EMINENT

EM4568 / EM4569
Router Wireless N ADSL2/2+

en

Manual

www.eminent-online.com

EM4568/EM4569 Router Wireless N ADSL2/2+

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1.0 Introduction

Congratulations with the purchase of this high-quality Eminent product! This product has undergone extensive testing by Eminent's technical experts. Should you experience any problems with this product, you are covered by a five-year Eminent warranty. Please keep this manual and the receipt in a safe place.

Register your product now on www.eminent-online.com and receive product updates!

1.1 Functions and features

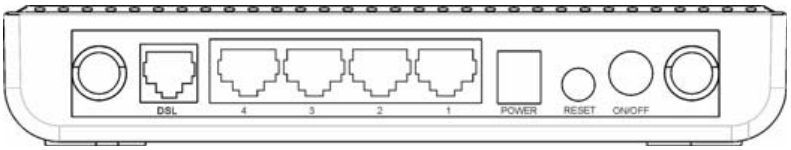
A short story about the product and features

1.2 Packing contents

The following parts need to be present in the packing:

- EM4568 or EM4569
- Power Adapter
- ADSL Splitter
- Ethernet Cable
- Telephone Lines
- Quick Installation Guide
- CD-ROM

2.0 Back Panel Overview



ON/OFF: Power switch.
RESET: Pressing and holding it for over 8 seconds restores factory default settings.
POWER: Power receptacal. Note that using a power adapter with a different voltage rating than the one included with the device will cause damage to the product.
LAN: For connection to LAN hubs, switches or PCs. **Note:** If IPTV is activated, LAN port 1 is used for connection to a set-top box, allowing you to enjoy online videos on your TV set while surfing Internet. In wireless router mode, LAN port 4 functions as a WAN port for Internet connection.
DSL: RJ11 port for telephone line Follow the diagram below to connect your network devices if you plan to use DSL uplink mode (namely, telephone line).

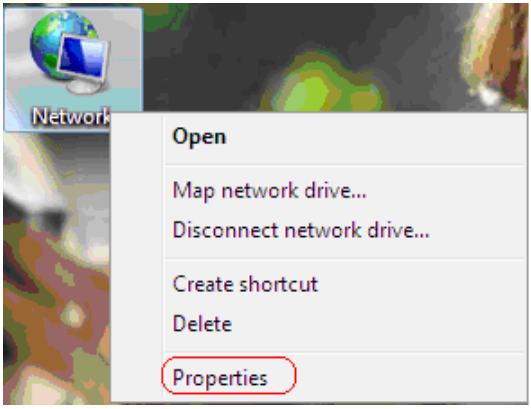
Note! You can use use this outside a numbered list or inside a list

3.0 Quick Setup for Internet Connection

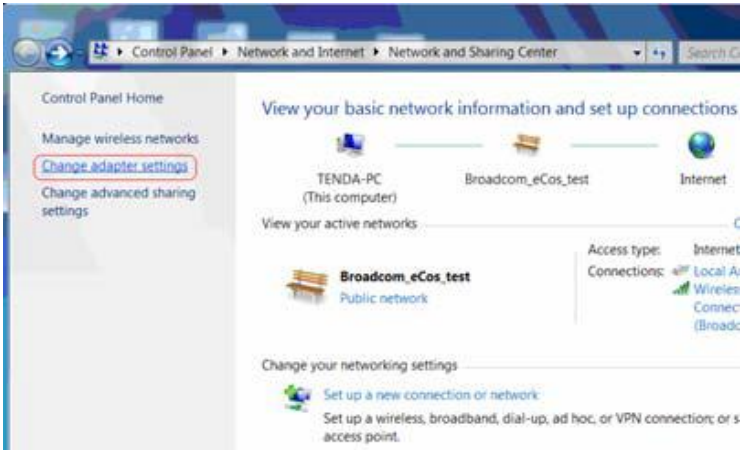
You can log into the device web utility: either via a web browser or Setup Wizard on the included CD-ROM.
Before configuring the device, you need to config your PC's TCP/IP settings.

3.1 Config TCP/IP Settings on PC

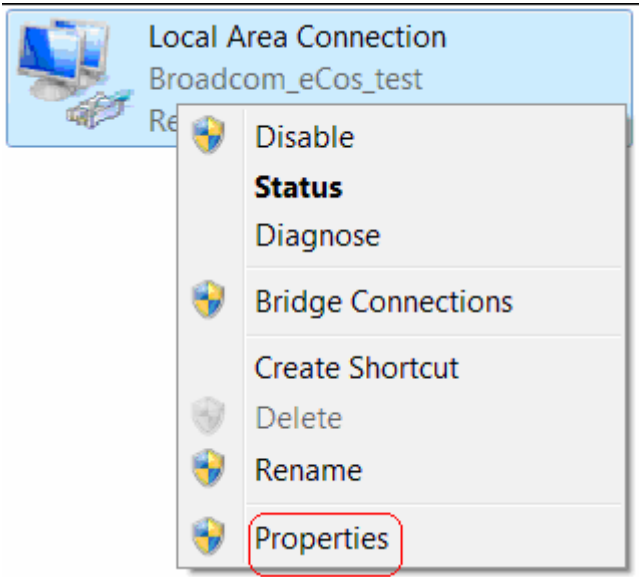
If you are using Windows 7, follow steps below to config your PC's TCP/IP settings:
a) Click the "Network" icon on your computer's desktop, select "Properties" and then click "Open Network and Sharing Center".



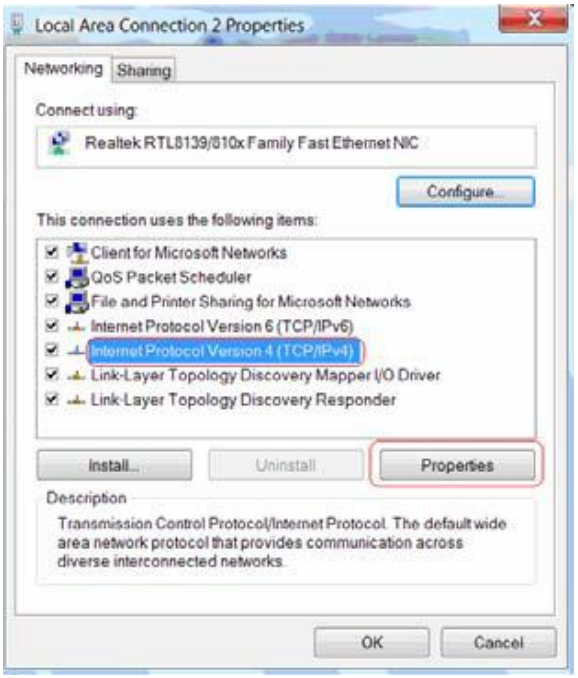
b) Click “Change adapter settings” on the left side of the window.



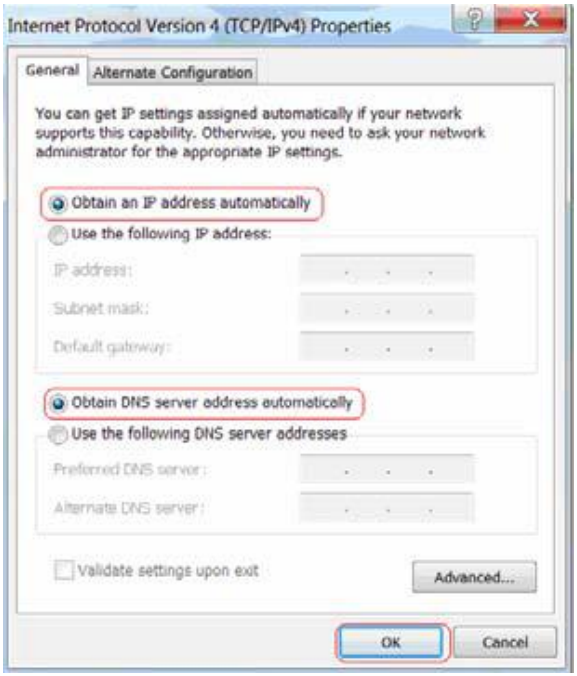
c) Right click “Local Area Connection” and select “Properties”.



d) Select” Internet Protocol Version 4(TCP/IPv4)"and then click “Properties”.



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



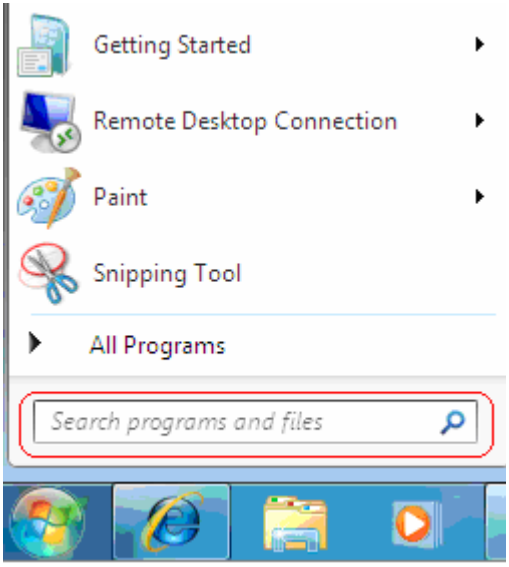
f) Click OK in the “Local Area Connection Properties” window.

3.2 Logging on to Web Manager via Web Browser

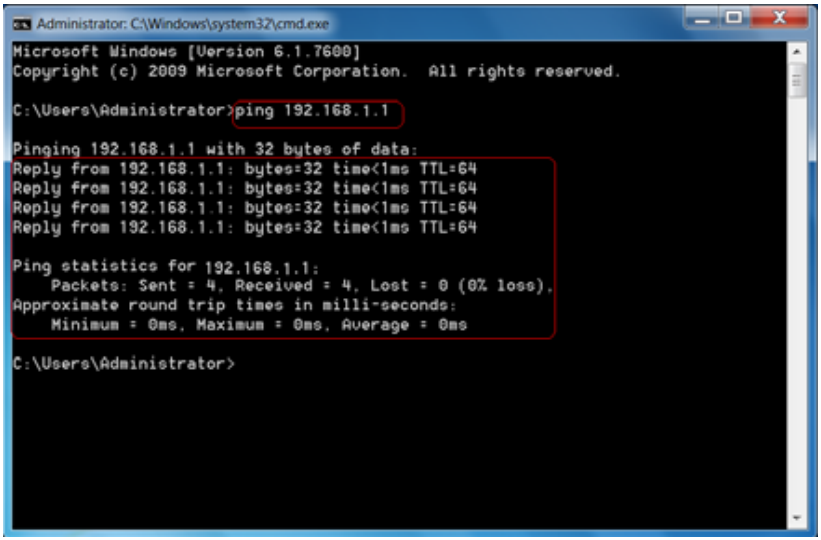
Before accessing Web utility verify the connectivity between the device and your computer. To do so, follow steps below:

1. Click the Start icon on the bottom left corner of your computer desktop.

2. Input “cmd” in the “Search programs and files” box and press “Enter”.



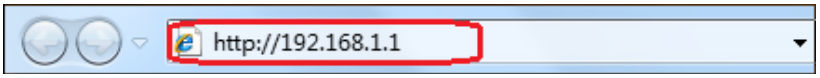
3. Enter “ping 192.168.1.1”, and press Enter. If your screen displays the following results, it indicates your computer has been successfully connected to the device.



Now follow steps below to log on to device web-based utility:

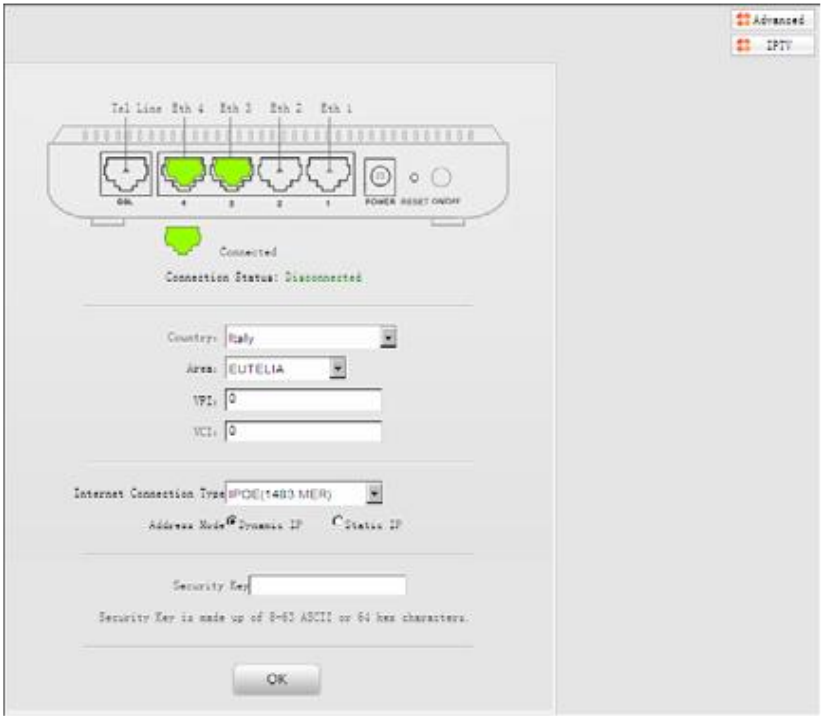
1. Open the IE Browser as below.

2. Input http://192.168.1.1 in the address field and press “Enter”.



3. You will come to the screen below:

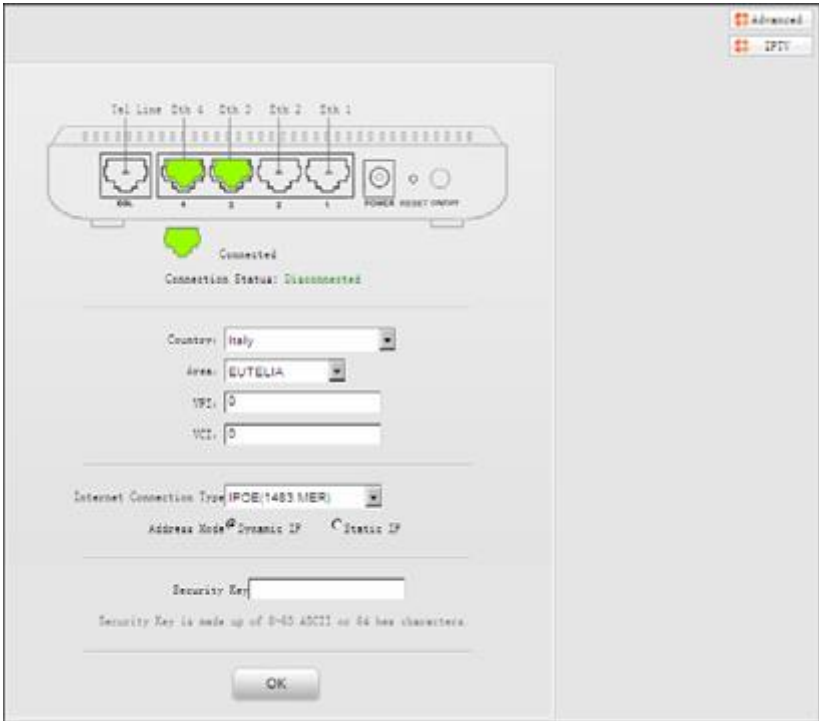
Enter “admin” in both password and user name fields. You will enter following screen:



Setup Internet Connection

We have just explained how to log on to the router above. And in this section, it illustrates you how to setup your Internet connection quickly.

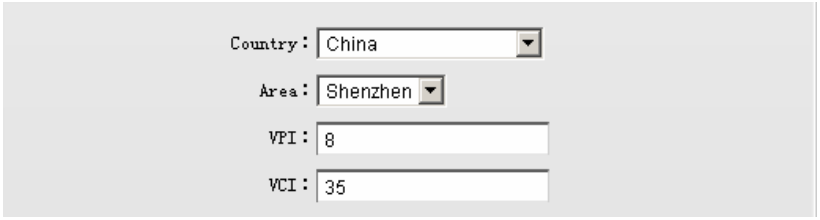
Now check whether you have the screen below, if not, please re-log on to the device.



The device provides two access types: DSL Uplink (using telephone line) and Ethernet Uplink (using Ethernet cable). If you are using Ethernet Uplink for Internet access, please click on the “Advanced” button for more settings and refer to Ethernet uplink configuration in Chapter 4.

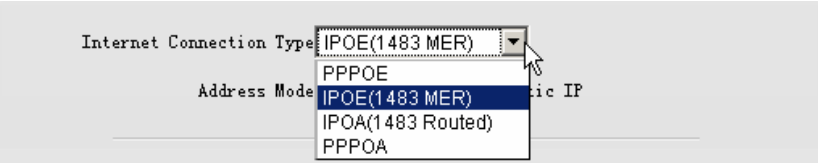
If you are using DSL Uplink, then you need to configure below settings:

1. VPI/VCI settings

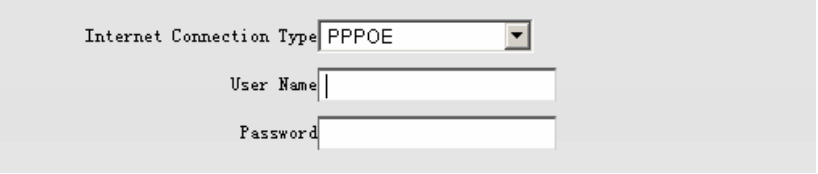


VPI/VCI values vary depending on different countries and area. The device has integerated common VPI/VCI values of some countries and areas. So you can just select your country and area, the VPI/VCI values (if included) for that specific area in your country will be populated automatically. However if you don’t find the VPI/VCI values suiting you area or your ISP uses special VPI/VCI, consult your ISP and then enter them manually.

2. Internet Connection Type

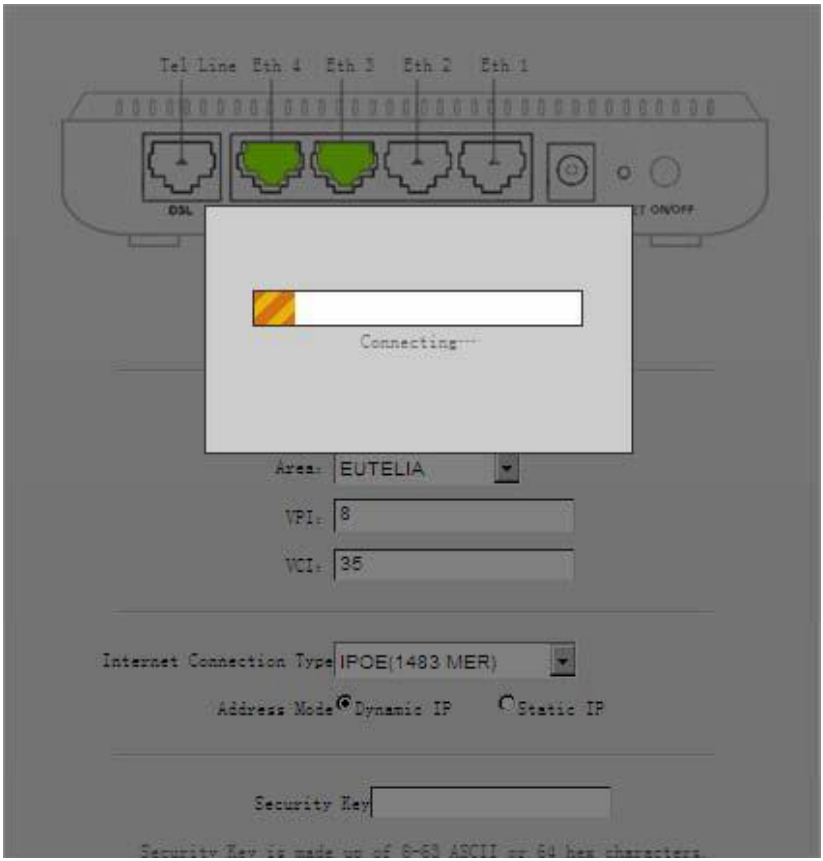


Internet Connection Type: PPPOE，IPOE，IPOA，PPPOA are provided. Select one that suit yourself. Here in the example below we use the PPPOE. For methods of configuring other types, refer to 4.3.2.

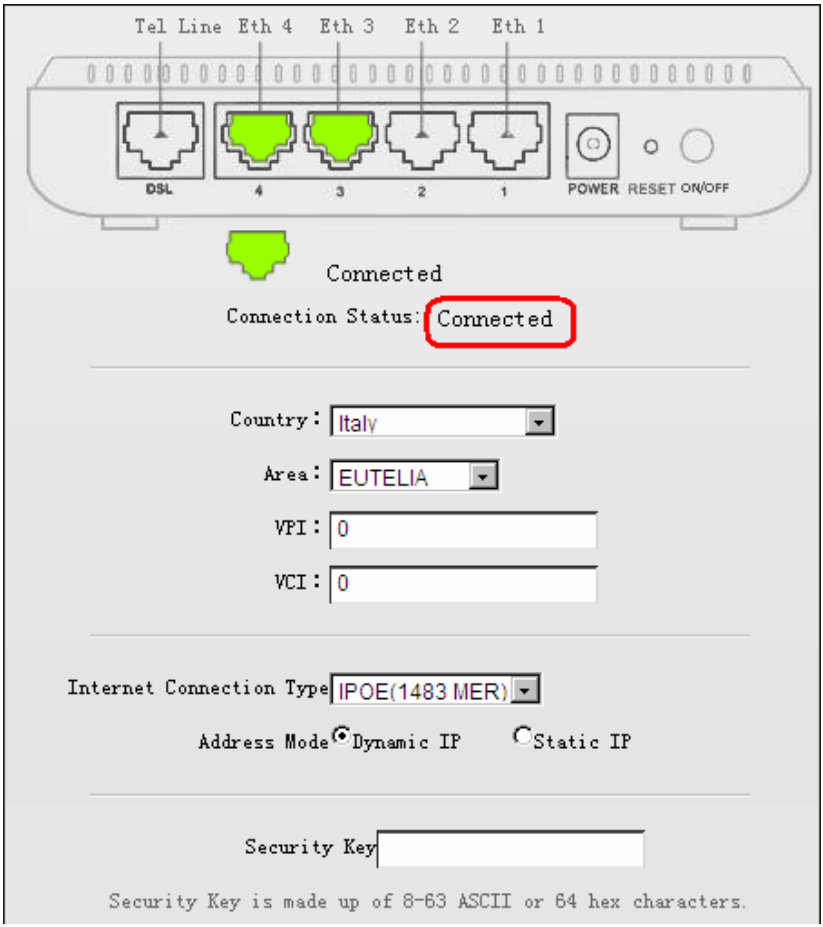


User name: Enter the user name provided by your ISP.
Password: Enter the password provided by your ISP.
Note: This information is given by an Internet service provider when you subscribe the DSL service. If you are not sure of it, contact your service provider for help.

After entering user name and password, click “OK” to save settings.



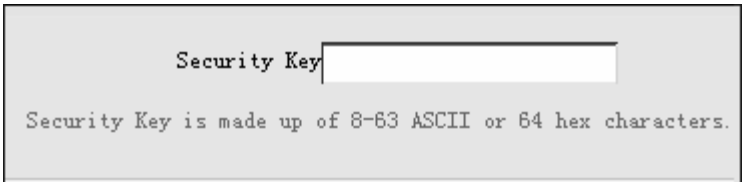
When the “Connection Status” displays “Connected”, you can start surfing Internet.



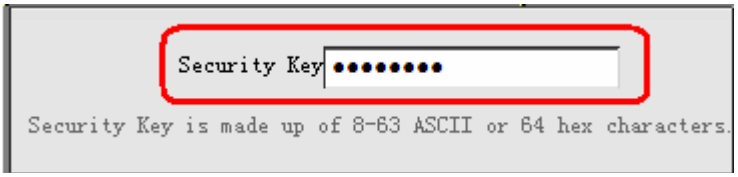
The device provides wireless feature, it is advisable to secure your wireless network with encryption.

Use the interface below to fast secure your wireless network (Only a catchy security key is required) or go to Advanced (click the “Advanced” tab on the upper right corner)–Wireless--Security for more settings (Apart from the security key option, you can select a security mode and a cipher type that best fit yourself or keep the defaults thereof unchanged. Detailed settings for the latter option, refer to Section 4.4.2 herein).

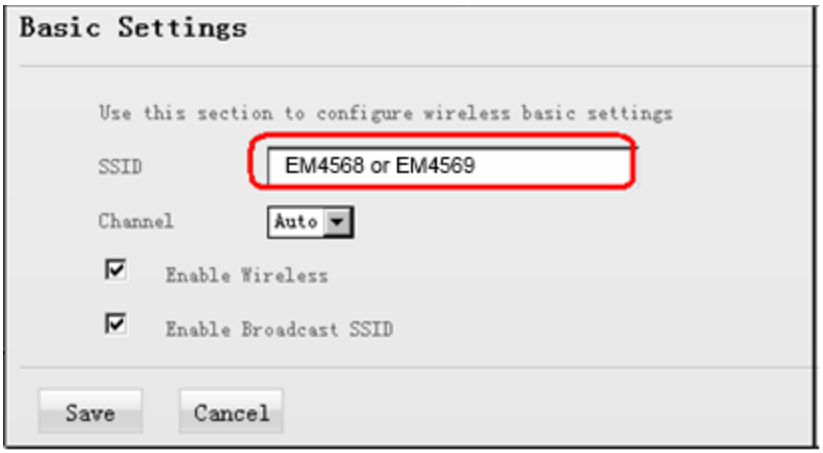
The interface below allows you to setup a security key that allows 8-64 characters. The security mode and cipher type is preset to WPA-PSK and TKIP+AES by default.



Security Key: Enter a catchy phrase of 8-64 characters for authenticating on wireless clients that try to connect to your wireless network.
For example: If you want to set the security key to **88888888**, then simply enter it in the security key field below:



The device SSID is preset to “EM4568_xxxxx or EM4569_xxxx” (xxxxxx represents the last 6 characters in device MAC), for example “EM4568_234588 or EM4569_234588”. You can view or change it in Wireless→ Basic section.



Now, check whether you can have “EM4568 or EM4569” on your wireless network adapter’s scan list:

Note: The device default SSID is “EM4568_XXXXXX” where “XXXXXX” stands for the last 6 characters in the device MAC address.

1. Click (wireless connection icon) to search for wireless networks as below:

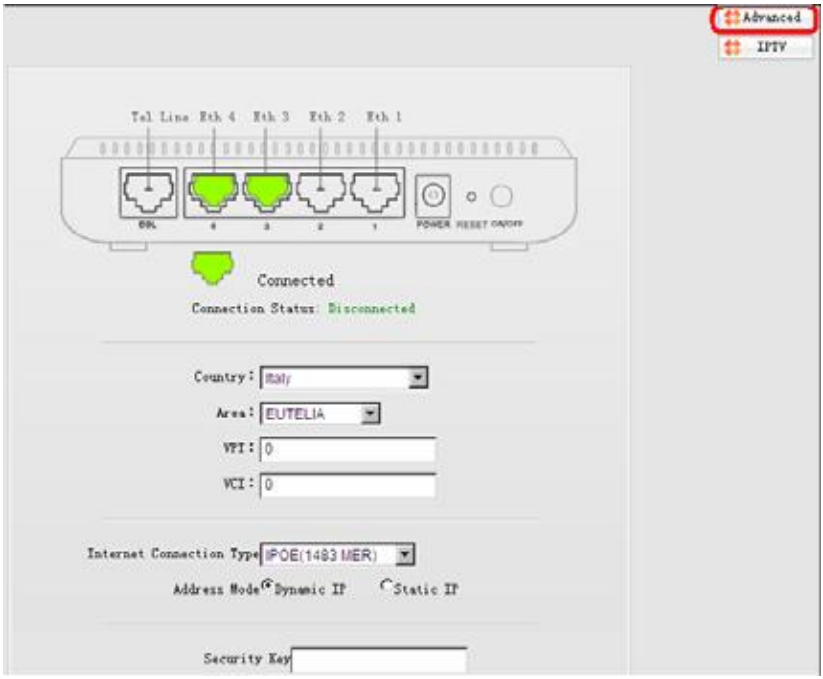
2. Click “EM4568 or EM4569”, select “Connect” to go to the dialogue box below and Enter the security key: 88888888.

Click “OK” and device will automatically connect such wireless adapter to the wireless network in a while.

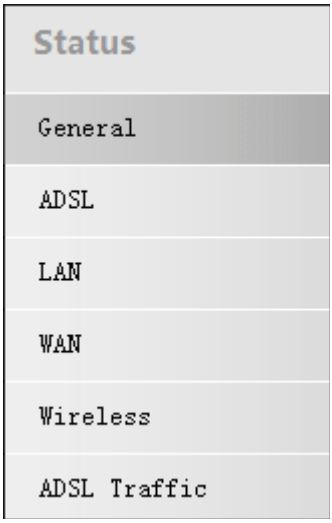
Advanced settings provide you more and powerful functionalities such as bandwidth control, access control and port forwarding, etc. Read sections hereunder if you'd like to know more.

4.0 Advanced Settings

On the screen below, click “Advanced”:



4.1 Status



4.1.1 General

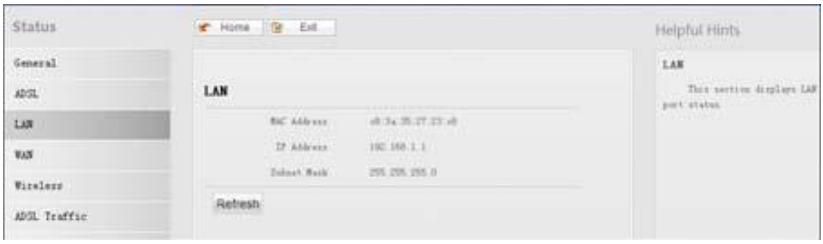
This section displays device's current software/hardware version, uptime and system mode info as below

4.1.2 ADSL

This section displays ADSL version/mode, ANNEX type, ADSL connection status and virtual circuit settings, etc as below:

4.1.3 LAN

This section displays LAN info: MAC/IP address and subnet mask as below.

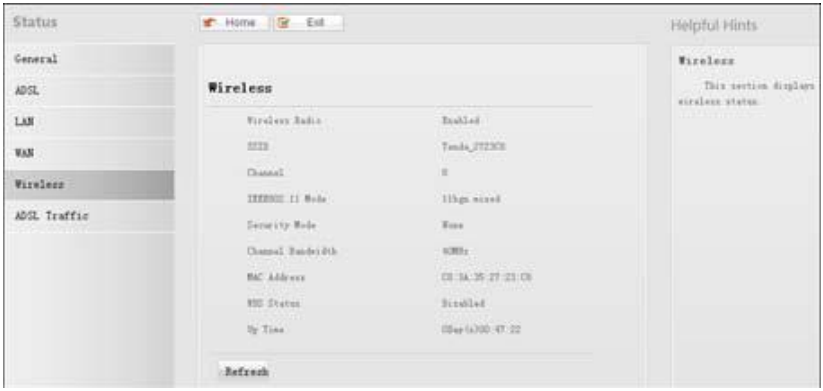


4.1.4 WAN

This section displays WAN info: Internet connection type, connection status, MAC/IP address, gateway, primary/secondary DNS, subnet mask and uptime as below

4.1.5 Wireless

This section displays wireless info: wireless radio status (enabled/disabled), SSID, channel, network mode (802.11 mode), wireless security settings, channel bandwidth, MAC address, WDS status and uptime as below



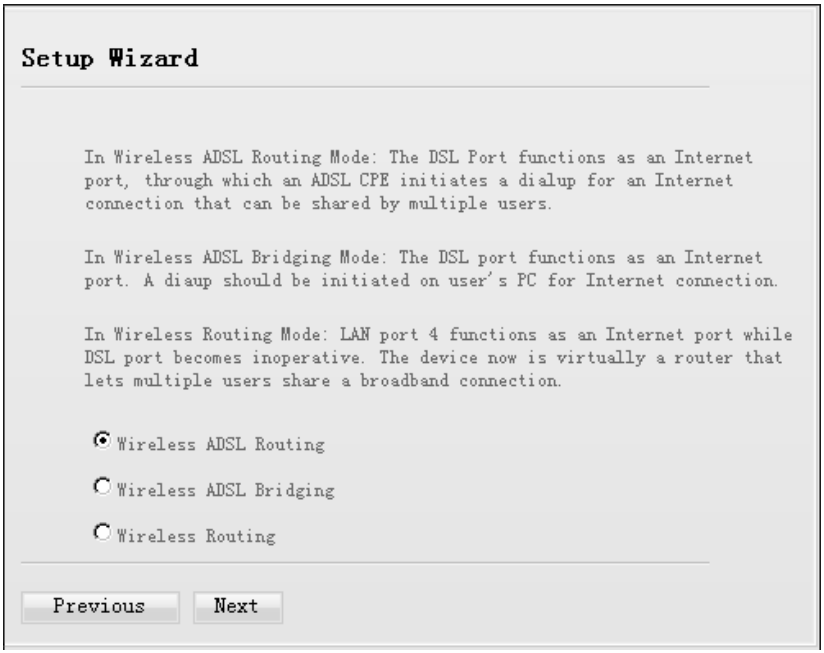
4.1.6 ADSL Traffic Statistics

This section displays number of packets sent/received on ADSL link as below.

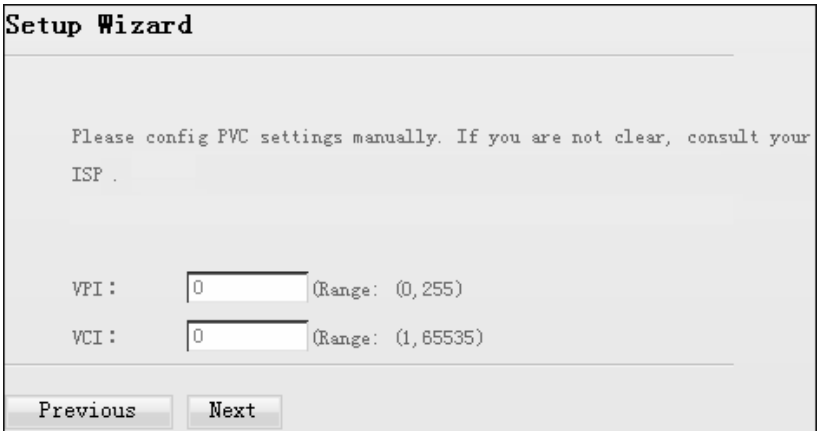
4.2 Quick Setup

This setup wizard guides you through basic settings for Internet connection.

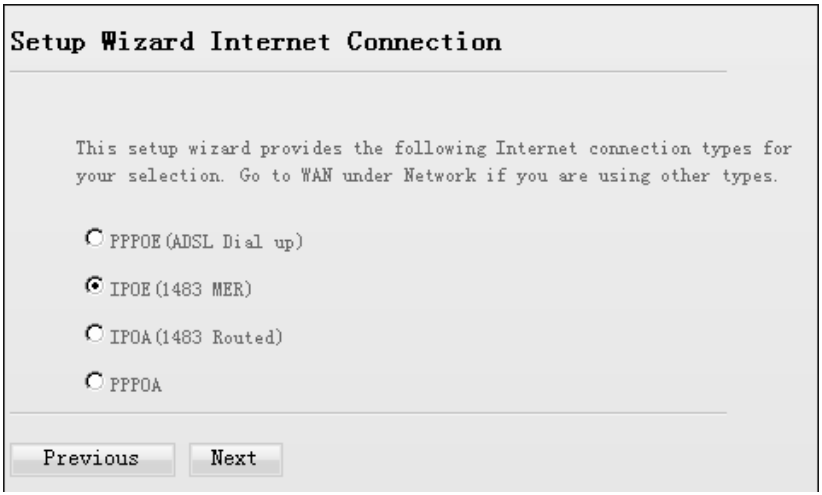
3 system modes are supported on the device as below:



Wireless ADSL Routing Mode: In this mode, device connects to Internet via a telephone cable. And PCs with wireless adapters can connect to the device wirelessly.
Wireless ADSL Bridging Mode: In this mode, the DSL port functions as an Internet port. A diaup should be initiated on user's PC for Internet connection.
Wireless Routing Mode: In this mode, LAN port 4 functions as an Internet port while DSL port becomes inoperative. The device is virtually a wireless router that lets multiple users share a broadband connection.
Select one mode according to your own needs (Wireless ADSL Routing Mode is used below) and click “Next”.



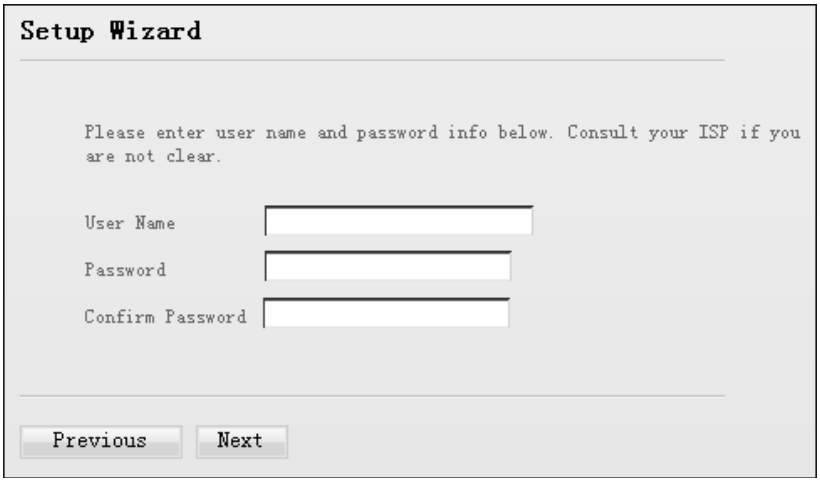
This is the ADSL uplink virtual connection. Consult your ISP for PVC settings and enter them manually.



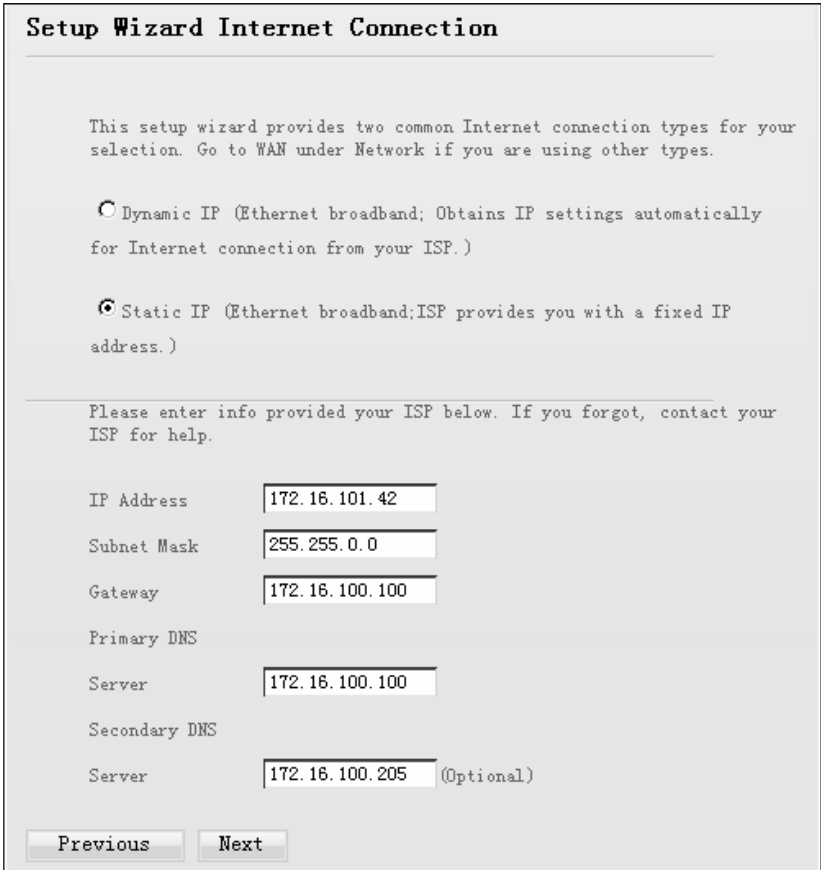
The device supports 4 Internet connection types (The default is IPOE-Dynamic IP).

- PPPOE: Connect to Internet via PPPOE virtual dialup.
- **IPOE-Dynamic IP:** Connect to Internet via a dynamic IP assigned by ISP over Ethernet.
- **IPOE-Static IP:** Connect to Internet via a fixed IP assigned by ISP over Ethernet

Select PPPoE, click “Next”, if your ISP is using a PPPoE connection, and then enter the user name and password provided by your ISP.



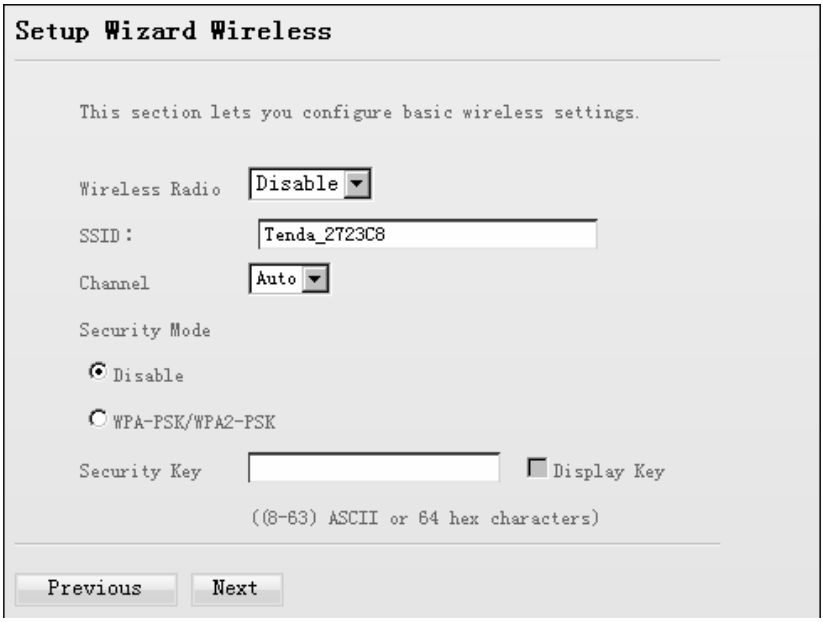
If you are using a dynamic IP, simply click "Next”. The device will obtain IP settings automatically from your ISP.
If you are using a **static** IP, enter the IP, subnet mask, gateway, and primary/secondary DNS addresses and then click “Next”.



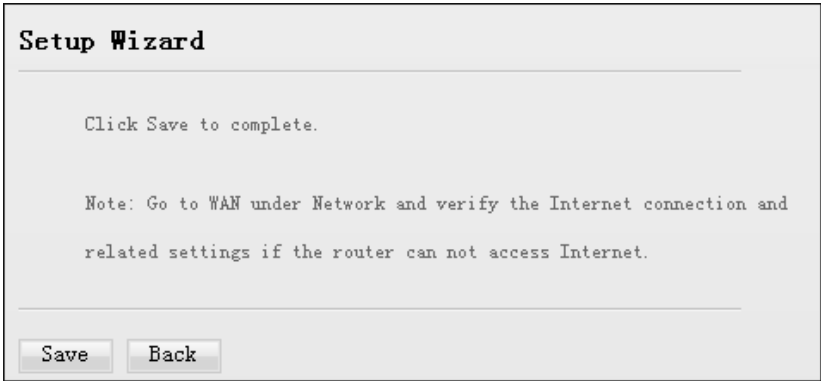
- **IP Address:** Enter the WAN IP address provided by your ISP. Consult your ISP if you are not clear.
- **Subnet Mask:** Enter the WAN Subnet Mask provided by your ISP. Consult your ISP if you are not clear.
- **Gateway:** Enter the WAN Gateway address provided by your ISP. Consult your ISP if you are not clear.
- Primary **DNS Server:** Enter the necessary DNS address provided by your ISP. Consult your ISP if you are not clear.
- Secondary **DNS Server:** Enter the other DNS address if your ISP provides you with 2 such addresses, and it is optional.

For IPOA, PPPOA connection types, refer to IPOE and PPPOE.

Whatever connection type you select, it is advisable to setup basic wireless features.



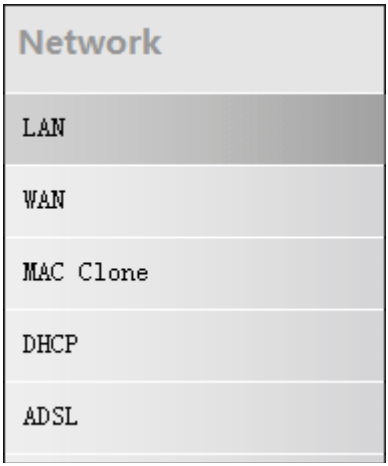
If you are not planning to change any default settings, click “Next”.
After completing the basic wireless settings, the screen below shall be displayed.



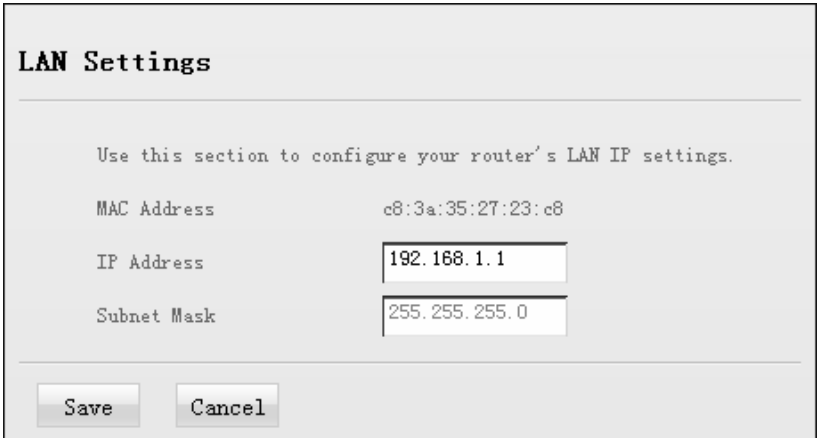
Click “Save” to save your settings and you will be advised to reboot the device. When reboot completes, you can go to “Status”→”WAN” to view such settings.


WAN
Connection Type
Dynamic IP （IPOE）
Connection Status
Cable improperly connected!
MAC Address
c8:3a:35:27:23:c9
IP Address
0.0.0.0
Subnet Mask
0.0.0.0
Gateway
0.0.0.0
Primary DNS Server
0.0.0.0
Secondary DNS Server
0.0.0.0
Up Time
0Day(s)00:00:00
Refresh

4.3 Network



4.3.1 LAN



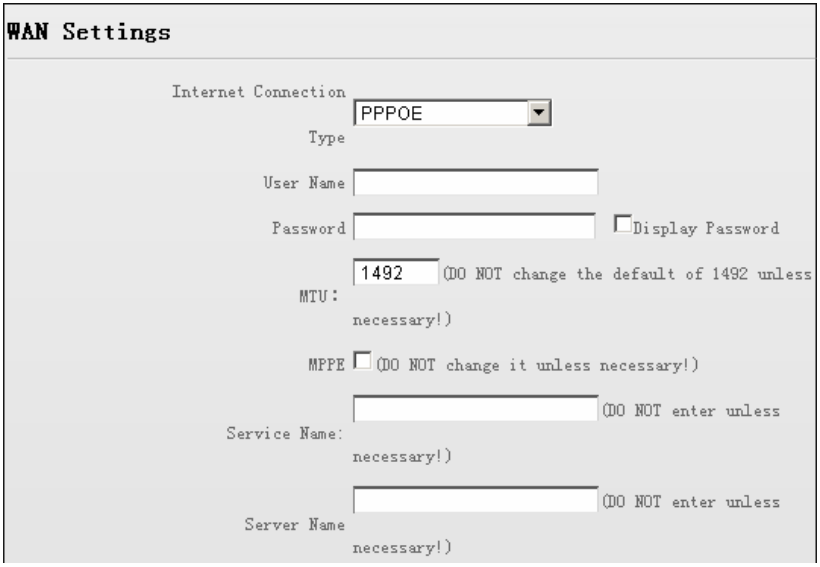
- **MAC Address:** Displays device's LAN MAC address. It is unconfigurable.
- **IP Address:** Device's LAN IP. The default is 192.168. 1.1. You can change it according to your need.
- **Subnet Mask:** Device's LAN subnet mask. The default is 255.255.255.0.

Note: If you change the device's LAN IP address, you must reconfig your PC's TCP/IP settings accordingly and enter the new one in your browser to get back to its web

utility. LAN PCs' gateway must also be set to this new IP address for successful Internet connection

4.3.2 WAN Settings

PPPoE
Click "Network" ->"WAN" and select PPPoE from corresponding drop-down list.

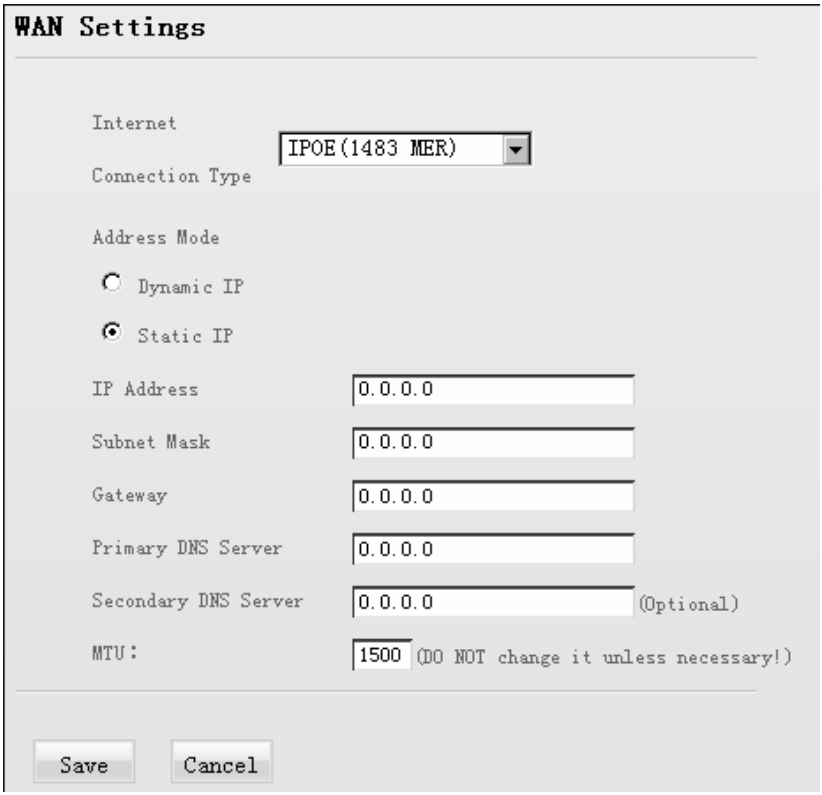


- **Internet connection Type:** Displays current Internet connection type.
- **User Name:** Enter the User Name provided by your ISP.
- **Password:** Enter the password provided by your ISP.
- **Display Password:** Display password as it is instead of in codes.
- **MTU:** Maximum Transmission Unit. DO NOT change it from the factory default of 1492 unless necessary. You may need to change it for optimal performance with some specific websites or application software that cannot be opened or enabled; in this case, try 1450, 1400, etc.
- **MPPE**：Select it to encrypt data in transmission. DO NOT select it unless necessary.
- **Service Name:** Description of PPPoE connection. Leave blank unless necessary.
- **Server Name:** Description of server. Leave blank unless necessary.

IPoE→Dynamic IP

If your ISP is using an IPoE connection and does not give you any IP info, then select IPoE→Dynamic IP

The device will obtain an IP address from ISP automatically.
MTU: Maximum Transmission Unit. The default value is 1500.
Set DNS Server Manually: Check the box to enter DNS address(es) manually.
IPoE→Static IP
If your ISP **is** using an IPoE connection and assigns a fixed IP address to you, then select IPoE→Static IP, and enter the IP address, subnet mask, primary DNS and secondary DNS(optional) info provided by your ISP in corresponding fields.



- **IP Address:** Enter the WAN IP address provided by your ISP. Consult your ISP if you are not clear.
- **Subnet Mask:** Enter WAN Subnet Mask provided by your ISP. The default is 255.255.255.0.
- **Gateway:** Enter the WAN Gateway provided by your ISP.
- **Primary DNS Server:** Enter the DNS address provided by your ISP.
- **Secondary DNS Server:** Enter the other DNS address if your ISP provides 2 such addresses (optional).

IPOA

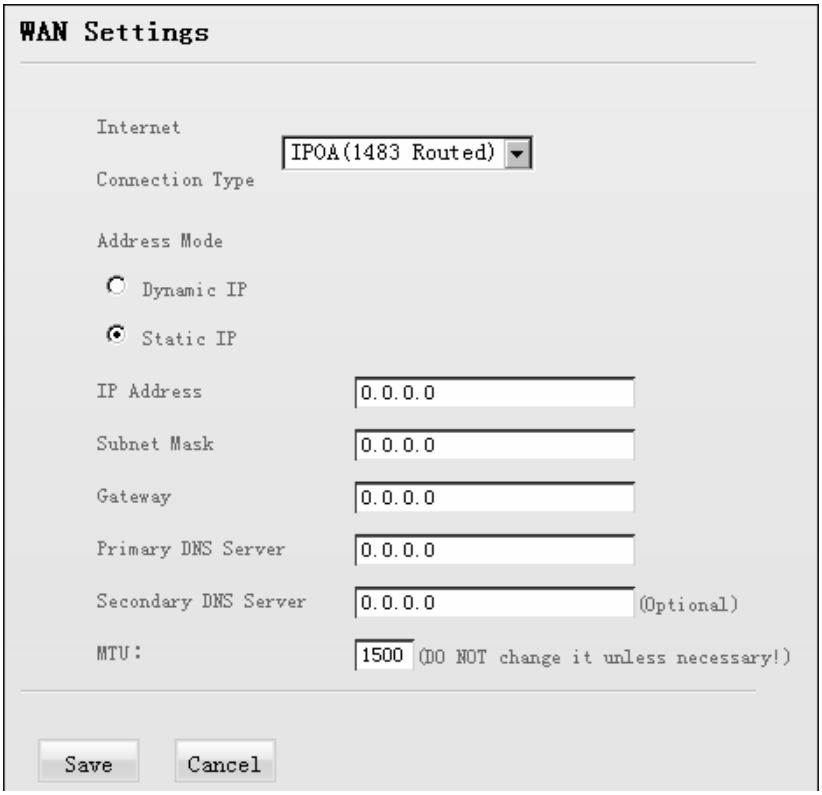
IPOA→Dynamic IP

If your ISP is using an IPOA connection and does not give you any IP info, then select IPOA→Dynamic IP.

The device will obtain an IP address from ISP automatically.

IPoA→Static IP

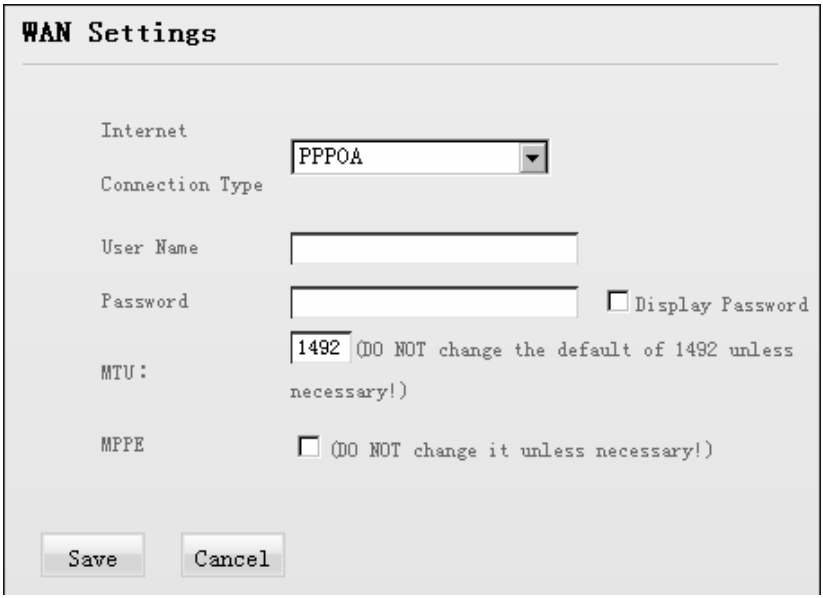
If your ISP **is** using an IPoA connection and assigns a fixed IP address to you, then select IPoA→Static IP, and enter the IP address, subnet mask, primary DNS and secondary DNS(optional) info provided by your ISP in corresponding fields.



- **IP Address:** Enter the WAN IP address provided by your ISP. Consult your ISP if you are not clear.
- **Subnet Mask:** Enter WAN Subnet Mask provided by your ISP. The default is 255.255.255.0.
- **Gateway:** Enter the WAN Gateway provided by your ISP.
- **Primary DNS Server:** Enter the DNS address provided by your ISP.
- **Secondary DNS Server:** Enter the other DNS address if your ISP provides 2 such addresses (optional).
- **MTU:** Maximum Transmission Unit. DO NOT change it from the factory default of 1492 unless necessary. You may need to change it for optimal performance with some specific websites or application software that cannot be opened or enabled; in this case, try 1450, 1400, etc.

PPPoA

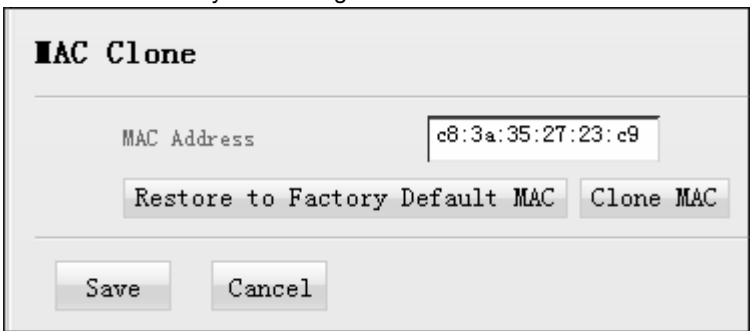
Click “Network” ->“WAN” and select PPPoA from corresponding drop-down list.



- **User Name:** Enter the User Name provided by your ISP.
- **Password:** Enter the password provided by your ISP.
- **Display Password:** Display password as it is instead of in codes.
- **MTU:** Maximum Transmission Unit. DO NOT change it from the factory default of 1492 unless necessary. You may need to change it for optimal performance with some specific websites or application software that cannot be opened or enabled; in this case, try 1450, 1400, etc.

4.3.3 MAC Address Clone

This section allows you to configure device's WAN MAC address



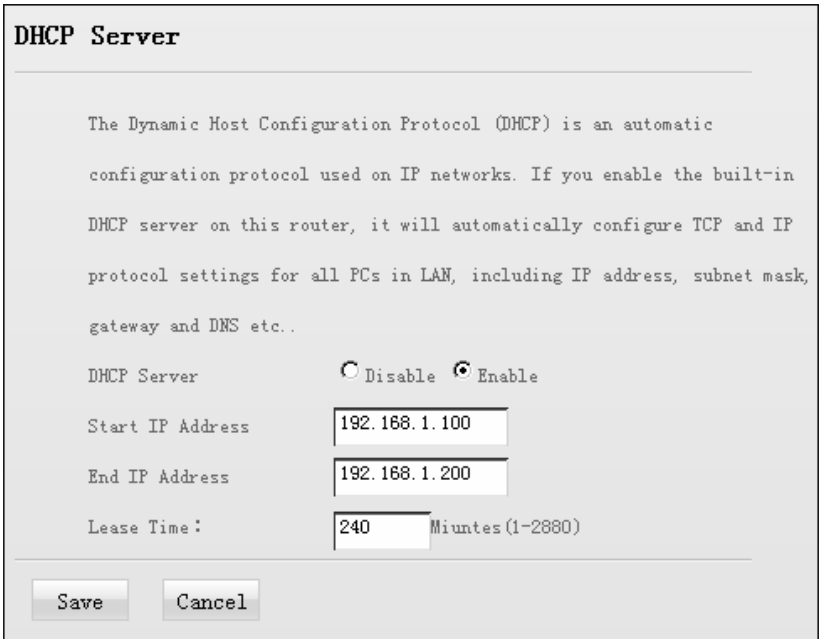
- **MAC Address:** Config device's WAN MAC address. You can either enter one manually or click the "**Clone MAC" button to copy your PC's MAC.**
- **Clone MAC**: Clicking this button changes device's WAN MAC address from default to the MAC address of the PC you are currently on. Don't use this button unless your PC's MAC address is the one bound by your ISP.
- **Restore to Factory Default MAC:** Restores device's WAN MAC to factory default.

***Note:** After you clicked "Restore to Factory Default MAC", you need to reboot the device to activate it.*

4.3.4 DHCP

DHCP Server

DHCP server is enabled on the device by default. The Dynamic Host Configuration Protocol (DHCP) is an automatic configuration protocol used on IP networks. If you set all LAN PCs to "Obtain an IP Address Automatically" and "Obtain DNS server address automatically", they will automatically load proper TCP/IP settings provided by the device DHCP server when turned on (including IP address, subnet mask, gateway and DNS etc), eliminating the need for manual intervention...



- **Start IP Address:** Enter the starting IP address for the DHCP server's IP assignment.
- **End IP Address:** Enter the ending IP address for the DHCP server's IP assignment.
- **Lease Time:** The length of time for the IP address lease. Configuring a proper lease time improves the efficiency for the DHCP server to reclaim disused IP addresses.

DHCP Client List

This section displays a DHCP client's MAC address, host name, IP address and lease time obtained from the DHCP server

- **IP Address:** Displays the IP address assigned by the DHCP server.
- **MAC Address:** Displays the MAC address of a corresponding DHCP client (PC or other network device).
- **Host name:** Displays the name of a PC or other network device (DHCP client).
- **Lease Time:** Displays remaining time for a corresponding IP address lease.

Static Assignment

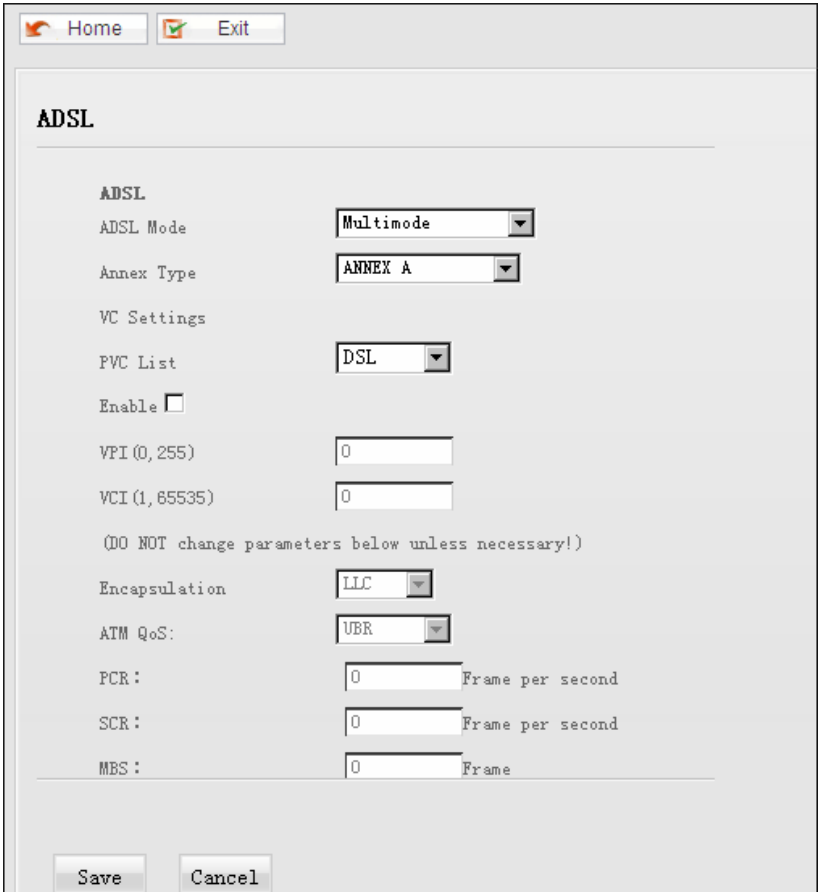
This feature allows DHCP server to always assign an identical IP address to a PC at a given MAC address.

- **IP Address:** Enter an IP address for DHCP static assignment.

- **MAC Address:** Enter the MAC address of a computer to always receive the same IP address (the IP you just entered above).

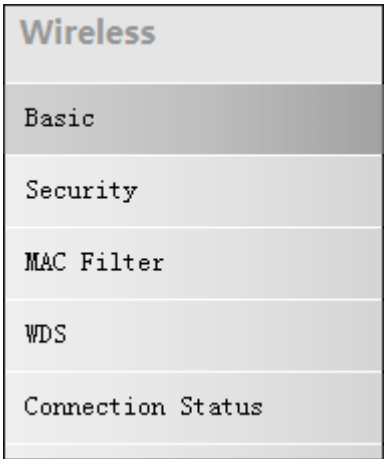
4.3.4 ADSL Settings

This section allows you to select an ADSL mode and an ANNEX type, as well as config VPI/VCI settings for both Internet connection and IPTV connection.

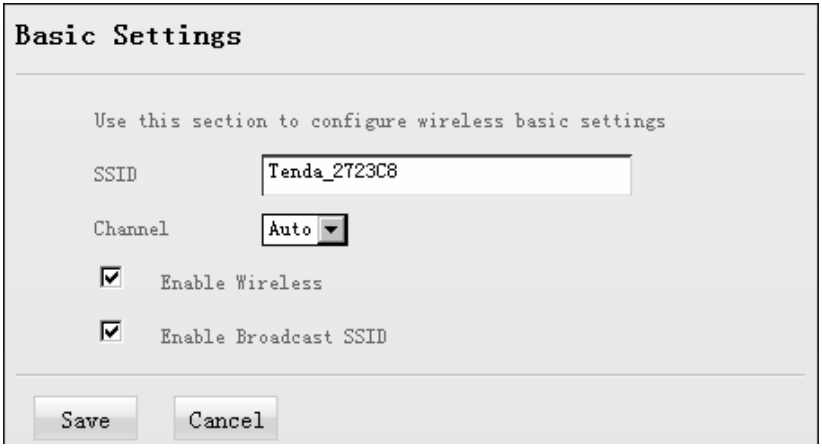


Note: DO NOT change default settings on the screen above unless neccessary.

4.4 Wireless



4.4.1. Basic Settings

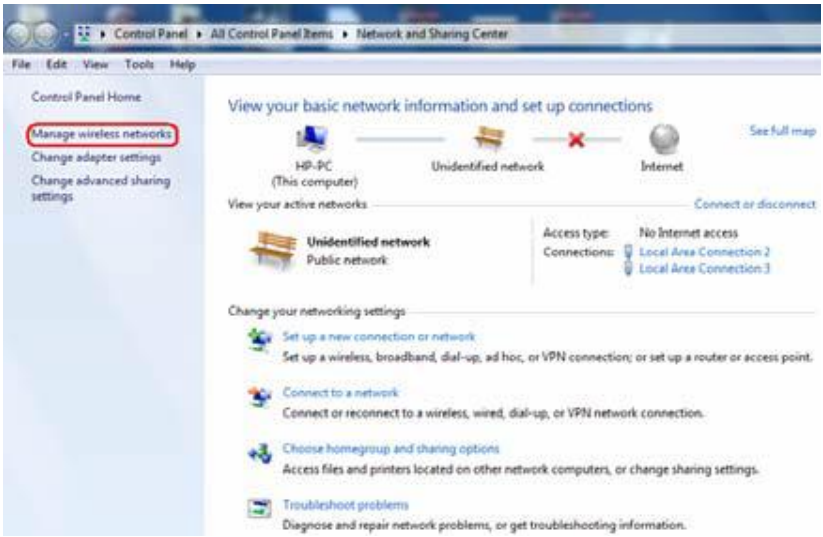


- **SSID：** A SSID (Service Set Identifier) is the unique name of a wireless network.
- **Channel:** For an optimal wireless performance, you may select the least interferential channel. It is advisable that you select an unused channel or “Auto” to let device detect and select the best possible channel for your wireless network to operate on from the drop-down list. There are 13 channels available.
- **Enable Wireless:** Check/uncheck to activate/ deactivate wireless radio. If disabled, all wireless related features will be disabled automatically.

- **Enable Broadcast SSID:** Check/uncheck to make your wireless network visible/ invisible to any wireless clients within coverage when they perform a scan they perform a scan to see what's available.
-

When the **Broadcast SSID** is disabled, your wireless network will not appear in clients' scan lists but it is still available, they only need to add it manually. Below instructs you how to add a wireless network in Windows 7:

Step1: Click icon on bottom right corner as seen in the screenshot above.
Step2: Click "Open Network and Sharing Center" to display the screen below.



Step3: Click “Manage Wireless Network” to enter the page below

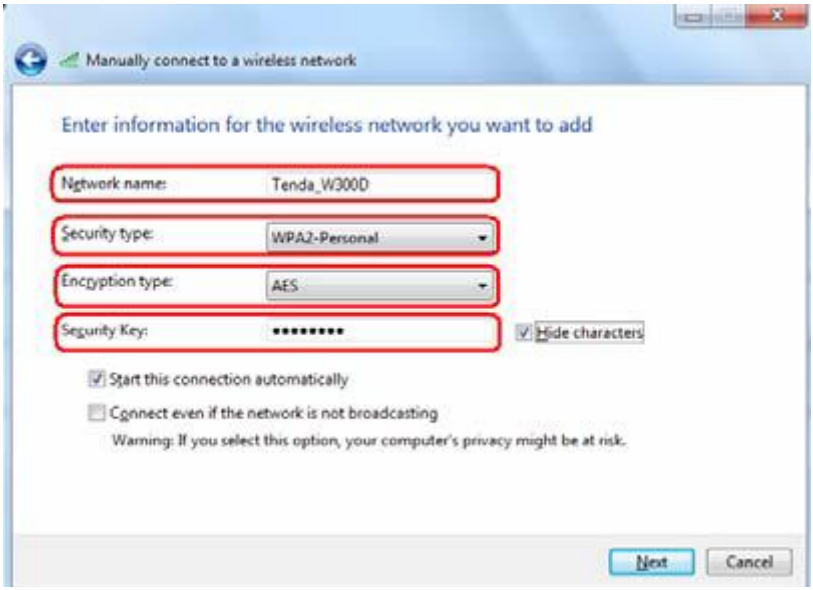
Step4: Click the “Add” button on the page above to enter “Manually connect to a wireless network” page and select “Manually create a network profile” on the page below:

Step5: Enter the required wireless network info on the page below, and then click “Next”.

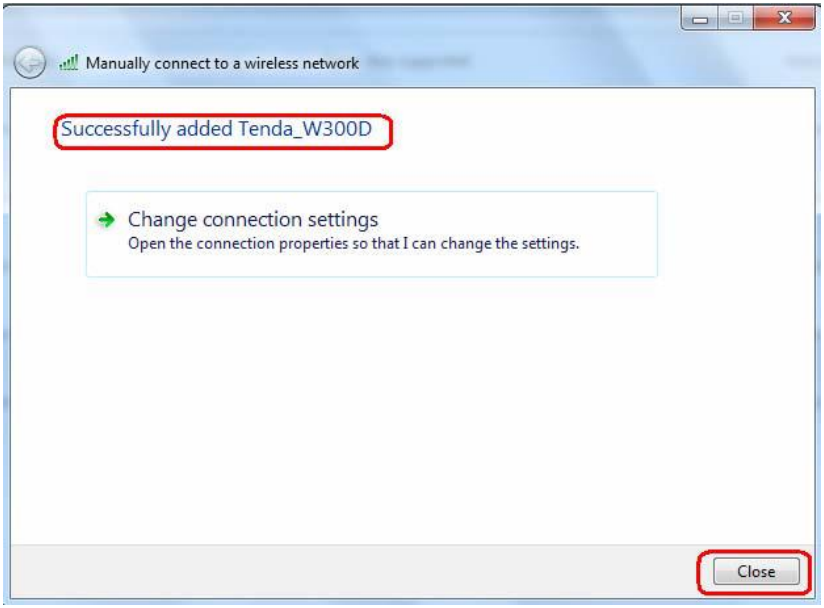
Network name: The name of the wireless network to add (SSID).

Security type: Enter the security mode of the wireless network.

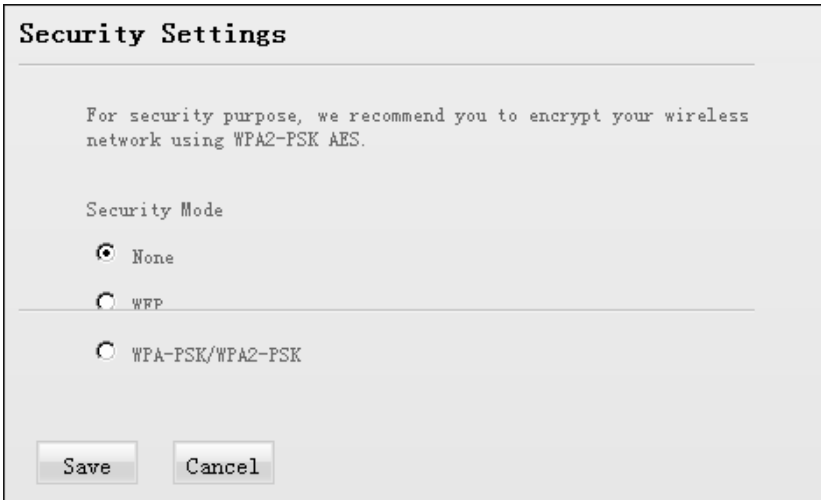
Security key: Enter the security key of the wireless network.



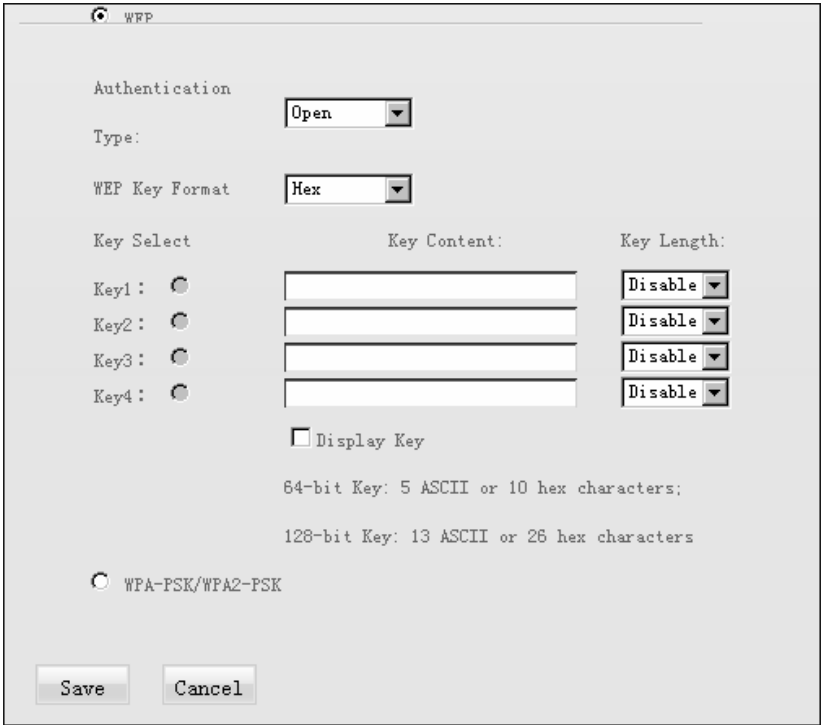
Step6: Click the “Close” button and you have added the wireless network manually. You can go to “Manage Wireless Network” to check it.



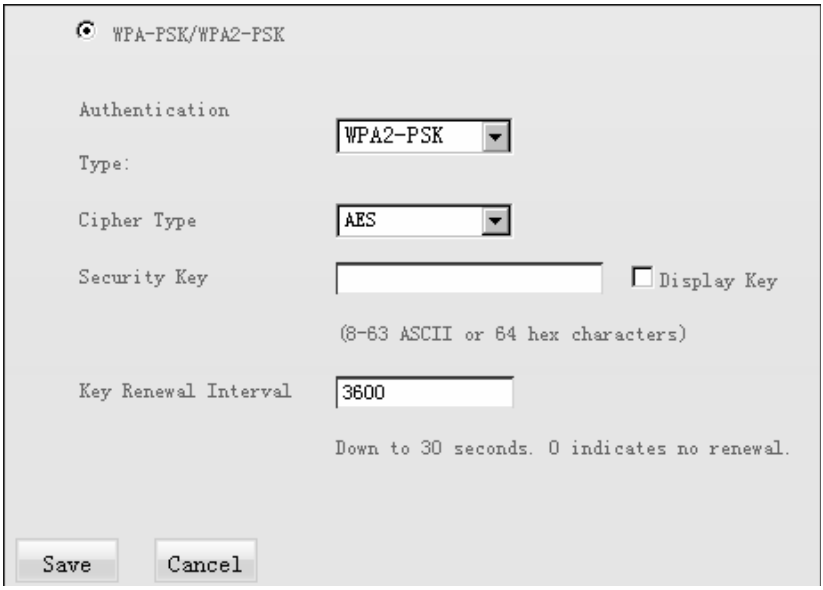
4.4.2 Security



WEP
AuthenticationType: Select “Open” or “Shared”
WEP Key Format: Select HEX or ASCII.
Key Select: Select a valid key from keys 1-4. Note that you must enter the key content in the corresponding format selected.

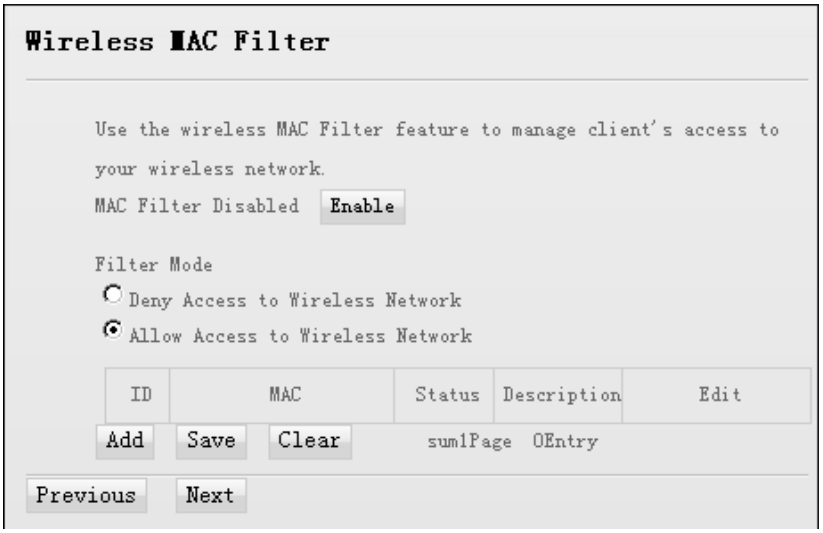


WPA-PSK/WPA2-PSK:
There are 2 cipher types for WPA-PSK security mode: AES and TKIP+AES.



4.4.3 MAC-based Wireless Access Control

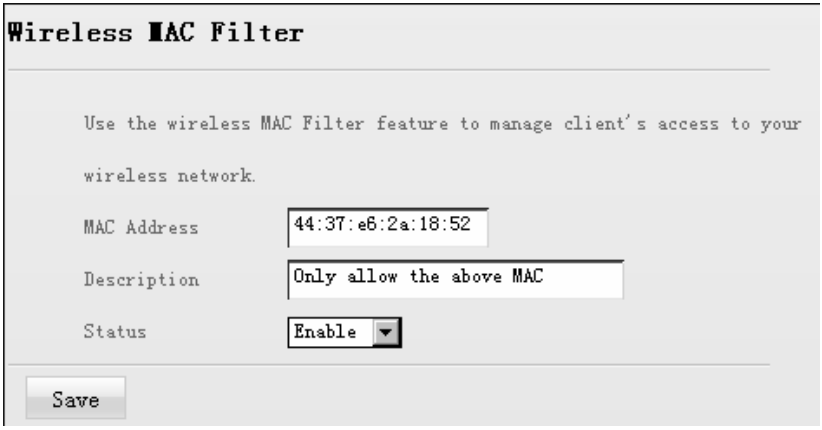
The MAC-based Wireless Access Control feature can be used to allow or disallow clients at specific MAC addresses to connect to your wireless network.



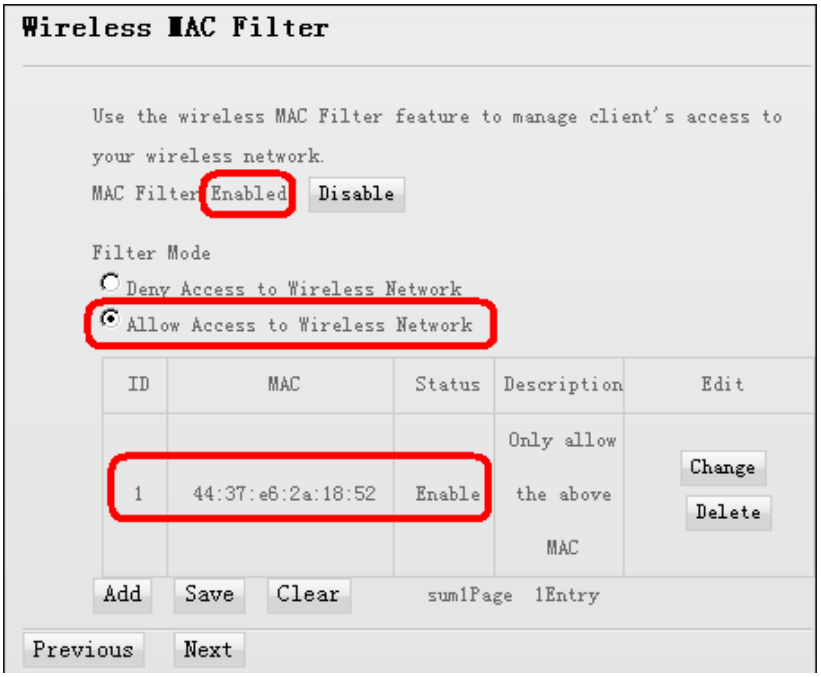
- **MAC Address Filter:** Selecting “Disable” means to deactivate the MAC address filter feature. “Allow Access to Wireless Network” only allows PCs at specified MAC addresses to connect to your wireless network while **“**Deny Access to Wireless Network**”** only blocks PCs at specified MAC addresses from connecting to your wireless network.
- **Add:** Click it to add a new MAC to the MAC address list.
- **Delete:** Click it to remove an existing entry.

For example: To allow only a PC at the MAC address of 44:37:e6:2a:18:52 to connect to your wireless network, do as follows:

1. Click “Add”, enter “44:37:e6:2a:18:52”, fill in Description field and select “Enable” as seen below:

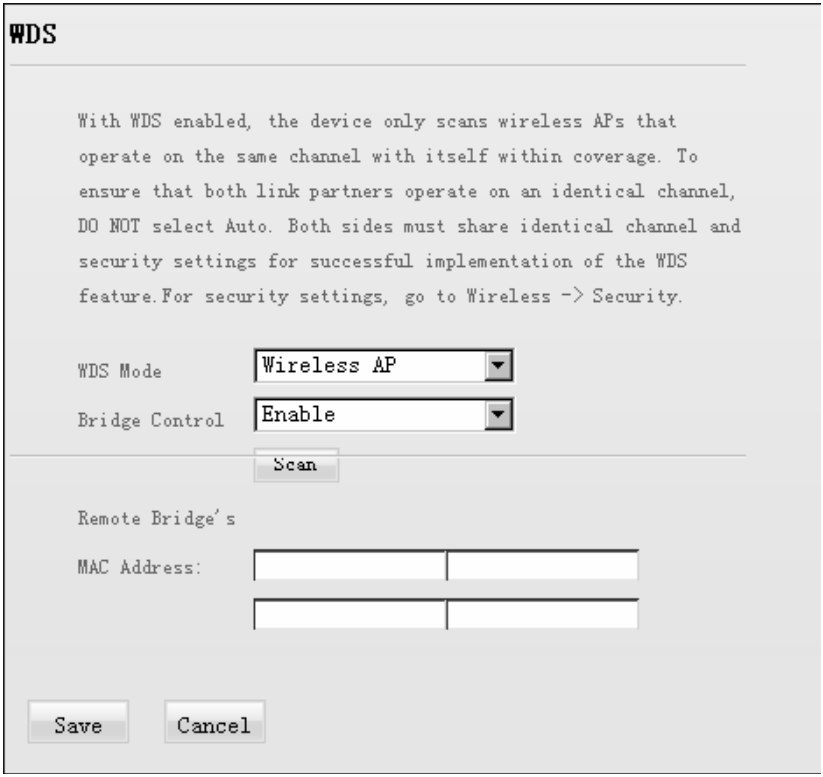


2. Select “Allow Access to Wireless Network” and enable the MAC address filter feature as seen below:



4.3.4 WDS

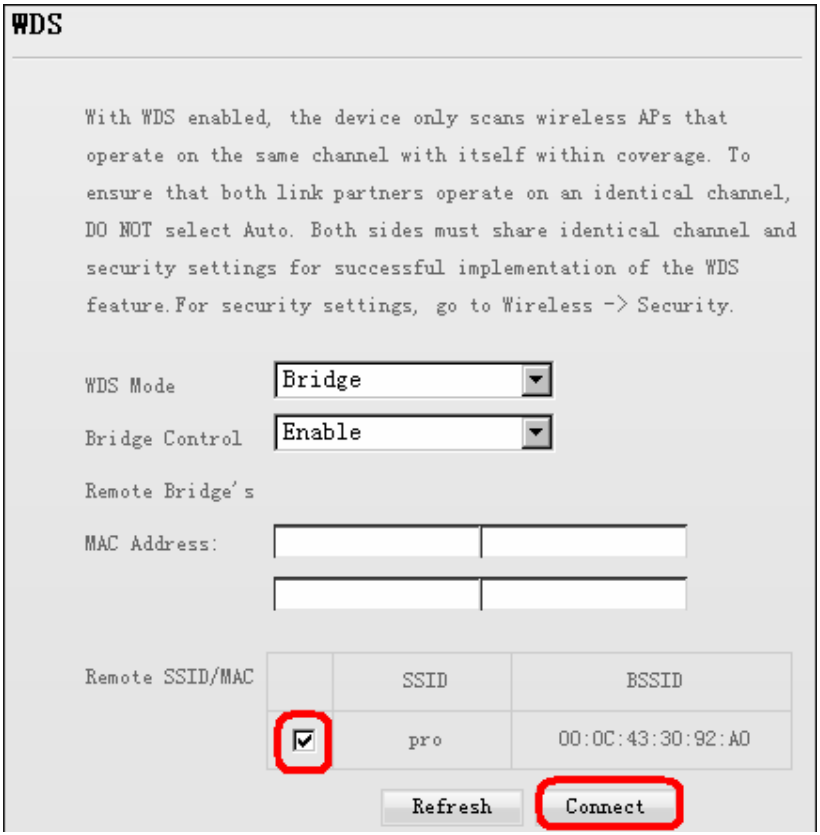
WDS (Wireless Distribution System) feature can be used to extend your existing wireless network coverage



WDS **Mode:** Select Wireless AP or bridge mode.
Bridge Control: Select Disable or Enable.
Scan: Enable the Bridge Control feature and Click the Scan button; SSIDs and BSSIDs of wireless devices on same channel will be displayed.
For example: To use the Scan button to display available networks, do as follows:

1. Select Bridge mode from WDS Mode drop-down menu and “Enable” from Bridge Control drop-down menu as seen below.

2. Click the “Scan” button.



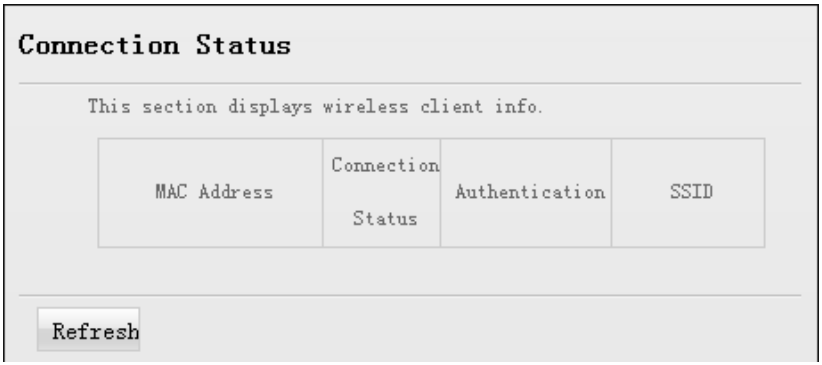
3. If you want to connect to any wireless network, simply check the box next to such network and click “Connect”. And device will connect to it automatically.

Note:

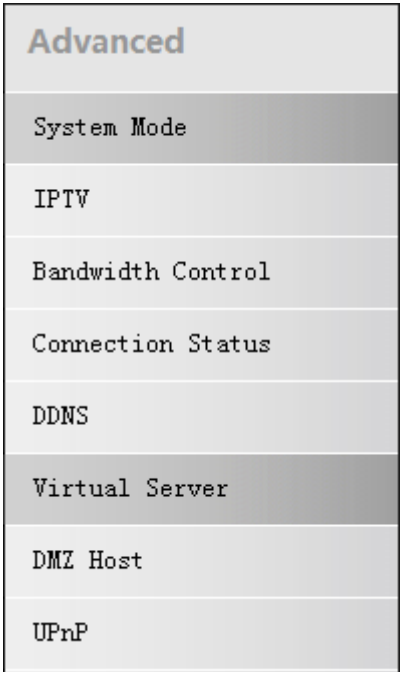
1. WDS feature can only be implemented between 2 wireless devices that both support the WDS feature.
2. SSID, channel, security settings and security key must be the same on both such devices.
3. The device only supports WEP encryption for this feature.
4. It is advisable to disable device’s built-in DHCP server when using the WDS feature
5. Device LAN IP must be set to the same IP net segment as link partner when using the WDS feature.

4.3.5 Connection Status

This section displays the info of currently connected wireless clients including MAC addresses and connection status, security mode and SSID.

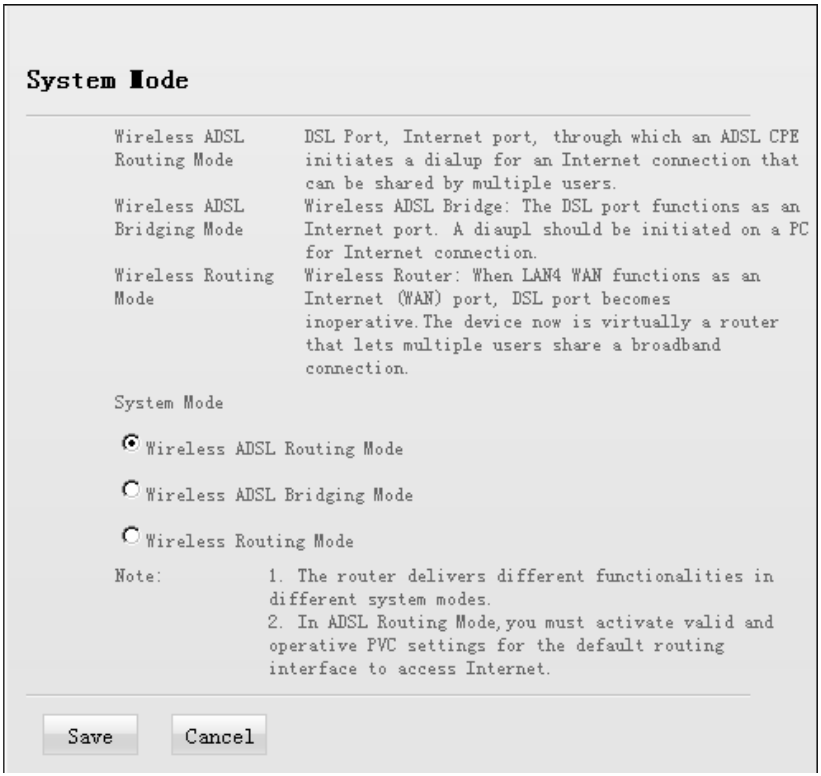


4.5 Advanced Applications



4.5.1 System Mode

3 system modes are supported: Wireless ADSL Routing, Wireless ADSL Bridging and Wireless Routing. The default is Wireless ADSL Routing.
Select Wireless ADSL Routing, if you want to connect to Internet via a telephone line and initiate a dialup on the device for Internet connection.
Select Wireless ADSL Bridging, if you want to connect to Internet via a telephone line and initiate a dialup on your PC for Internet connection.
Select Wireless Routing, if you want to connect to Internet via an Ethernet cable.



In Wireless ADSL Routing Mode: The DSL Port functions as an Internet port, through which an ADSL CPE initiates a dialup for an Internet connection that can be shared by multiple users.
In Wireless ADSL Bridging Mode: The DSL port functions as an Internet port. A diaup should be initiated on user's PC for Internet connection.
In Wireless Routing Mode: LAN port 4 functions as an Internet port while DSL port becomes inoperative. The device now is virtually a router that lets multiple users share a broadband connection.

Note: The IPTV feature is available only in Wireless ADSL Routing and Wireless ADSL Bridging modes.

4.5.2 IPTV

The IPTV feature makes it possible to enjoy online videos on your TV set via a set-top box while surfing Internet.

Note ：The IPTV feature is only available in Wireless ADSL Routing mode and Wireless ADSL Bridging mode.

- **Enable IPTV:** Check/uncheck to enable/disable the IPTV feature.
- **Wired:** Select it if you are connecting your set-top box to the device using an Ethernet cable.
- **Wireless:** Select it if you are connecting your set-top box to the device wirelessly.
- IPTV SSID SSID of IPTV wireless network; used by set-top box to connect to the device wirelessly.

- **WEP** Click to encrypt IPTV wireless connection.

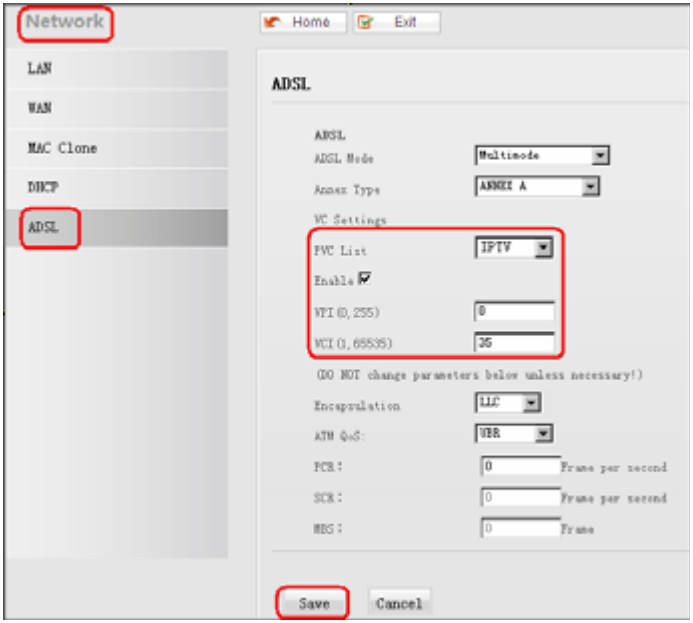
To use the IPTV feature, do as follows:

1) If you want to connect your set-top box to the device using an Ethernet cable, do as follows:

a). Connect your set-top box to LAN port 1 on the device.

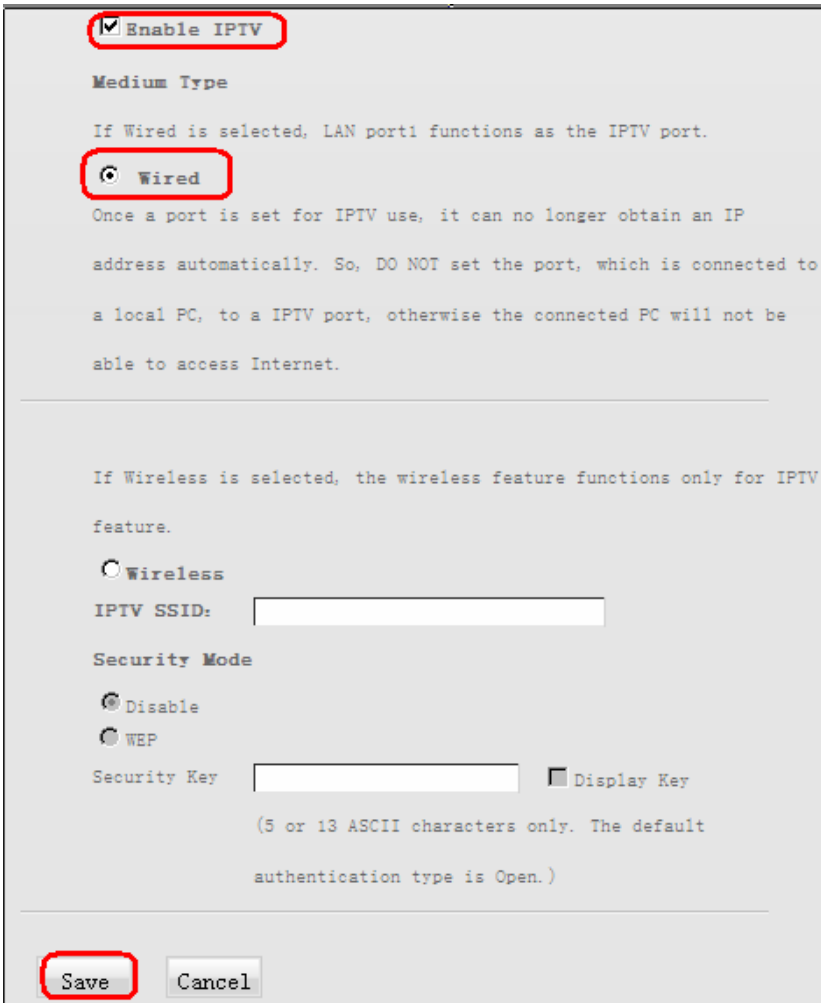
b). Go to **Network→ADSL**, select IPTV from PVC List drop-down menu, check "Enable" and then enter the VPI and VCI values manually. When you finish all these settings, click "Save" to save such settings.

Note: The VPI and VCI values on screenshot are for demonstration purpose only. Consult your ISP if you are not clear.



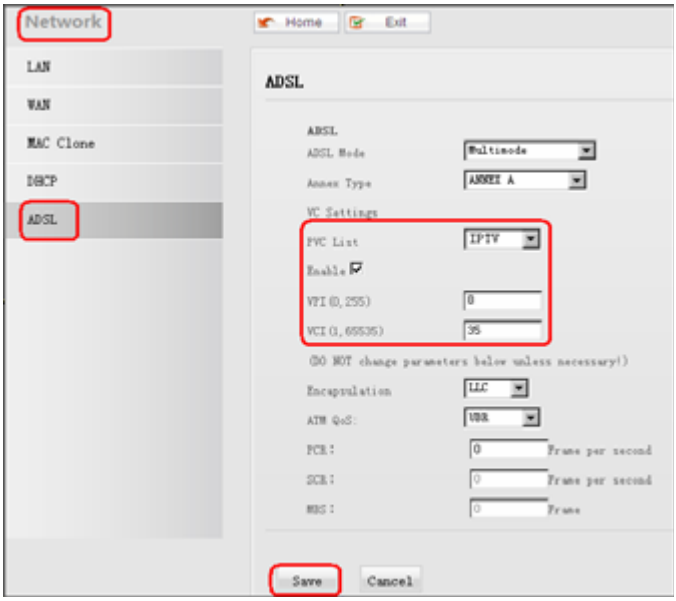
c) On the IPTV interface, check the "Enable IPTV" box and select "Wired" (activated by default).

d). Save your settings and reboot the device.

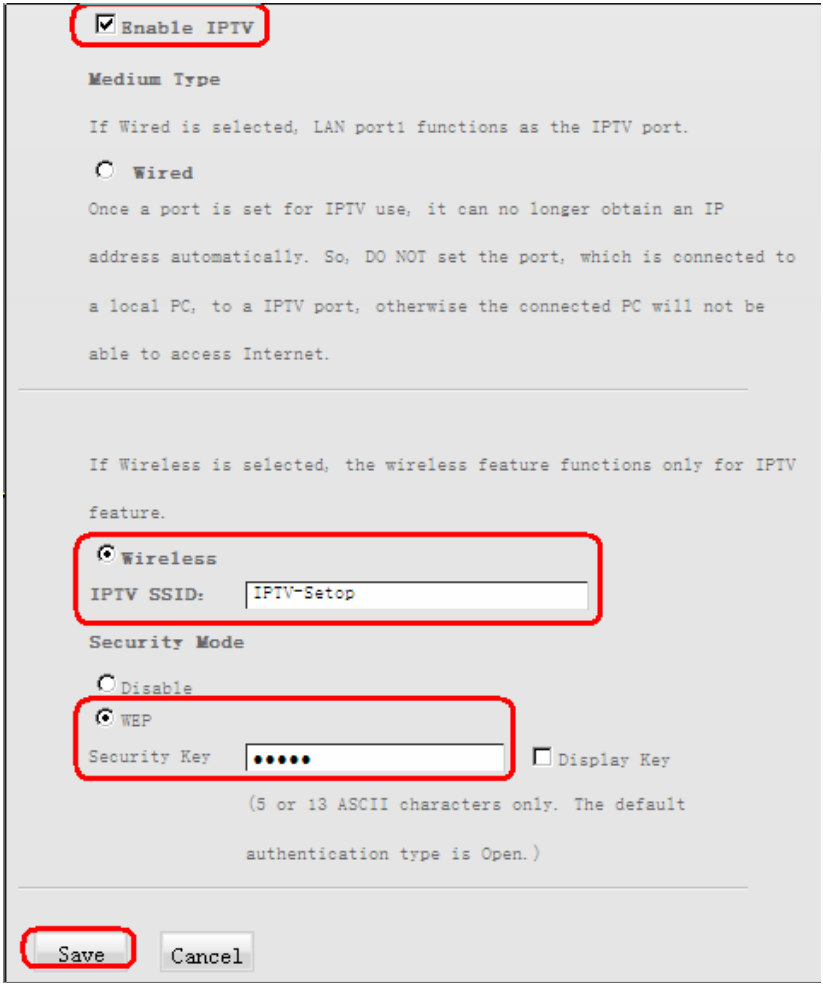


e). Turn on your set-top box when the ADSL LED displays a solid light after reboot.
f). When set-top box shows that it is successfully connected, you can start enjoying IPTV.
2) If you want to connect your set-top box to the device wirelessly, do as follows:

a). Go to **Network→ADSL**, select IPTV from PVC List drop-down menu, check "Enable" and then enter the VPI and VCI values manually. When you finish all these settings, click "Save" to save such settings.
Note: The VPI and VCI values on screenshot are for demonstration purpose only. Consult your ISP if you are not clear.



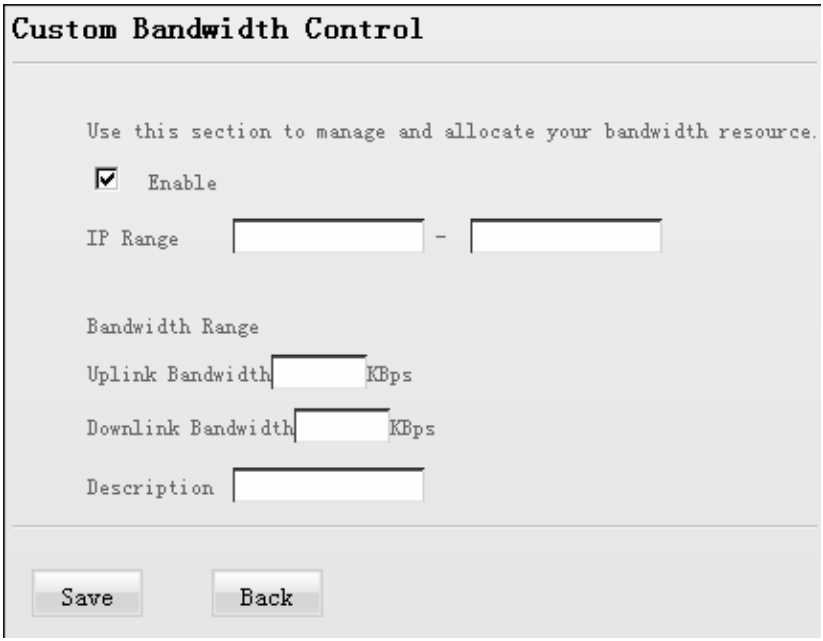
b) On IPTV interface, check the “Enable IPTV” box, select “Wireless” and specify an IPTV SSID (used by set-top box to connect to the device).
c). Select WEP and enter a key.
d). Save your settings and reboot the device.



e). Turn on your set-top box when the ADSL LED displays a solid light after reboot
f). On your set-top box management interface, select “Wireless”, enter the IPTV SSID and security key to connect to the device.

4.5.3 Bandwidth Control

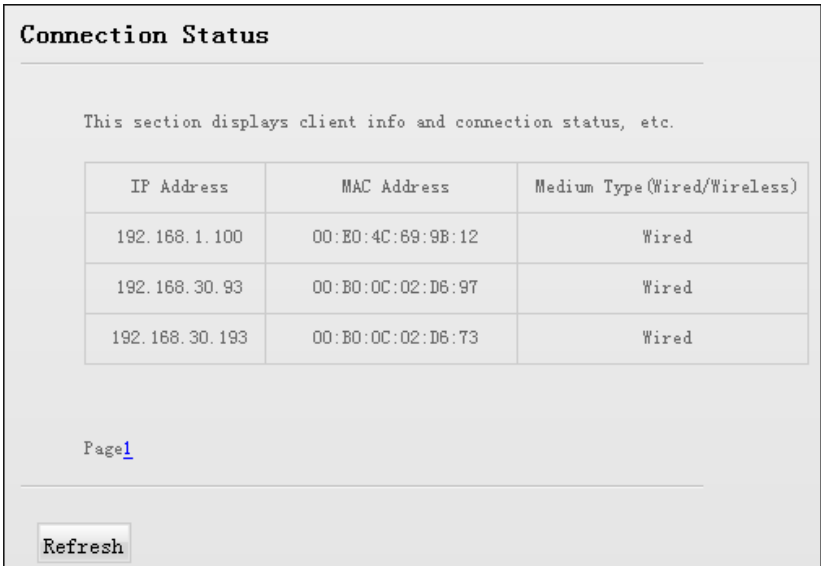
To better manage bandwidth allocation and optimize network performance, use the bandwidth control feature



- **Enable:** Check/uncheck to enable/disable current bandwidth entry. If disabled, the existing entry will not take effect.
- **IP Range:** Enter a single IP or an IP range.
- **Uplink Bandwidth Limit:** Max total upload bandwidth for a specified PC or a range of PCs.
- **Downlink Bandwidth Limit:** Max total download bandwidth for a specified PC or a range of PCs.
- **Description:** Simple description of current entry.

4.5.4 Connection List

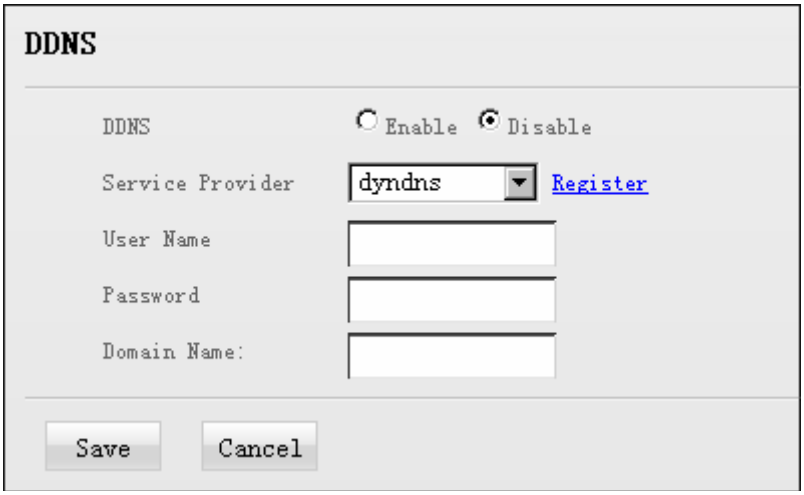
This section displays info of clients that connect to your device



- **IP Address**：Displays the IP address of a connected client.
- **MAC Address**：Displays the MAC address of a connected client.
- **Medium Type:** Displays "Wireless" or “Wired”, indicating whether corresponding client is connected to the device wirelessly or via an Ethernet cable.

4.5.5 DDNS

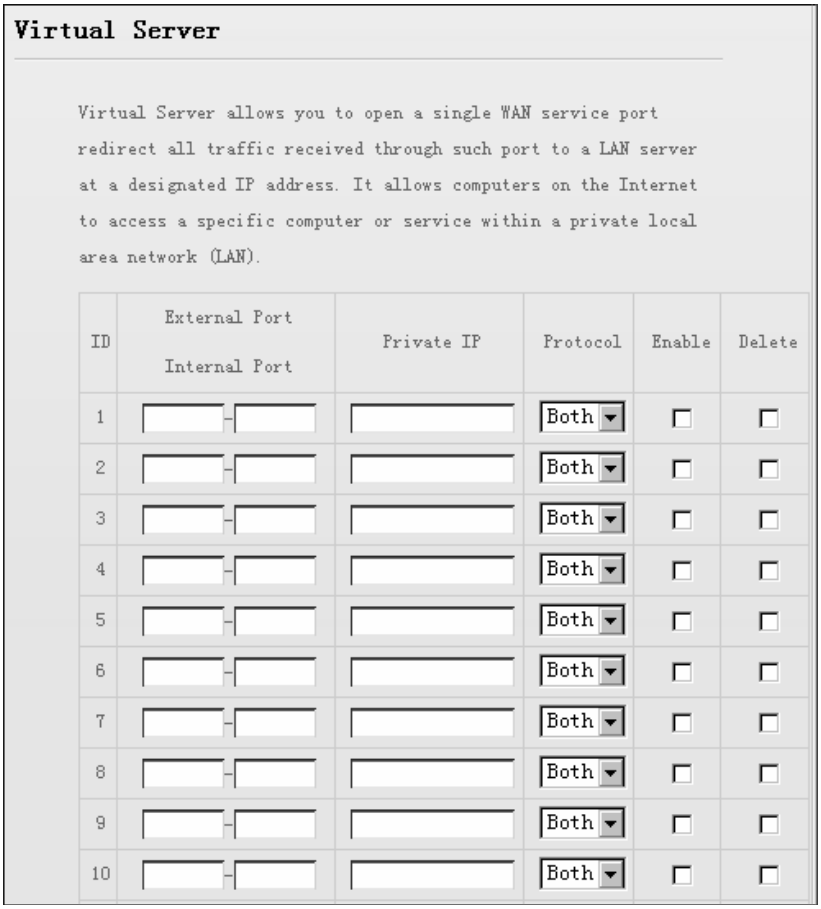
Dynamic DNS or DDNS is a term used for the updating in real time of Internet Domain Name System (DNS) name servers. We use a numeric IP address allocated by Internet Service Provider (ISP) to connect to Internet; the address may either be stable ("static"), or may change from one session on the Internet to the next ("dynamic").
However, a numeric address is inconvenient to remember; an address which changes unpredictably makes connection impossible. The DDNS provider allocates a static hostname to the user; whenever the user is allocated a new IP address this is communicated to the DDNS provider by software running on a computer or network device at that address; the provider distributes the association between the hostname and the address to the Internet's DNS servers so that they may resolve DNS queries. Thus, uninterrupted access to devices and services whose numeric IP address may change is maintained.



- **DDNS:** Select to Enable or Disable the DDNS feature.
- **Service Provider:** Select your DDNS service provider from the drop-down menu.
- **Username:** Enter the DDNS username registered on DDNS server.
- **Password:** Enter the DDNS password registered on DDNS server.
- **Domain Name:** Enter the DDNS domain name distributed by your DDNS service provider.
- **Save:** Click it to save your settings.

4.5.6 Virtual Server

The Virtual Server feature grants Internet users access to services on your LAN. It is useful for hosting online services such as FTP, Web, or game servers. For each Virtual Server, you define a WAN port on your router for redirection to an internal LAN IP Address and LAN port



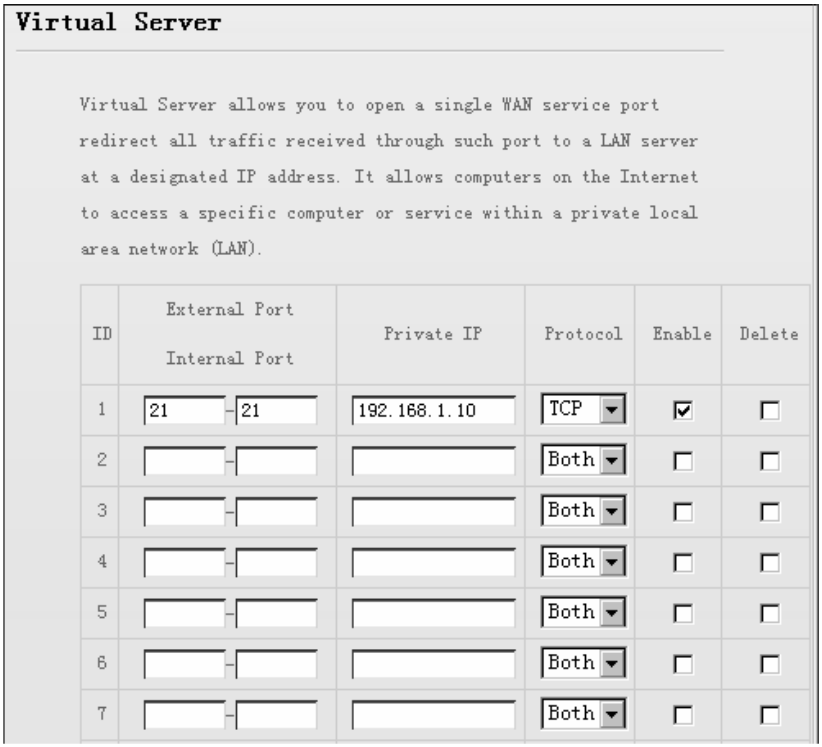
- External **Port-** Internal **Port:** Enter the service ports.
- Private **IP:** Enter an IP address of the LAN PC used as a server.
- **Protocol:** Includes TCP, UDP and Both. Select “Both” if you are not sure about which protocol to use.
- **Enable:** Check the “Enable” box to activate corresponding entry.
- **Delete:** Check the “Delete” box to delete the corresponding entry.

Well-Known Service Ports: The “Well-Known Service Port” lists commonly used protocol ports. To add a port in the drop-down list to the External / Internal Port field of a specific entry automatically, select it and a number from the ID drop-down list, and then click “Add to”. In case that you don’t find the port you need, enter it manually.

For example:

You want to share some large files with your friends who are not in your LAN; however it is not convenient to transfer such large files. Then, you can set up your own PC as a FTP server and use the virtual server feature to let your friends access these files. Provided that the static IP address of the FTP server (Namely, your PC) is 192.168.1.10 and you want your friends to access this FTP server through default port 21 and using TCP protocol, then do as follows:

1. Enter 21 for both the WAN and LAN port fields in ID 1, or select "FTP" from “Well-Known Service Port” and port 21 will be added automatically to ID 1.
2. Enter 192.168.1.10 for the "IP Address", select "TCP" and then select "Enable'.
3. The screenshot below displays the above settings.



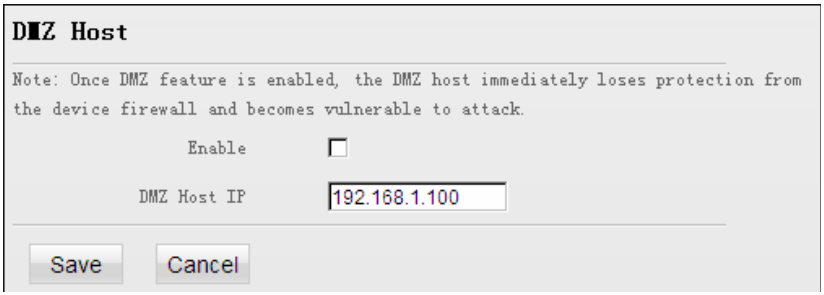
4. Click "**Save**".

Now, your friends only need to enter ftp://xxx.xxx.xxx.xxx:21 in their browsers to access your FTP server. xxx.xxx.xxx.xxx is the device's WAN IP address. For example, if it is 172.16.102.89, then your friends only need to enter "ftp://172.16.102.89: 21" in their browsers.

Note: If you include port 80 on this section, you must set the port on remote (web-based) management section to a different number than 80, such as 8080, otherwise the virtual server feature may not take effect.

4.5.7 DMZ Host

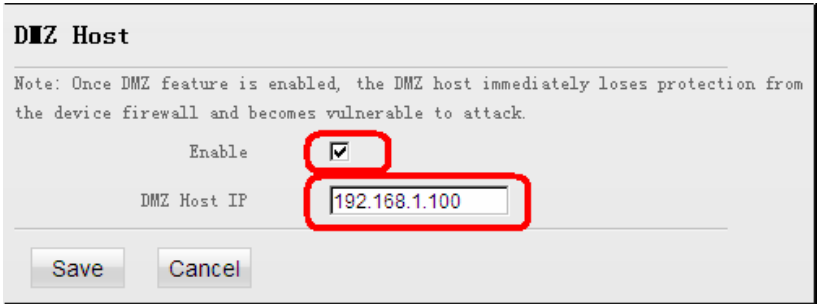
In some cases, we need to set a computer to be completely exposed to extranet for implementation of a bidirectional communication. To do so, we set it as a DMZ host.



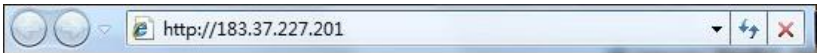
- **DMZ Host IP Address:** Enter the IP address of a LAN computer which you want to set to a DMZ host.
- **Enable:** Check/uncheck to enable/disable the DMZ host feature.

For example: If you want to completely expose a PC (behind the device) at the IP address of 192.168.1.100 to Internet users for sharing resources, do as follows:

1. On the DMZ interface, enter 192.168.1.100 and check “Enable”.

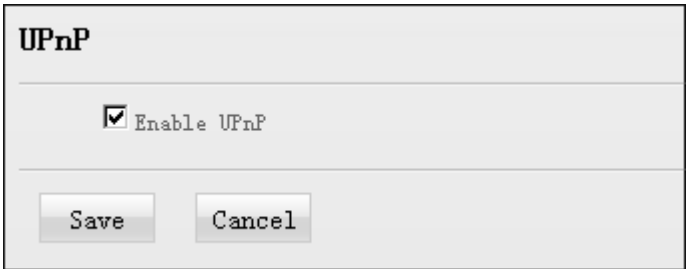


2. Save your settings.
3. Assuming that the device WAN IP address is 183.37.227.201, then simply entering “http□//183.37.227.201” in web browsers will redirect Internet users to web server on the DMZ host.



4.5.8 UPNP

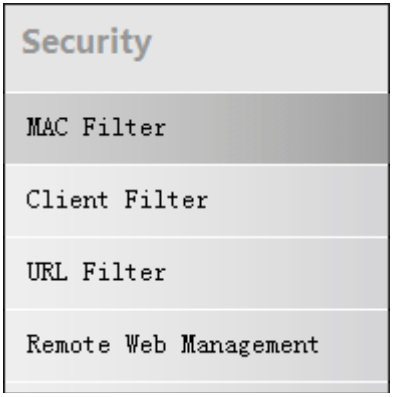
UPnP (Universal Plug and Play) allows a network device to discover and connect to other devices on the network. With this feature enabled, hosts in LAN can request the device to perform special port forwarding so as to enable external hosts to access resources on internal hosts.



Enable UPnP: Check/uncheck to enable/disable the UPnP feature.

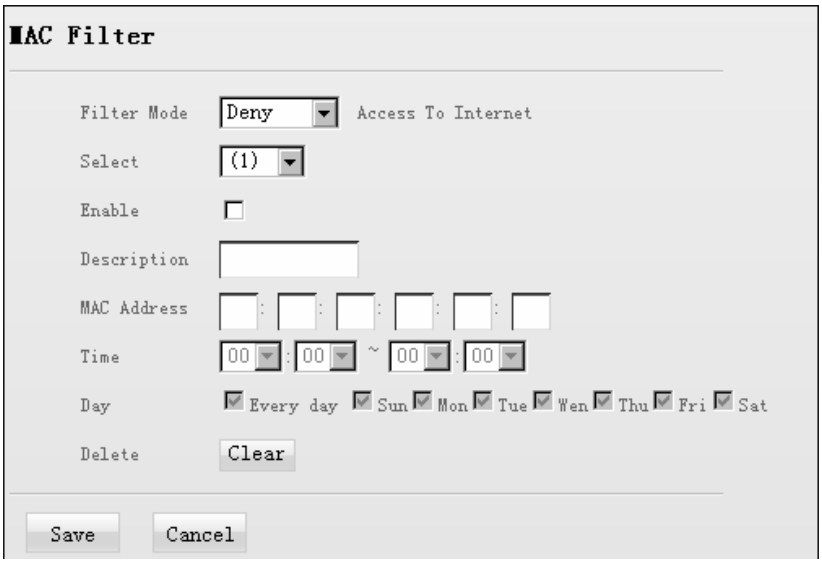
Note: UPnP works in Windows XP, Windows ME or later (NOTE: Operational system needs to be integrated with or installed with Directx 9.0) or in an environment with installed application software that supports UPnP.

4.6 Security



4.6.1 MAC Address Filter

To better manage PCs in LAN, you can use the MAC Address Filter function to allow/disallow such PCs to access to Internet

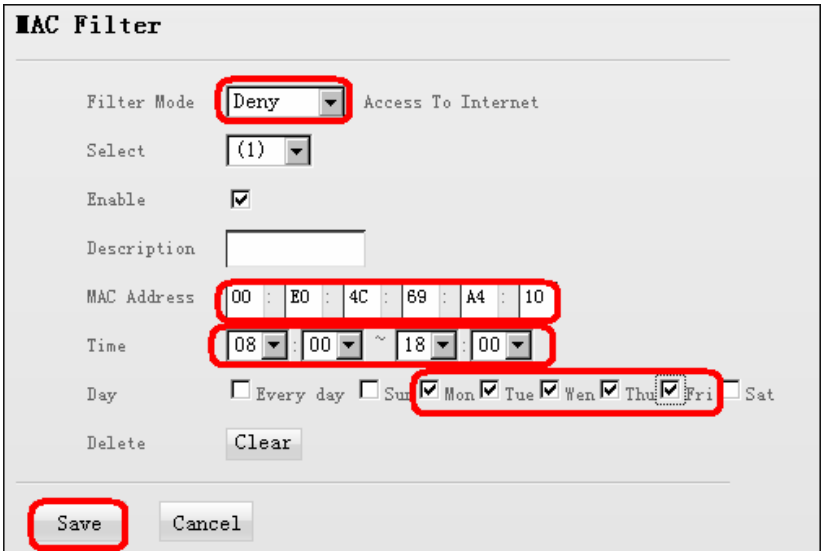


- **Filter Mode:** Select Deny or Allow according to your own needs. Deny Access To Internet: Disallow only PCs at specified MAC addresses to access Internet. Other PCs are allowed.

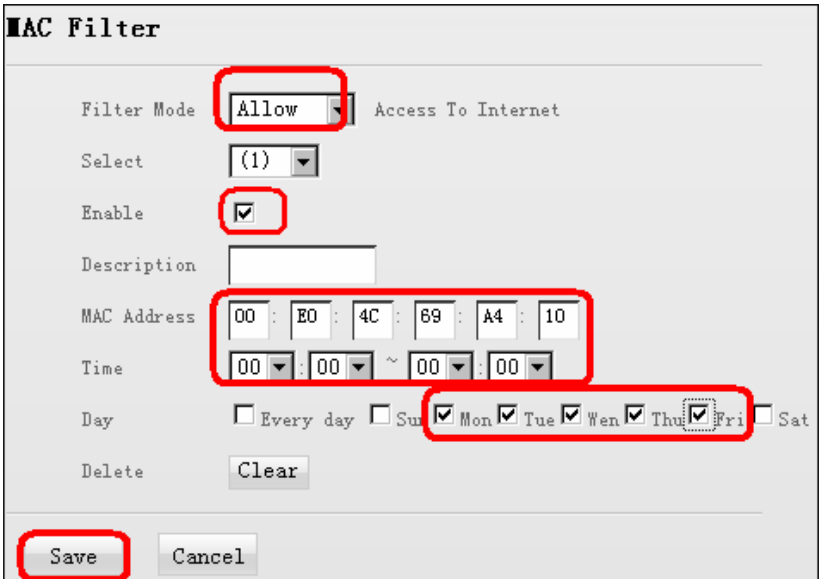
Allow Access To Internet: Allow only PCs at specified MAC addresses to access Internet. Other PCs are denied.

- **Select:** Select a number (indicating a corresponding entry) from the drop-down menu.
- Description**:** Enter a meaningful name to you for corresponding entry.
- MAC Address**:** Enter the PC's MAC address that you want to filter out.
- **Time:** Select a time range for the corresponding entry to take effect.
- **Day:** select a day or several days for the corresponding entry to take effect.
- **Enable:** Check/uncheck to enable/disable the corresponding entry.

Example1: To prevent a PC at the MAC address of 00:E0:4C:69:A4:10 from accessing Internet from 8:00 to18：00 on working days: Monday- Friday, config same settings on the screenshot below on your device:

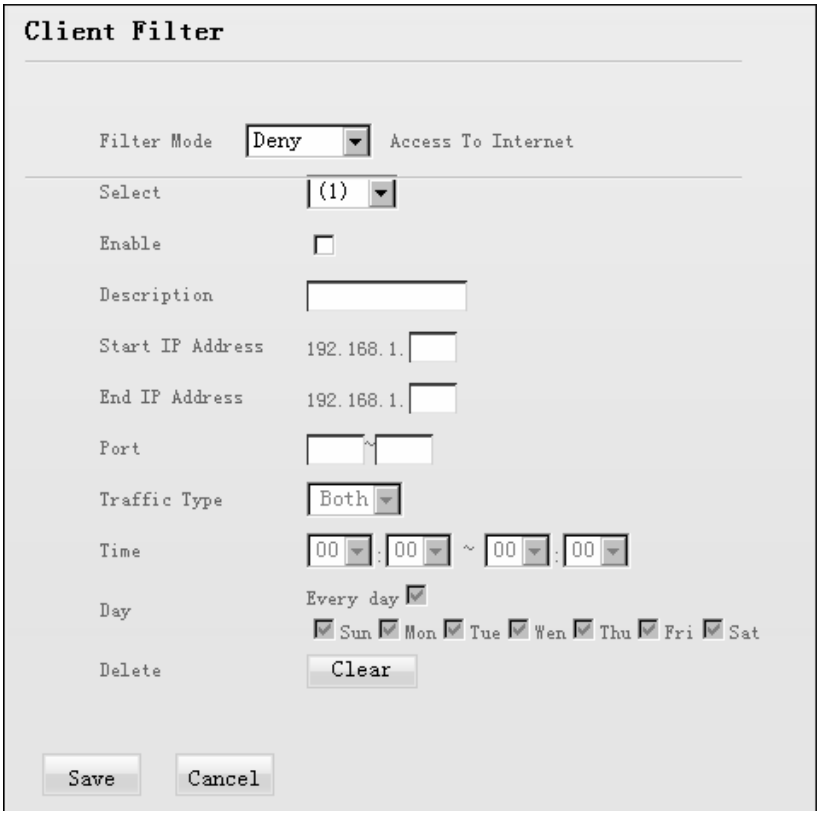


Example2: To allow a PC at the MAC address of 00:E0:4C:69:A4:10 to access Internet from 8:00 to18：00 on working days: Monday- Friday, config same settings on the screenshot below on your device:



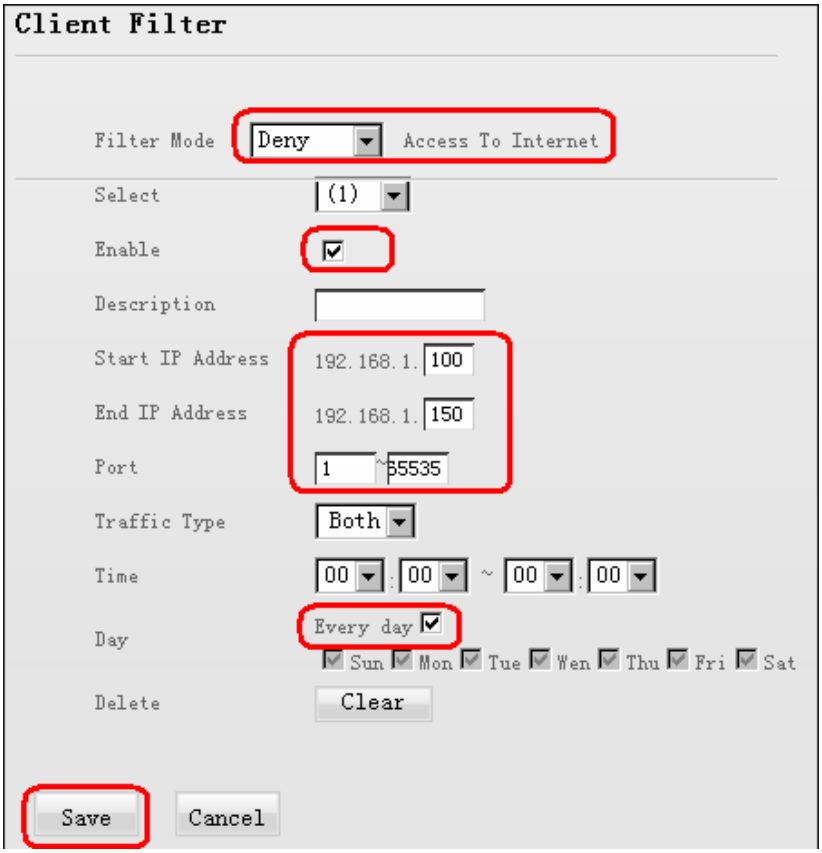
4.6.2 Client Filter

To better manage PCs in LAN, you can allow or disallow such PCs to access certain ports on Internet using the Client Filter functionality

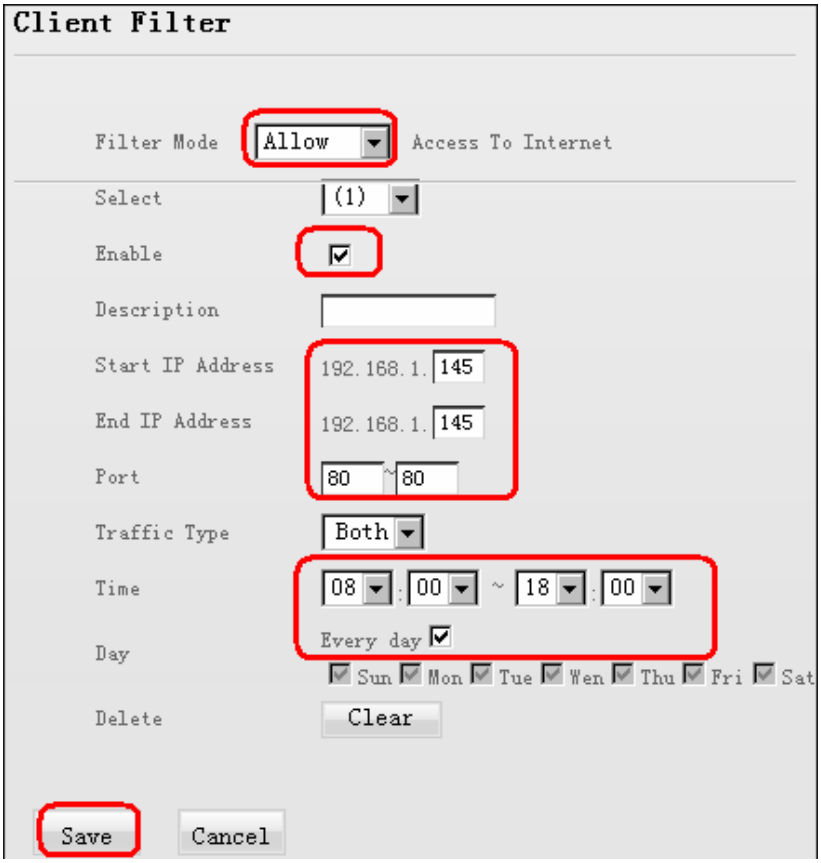


- **Filter Mode:** Select Deny or Allow according to your own needs.
- Select**:** Select a number (indicating a filter rule) from the drop-down menu.
- Description**:** Enter a meaningful name to yourself for a new filter rule.
- **Start /End IP Address:** Enter a starting/ending IP address.
- **Port:** Enter TCP/UDP protocol port number (s); it can be a range of ports or a single port.
- Traffic Type**:** Select a protocol or protocols for the traffic (TCP/UDP/Both).
- **Time:** Select a time range for the rule to take effect.
- **Day:** Select a day or several days for the rule to take effect.
- **Enable:** Check to enable or uncheck to disable a corresponding filter rule （allow/disallow matched packets to pass through router）

Example 1: To prohibit PCs within the IP address range of 192.168.1.100--192.168.1.150 from accessing Internet, do as follows:

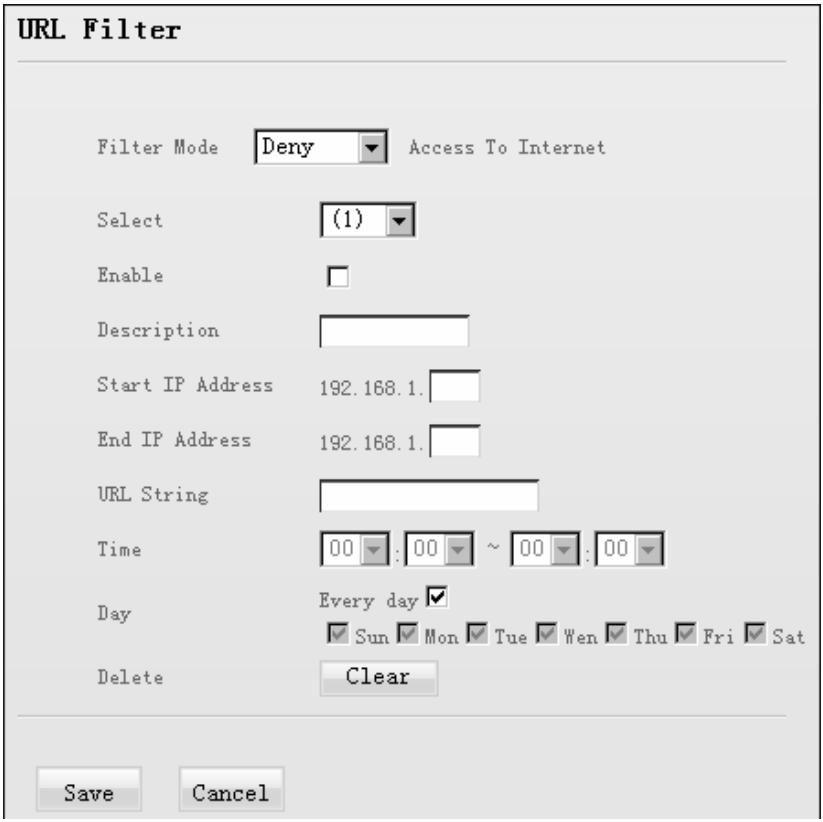


Example 2: To allow only the PC at an IP address of 192.168. 1.145 to access Internet from 8:00 to 18：00, do as follows



4.6.3 URL Filter

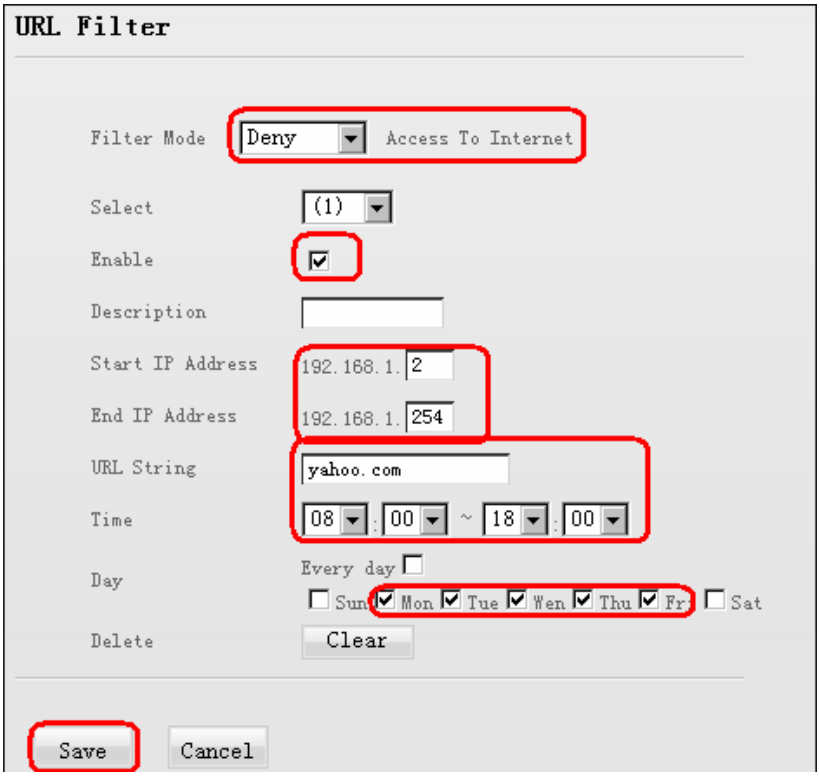
To better control LAN PCs, you can use the URL filter functionality to allow or disallow such PC to access certain websites within a specified time range.



- **Filter Mode:** Select Deny or Allow according to your own needs.
- Select**:** Select a number (indicating a filter rule) from the drop-down menu.
- Description**:** Enter a meaningful name to you for the corresponding entry.
- **Start/End IP Address:** Enter the starting/ending IP address.
- **URL String:** Enter domain names or a part of a domain name that needs to be filtered out.
- **Time:** Select a time range for the corresponding entry to take effect.
- **Day:** select a day or several days for the corresponding entry to take effect.
- **Enable:** Check to enable or uncheck to disable the corresponding entry （allow/disallow matched packets to pass through device）

For example:

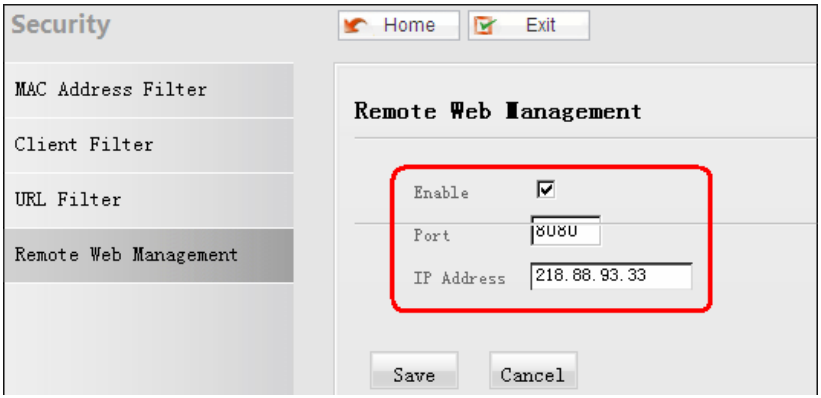
If you want to disallow all computers on your LAN to access “yahoo.com” from 8：00 to 18：00 on working days: Monday- Friday, then do as follows:



Note: Each entry can include up to 16 domain names, each of which must be seperated with a semicolon.

4.6.4 Remote Web-based Management

The Remote Web-based Management feature allows users to configure your device from Internet via a web browser



- **Enable:** Check or uncheck to enable or disable the remote web-based management feature.
- **Port:** Enter a port number for remote web-based management.
- **IP Address:** Enter the IP address of a PC on Internet authorized to access and manage the device's web-based utility remotely

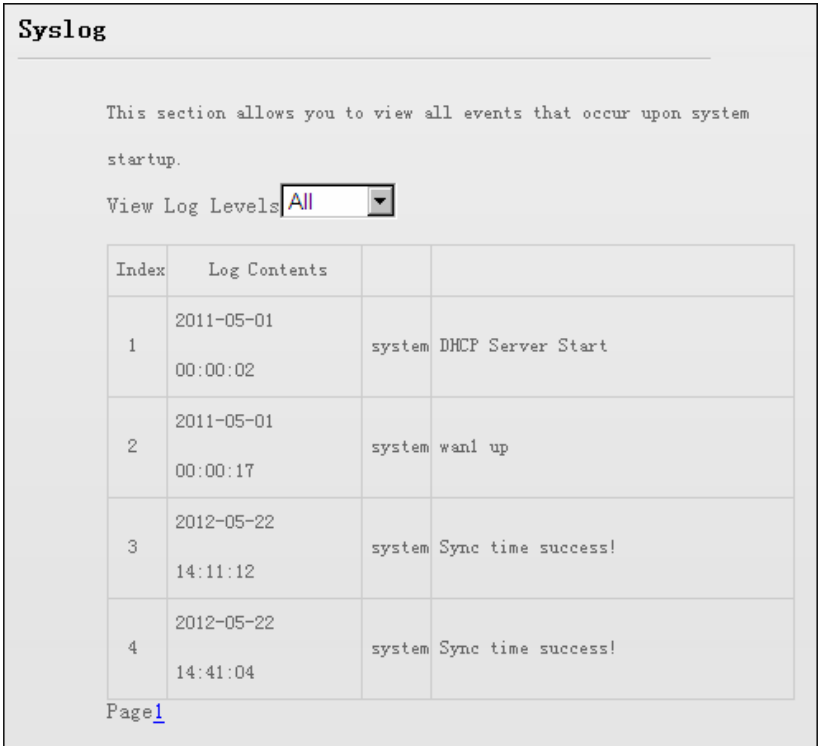
For example: If you want to allow only a PC at the IP address of 218.88.93.33 to access your router's web-based utility from Internet via port: 8080, then config same settings shown on the sreenshot on your router. And what this IP user needs to do is to simply launch a browser and enter http: //220.135.211.56:8080 (provided that the router's WAN IP address is 220.135.211.56).

Note: If you enter 0.0.0.0 in the IP address box, then all PCs on Internet can access your router's Web-based utility to view or change your settings remotely once you enable the remote Web-based management feature.

4.7 Tools

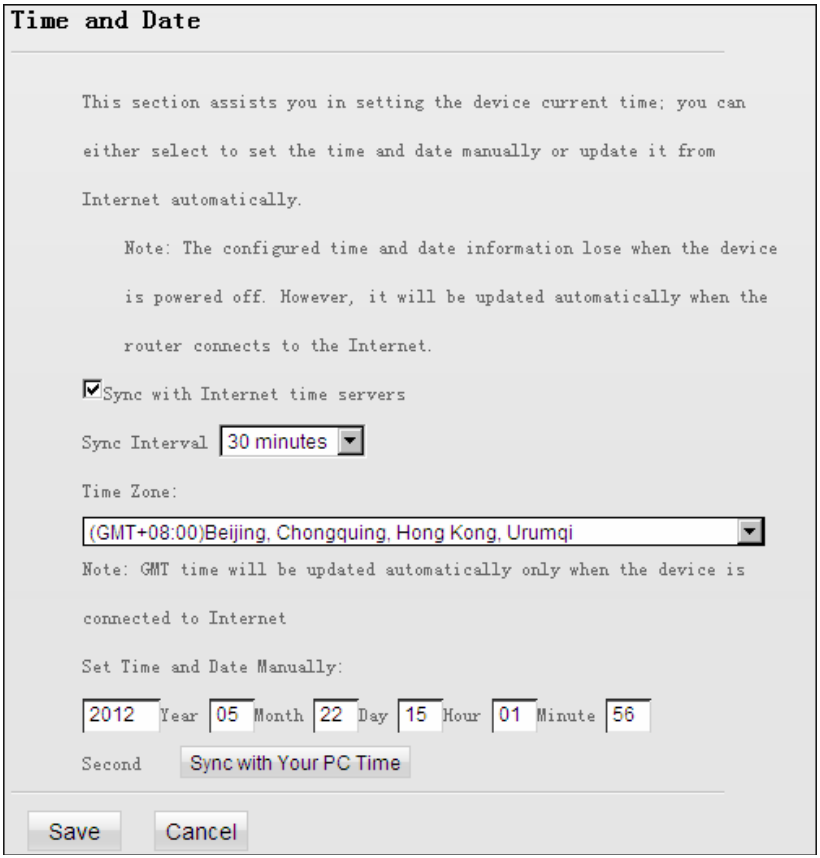
4.7.1 Logs

The syslog option allows you to view all events that occur upon system startup.



4.7.2 Time

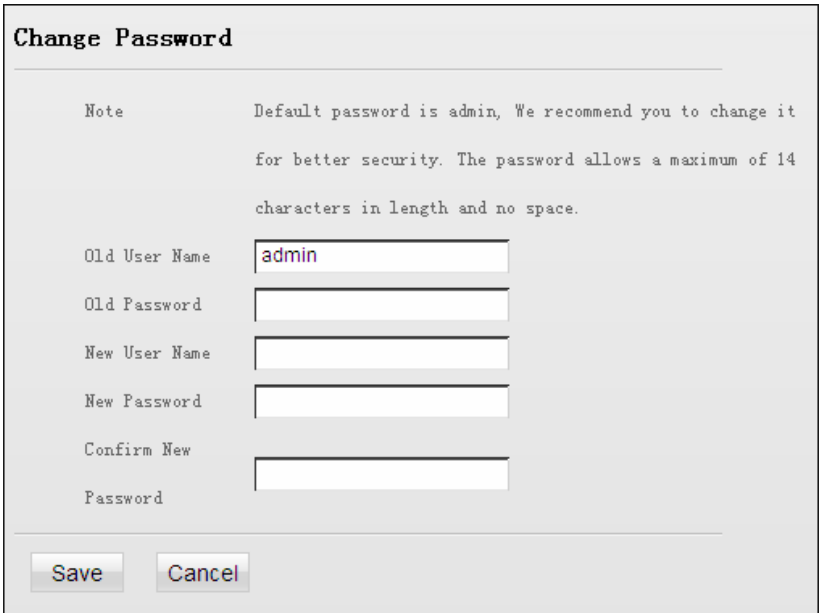
This section assists you in setting the device's system time; you can either select to set the time and date manually or automatically obtain the GMT time from Internet. By default, "Sync with Internet time servers" is enabled as seen below.



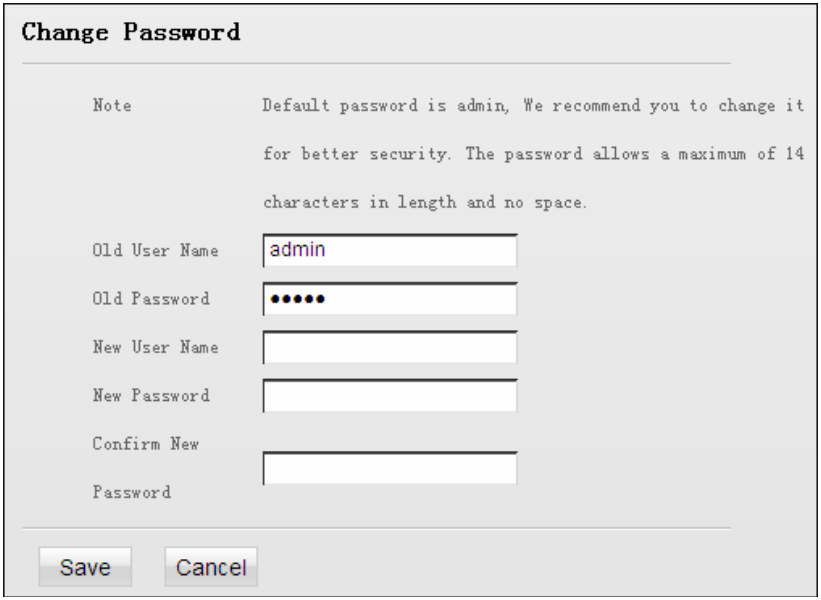
4.7.3 Change Password/User Name

This section allows you to change login password/user name for accessing device web manager. Both login password and user name are preset to “admin” by default. To change either, do as follows:

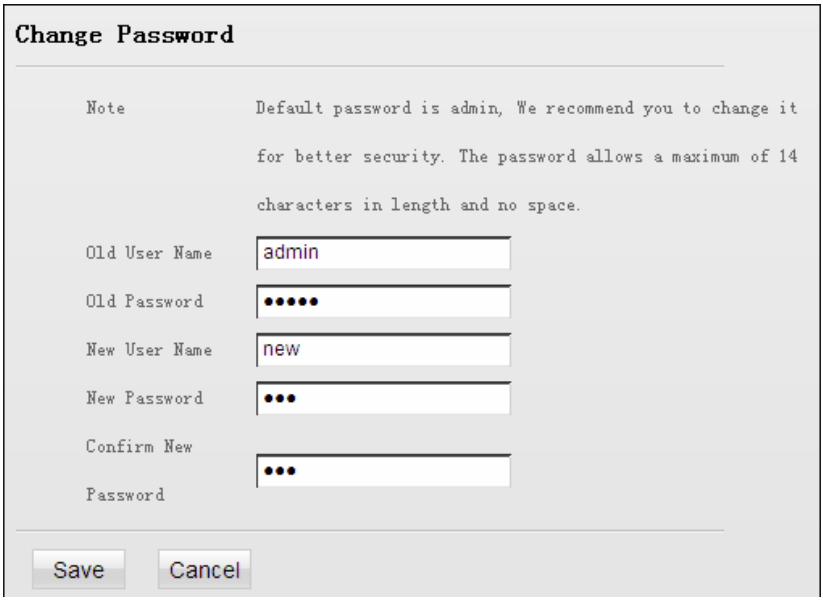
1. Click “Change Password” to enter the interface below:



2. Enter your current user name and password in Old User Name and Old Password fields as seen below



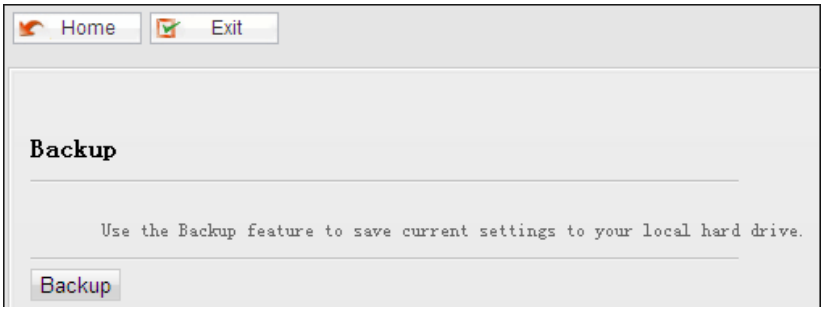
3. Enter a new user name and a new password in New User Name and New Password fields as seen below:



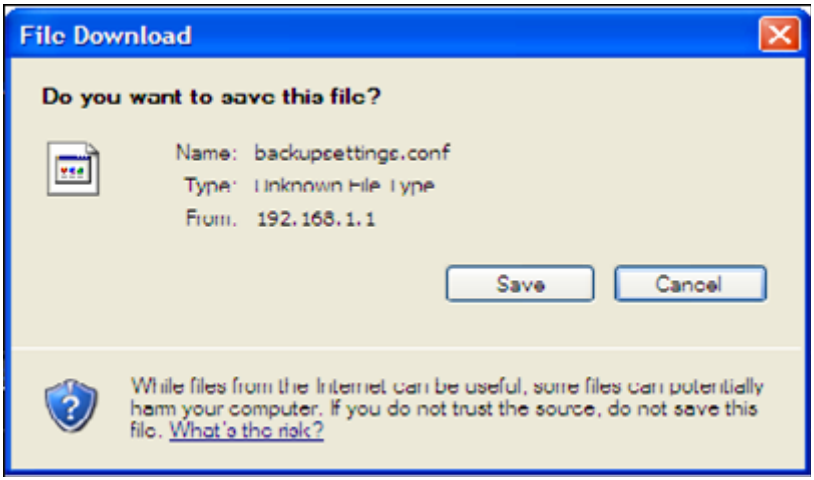
4. Click "Save" and the login window displays:
5. Enter the new user name and password to relog in to EM4568 or EM4569's web manager.

4.7.4 Backup

This section allows you to backup current settings. Once you have configured the device the way you want it, you can save these settings to a configuration file on your local hard drive that can later be imported to your device in case that the device is restored to factory default settings.
To backup, click the "Backup" button on the screen below.



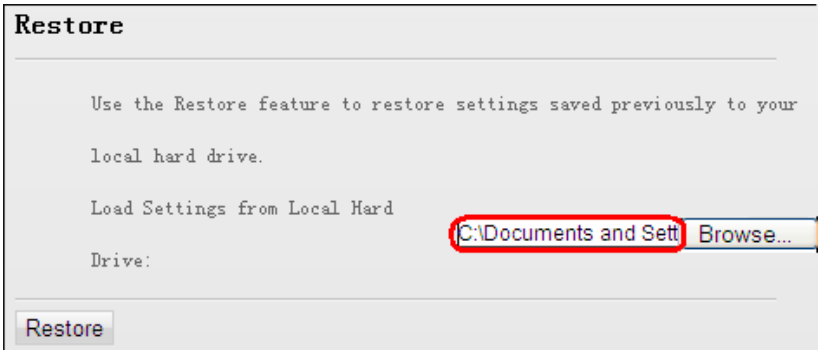
And then，click the “Save” button on the appearing screen to store it under the selected path.



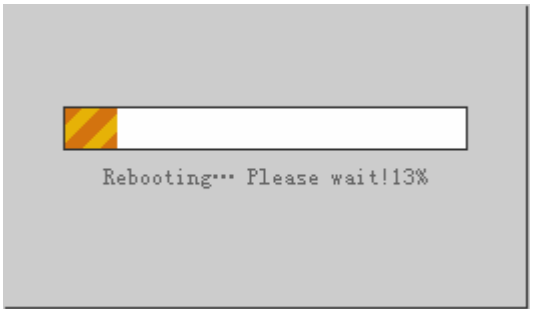
4.7.5 Restore

This section allows you to restore previous settings configured on the device.

To restore previous settings, do as follows:
1. Click the "Browse" button to locate and select a configuration file that is saved previously to your local hard drive.

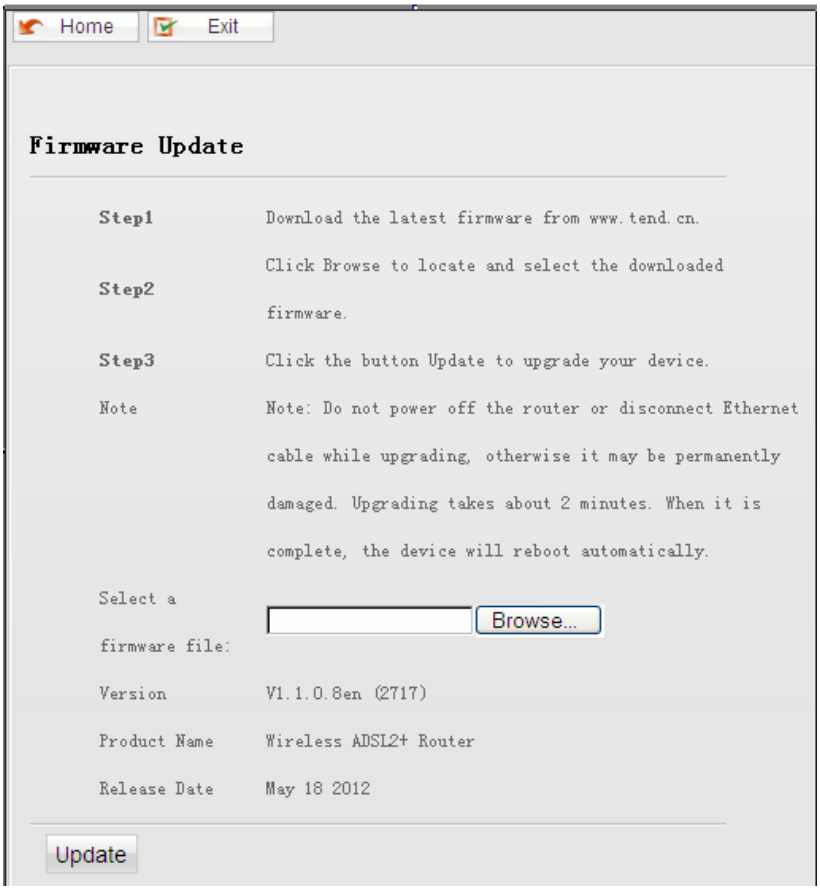


2. Click “Restore” to import previous settings and the device will reboot.

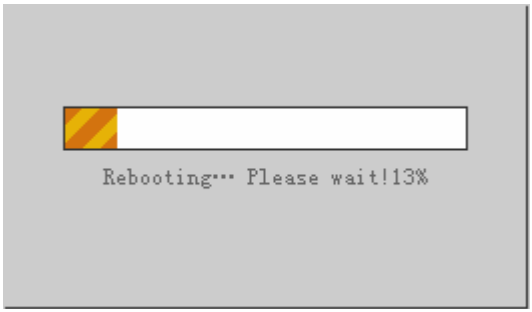


4.7.6 Firmware Upgrade

Firmware upgrade is released periodically to improve the functionality of your device and also to add new features. If you run into a problem with a specific feature of the device, log on to our website（www.eminent-online.com）to download the latest firmware to update your device.

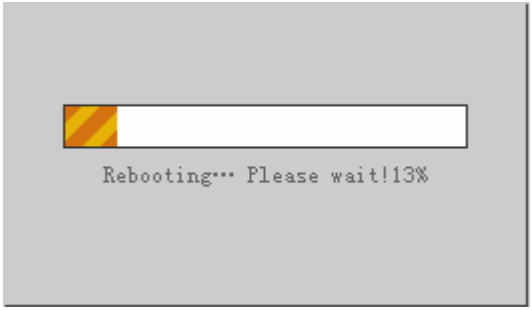


Browse: Click it to select a downloaded firmware.
Update: Click it to update your device firmware. The process takes about 2 minutes, device will reboot automatically after it completes



4.7.7 Restore to Factory Default Settings

To restore all settings to the device's factory default values, click the **" Default"** button on the interface below and then the “OK” button on appearing dialogue box. Restoring factory defaults requires system reboot.



5.0 Frequently Asked Questions and other related information

The latest Frequently asked questions for your product can be found on the support page of your product. Eminent will update these pages frequently to assure you have

the most recent information. Visit www.eminent-online.com for more information about your product.

6.0 Service and support

This user's manual has been carefully written by Eminent's technical experts. If you have problems installing or using the product, please fill out the support form at the website www.eminent-online.com/

You can also contact us by phone. Please check http://www.eminent-online.com for the helpdesk phone number and opening hours.

7.0 Warning and points of attention

Due to laws, directives and regulations set out by the European parliament, some (wireless) devices could be subject to limitations concerning its use in certain European member states. In certain European member states the use of such devices could be prohibited. Contact your (local) government for more information about this limitations.

Always follow up the instructions in the manual*, especially where it concerns devices which need to be assembled.

Warning: In most cases this concerns an electronic device. Wrong/improper use may lead to (severe) injuries!

Repairing of the device should be done by qualified Eminent staff. The warranty immediately voids when products have undergone self repair and/or by misuse. For extended warranty conditions, please visit our website at www.eminent-online.com.

**Tip: Eminent manuals are written with great care. However, due to new technological developments it can happen that a printed manual does not longer contain the most recent information.*
If you are experiencing any problems with the printed manual or you cannot find what you are looking for, please always check our website www.eminent-online.com first for the newest updated manual.

Also, you will find frequently asked questions in the FAQ section. It is highly recommended to consult the FAQ section. Very often the answer to your questions will be found here.

8.0 Warranty conditions

The five-year Eminent warranty applies to all Eminent products, unless mentioned otherwise before or during the moment of purchase. After buying a second-hand Eminent product the remaining period of warranty is measured from the moment of purchase by the product's initial owner. Eminent warranty applies to all Eminent products and parts, indissolubly connected or mounted to the product it concerns. Power supply adapters, batteries, antennas and all other products not directly integrated in or connected to the main product or products of which, without reasonable doubt, can be assumed that wear and tear during use will show a different pattern than the main product, are not covered by the Eminent warranty. Products are not covered by the Eminent warranty when exposed to incorrect/improper use, external influences or when opening the service parts of the product by parties other than Eminent. Eminent may use refurbished materials for repair or replacement of your defective product. Eminent cannot be held responsible for changes in network settings by internet providers. We cannot guarantee that the Eminent networking product will keep working when settings are changed by the internet providers. Eminent cannot guarantee the working of web services, apps and other third party content that is available through Eminent products. Eminent products with an internal hard disk have a limited warranty period of two years on the hard disk. Eminent could not be held responsible for any data lost. Please make sure that if the product stores data on a hard drive or other memory source, you will make a copy before you return the product for repair.

When my product gets defective

Should you encounter a product rendered defective for reasons other than described above: Please contact your point of purchase for taking care of your defective product.

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WWW.EMINENT-ONLINE.COM