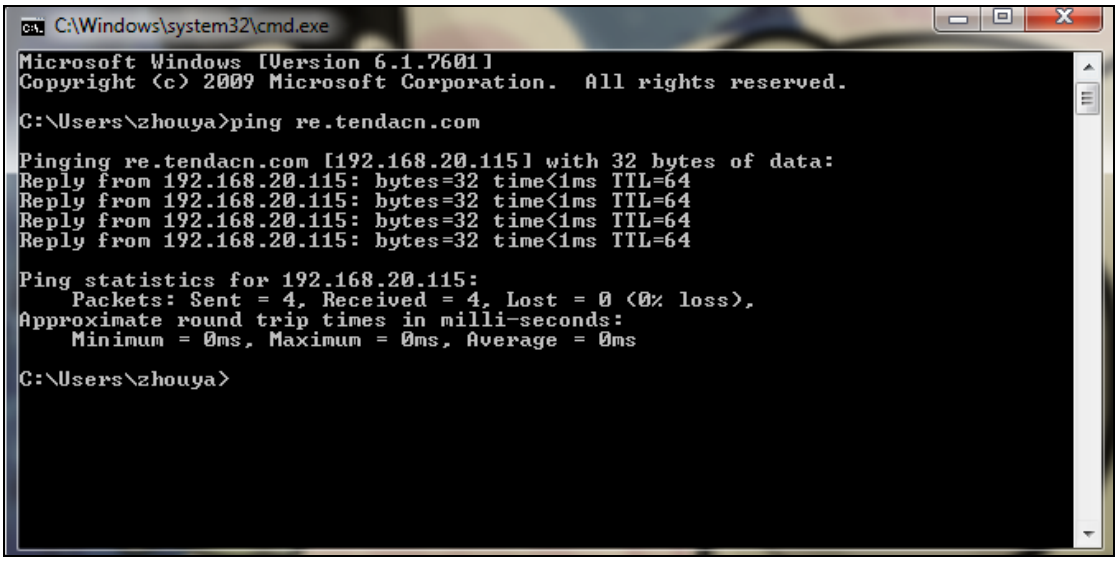
1. Click **Start>Run**;



2. Enter **cmd** and click **OK;**



3. Enter "ping re.tendacn.com" and press **Enter**. If you see a similar screen, the bridge is established successfully.



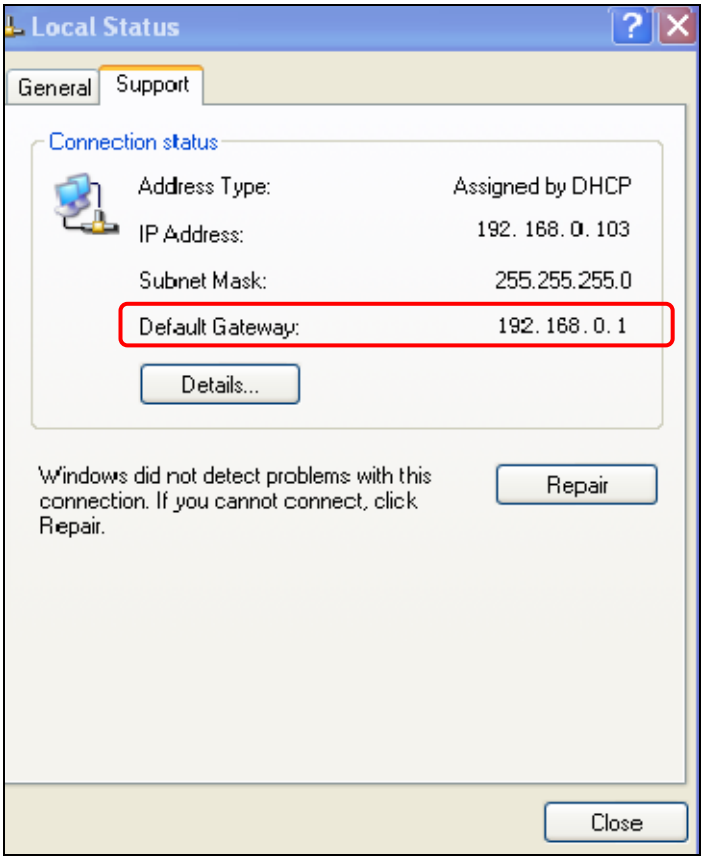
Tip ----------

If ping failed, repair the IP address on your PC to ensure the gateway is assigned from the remote router.

AP Mode

Check whether the gateway of your PC is assigned from the remote router (take Windows XP OS for example).

1. Double click on the icon at the right corner of your desktop;
2. In the appearing dialogue box click Support to check the connection status. If the default gateway is the LAN IP address of the remote router, you can access to the Internet; if not, click **Repair**.



6 Join Your Wireless Connection

Having finished above settings, you can search for the device's default wireless network (SSID) from your wireless devices (notebook, iPad, iPhone, etc.) and enter a security key to connect to it wirelessly.

Tip ----------

1. The range extender 's SSID is Tenda_XXXXXX by default. You can find it on the label on the bottom of the range extender.
2. Also, you can find the MAC address on label on the bottom of the range extender.
3. To join your wireless network, the PC you use must have an installed wireless network adapter. If not, install one.

Win7 OS

1. Click on the icon at the bottom of the right corner on your desktop;

Tip ----------

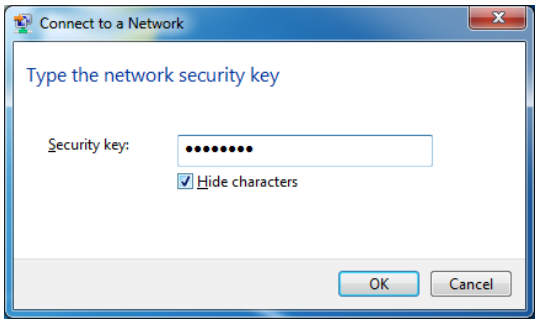
If you cannot find the icon, try disabling the wired network adapter or unplug the

Ethernet cable from the wired network adapter of your PC and refresh your desktop. If the problem remains unsolved, click **Start>Control Panel>Network and Internet>Network and Sharing Center**, right click **Wireless Network Connection** and select **Connect/Disconnect**. Steps for follow-up are similar to the following.

---

2. Select the wireless network you wish to connect and click **Connect**.

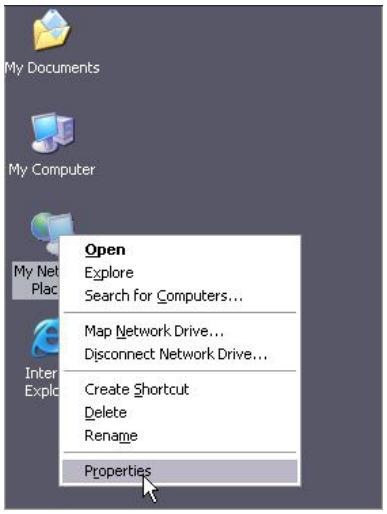
3. Enter the security key and click **OK.**



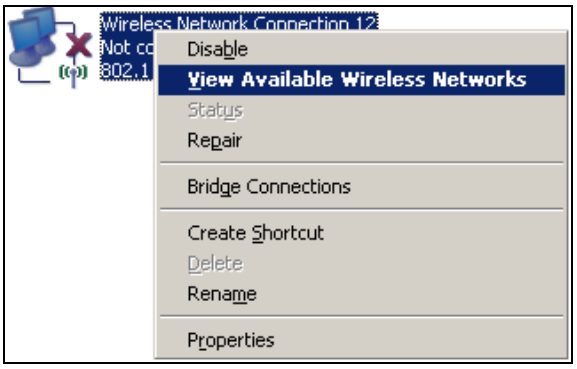
4. When you see **Connected** displayed next to the wireless network you selected, you have connected to the wireless network successfully.

Windows XP OS

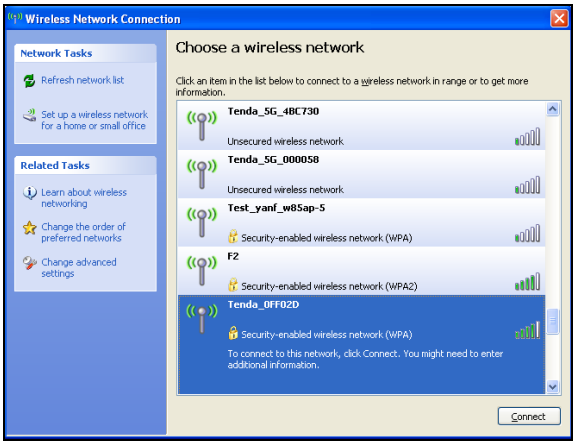
1. Right click **My Network Places** from your PC's desktop and select **Properties**.



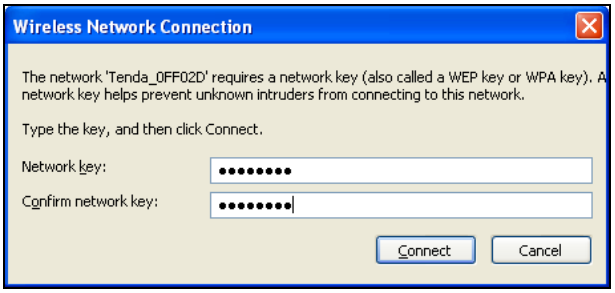
2. Right click **Wireless Network Connection** and select **View Available Wireless Networks**.



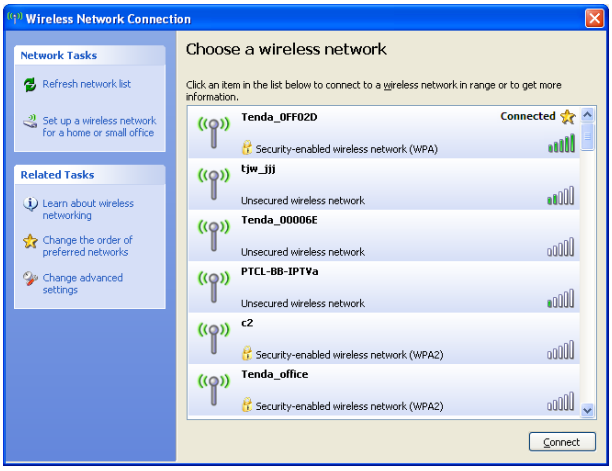
3. Double click the wireless network you wish to connect.



4. Enter the security key and click **Connect**.



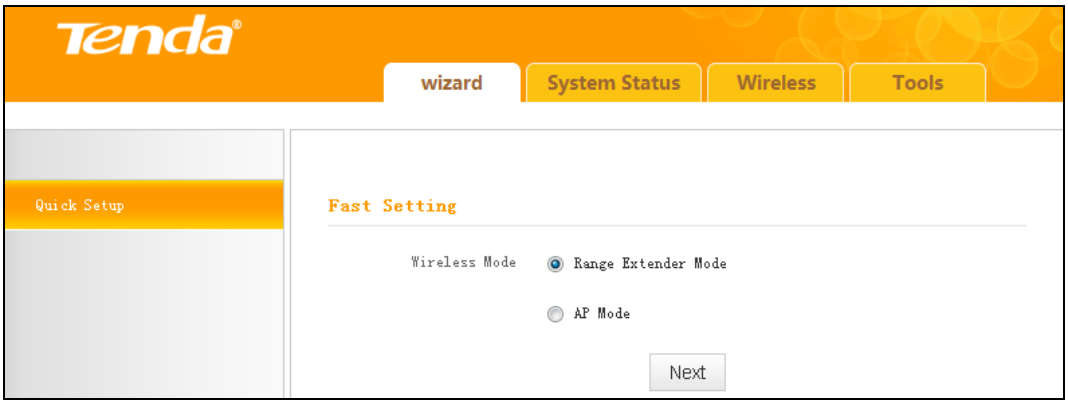
5. When you see **Connected** displayed next to the wireless network you selected, you have connected to the wireless network successfully.



Chapter 3 Advanced Settings

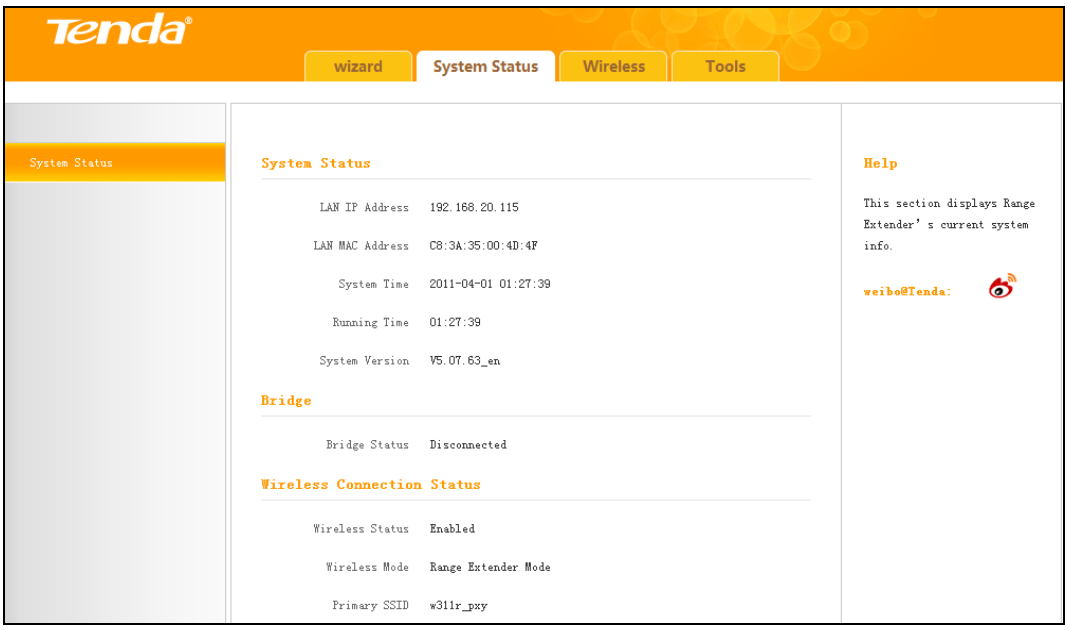
1 Wizard

Here you can configure the device's working mode. For specific configurations, please refer to Chapter 2 Internet Connection Setup.



2 System Status

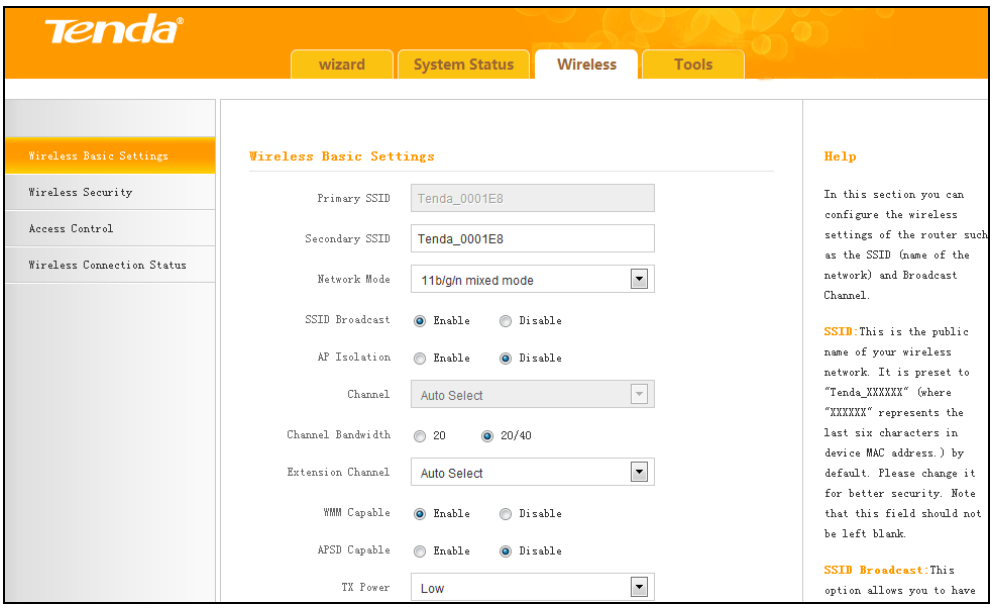
This section displays the device's current system info.



3 Wireless

3.1 Wireless Basic Settings

This section allows you to manage your wireless network.



1. **SSID:** This is the public name of your wireless network. It is preset to "Tenda_XXXXXX" (where "XXXXXX" represents the last six characters in device MAC address.) by default. Please change it for better security. Note that this field should not be left blank.
2. **Network Mode:** Select a correct mode according to your wireless clients.
   11b mode: Select it if you have only 11b wireless devices in your wireless network. Up to 11Mbps wireless rate is supported on this mode.
   11g mode: Select it if you have only 11g wireless devices in your wireless network. Up to 54Mbps wireless rate is supported on this mode.
   11b/g mixed mode: Select it if you have 11b and 11g wireless devices in your wireless network. Up to 54Mbps wireless wireless rate is supported on this mode.
   11b/g/n mixed mode: Select it if you have 11b, 11g and 11n wireless devices in your wireless network. In this mode wireless connection rate is negotiated. Up to 300Mbps wireless rate is supported on this mode.
3. **SSID Broadcast:** Select Enable/Disable to make your wireless network visible/ invisible to any wireless clients within coverage when they perform a scan to available networks. When disabled, wireless clients will have to first know this SSID and manually enter it on their devices if they want to connect to the SSID.
4. **AP Isolation:** When it's enabled, clients connected to the same SSID will be isolated.
5. **Channel:** For optimal wireless performance, you may select the least used channel. It is advisable that you select an unused channel from the drop down list, or "Auto" to let the range extender detect and select the best possible channel for your wireless network to operate on.
6. **Channel Bandwidth:** Select a proper channel bandwidth to enhance wireless performance. Available only in 11b/g/n mixed mode.
7. **Extension Channel：** Available only in 11b/g/n mixed mode.

8. **WMM-Capable:** WMM is QoS for your wireless network. Enabling this option may better stream wireless multimedia data (such as video or audio).
9. **ASPD Capable：** Select to enable/disable the auto power saving mode. We recommend you disable it.
10. **TX Power:** Select low, medium or high transmission power according to different situations.

Tip ----------

1.The default primary SSID is Tenda_XXXXXX. XXXXXX is the last 6 characters of the MAC address, which you can get from the label on the device.

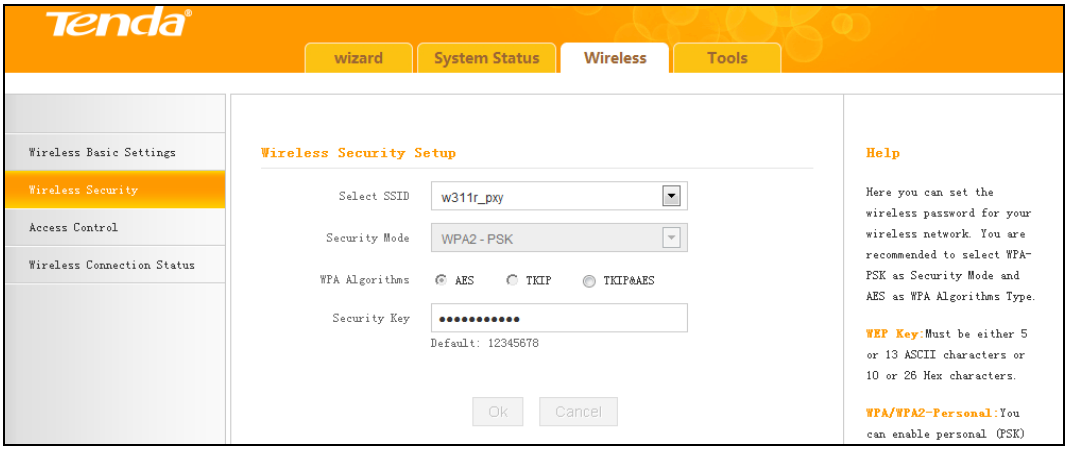
2.If you are not familiar with these configurations, it is advisable that only the primary SSID and channel should be modified.

3.2 Wireless Security

This section allows you to encrypt your wireless network to block unauthorized accesses and malicious packet sniffing.

To secure your wireless network:

1. Select the SSID you wish to secure;
2. Configure its security mode, WPA Algorithms and security key;
3. Click **OK** to save your settings.



1. **Open：** Wireless speed can reach up to 54Mbps if Open is selected.
2. **Shared:** Wireless speed can reach up to 54Mbps if Shared is selected.
3. **Default Key:** Select a key to be effective for the current WEP encryption. For example, if you select Key 1, wireless clients must join your wireless network using this Key 1.
4. **WPA-PSK：** WPA personal, supports AES, TKIP and TKIP+AES cipher types. Note: Usually TKIP&AES is not optional.
5. **WPA2-PSK：** WPA2 personal, support AES, TKIP and TKIP+AES cipher

types.

6. **Mixed WPA/WPA2-PSK:** If selected, both WPA-PSK and WPA2-PSK secured wireless clients can join your wireless network.
7. **AES:** If selected, wireless speed can reach up to300Mbps.
8. **TKIP:** If selected, wireless speed can reach up to 54Mbps.
9. **TKIP+AES:** If selected, both AES and TKIP secured wireless clients can join your wireless network.
10. **Security Key:** Must be between 8~63 case-sensitive ASCII characters or 8~64 Hex characters.

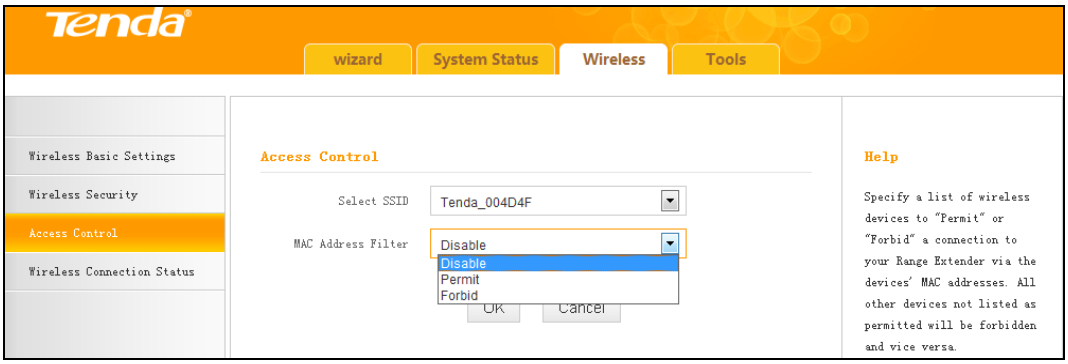
Tip ----------

For better security, compatibility and wireless speed, we recommend the WPA-PSK and AES.

3.3 Access Control

Specify a list of devices to "Permit" or "Forbid" a connection to your wireless network via the devices' MAC Addresses. Click Wireless -> Access Control to enter the configuration screen.

There are three options available: Disable, Forbid and Permit.

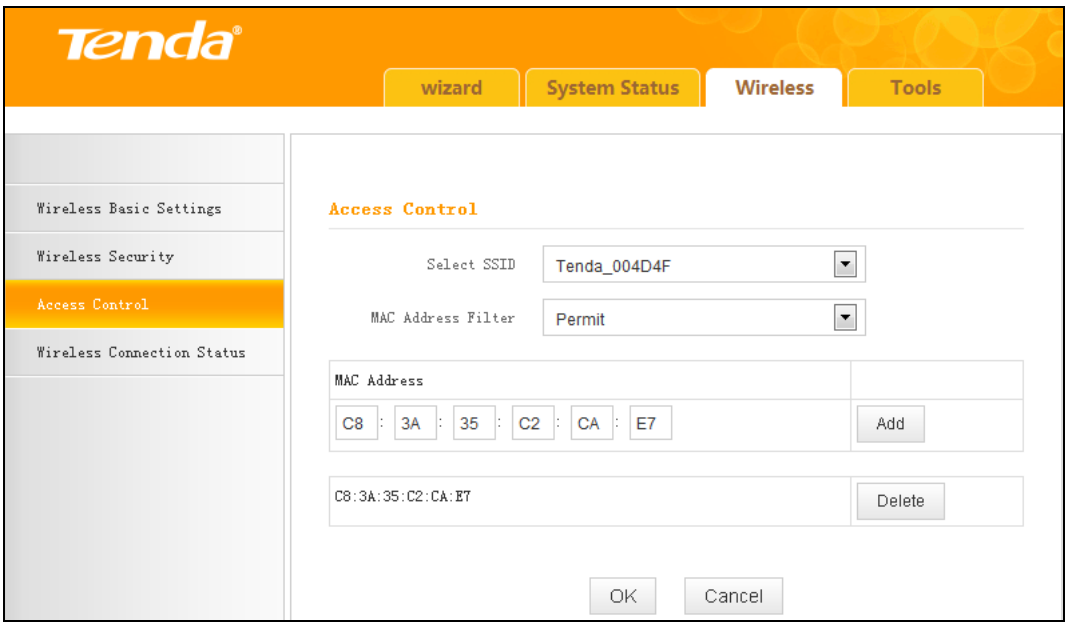


Wireless Access Control Application Example:

To only allow your own notebook at the MAC address of C8:3A:35:C2:CA:E7 to join your wireless network.

Configuration procedures:

1. Select the SSID you wish to configure access control;
2. Select **Permit**;
3. Enter the MAC address and click **Save**.
4. Click **Add**;



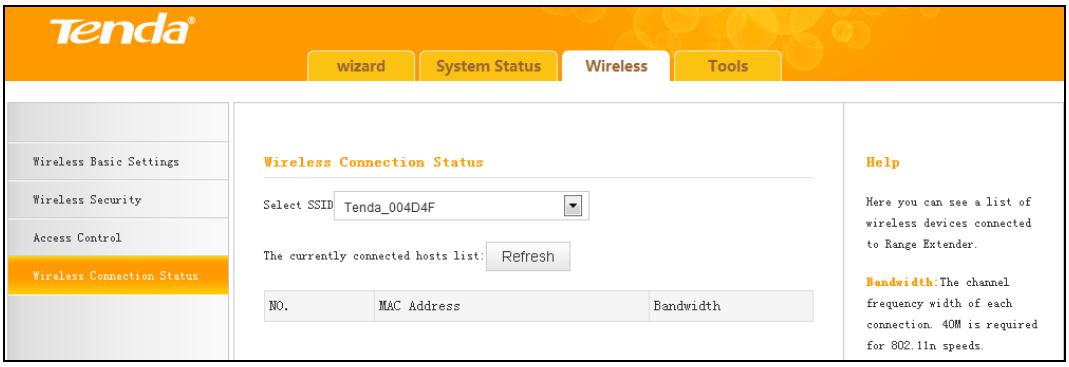
5. Click **OK** to save your settings;

Tip ----------

1. Up to 16 wireless MAC addresses can be configured.
2. If you don't want to configure the complex wireless security settings and want to disallow others to join your wireless network, you can configure a wireless access control rule to allow only your own wireless device.

3.4 Wireless Connection Status

Click **Wireless** > **Wireless Connection Status**. Here you can see a list of wireless devices connected to the range extender.



Tip ----------

You can know whether there are unauthorized accesses to your wireless network by viewing the wireless client list.

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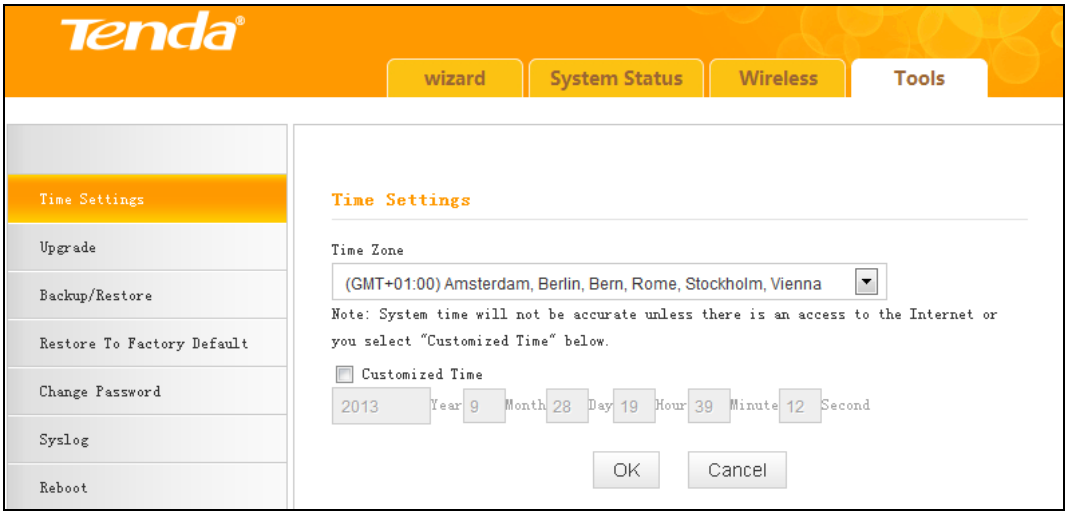
4 Tools

4.1 Time Settings

This section lets you configure, update, and maintain the correct time on the internal system clock. You can either select to set the time and date manually or automatically obtain the GMT time from Internet. Note that the GMT time is obtained only when the range extender is connected to the Internet.



1. Time Zone: Select your current time zone.
2. Customized Time: Check it to customize time.

Tip----------

When the device is disconnected from power supply, time settings on this page will be lost. However, it will be updated automatically when the device reconnects to Internet.

4.2 Upgrade

Upgrade is released periodically to improve the functionality of your device, and also to add any new features. If you run into a problem with a specific feature of the range extender you could log on to our website (www.tendacn.com) to download the latest firmware to update your device.

To upgrade firmware, do the following:

1. Click **Browse** to locate and select the firmware file and **Upgrade** to update your range extender.

2. Device restarts automatically when the upgrade process is completed.

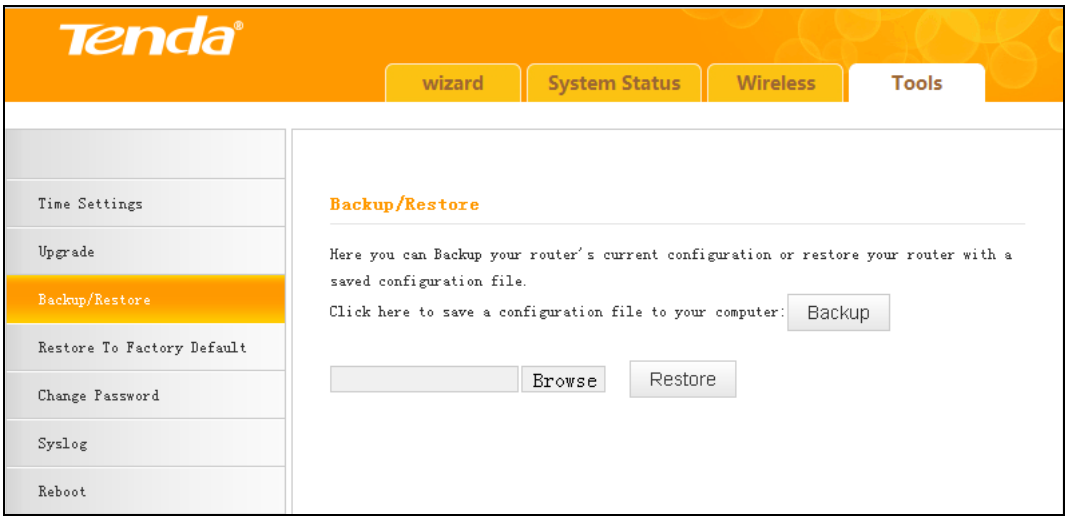
Note----------

1. Please verify the firmware is correct.

2. DO NOT power off the range extender when the upgrade is in process otherwise the range extender may be permanently damaged. When the upgrade is completed, the range extender will automatically reboot. The firmware upgrade may take a few minutes to complete so please wait for the process to finish. Note that you need to update the device's firmware via a wired connection.

4.3 Backup/Restore

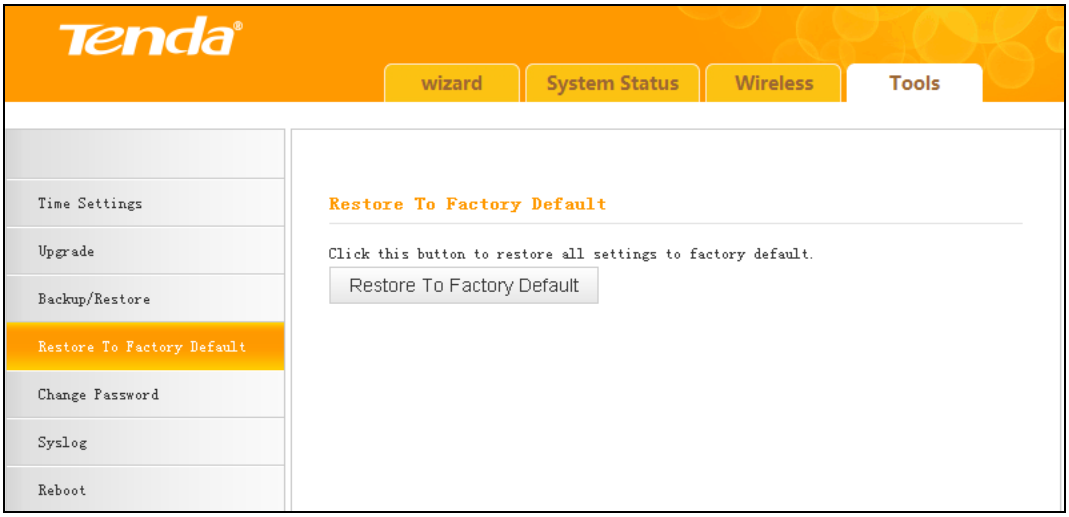
This feature allows you to backup and restore current settings. Once you have configured the range extender, you can save these settings to a configuration file on your local hard drive. The configuration file can later be imported to your range extender in case the range extender is reset to factory default settings.



Tip----------

The default configuration file name is "RouterCfm.cfg". You can change it as you like. For safety purpose, do not change the file extension.

4.4 Restore to Factory Default



Click the **Restore To Factory Default** button to reset the range extender to its factory default settings.

1. Default IP Address: 192.168.0.254
2. Default Subnet Mask: 255.255.255.0
3. Default Password: admin

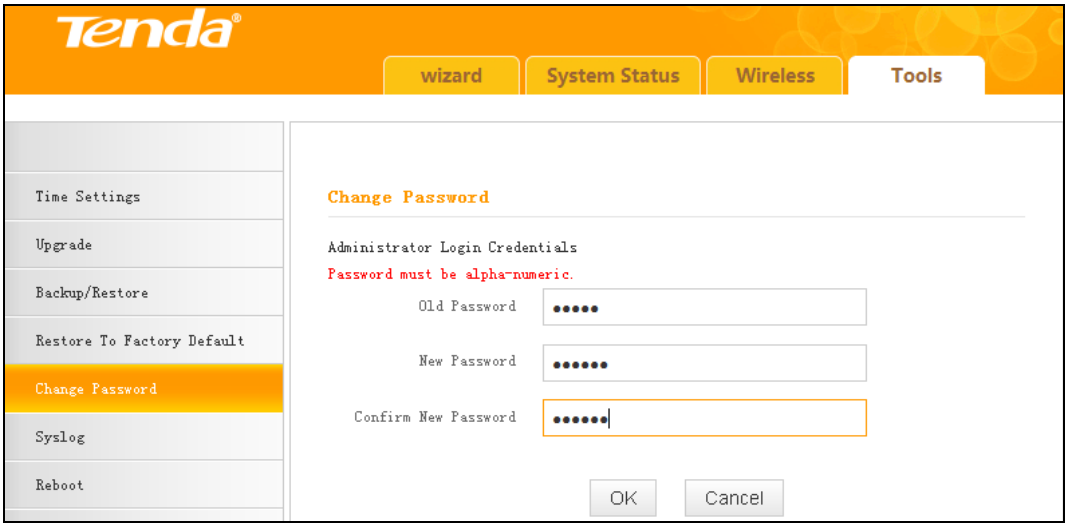
Note----------

1. Once restored to factory default, you need to reconfigure the device for Internet access as well as many other settings including wireless settings.

2. It is not advisable to restore the device to factory default settings unless our technical supporters recommend you do so.

4.5 Change Password

This section allows you to change login password and user name for accessing the device's Web-based management interface.



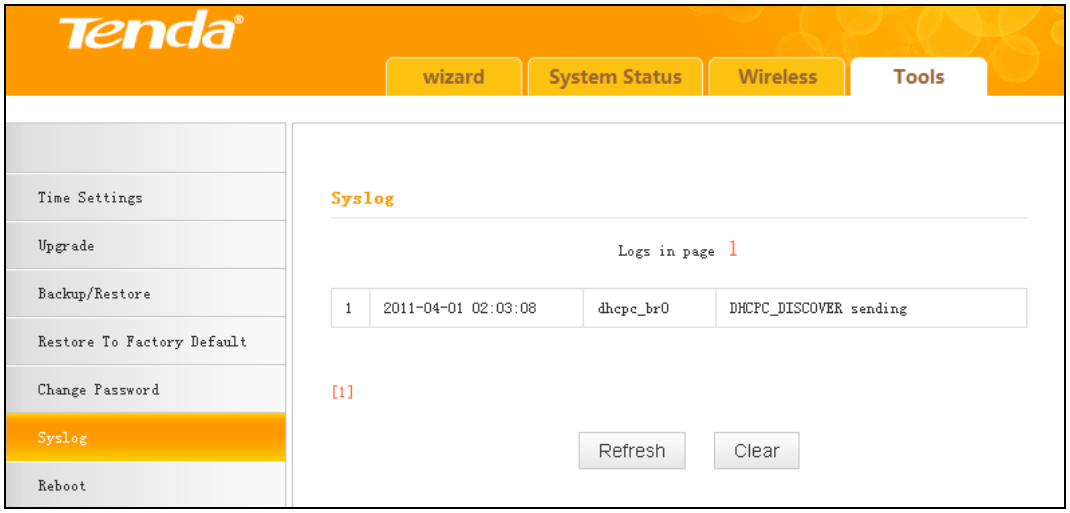
1. **Old Password:** Enter the old password. If you use the device for the first time, the password is admin by default. (Note: Password cannot be retrieved once forgot) If you already changed the password and unfortunately forget, restore the device to factory defaults.
2. **New Password:** Input a new password. Password must include 1 ~ 12 characters without any space.
3. **Confirm New Password:** Re-enter the new password for confirmation.

Tip ----------

1. For security purpose, it is highly recommended that you change the default login password as part of the initial configuration of your range extender.
2. Only numbers and alphabets can be included in the password (1~12 characters). If no character entered, it has no password.

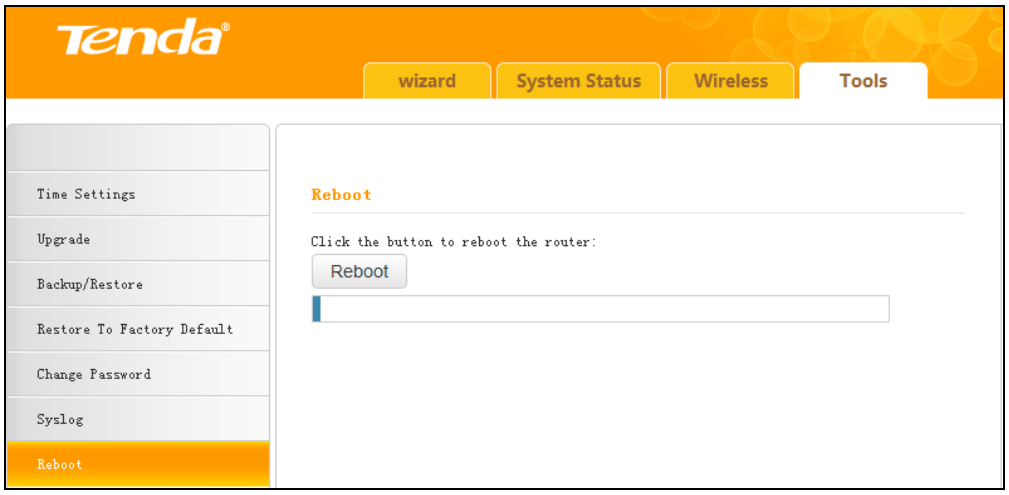
4.6 Syslog

Here you can view the history of the device's actions. After 150 entries, the earliest logs will be cleared automatically.



4.7 Reboot

This section allows you to reboot the device. Rebooting the device will activate any modified settings on this device. While rebooting, all connections will be lost and reconnected automatically later.



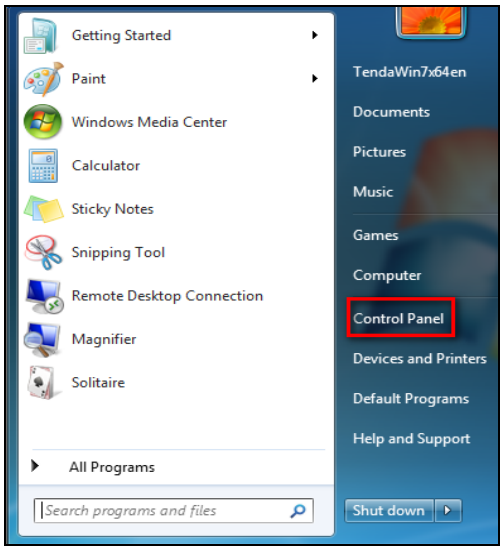
Chapter 4 Appendix

Appendix 1 Configure IP

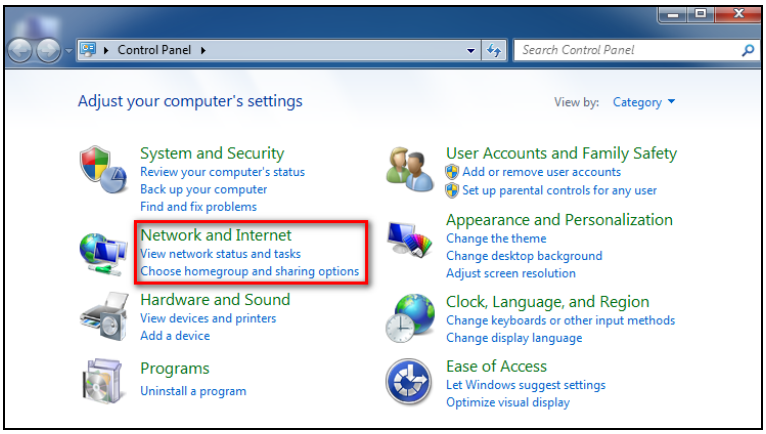
In this section we explain how to configure your PC's TCP/IP settings.

Win7 OS

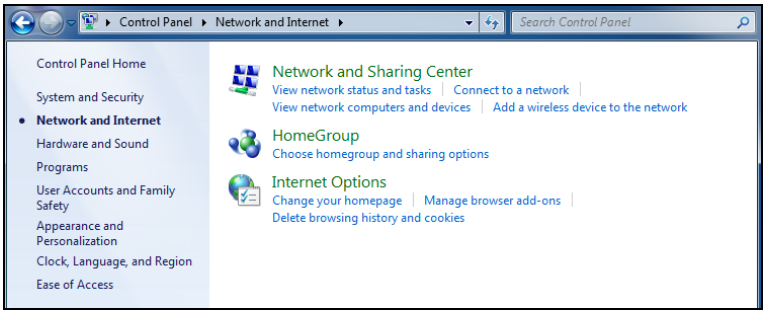
1. Click **Start>Control Panel;**



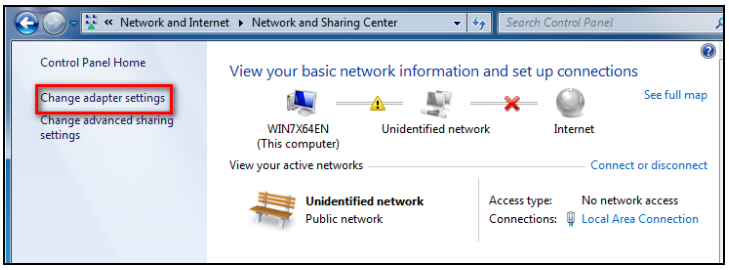
2. Enter **Control Panel** and click **Network and Internet;**



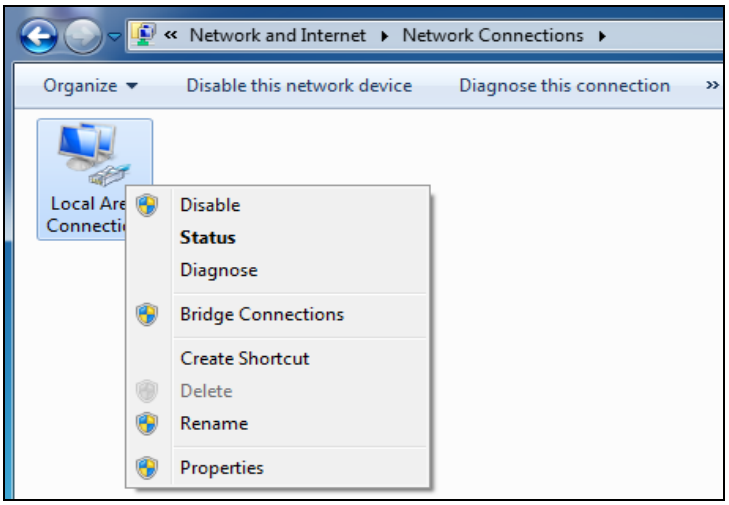
3. Click **Network and Sharing Center**;



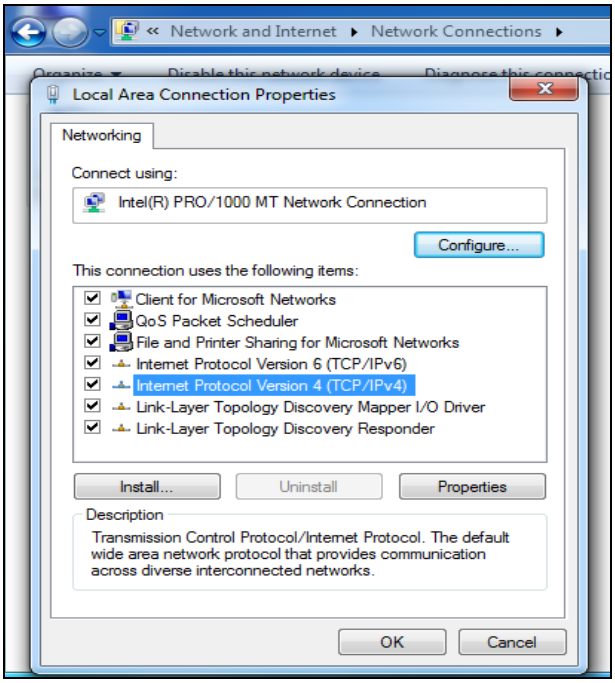
4. Click **Change adapter settings**;



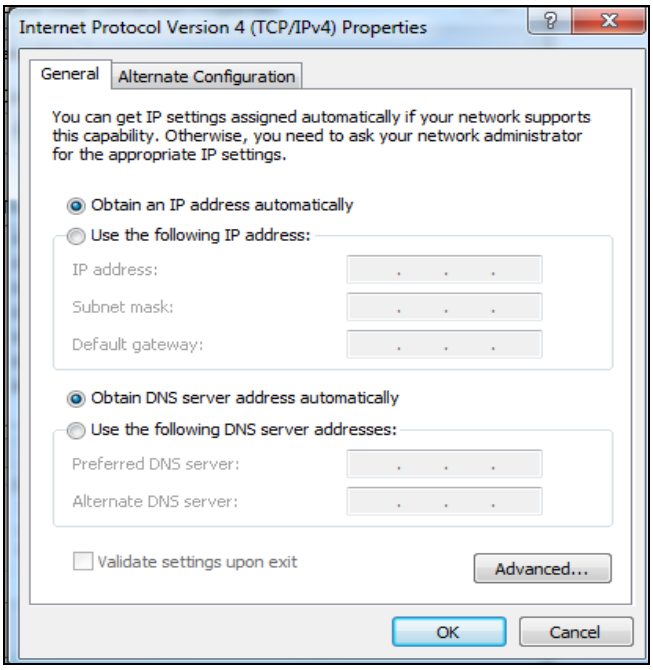
5. Right click **Local Area Connection** and select **Properties**;



6. Select **Internet Protocol Version 4(TCP/IPv4)** and click **Properties**;



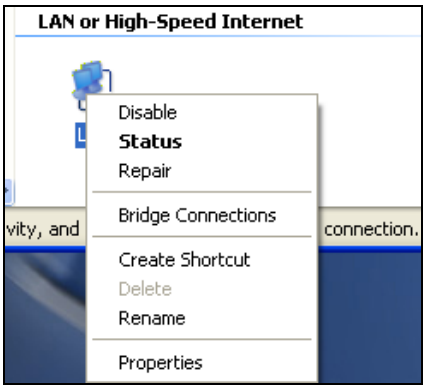
7. Select **Obtain an IP address automatically** and click **OK** to save the configurations.



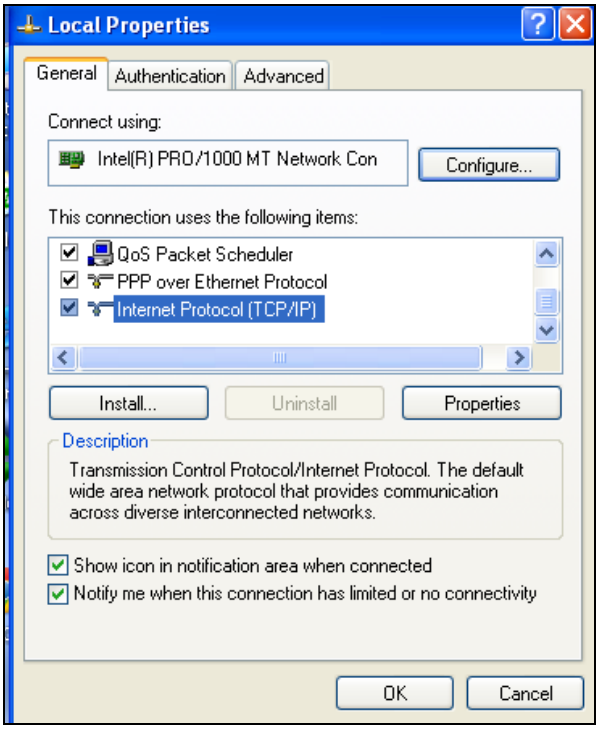
Windows XP OS

1. Right click **My Network Places** and select **Properties**;

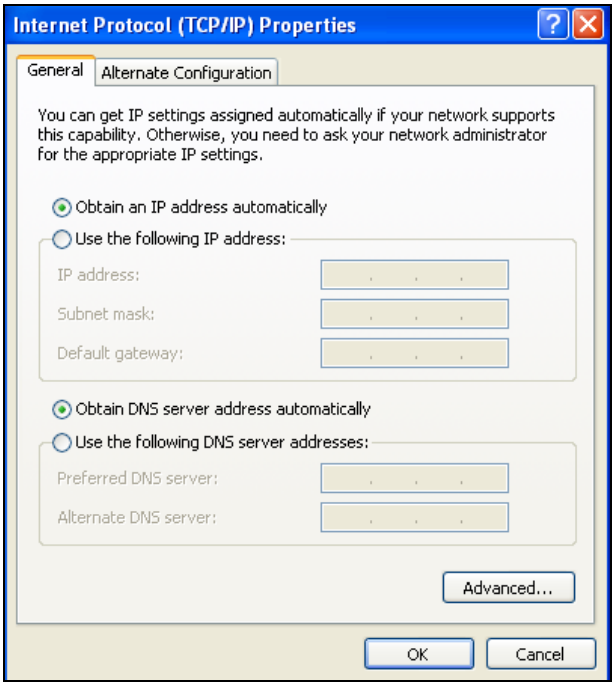
2. Right click **Local** and select **Properties**;



3. Select **Internet Protocol (TCP/IP)** and click **Properties**;



4. Select **Obtain an IP address automatically** and click **OK** to save the settings.



Appendix 2 Default Settings

Parameters		Default Settings
Web Login	Address	http://re.tendacn.com
Wireless Settings	Wireless Setup	Enabled
	Primary SSID	Tenda_XXXXXX (XXXXXX is the last 6 characters of the MAC address)
	Working Mode	11/b/g/n Mixed
	SSID Broadcast	Enabled
	AP Isolation	Disabled
	Channel	Auto
	Channel Bandwidth	20/40
	Extension Channel	Auto
	WMM Capable	Enabled
	APSD Capable	Disabled
	Security Mode	Disabled
Tools	Time	（GMT+08:00）Beijing, Chongqing, Hong Kong, Urumqi
	Password	admin

Appendix 3 FAQs

This section provides solutions to problems that may occur during installation and operation of the device. Read the following if you are running into problems. If your problem is not covered here, please feel free to go to www.tendacn.com to find a solution or email your problems to: support@tenda.com.cn or support02@tenda.com.cn. We will be more than happy to help you out as soon as possible.

1. Q: I entered the device's LAN IP address in the web browser but cannot access the utility. What should I do?

a. Check whether device is functioning correctly. The Power/SYS LED should blink after device is powered up. If it does not light up, then some internal faults may have occurred.

b. Verify physical connectivity by checking whether a corresponding port's link LED lights up. If not, try a different cable.

c. Verify your PC obtains IP address automatically or configure the IP manually by keeping the IP in the same network segment with the LAN IP (192.168.0.1~192.168.0.253).

d. Press the RESET button with something pointed for about 10 seconds to restore the device to factory default settings and re-login.

2. Q: What should I do if I forget the login password to my device?

Reset your device by pressing the Reset button for over 10 seconds.

3. Q: My computer shows an IP address conflict error after having connected to the device. What should I do?

a. Check if there are other DHCP servers present in your LAN. If there are other DHCP servers except your range extender, disable them immediately.

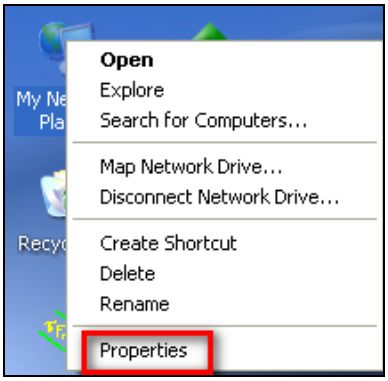
b. The default IP address of the device is http://re.tendacn.com; make sure this address is not used by another PC or device. In case that two computers or devices share the same IP addresses, change either to a different address.

Appendix 4 Remove Wireless Network from Your PC

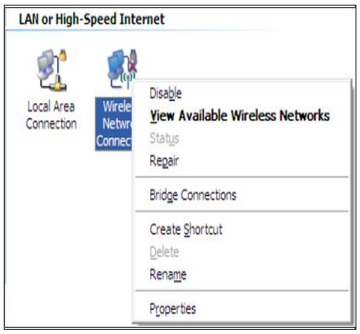
If you change wireless settings on your wireless device, you must remove them accordingly your PC; otherwise, you may not be able to wirelessly connect to the device. Below describes how to do remove a wireless network from your PC.

If you are using Windows XP, do as follows:

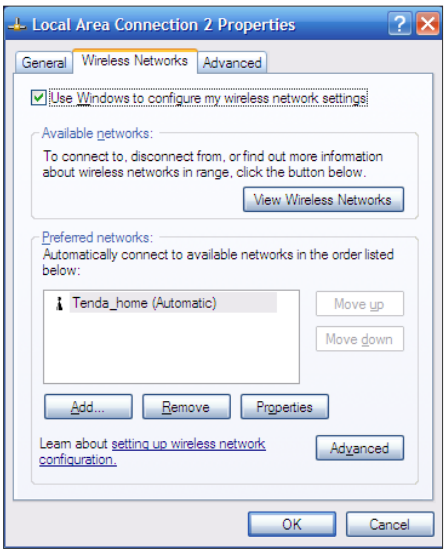
1. Right click **My Network Places** and select **Properties**.



2. Click **Wireless Network Connection** and then select **Properties**.



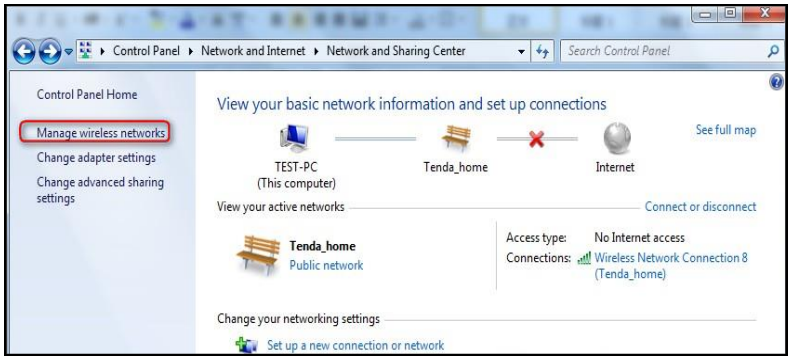
3. Click **Wireless Networks**, select the item under **Preferred networks** and then click the **Remove** button.



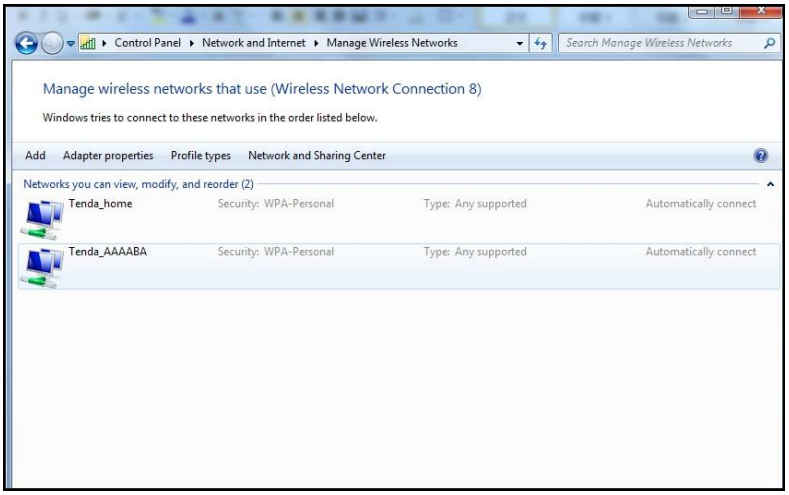
If you are using Windows 7, do as follows:

1. Click **Network** from your desktop and select **Properties**.

2. Select **Manage Wireless Networks**.



3. Click the wireless connection and select **Remove network**.



Appendix 5 Safety and Emission Statement

CE Mark Warning

This is a Class B product in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. This device complies with EU 1999/5/EC.

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 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.

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

This transmitter must not be co-located or operating in conjunction with any

other antenna or transmitter.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.