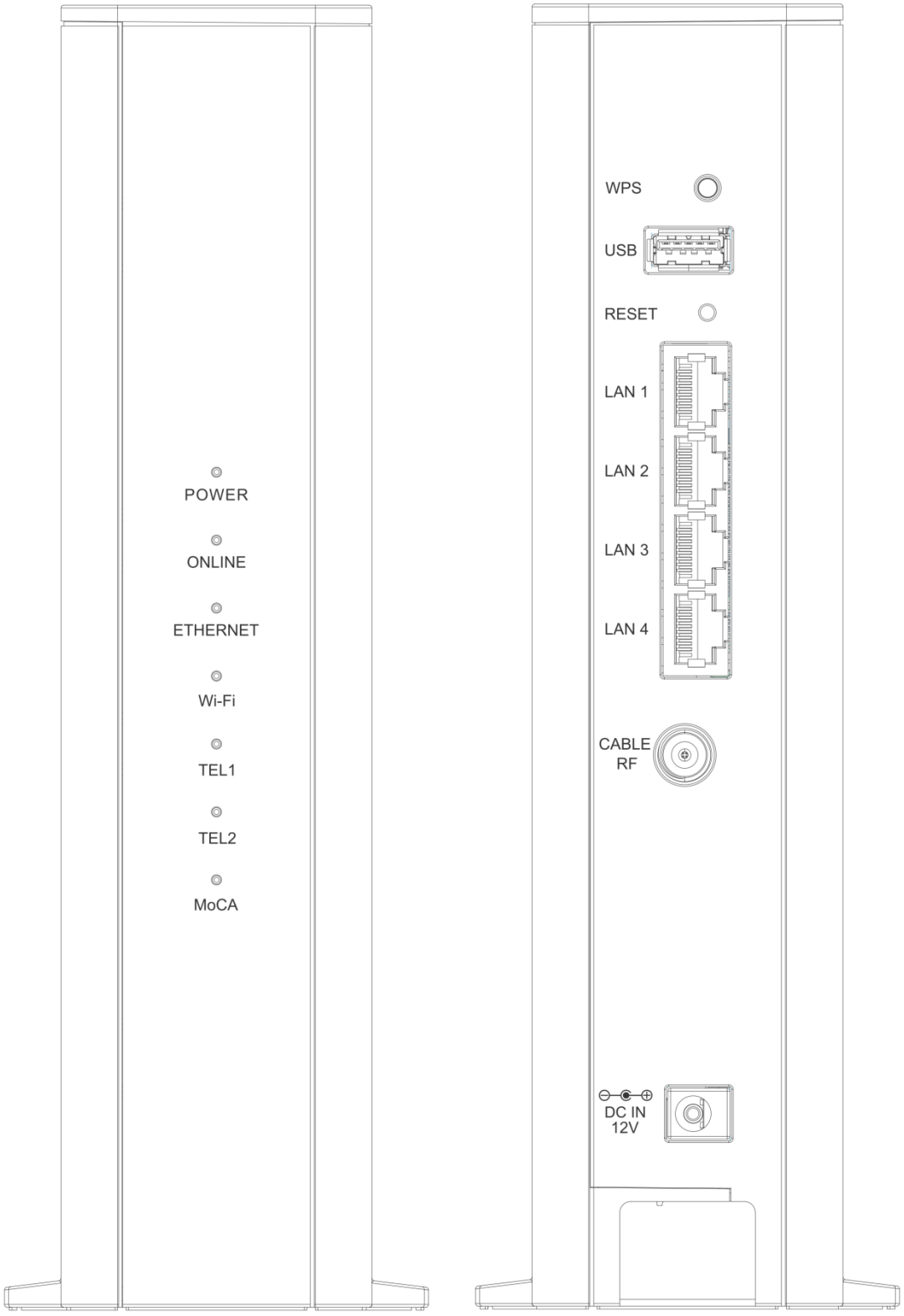

TCG310

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SAFETY INSTRUCTIONS AND REGULATORY NOTICES

Product Safety Notice

Before installing or using the product, read these instructions carefully. Be sure to comply strictly precautions.

- **Explanation of risk levels**

DANGER	This indication is given where there is an immediate danger of death or serious injury if the person in charge or any third party mishandles the machine or does not avoid the dangerous situation when operating or maintaining the machine.
WARNING	This indication is given where there is a potentiality for death or serious injury if the person in charge or any third party mishandles the machine or does not avoid the dangerous situation when operating or maintaining the machine.
CAUTION	This indication is given where there is a danger of medium to minor injury if the person in charge or any third party mishandles the machine or does not avoid the dangerous situation when operating or maintaining the machine.

- **Explanation of pictorial warning indications and warning labels**

Prohibited	It is used to prohibit its conduct in handling products. Specific prohibited contents are indicated by pictures and sentences in or near the figure symbol.
Caution	It is used to call attention to ignition, electric shock, high temperature, etc. in the handling of products. Specific notes content is indicated by a picture or sentence in or near the figure symbol.
Instruction	Used to force actions based on instructions in the handling of products. Specific instruction content is indicated by a picture or sentence in or near the figure symbol.

- **LIMITATIONS OF LIABILITY**

This equipment has been designed for domestic use inside a building. In some environments or circumstances, the use of wireless devices may be prohibited by the owner of the building or responsible representatives of the organization. If in doubt about the policy applying to the use of wireless devices in an organization where a specific environment (e.g. airports), you should ask for permission to use the device before turn it on. ASKEY assumes no liability for non-compliance with regulations on the installation site, and radio interference created vis-à-vis third parties and due to non-compliance with national regulations for this application.

DANGER

Instruction

Do not overload wall outlet or extension cords as this may increase the risk of electric shock or fire. If the power cord is frayed, replace it with a new one.

Instruction

Do not attempt to connect with any computer accessory or electronic product without instructions from qualified service personnel. This may result in risk of electronic shock or fire.

WARNING

Instruction

Proper ventilation is necessary to prevent the product overheating. Do not block or cover the slots and openings on the product, which are intended for ventilation and proper operation.

Unplug the power plug

When the product is expected to be not in use for a period of time, unplug the power cord of the product to prevent it from the damage of storm or sudden increases in rating.

Unplug the

Accidental penetrations of small metal objects (such as pins, paper clips, etc.) disconnect the equipment from the mains as soon as possible (risk of electric shock) and contact your Customer Service to find out how to proceed. Do not reconnect the product as a foreign object has not been eliminated. Unplug the product immediately if you notice it exudes a smell

power plug	of burning or smoke. You should never open the unit yourself because you could be electrocuted.
Prohibited	Do not place the product near any source of heat or expose it to direct sunlight.
Water wet prohibition	Do not expose the product to moisture. Never spill any liquid on the product.
Instruction	Avoid connecting or using this product during a lightning storm. Disturbances transmitted through the grid and / or telephone can cause electric shock in the product and people.

CAUTION

Instruction	Use only power adapter supplied with the product. This appliance is designed to operate in the rated voltage 110~240 VAC.
Instruction	Do not place this product on unstable stand or table.
Instruction	This product is designed for stationary use in an office or a room in the home for a maximum ambient temperature of 40 ° C (104 ° F).
Instruction	To allow the disconnection of the device in case of problems, make sure the base of the outlet you plug the power cord is easily accessible and is located as close as possible to the equipment.

 Instruction	Leave 7cm to 10cm around the appliance to ensure that proper ventilation gets to it.
 Be sure to connect the ground wire	The screen of the coaxial cable is intended to be connected to earth in the building installation.
 Disassembly prohibited	Do not attempt to disassemble or open covers of this unit by yourself. Nor should you attempt to service the product by yourself, which may void the user's authority to operate it. Contact qualified service personnel under the following conditions: 1. If the power cord or plug is damaged or frayed. 2. If liquid has been spilled into the product. 3. If the product has been exposed to rain or water. 4. If the product does not operate normally when the operating instructions are followed. 5. If the product has been dropped or the cabinet has been damaged. 6. If the product exhibits a distinct change in performance. 7. If a cable is damaged or frayed provided. 8. If the unit is dropped or damaged in any way. 9. If there is a noticeable signs of overheating
 Unplug the power plug	Power off and unplug this product from the wall outlet when it is not in use or before cleaning. Pay attention to the temperature of the power adapter. The temperature might be high.
 Instruction	Do not store the Cable Modem product in excessively hot, cold or damp conditions. Operation Environmental: • Operation Temperature: 5°C ~ 40°C • Storage Temperature: -20°C ~ +70°C

CHAPTER 1: CONNECTIONS AND SETUP

Cable Modem Overview

Front Panel

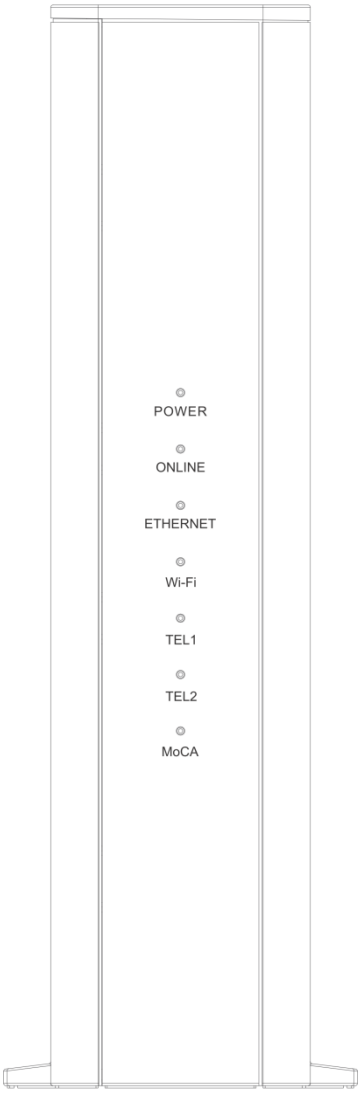

Fig. 1-1 Front Panel

POWER	Indicates the power status.
ONLINE	Displays the status of your cable connection. The light is off when no cable connection is detected and fully lit when the modem has established a connection with the network and data can be transferred.
ETHERNET	Indicates the state of Ethernet ports.
Wi-Fi	Indicates the traffic on the wireless network.
TEL 1 / 2	Indicates the status of the telephone ports.
MoCA	Indicates the status of the MoCA functionality.

LED from top to bottom.

LED	Status	Description
POWER	ON	The device is on.
	OFF	The device boot fail or no power.
ONLINE	ON	The device is ready for use. Now you can link to the internet.
	OFF	The device is not link to the internet yet or not registration.
	FLASH	The device is in registration process or upgrade firmware.
ETHERNET	ON	LAN port is connected to the PC.
	OFF	LAN port is not connected to the PC.
	FLASH	Traffic on the LAN is working.
Wi-Fi	ON	Wi-Fi is enabled.
	OFF	Wi-Fi is disabled.
	FLASH	Wi-Fi traffic is working.
TEL 1 / 2	ON	Phone is ready registration for use.
	OFF	Phone is not able to use.
	FLASH	Phone interface is in registration process.
MoCA	ON	MoCA is enabled.
	OFF	MoCA is disabled.
	FLASH	MoCA traffic is working.

Table 1-1 LED behavior

Rear Panel

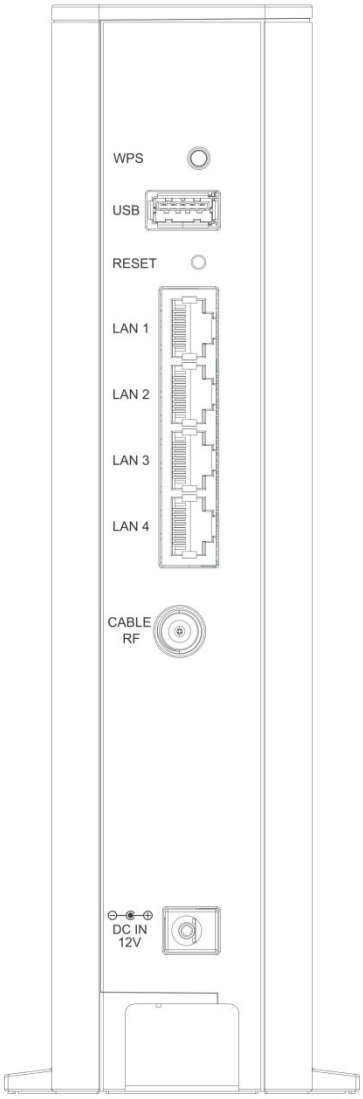

Fig. 1-2 Rear Panel

Slot	Description
WPS	Enables scanning for available WPS client device
USB	USB 3.0 host connector
RESET	Reset/Reboot this Cable modem
LAN 1 / 2 / 3 / 4	Ethernet 10/100/1000 Base-T RJ-45 connector
CABLE RF	F-Connector
12VDC	12V DC-IN Power connector.

Table 1-2 Rear Panel description

Bottom Side Panel for TEL

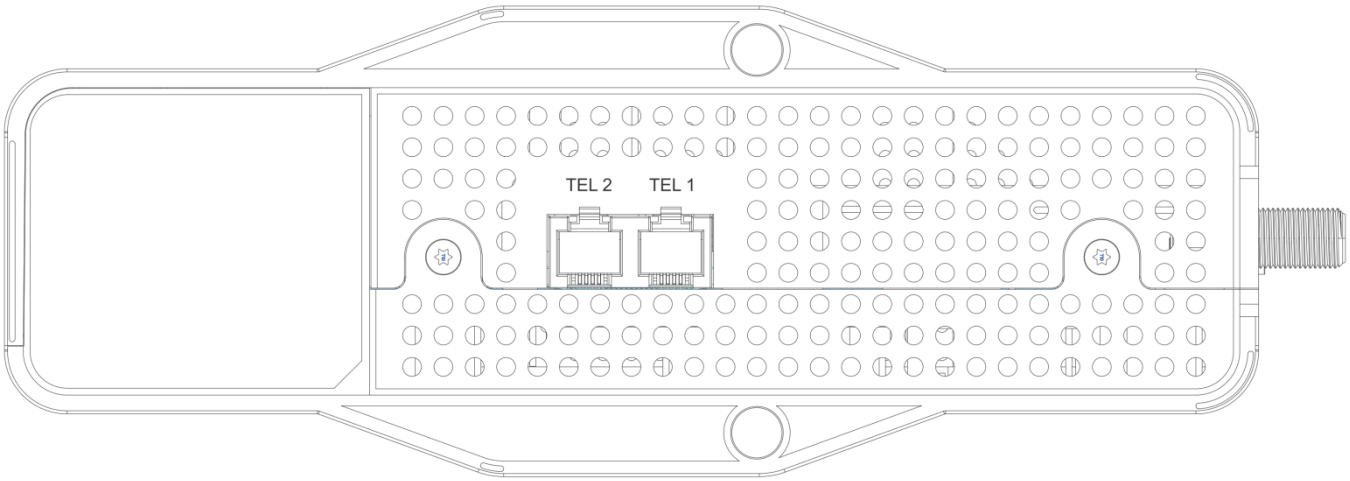

Fig. 1-3 Bottom Side Panel

The TEL 1 / 2 on the Bottom Side panel of TCG310, you can use telephony RJ-11 Connector.

Wall Mounting

The number of the screw 2 pcs.

Direction for wall mounting: Tuner downward or leftward or rightward.

Dimension for the screw: diameter: 3.5 mm; length: 30 mm.

There are 2 slots on the side of the CABLE MODEM that can be used for wall mounting.

Note: When wall mounting the unit. Ensure that it is within reach of the power outlet.

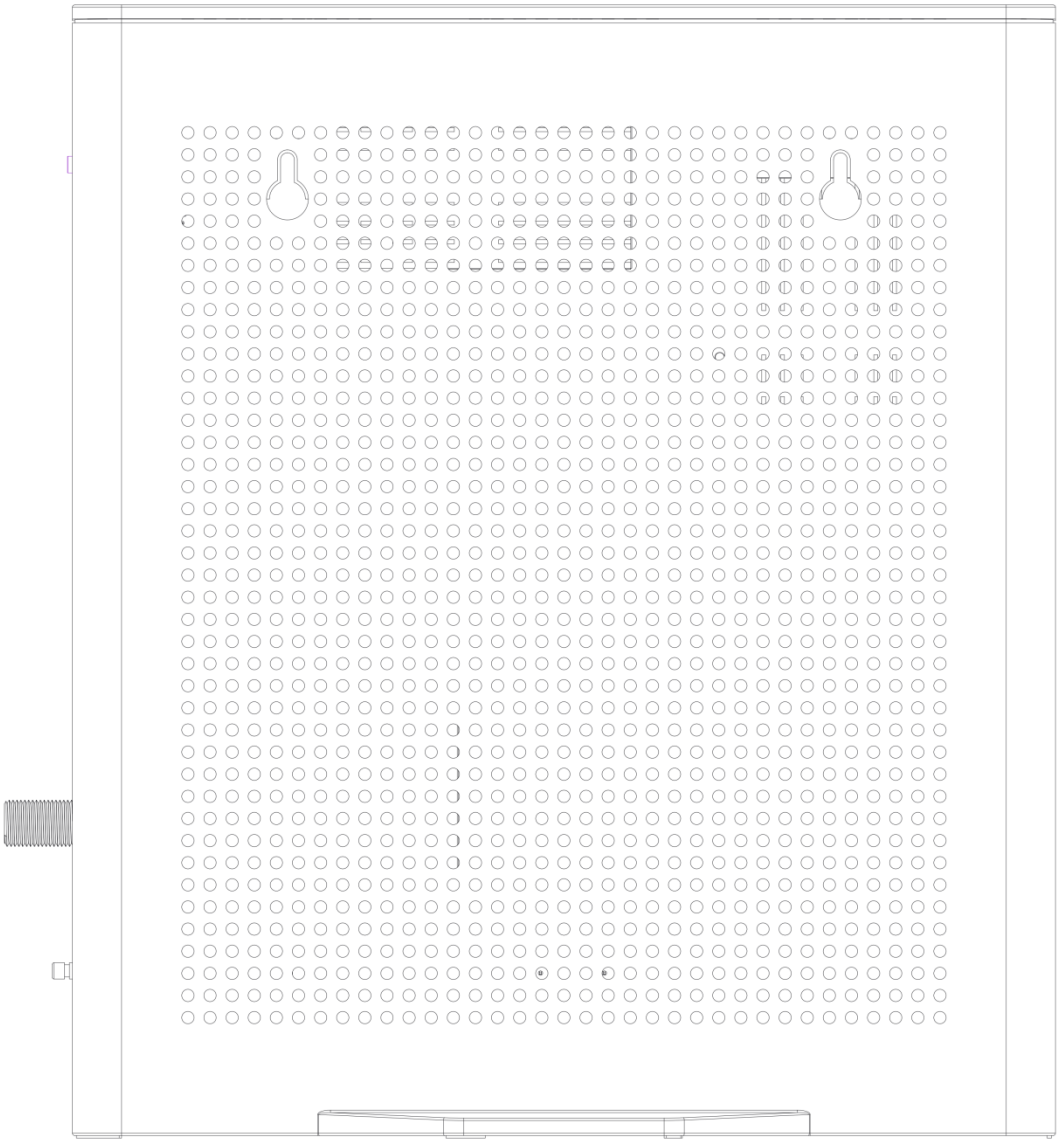

Fig. 1-4 Wall Mounting

To do this:

1. For the cable modem, ensure that the wall you use is smooth, flat, dry and sturdy and use the 2 screws holes.
2. The unit can be to use solid concrete wall and/or hard wood wall.

Relationship among the Devices

This illustration shows a cable company that offers DOCSIS/Euro-DOCSIS and PacketCable/Euro-PacketCable compliant voice/data services.

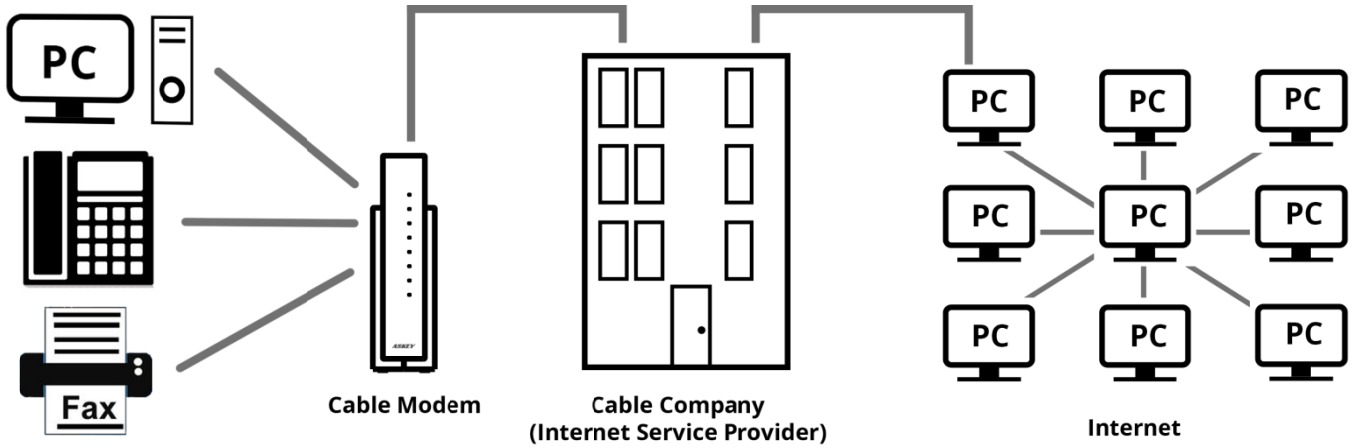

Fig. 1-5 Connection overview

What the Modem Does

The Wireless Voice Gateway provides high-speed Internet access as well as cost-effective, toll-quality telephone voice and fax/modem services over residential, commercial, and education subscribers on public and private networks via an existing CATV infrastructure. It can inter-operate with the PacketCable compliant head-end equipment and provide the IP-based voice communications. The IP traffic can transfer between the Wireless Voice Gateway and DOCSIS/Euro-DOCSIS compliant head-end equipment. The data security secures upstream and downstream communications.

What the Modem Needs to Do Its Job

- **The Right Cable Company:** Make sure your local cable company provides data services that use cable TV industry-standard DOCSIS/Euro-DOCSIS compliant and PacketCable/Euro-PacketCable compliant technology.
- **The Internet/Telephony Service Provider (ISP/TSP):** Your cable company provides you access to an Internet Service Provider (ISP) and Telephony Service Provider (TSP). The ISP is your gateway to the Internet and provides you with a pipeline to access Internet content on the World Wide Web (WWW). The TSP provides you with telephony access to other modems or other telephony services over the Public Switched Telephone Network (PSTN).

Check with your cable company to make sure you have everything you need to begin; they'll know if you need to install special software or re-configure your computer to make your cable internet service work for you.

Contact Your Local Cable Company

You will need to contact your cable company to establish an Internet account before you can use your gateway. You should have the following information ready (which you will find on the sticker on the gateway):

- The serial number
- The model number
- The Cable Modem (CM) Media Access Control (MAC) address
- The Terminal Adapter (EMTA) MAC address
- Security information: Service Set Identifier (SSID), Encryption key / passphrase (WPA2-PSK by default), channel number. Default values are indicated underneath the modem on the sticker.

Please check the following with the cable company

- The cable service to your home supports DOCSIS/Euro-DOCSIS compliant two-way modem access.
- Your internet account has been set up. (The Media Terminal Adapter will provide data service if the cable account is set up but no telephony service is available.)
- You have a cable outlet near your PC and it is ready for Cable Modem service.

Note: It is important to supply power to the modem at all times. Keeping your modem plugged in will keep it connected to the Internet. This means that it will always be ready whenever you need.

Important Information

Your cable company should always be consulted before installing a new cable outlet. Do not attempt any rewiring without contacting your cable company first.

Please verify the following on the Wireless Voice Gateway

The Power LED should be lighted when plug-in the power supply.

Connecting the Wireless Voice Gateway to a Single Computer

This section of the manual explains how to connect your Wireless Voice Gateway to the Ethernet port on your computer and install the necessary software. Please refer to Figure 1-7 to help you connect your Digital Cable Modem for the best possible connection.

Attaching the Cable TV Wire to the Wireless Voice Gateway

1. Locate the Cable TV wire. You may find it one of three ways:
   a. Connected directly to a TV, a Cable TV converter box, or VCR. The line will be connected to the jack, which should be labeled either IN, CABLE IN, CATV, CATV IN, etc.
   b. Connected to a wall-mounted cable outlet.
   c. Coming out from under a baseboard heater or other location. See Figure 1-6 for the wiring example.

Notes: For optimum performance, be sure to connect your Wireless Voice Gateway to the first point the cable enters your home. The splitter must be rated for at least 1GHz.

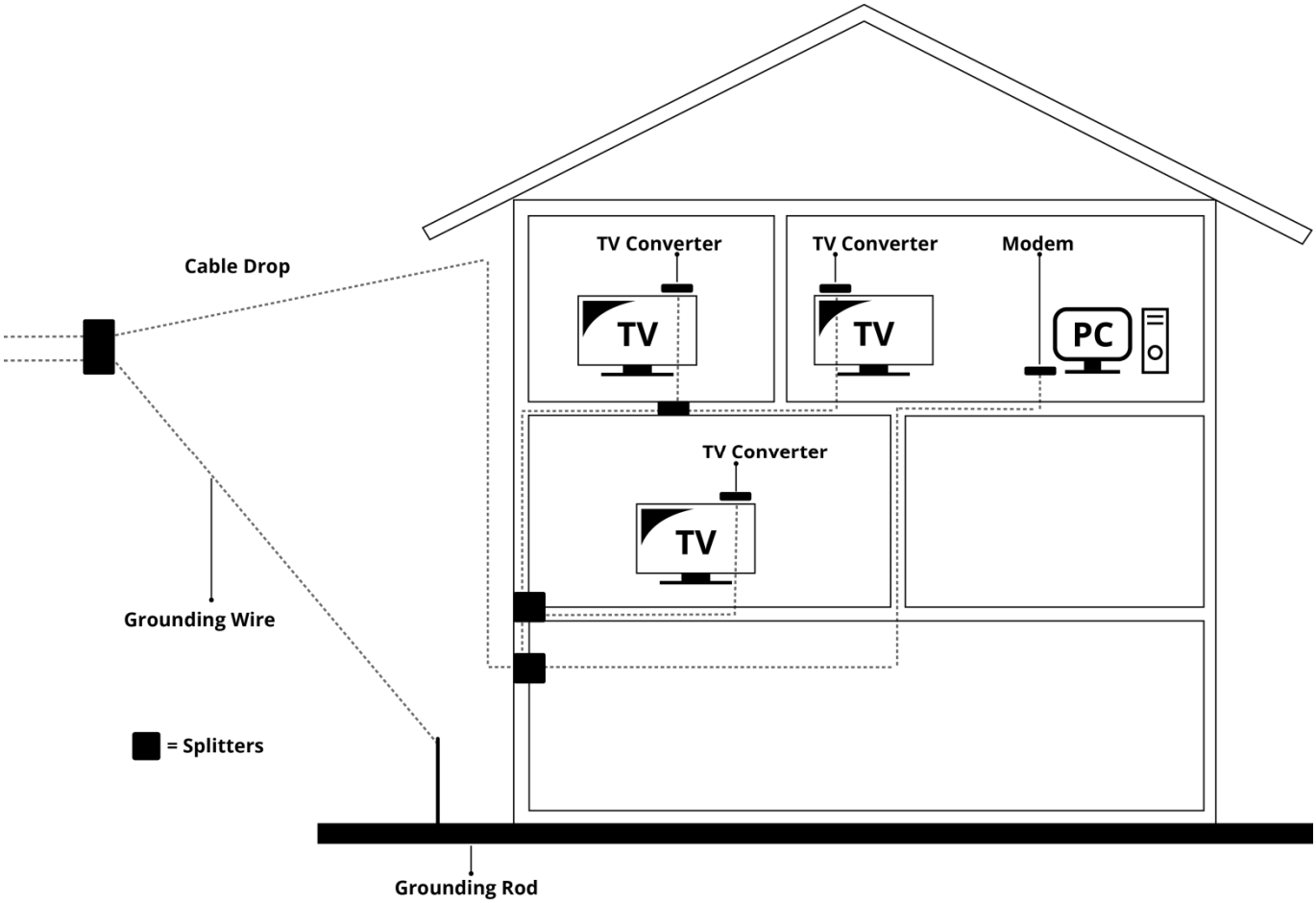

Fig. 1-6 Basic Home Wiring

Installation procedure for connecting to the Ethernet interface

Follow these steps for proper installation. (Please refer to Fig. 1-7)

Plug the coaxial cable to the cable wall outlet and the other end to the modem's cable connector.

Note: To ensure a fast registration of the modem, the coaxial cable must be connected to the modem before it is powered on.

Plug the power adapter into the socket of the cable modem and two-pin plug in the AC outlet to power on the modem.

Note: Only use the power adapter that comes with the modem. Using another power adapter can cause damage to the product, and will void the warranty.

Connect an Ethernet cable (direct connection, see below) to the Ethernet port at the back of the computer, and the other end to the ETHERNET port on the rear panel of the cable modem. The modem will seek the appropriate cable signal on the cable television network and go through the initial registration process on its own. The modem is ready for data transfer after the green LED "ONLINE" is lit continuously.

Note: the button "RESET" at the back of the modem is used primarily for maintenance.

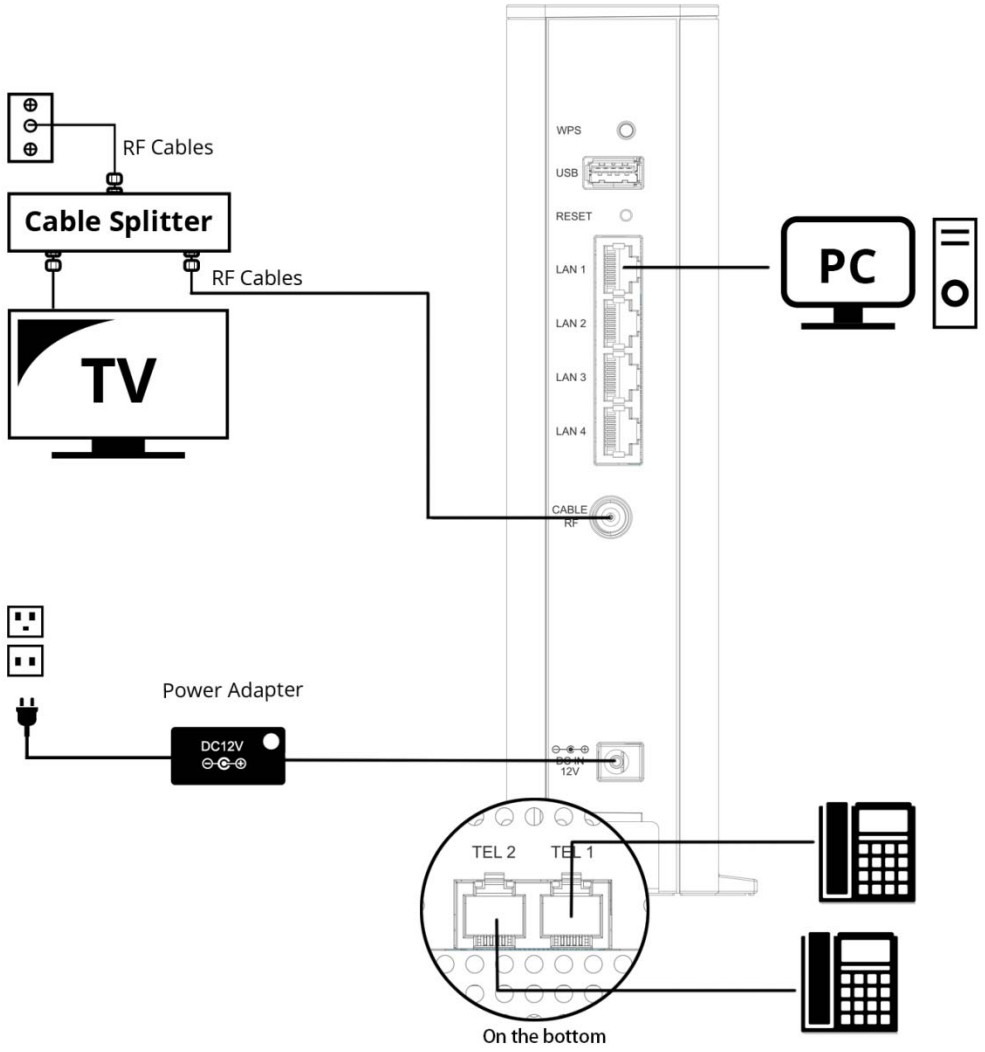

Fig. 1-7 Connect to the Modem

Telephone or Fax Connection

When properly connected, most telephony devices can be used with the Wireless Voice Gateway just as with a conventional telephone service. To make a normal telephone call, pick up the handset; listen for a dial tone, then dial the desired number. For services such as call waiting, use the hook switch (or FLASH button) to change calls. The following procedures describe some of the possible connection schemes for using telephony devices with the Wireless Voice Gateway.

1. Connect a standard phone line cord directly from the phone (fax machine, answering machine, caller ID box, etc.) to one of the TEL jacks on the Wireless Voice Gateway.
2. If there is a phone line in your home which is NOT connected to another telephone service provider, connect a standard phone line cord from a jack on this line to one of the TEL jacks of the Wireless Voice Gateway. Connect a standard phone line cord directly from the phone (fax machine, answering machine, caller ID box, etc.) to one of the other jacks in the house that uses that line.
3. If you have a multi-line telephone, connect a standard phone line cord (not an RJ-14 type line cord) from the phone to the TEL jacks on the Wireless Voice Gateway. (Other phones can be added to each line by using standard phone line splitters.)

CHAPTER 2: WEB CONFIGURATION

To make sure that you can access the Internet successfully, please check the following first.

1. Make sure the connection (through Ethernet) between the Wireless Voice Gateway and your computer is OK.
2. Make sure the TCP/IP protocol is set properly.
3. Subscribe to a Cable Company.

Accessing the Web Configuration (For basic account only)

The **Wireless Voice Gateway** offers local management capability through a built-in HTTP server and a number of diagnostic and configuration web pages. You can configure the settings on the web page and apply them to the device.

Once your host PC is properly configured; please proceed as follows:

1. Start your web browser and type the private IP address of the Wireless Voice Gateway on the URL field: **192.168.100.1**
2. After connecting to the device, you will be prompted to enter username and password. By default, the username is "**user**" and password is "**user**".

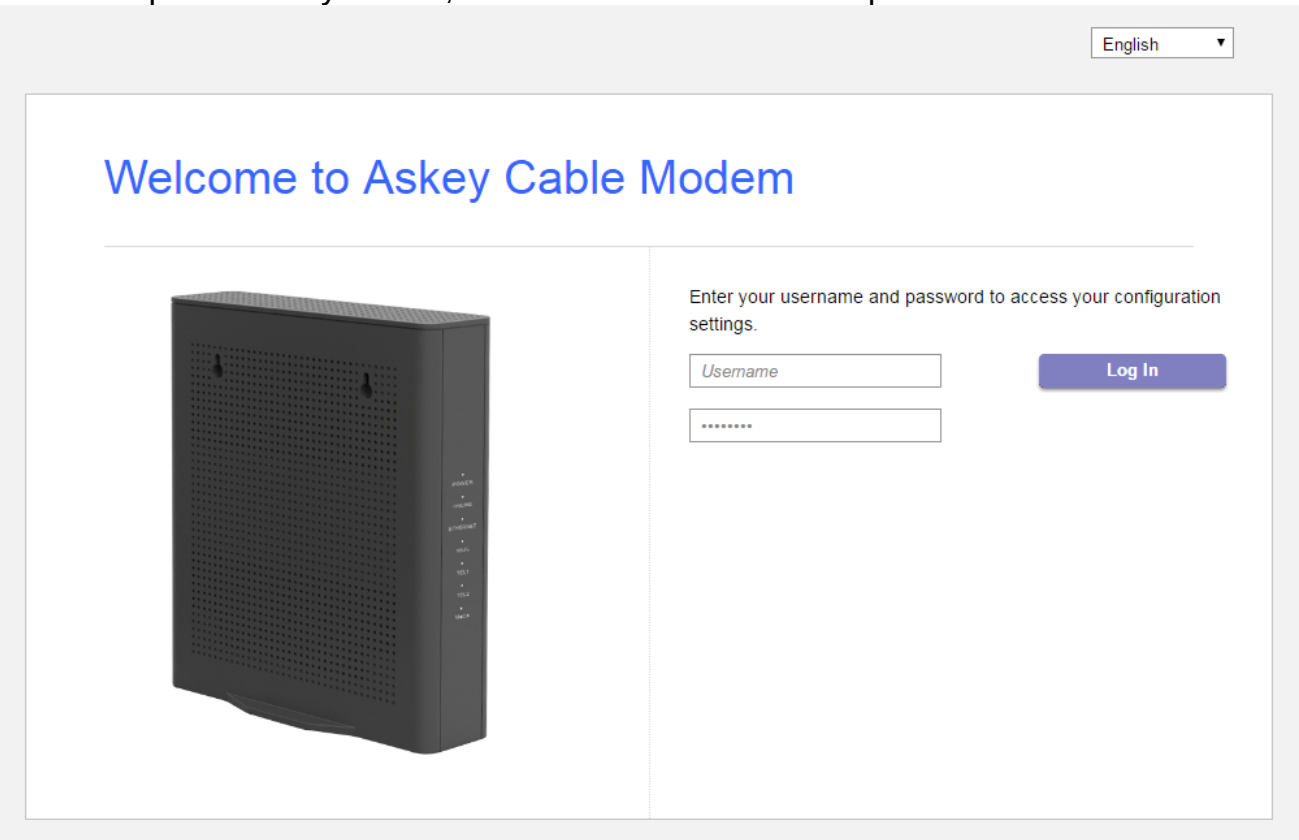

Fig2-1 Login dialogue

Note: If forget your username and password, you may Press "Reset" button on the rear panel more than 5seconds to restore the username and password to default.

If you login successfully, the main page will appear. “

You can change the display language to “English”, “Suomi”, “中文”, “ Deutsche”, “Nederlands”, “Français” or “日本語” on the top of the page.

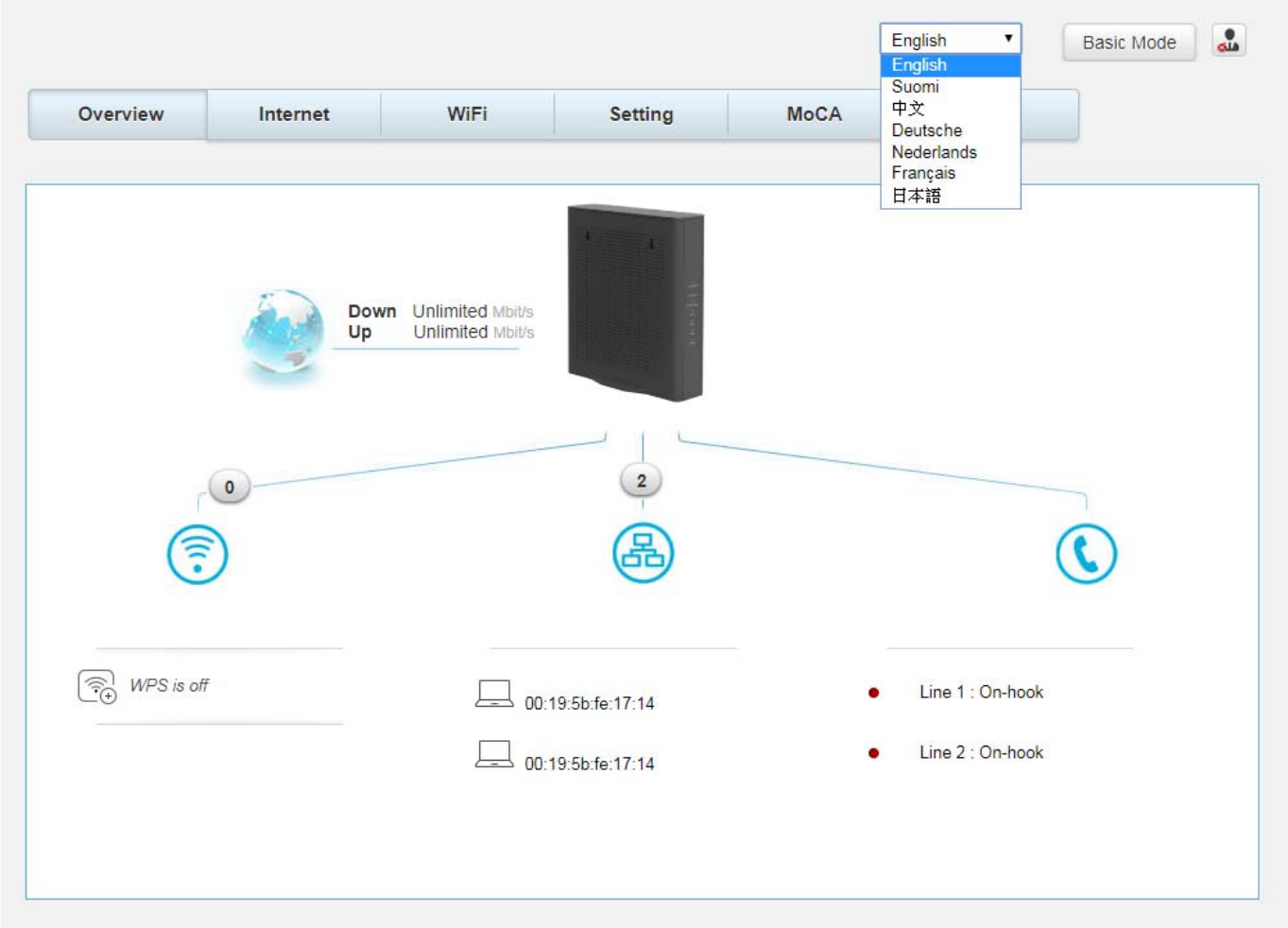

Fig. 2-2 Switch Language

Overview Web Page Group

Overview

The Overview page is the start page. You could switch to other pages. (e.g., Internet, Wi-Fi, Setting, MoCA, Status)

This page display Wi-Fi, ETHERNET and VoIP connection status. You could click the icons , and will lead to Wi-Fi, LAN and VoIP status pages.

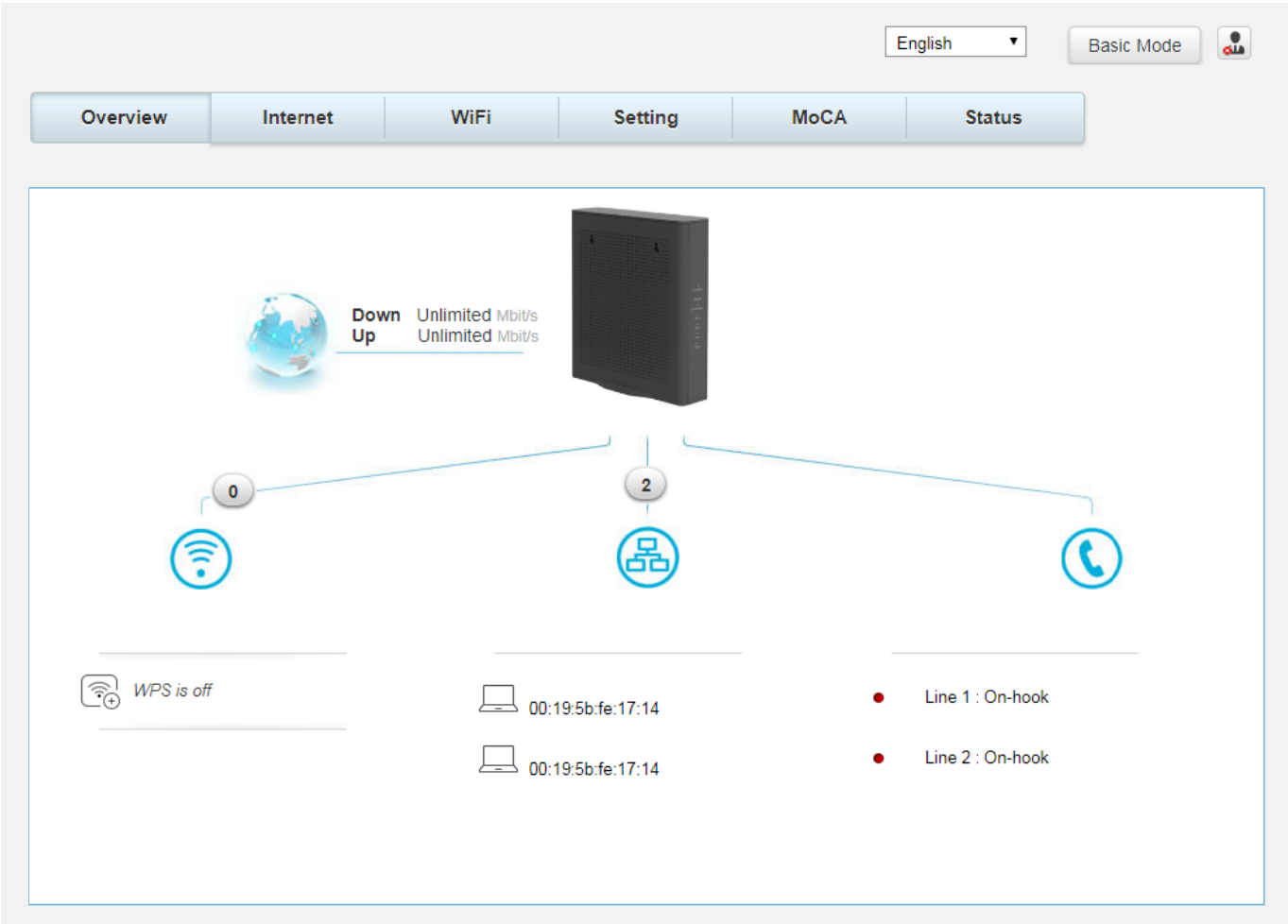

Fig.2-3 Overview

Internet Web Page Group

Parental Control

This page allows you to set the time limit for a client's network usage.

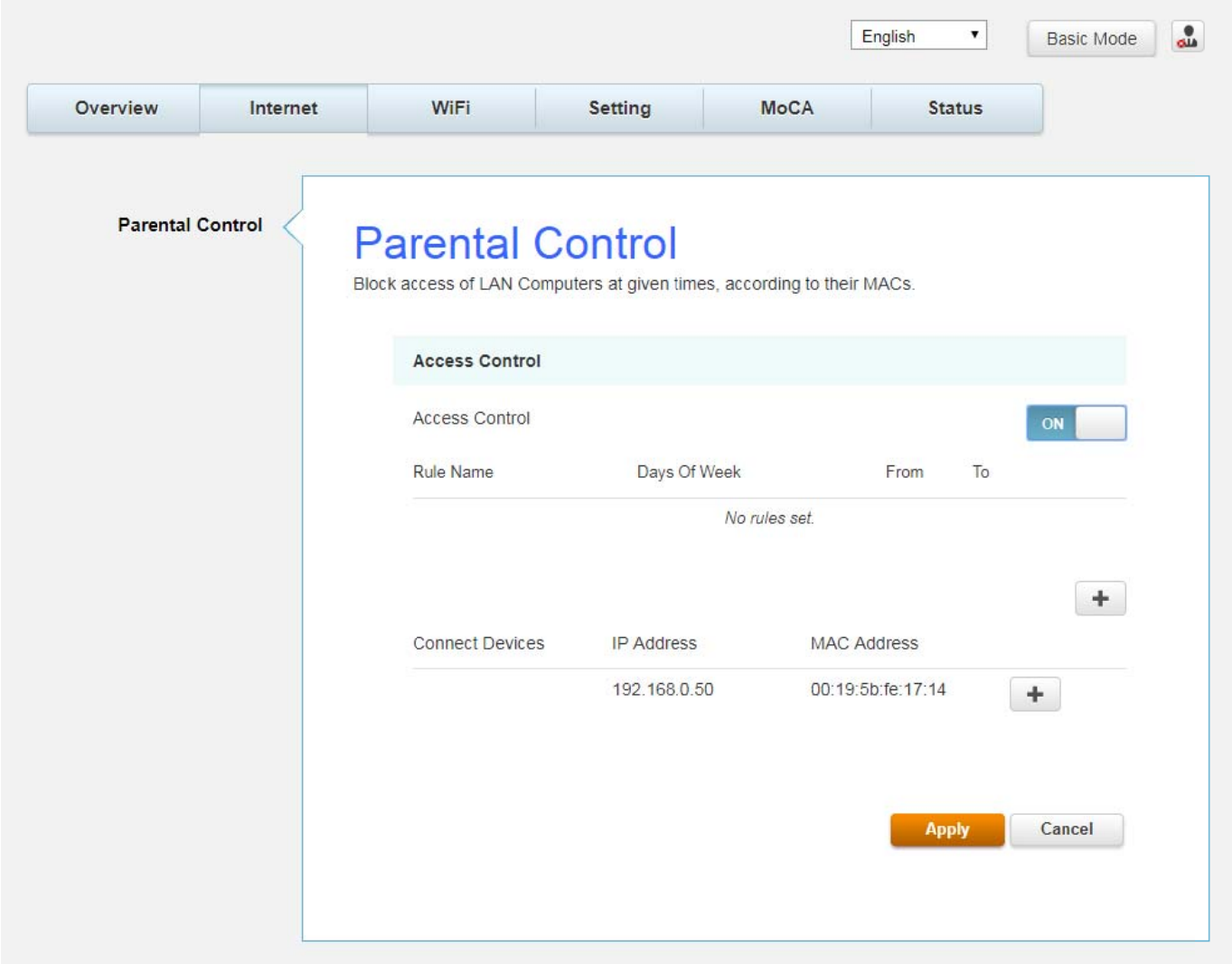

Fig.2-4 Internet\Parental Control

Wi-Fi Web Page Group

General

This page allows configuration of the 2.4GHz and 5GHz wireless features. These must match the settings you make on your wireless-equipped PC on the LAN side.

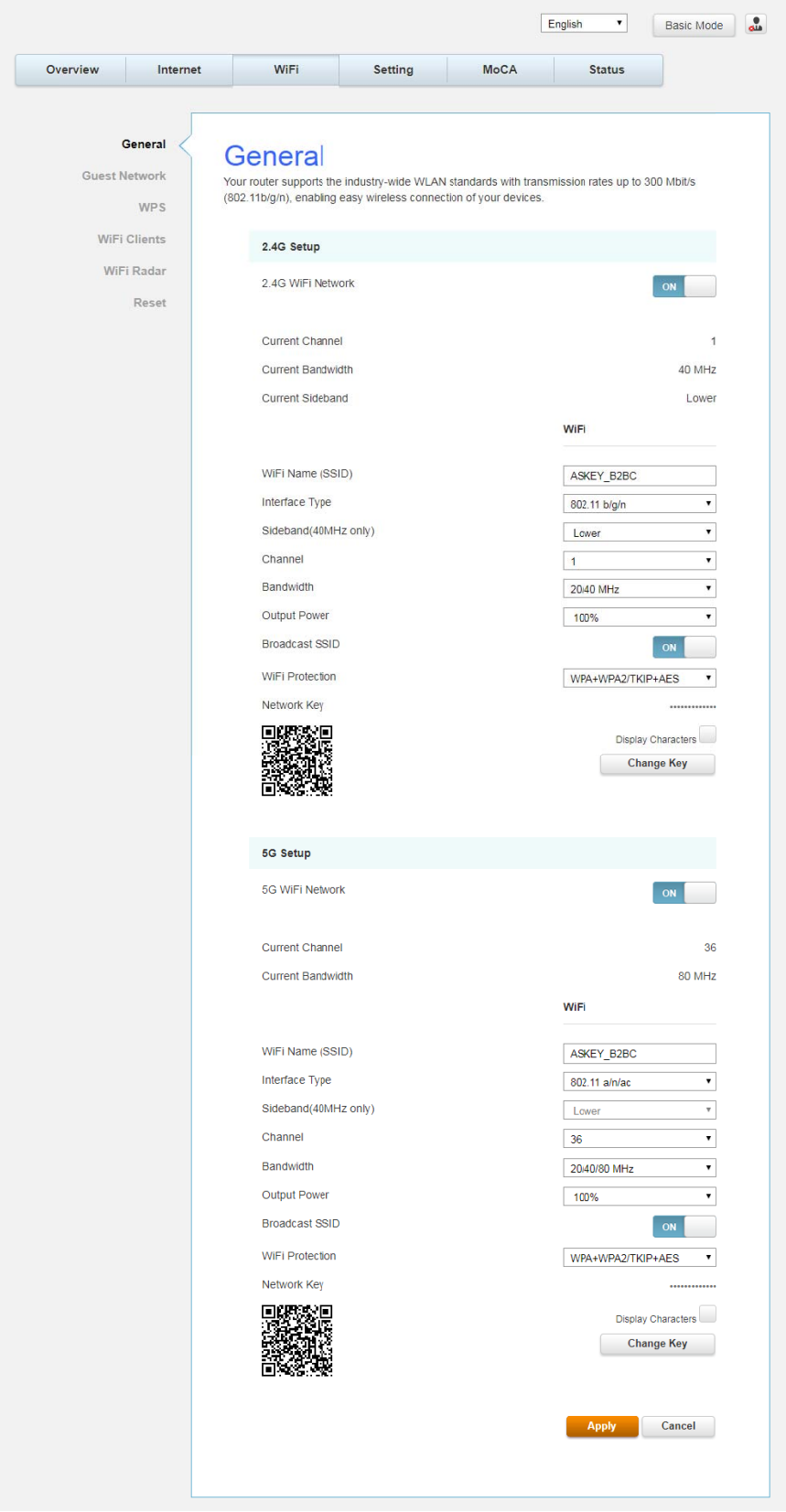

Fig.2-5 Wi-Fi\General

- **2.4GWi-Fi Network / 5GWi-Fi Network**: It may help you to **Enable** or **Disable** the 2.4GHz / 5GHz wireless function.
- **Current Channel**: The channel that you choose will be displayed in this field.
- **Current Bandwidth**: The bandwidth that you choose will be displayed in this field.
- **Current Sideband**: The sideband that you choose will be displayed in this field.
- **Wi-Fi Name (SSID)**: The SSID for 2.4GHz / 5GHz wireless function.
- **Interface Type**: There are three different modes can be selected. 2.4GHz can be selected 802.11b/g, 802.11b/g/n and 802.11n only; 5GHz can be selected 802.11a, 802.11a/n/ac and 802.11n/ac only.
- **Sideband (40MHz only)**: There is “Lower” and “Upper” can be selected if Bandwidth 40 MHz was enabled.
- **Channel**: In 802.11 Band 2.4GHz, there are 1 to 11 channels. In 802.11 Band 5GHz, there are 36, 40, 44, 48, 52, 56, 60, 64, 149, 153, 157, 161 channels. Choose the one that is suitable for this device.

- **The 5.25-5.35GHz and 5.47-5.725GHz DFS bands are not available for USA marketing models**
  - **Bandwidth:** Select wireless channel width **20/40 MHz** is for 2.4GHz Wi-Fi default value, and **20/40/80 MHz** is for 5GHz Wi-Fi default value. (Bandwidth taken by wireless signals of this access point.)
  - **Output Power**: This setting decides the output power of this device. You may use it to economize on electricity by selecting lower percentage of power output. Control the range of the AP by adjusting the radio output power.
  - **Broadcast SSID**: Broadcasting the SSID causes the name of your network to appear in the list of available networks.
  - **Wi-Fi Protection**: The method of Wi-Fi protection can be OFF, WPA, WPA2/AES or WPA+WPA2/TKIP+AES.
  - **Network key**: The network key is the password that you use to authenticate with your router.
  - **QR Code**: Use QR code scanning APP on the smartphone to get Wi-Fi Name (SSID), Wi-Fi Protection and Network key.

Fig.2-6 Wi-Fi\General\QR Code

Fig.2-7 Wi-Fi\General\Scanning result

- WIFI: S (SSID): **ASKEY_B2BC**
- T (Wi-Fi Protection): **WPA**
- P (Network key): **zNyQzYwEGNRTN**

For Android users, you can install “Barcode Scanner“ app to scan Wi-Fi QR code, and the smart phone will be able to connect automatically without entering the SSID and password.

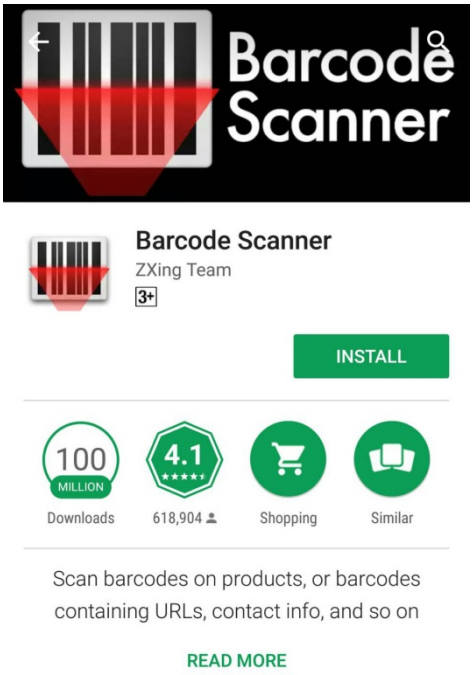

Fig.2-8 Wi-Fi\General\Android APP

802.11x Authentication introduction

If you enable the **802.11x authentication** function, you will have to offer the following information-

- **WPA** (Wi-Fi Protected Access)**/WPA2**:
  It must be used in conjunction with an authentication server such as RADIUS to provide centralized access control and management. It can provide stronger encryption and authentication solution than none WPA modes. **WPA2** is the second generation of **WPA** security.
  - **WPA/WPA2 Encryption:**
    There are two types that you can choose, **AES**, **TKIP+AES**.

    TKIP takes the original master key only as a starting point and derives its encryption keys mathematically from this mater key. Then it regularly changes and rotates the encryption keys so that the same encryption key will never be used twice

    AES provides security between client workstations operating in ad hoc mode. It uses a mathematical ciphering algorithm that employs variable key sizes of 128, 192 or 256 bits.

Guest Network

This page allows configuration of the 2.4GHz and 5GHz guest network.

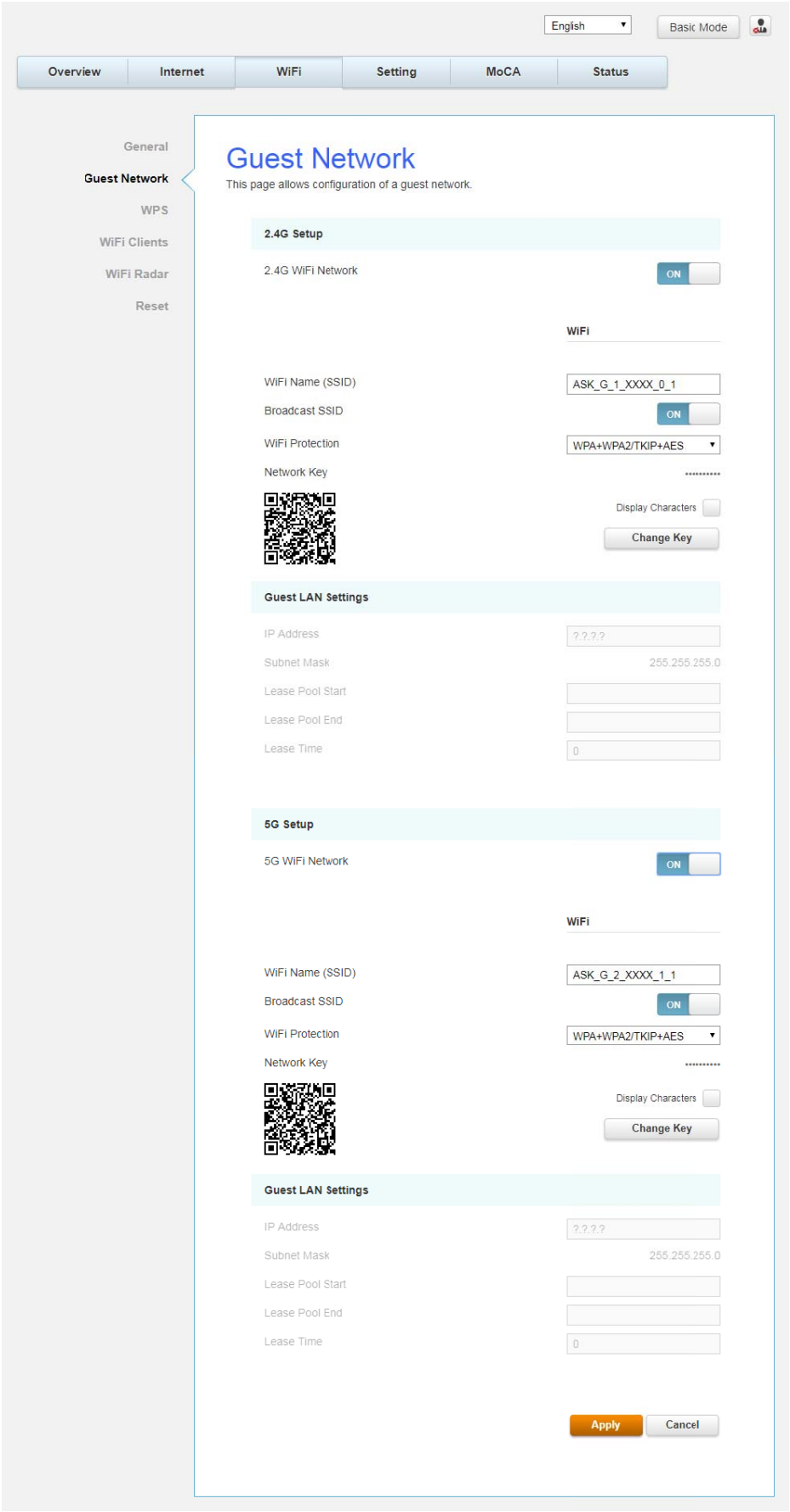

Fig.2-9 Wi-Fi\Guest Network

- **2.4G Wi-Fi Network / 5G Wi-Fi Network**: It may help you to **Enable** or **Disable** the 2.4GHz / 5GHz wireless function.
- **Wi-Fi Name (SSID)**: The SSID for 2.4GHz / 5GHz Guest wireless function.
- **Broadcast SSID**: Broadcasting the SSID causes the name of your network to appear in the list of available networks.
- **Wi-Fi Protection**: The method of Wi-Fi protection can be OFF, WPA, WPA2/AES or WPA+WPA2/TKIP+AES.
- **Network key**: The network key is the password that you use to authenticate with your router.
- **QR Code**: Use QR code scanning APP on the smartphone to get Wi-Fi Name (SSID), Wi-Fi Protection and Network key.

Fig.2-10 Wi-Fi\General\QR Code

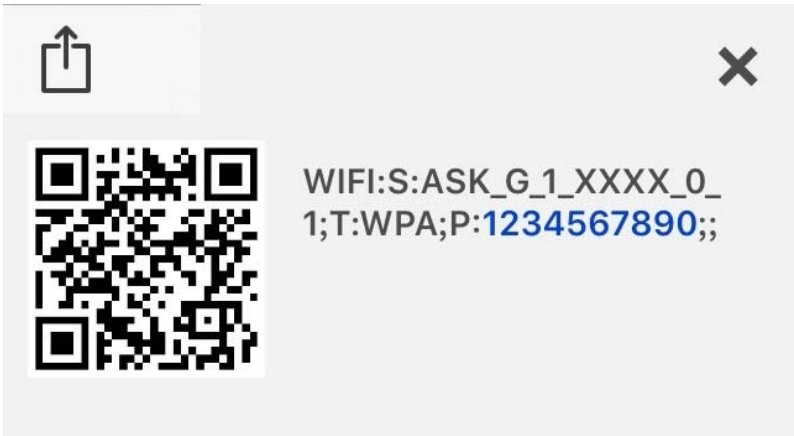

Fig.2-11 Wi-Fi\General\Scanning result

- WIFI: S (SSID): **ASK_G_1_XXXX_0_1**
- T (Wi-Fi Protection): **WPA**
- P (Network key): **1234567890**

For Android users, you can install “Barcode Scanner“ app to scan Wi-Fi QR code, and the smart phone will be able to connect automatically without entering the SSID and password.

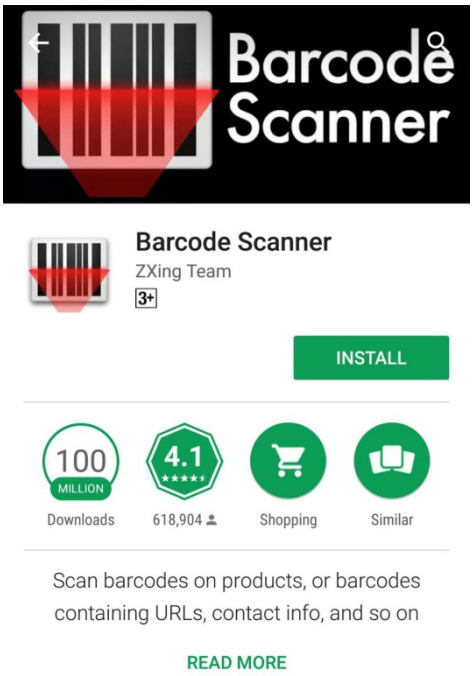

Fig.2-12 Wi-Fi\General\Android APP

Guest LAN Settings

A private IP address and Subnet Mask for LAN sub netting.

For example 192.168.0.1./ 255.255.255.0.

- Configure the IP address numbers for the DHCP server with “**Lease pool start**” and “**Lease pool end**”.
- Configure the IP address lease time with “**Lease time**” for DHCP server.

802.11x Authentication introduction

If you enable the **802.11x authentication** function, you will have to offer the following information-

- **WPA** (Wi-Fi Protected Access)**/WPA2**:
  It must be used in conjunction with an authentication server such as RADIUS to provide centralized access control and management. It can provide stronger encryption and authentication solution than none WPA modes. **WPA2** is the second generation of **WPA** security.
  - **WPA/WPA2 Encryption:**
    There are two types that you can choose, **AES**, **TKIP+AES**.

    TKIP takes the original master key only as a starting point and derives its encryption keys mathematically from this mater key. Then it regularly changes and rotates the encryption keys so that the same encryption key will never be used twice

    AES provides security between client workstations operating in ad hoc mode. It uses a mathematical ciphering algorithm that employs variable key sizes of 128, 192 or 256 bits.

WPS

This page allows you to configure WPS setting. Wi-Fi Protected Setup™ (WPS) is an easy and secure way of configuring and connecting your Wireless access point. In this case, the Wireless Voice Gateway is the Access Point (AP), and your PC (or Wireless Device) is called the STA. When configuring your Wireless Network via WPS, messages are exchanged between the STA and AP in order to configure the security settings on both devices.

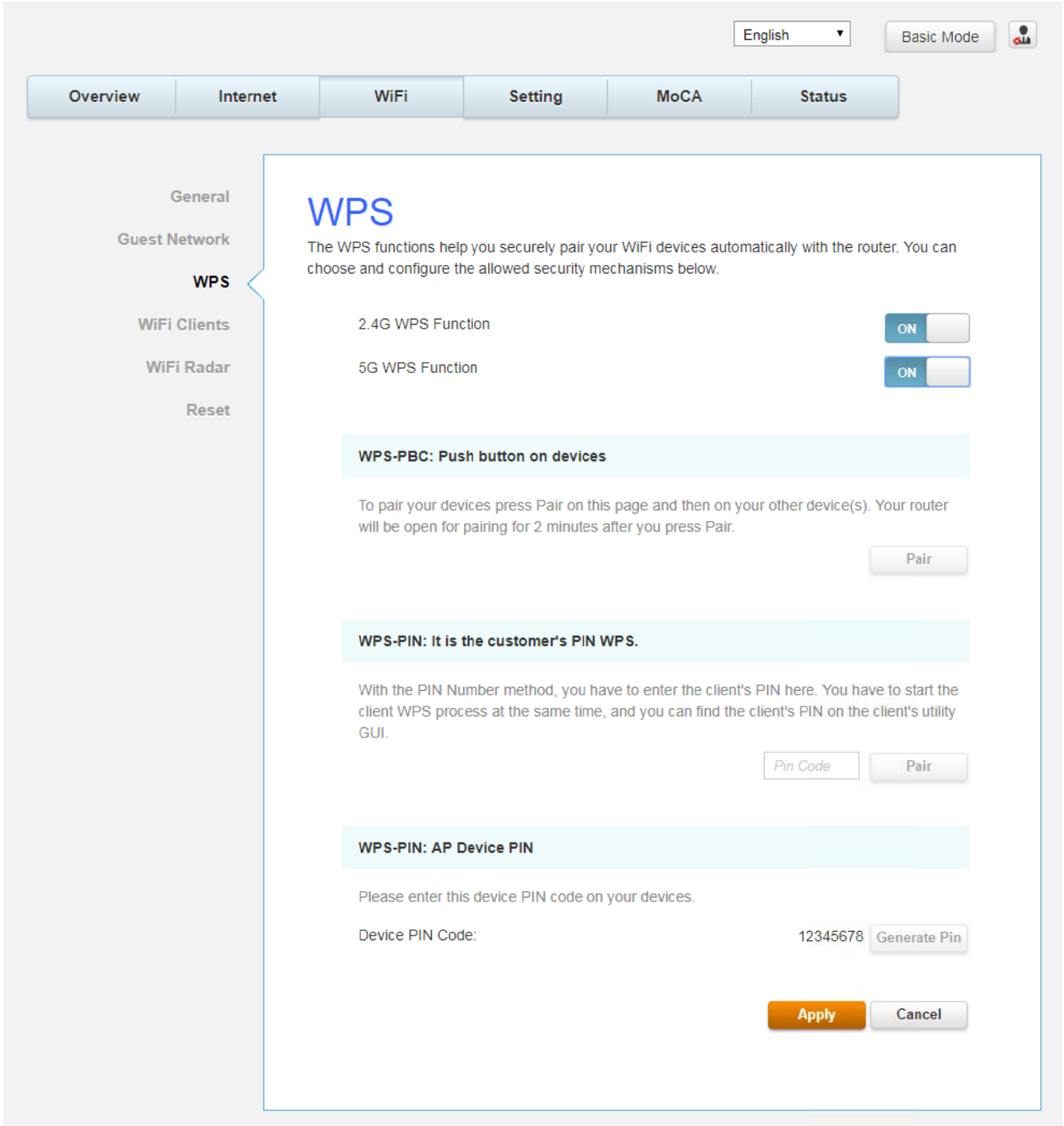

Fig.2-13 Wi-Fi\WPS

Wi-Fi Clients

This page shows all Wi-Fi clients.

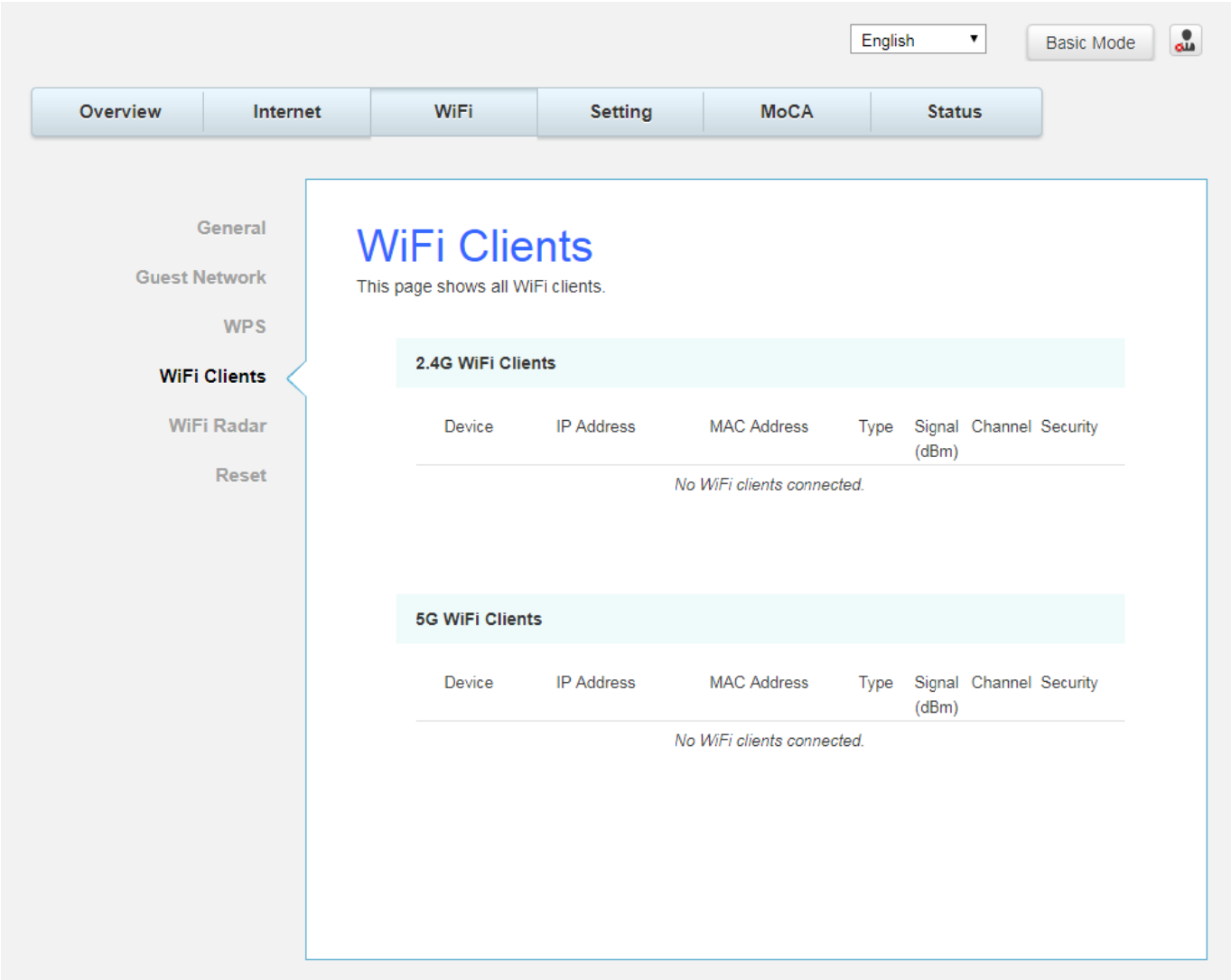

Fig.2-14 Wi-Fi\Wi-Fi Clients

Reset

This page allows configuration of the wireless network to default.

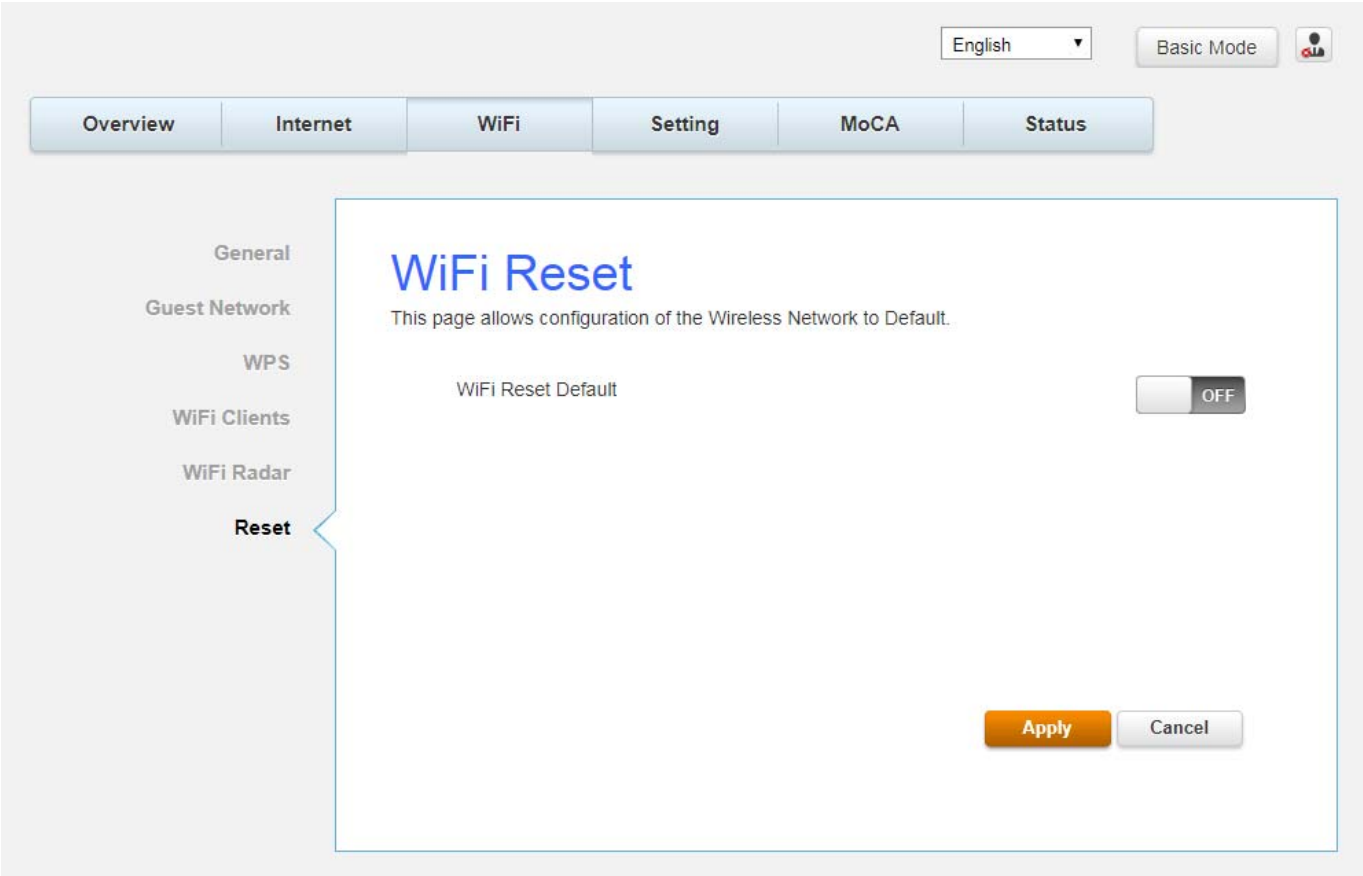

Fig.2-16 Wi-Fi\Reset

Settings Web Page Group

Language

This page allows configuration of language.

You can change the display language to “English”, “Suomi”, “中文”, “ Deutsche”, “Nederlands”, “Français” or “日本語” on the top of the page.

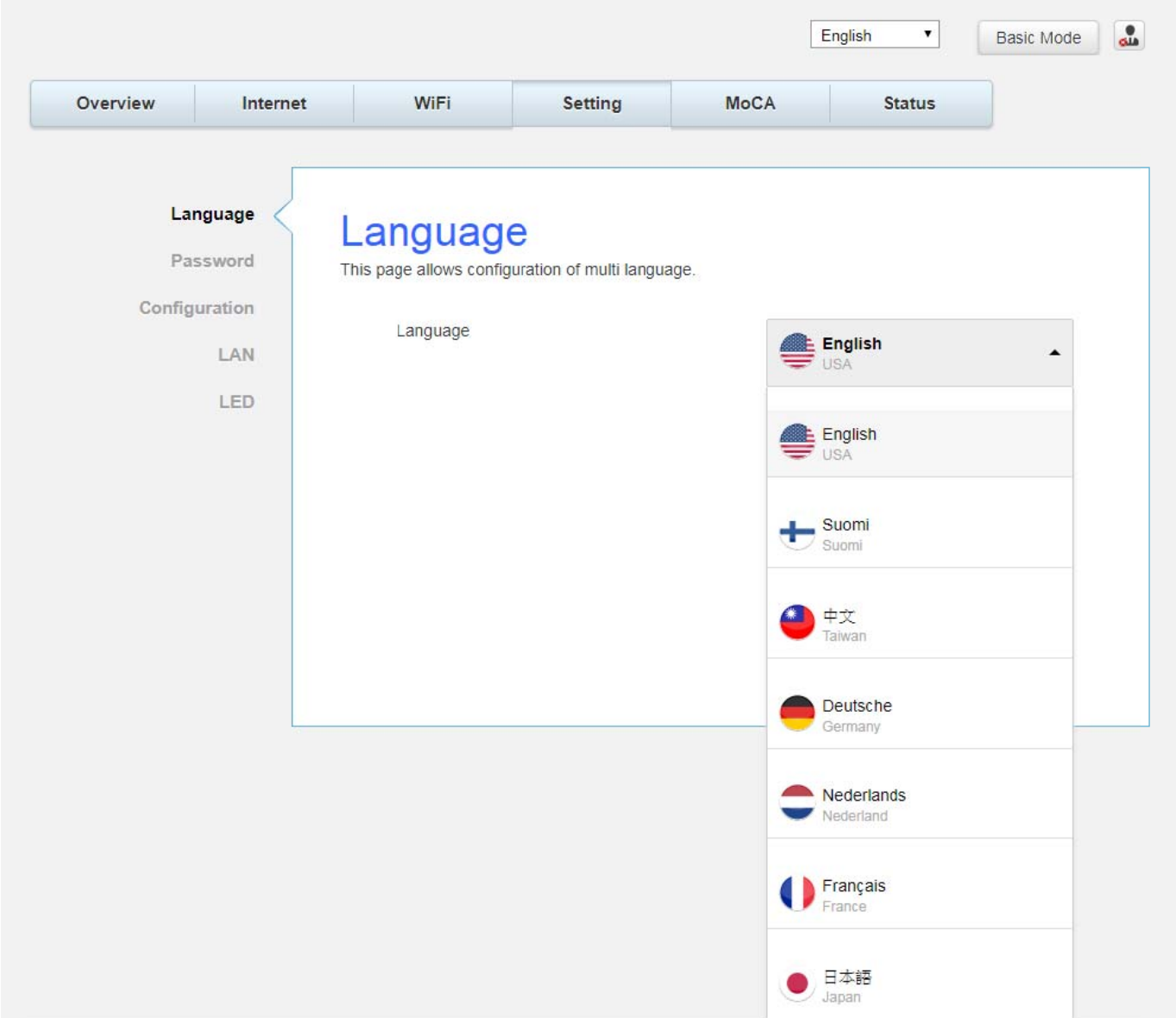

Fig.2-17 Setting\Language

Password

By default, the username is "**user**" and password is "**user**".

When the current password is the default one, the user is strongly encouraged to change the default web password.

The password can be a minimum of 8 characters, maximum of 20 characters and is case sensitive. If forget your username and password, you may Press "Reset" button on the rear panel more than 5seconds to restore the username and password to default.

Note: We are always suggesting you to modify the password. This is a basic protection against wrongful access to the Gateway Web pages.

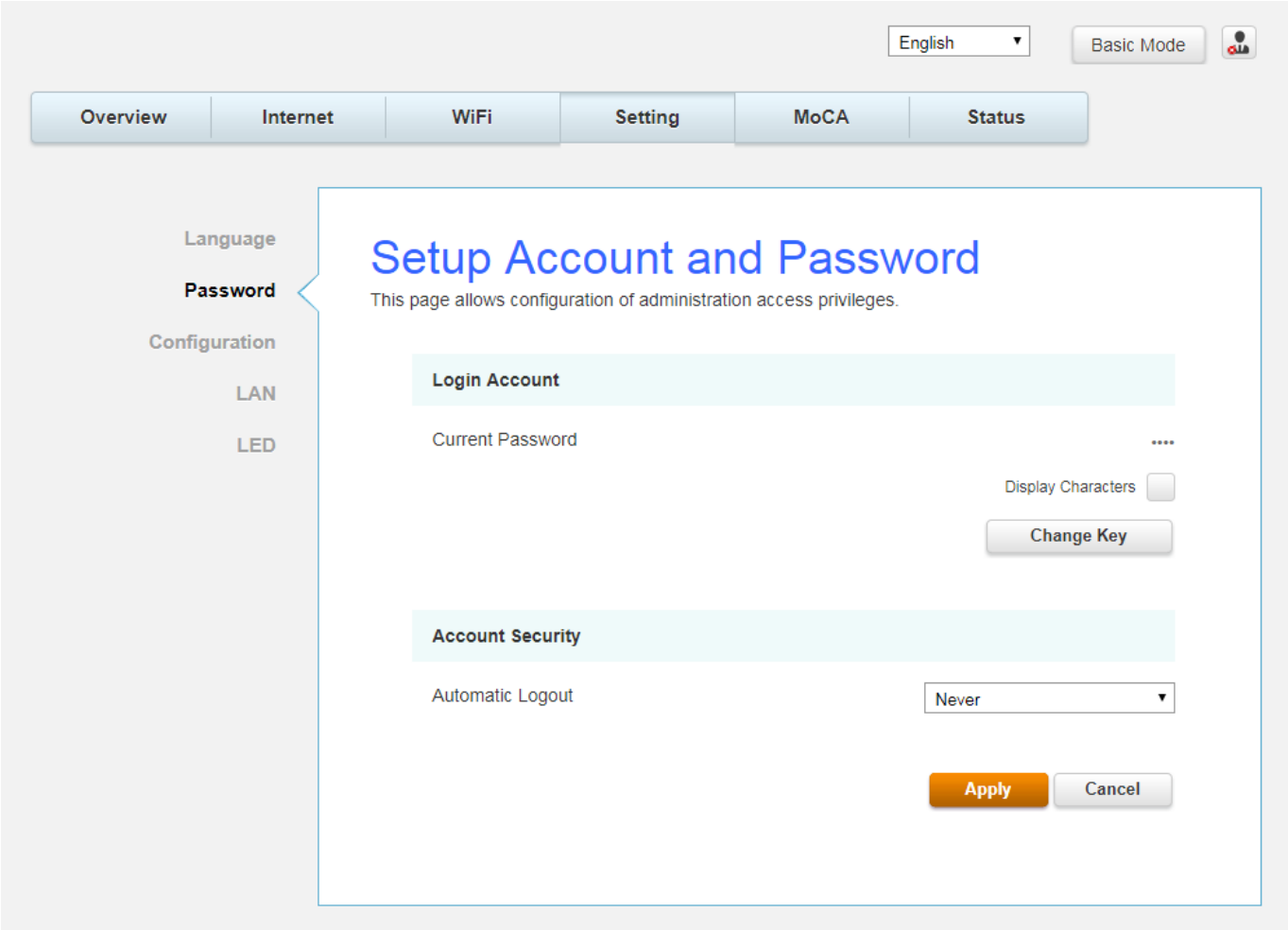

Fig.2-18 Setting\Password

Configuration

This page allows you to save your current settings locally on your PC, or restore settings previously saved.

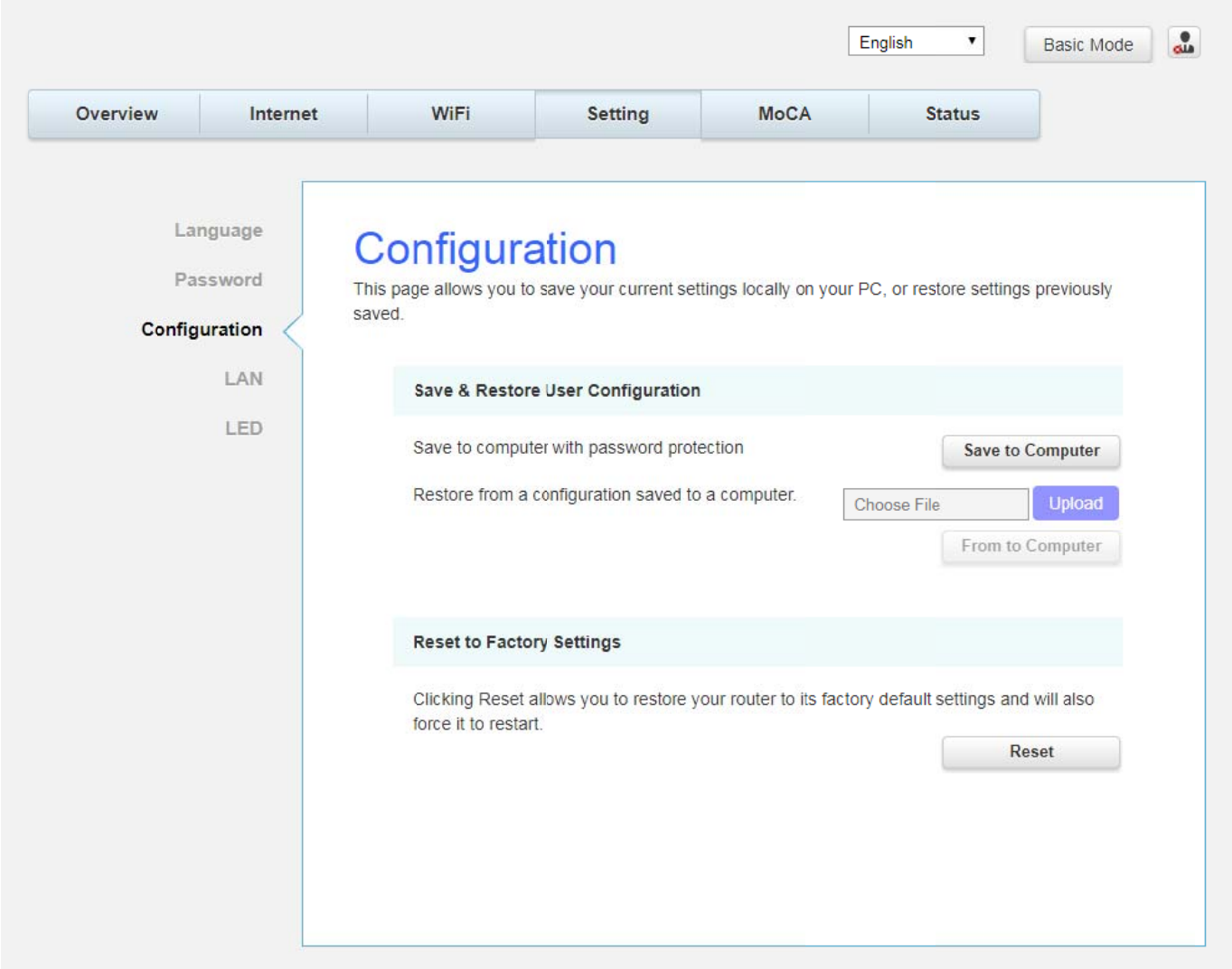

Fig.2-19 Setting\Configuration

- **Save & Restore User Configuration**: To back up the current configuration, click **Save to Computer** and follow the prompts.

  To restore a previous configuration, click **Upload** and use the navigation window to locate the file (usually backupsettings.conf.) Once the file has been located, click **From to Computer** to restore the settings. Once the settings are restored, the device will reboot.

- **Reset to Factory Settings:** Click **Reset** allows you to restore your router to factory default settings and will also force it to restart.

LAN

This page allows configuration of the basic features of the broadband gateway related to your ISP's connection.

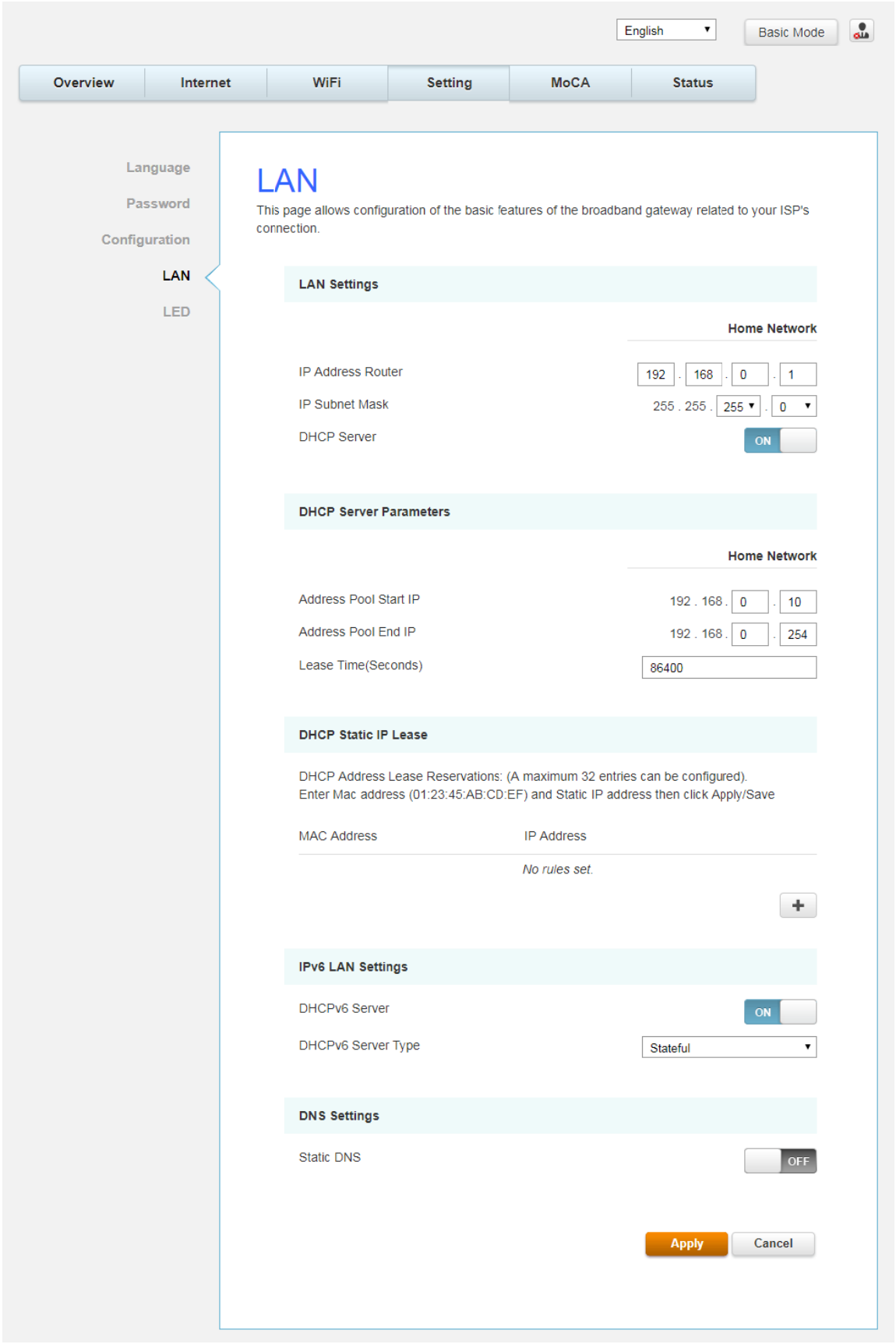

Fig.2-20 Setting\LAN

LED

This page allows configuration of the LED brightness.

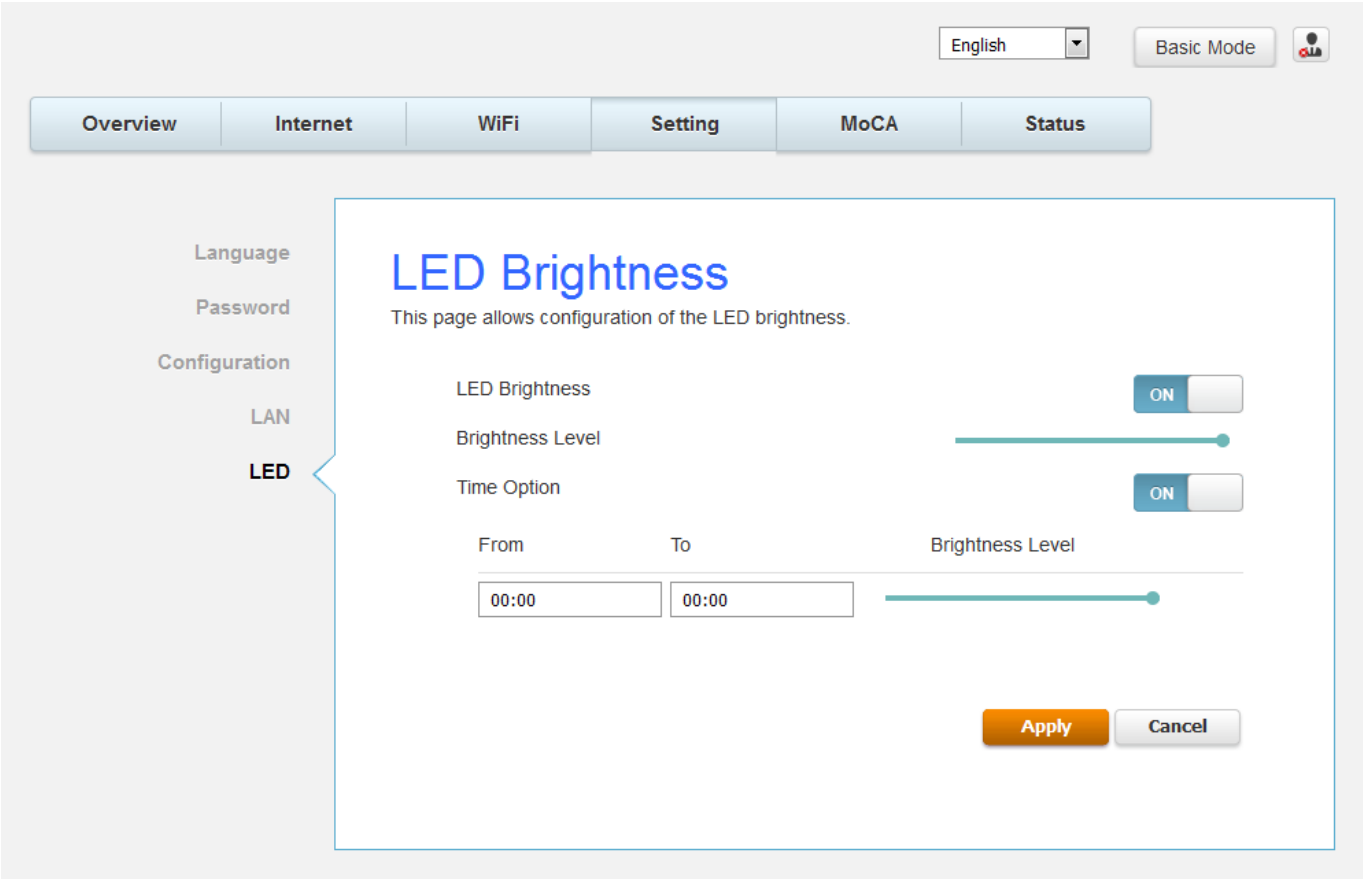

Fig.2-21 Setting\LED

MoCA Web Page Group

MoCA

You will be able to change your MoCA setting here. MoCA is a new technology which utilizes your existing CATV coax at home to form a home networking which will provide high speed home network access.

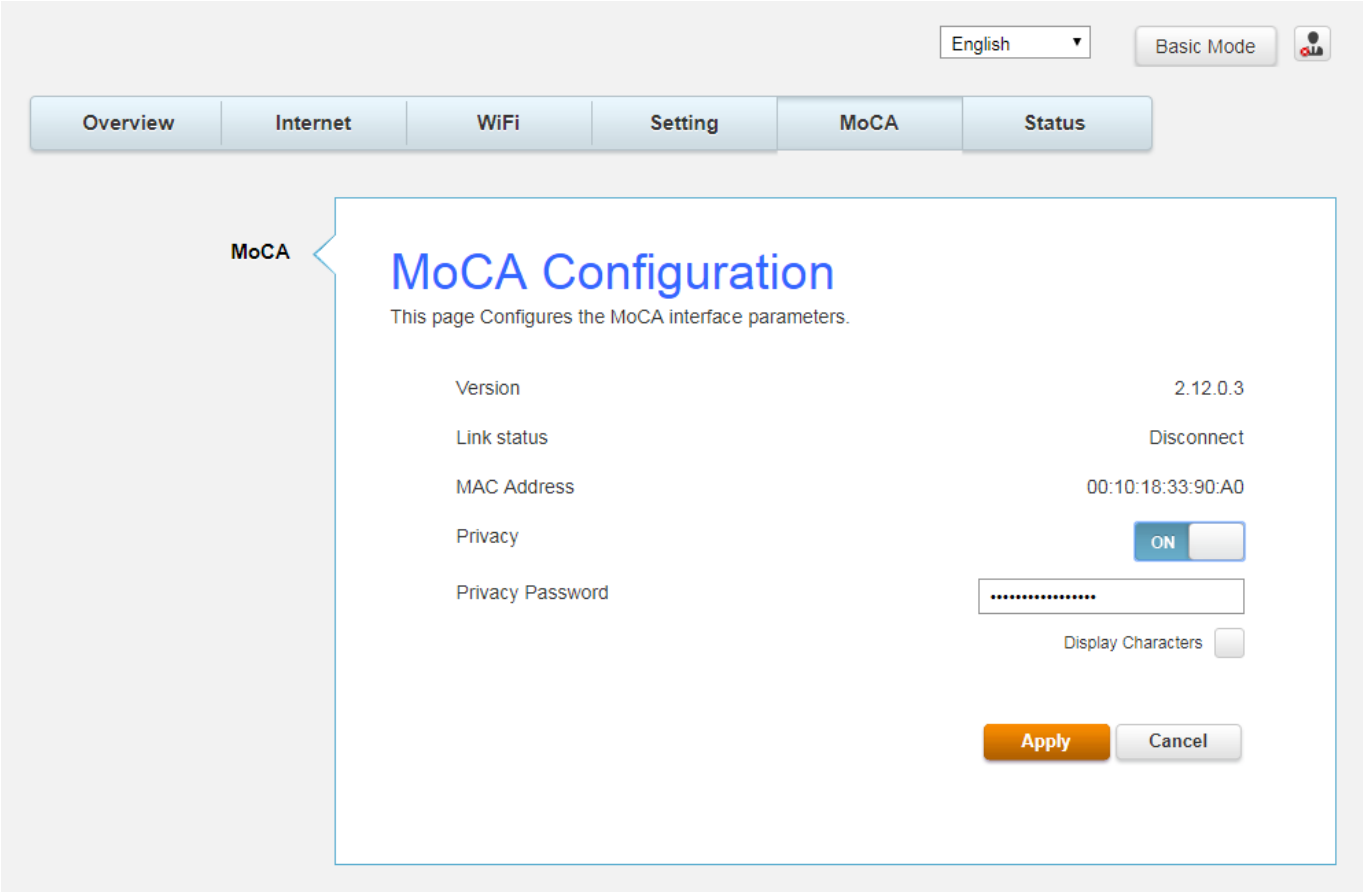

Fig.2-22 MoCA\MoCA

Status Web Page Group

Status

This page can find an overview of all your router parameters. This may help you in optimizing or trouble shooting your router.

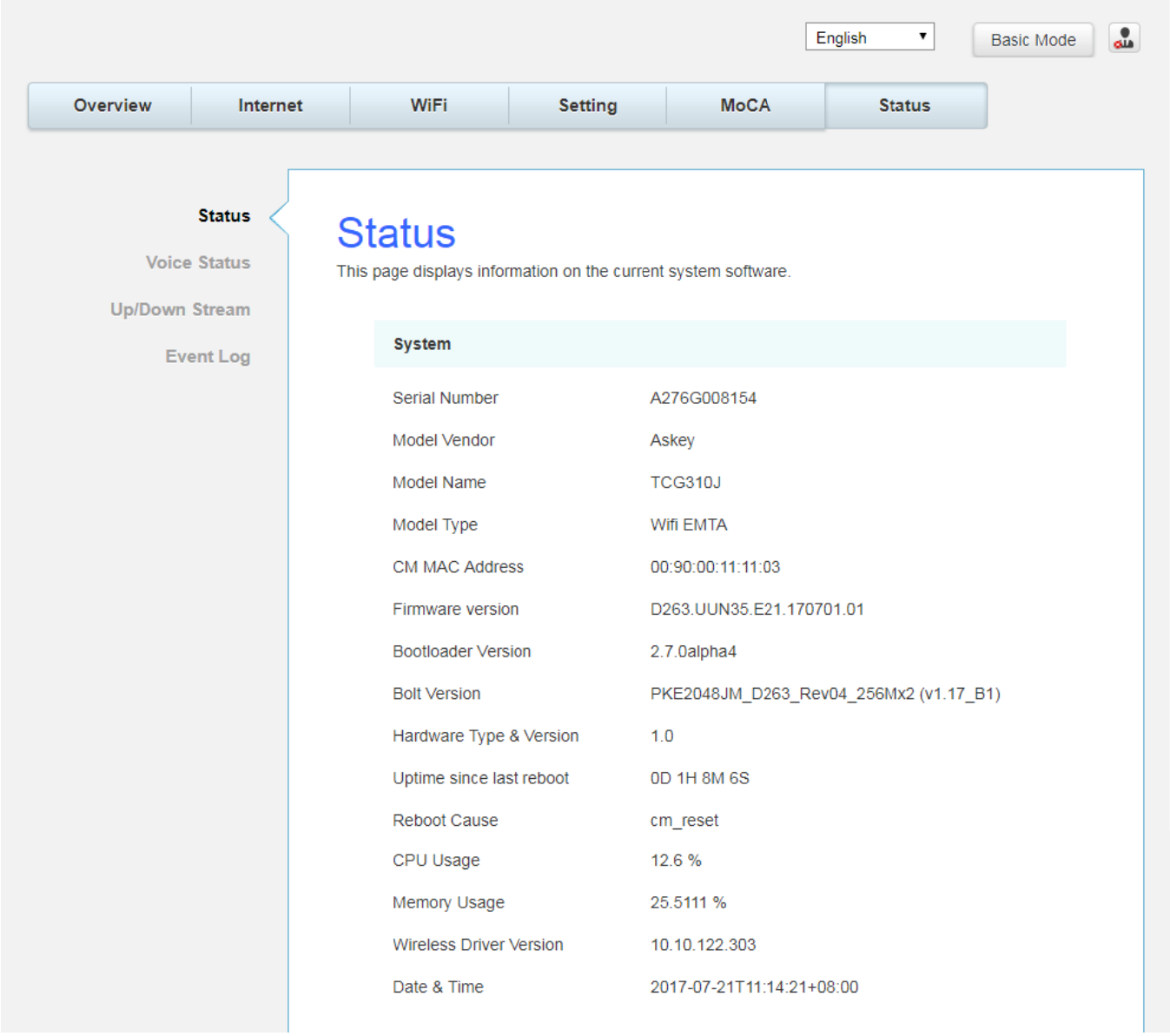

Fig.2-23 Status\Status

Voice Status

This page displays the initialization status of the MTA containing Telephony DHCP, Security, TFTP and Provisioning Status. The information can be useful to your cable company's support technician if you're having problems.

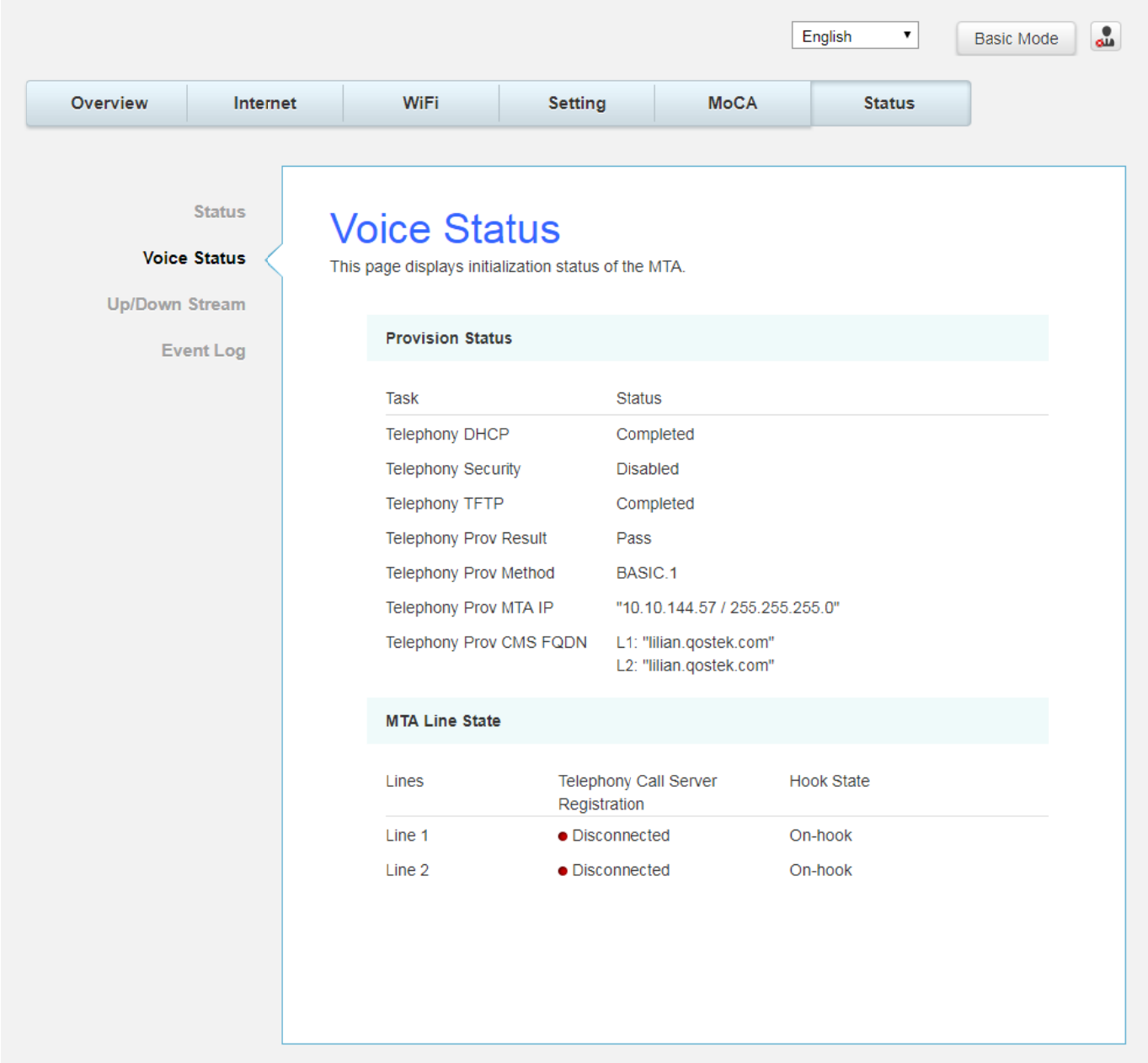

Fig.2-24 Status\Voice Status

Up/Down Stream

This page reports current CM's upstream / downstream information. The information can be useful to your cable company's support technician if you're having problems.

By entering downstream frequency in KHz and clicking "Force frequency" button, you can force the CM locking to the specified frequency.

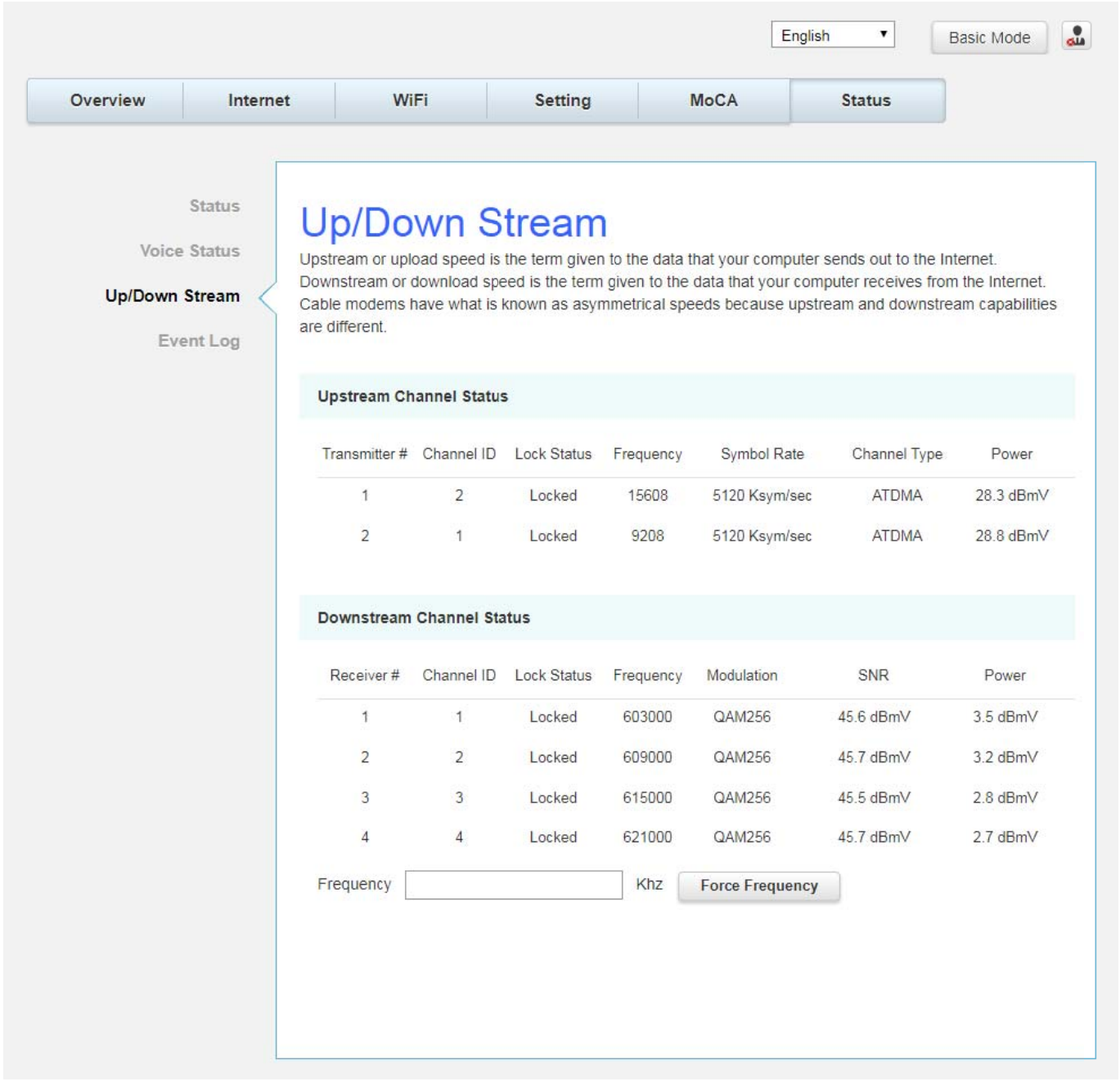

Fig. 2-25 Status\ Up/Down Stream

Event log

This page displays the contents of the SNMP event log.

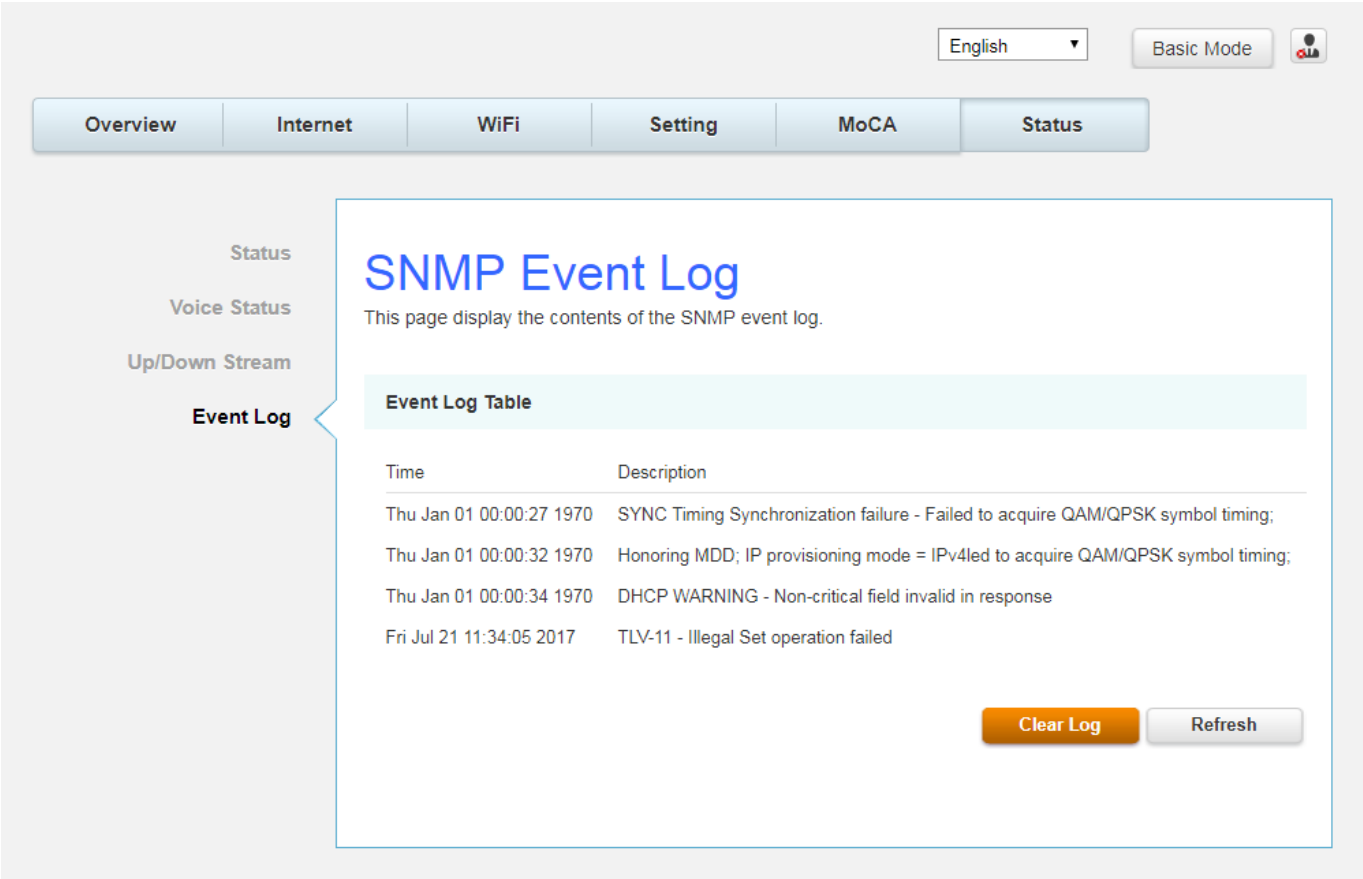

Fig. 2-26 Status\Event log

Accessing the Web Configuration (For admin account only)

Once your host PC is properly configured; please proceed as follows:

1. Start your web browser and type the private IP address of the Wireless Gateway on the URL field: **192.168.100.1**
2. After connecting to the device, you will be prompted to enter username and password. By default, the username is "**admin**" and password is "**admin**".

This section that introduces the admin account addition pages, and the same as the basic mode pages refer to page 20 ~ 45, please.

Internet Web Page Group

Advanced

This page allows you to configuration of advanced features of the broadband Gateway.

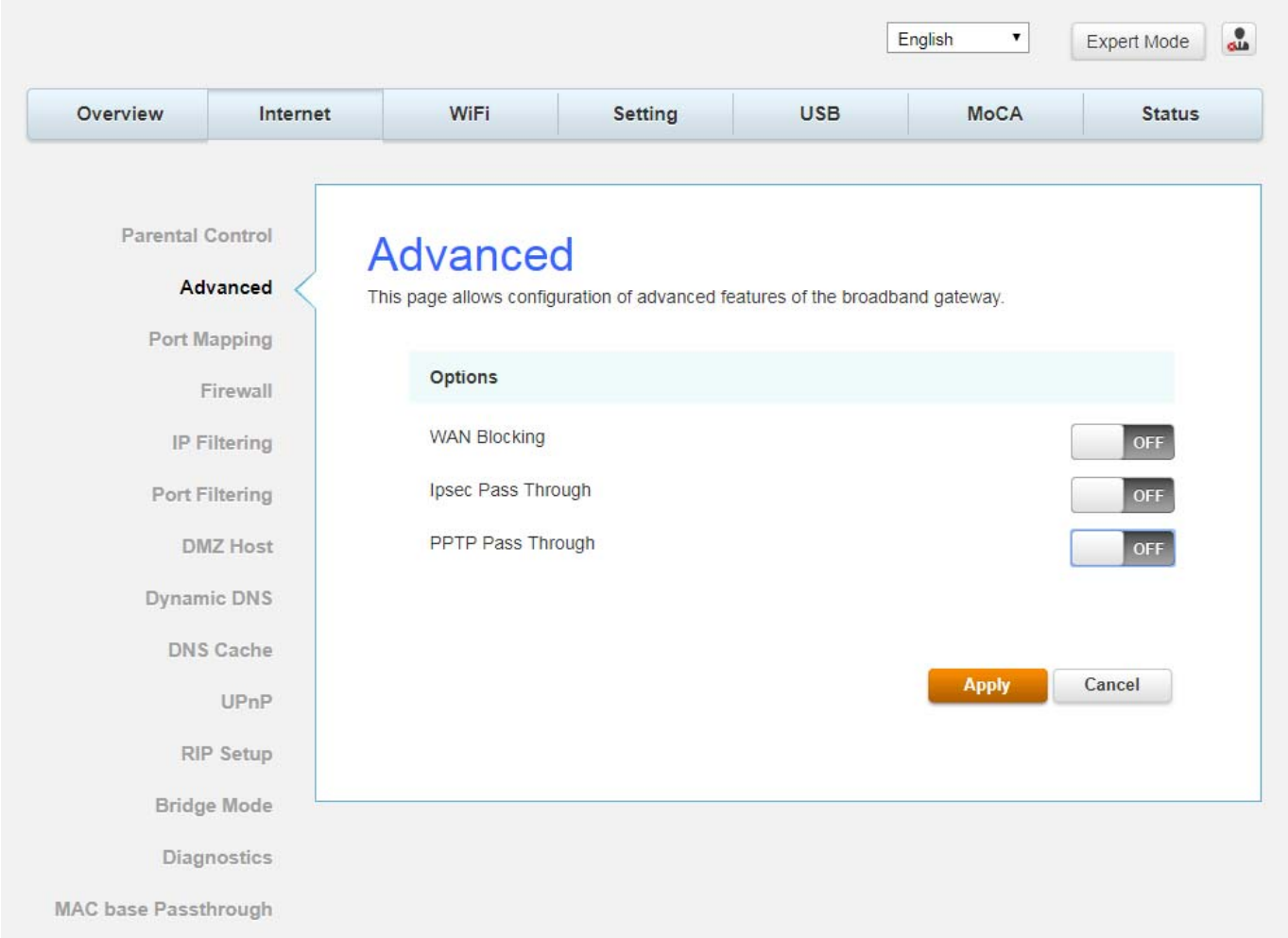

Fig.2-27 Internet\Advanced

- **WAN Blocking** prevents others on the WAN side from being able to ping your gateway. With WAN Blocking enabled, your gateway will not respond to pings it receives, effectively "hiding" your gateway.
- **Ipsec PassThrough** enables IpSec type packets to pass WAN ⇔ LAN. IpSec (IP Security) is a security mechanism used in Virtual Private Networks (VPNs).
- **PPTP PassThrough** enables PPTP type packets to pass WAN ⇔ LAN. PPTP (Point to Point Tunneling Protocol) is another mechanism sometimes used in VPNs.

Port Mapping

This page allows configuration of Port Forwarding and Port Triggering.

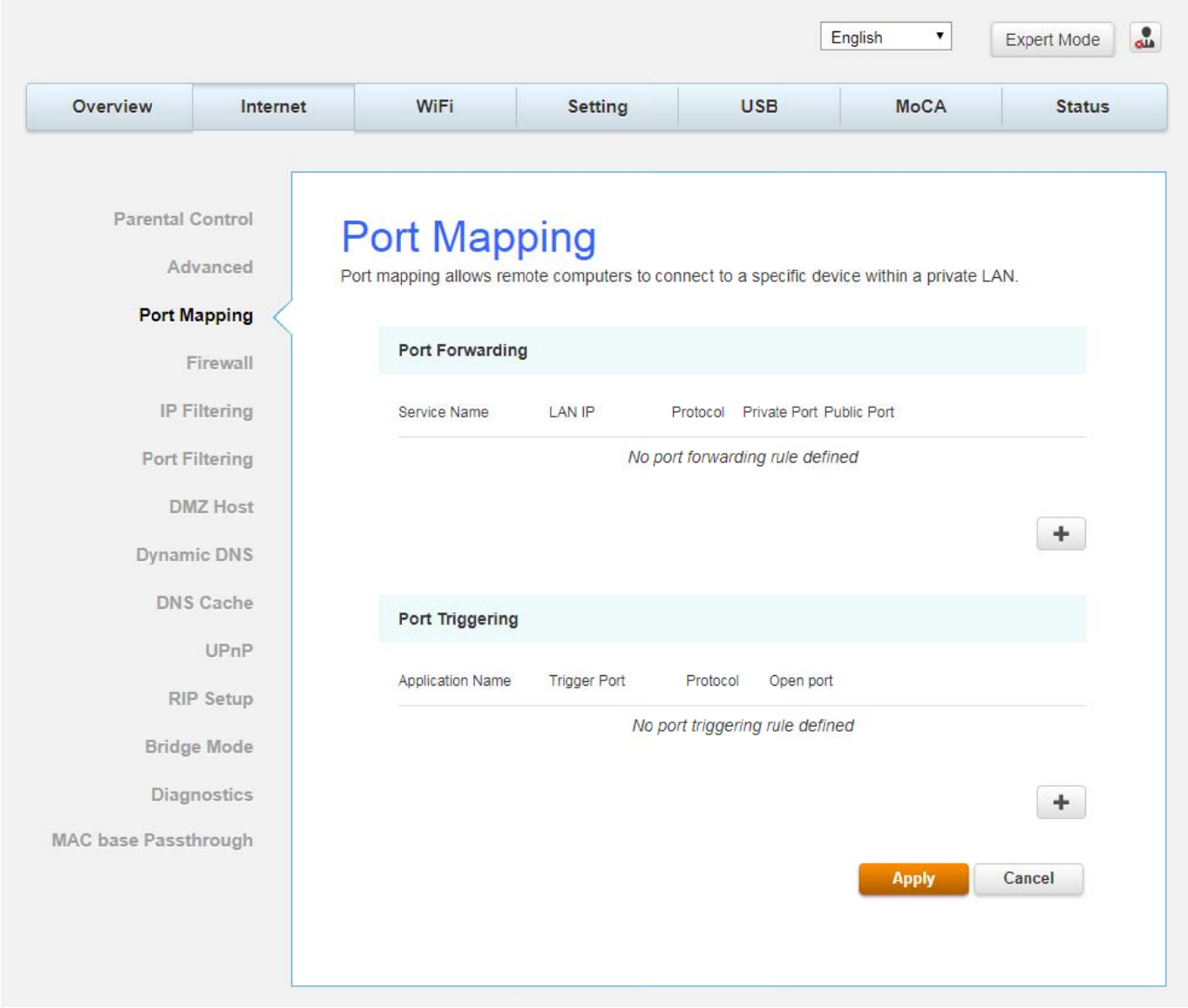

Fig.2-28 Internet\Port Mapping

- **Port Forwarding** For LAN ⇔ WAN communications, the gateway normally only allows you to originate an IP connection with a PC on the WAN; it will ignore attempts of the WAN PC to originate a connection onto your PC. This protects you from malicious attacks from outsiders. However, sometimes you may wish for anyone outside to be able to originate a connection to a particular PC on your LAN if the destination port (application) matches one you specify.
- **Port Triggering** Some Internet activities, such as interactive gaming, require that a PC on the WAN side of your gateway be able to originate connections during the game with your game playing PC on the LAN side. Port triggering is an elegant mechanism that does this work for you, each time you play the game.

Firewall

This page allows you to enable/disable, and you can choose “**Off**”, “**Low**”, “**Medium**”, “**High**” firewall protection.

The **Low** setting does not block any services/ports, however it does protect against invalid packets and well known attacks. The **Medium** setting will cause the firewall to drop a packet unless it is on a specific port of allowed services. The **High** setting is similar to medium, but allows access to even fewer services. The **Off** setting allows all traffic to pass.

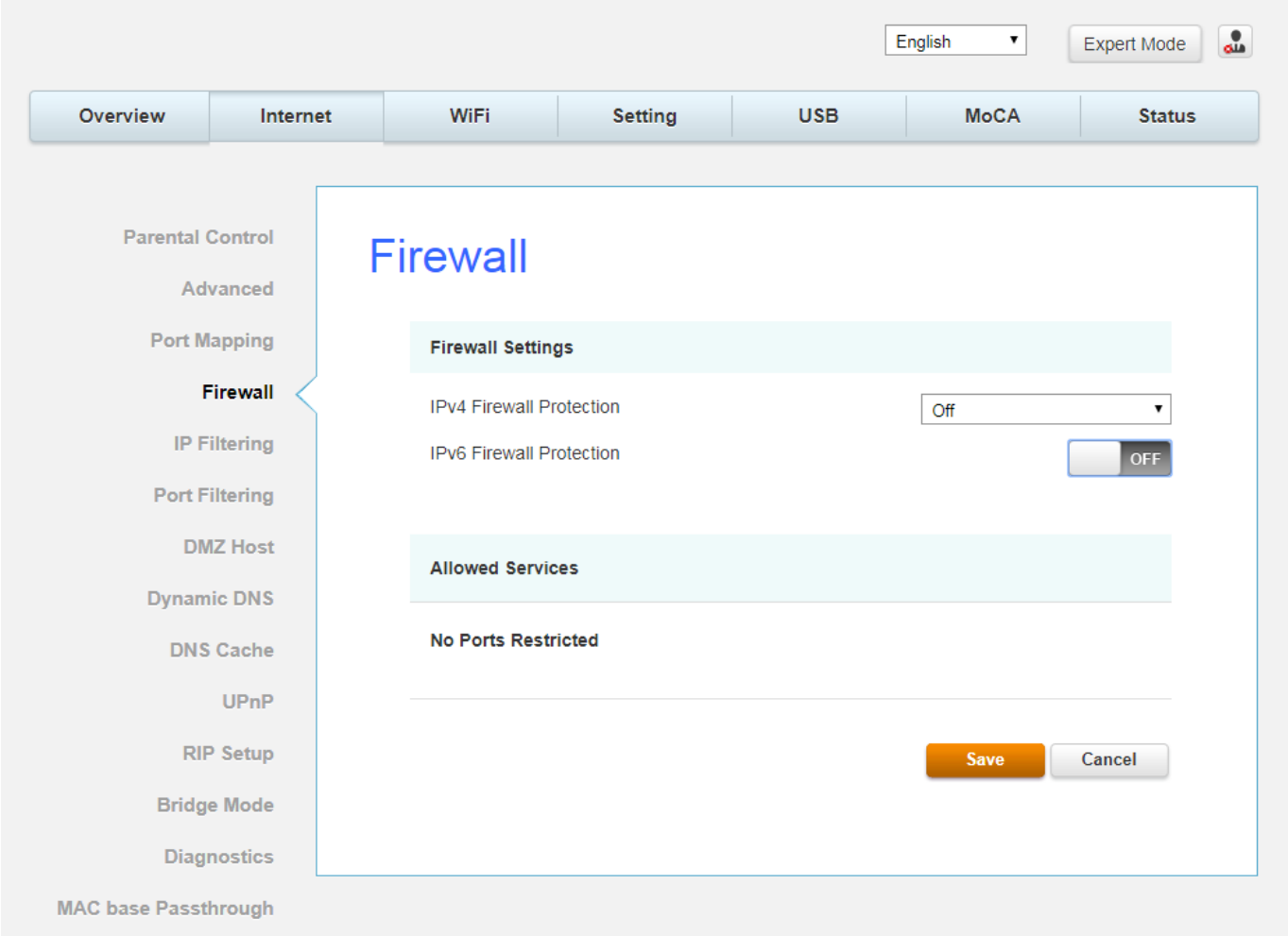

Fig.2-29 Internet\Firewall

IP Filtering

This page enables you to enter the IP address ranges of PCs on your LAN that you don't want to have outbound access to the WAN. These PCs can still communicate with each other on your LAN, but packets they send to WAN addresses are blocked by the gateway.

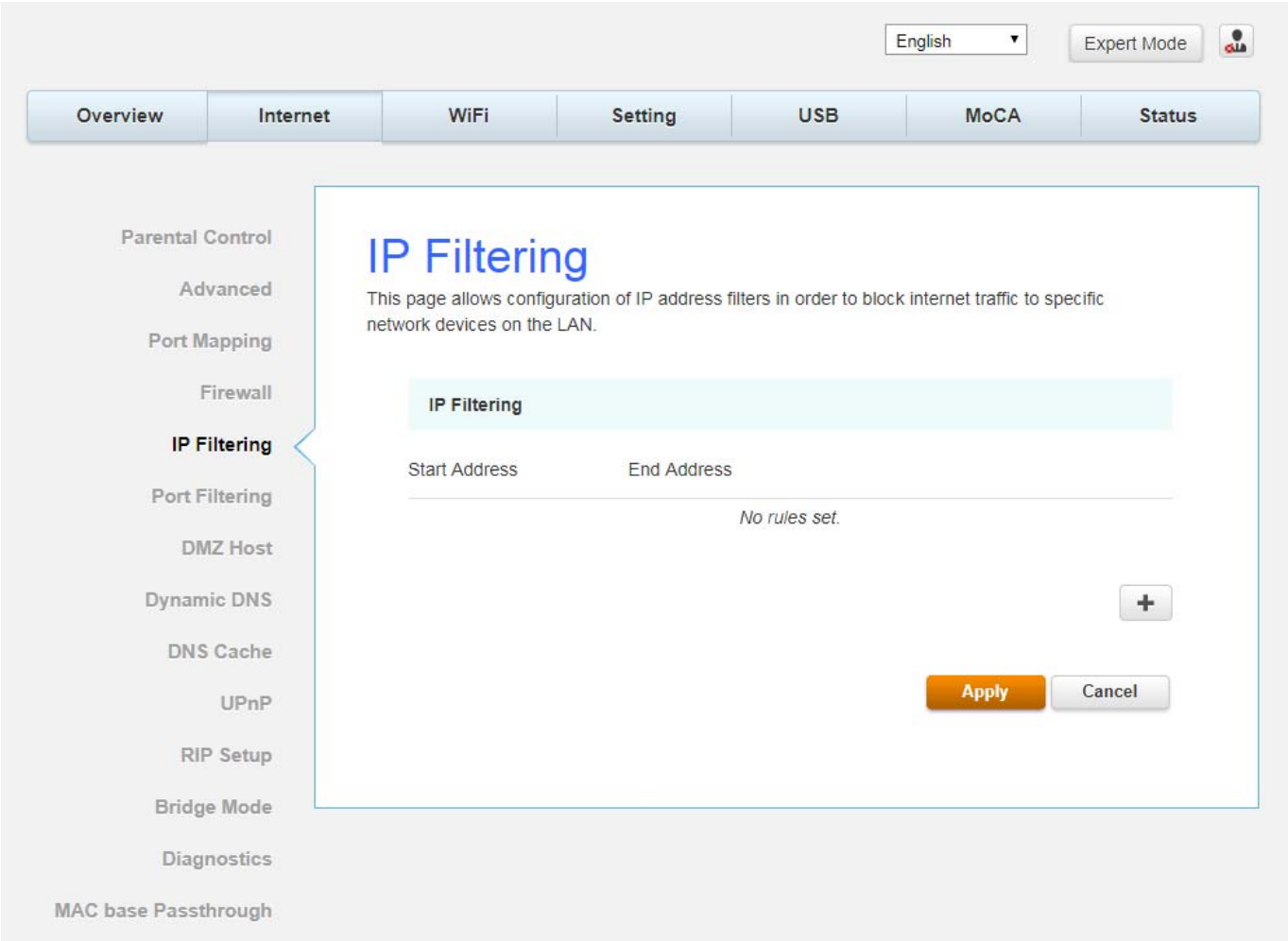

Fig.2-30 Internet\IP Filtering

Port Filtering

This page enables you to enter the IP address ranges of PCs on your LAN that you don't want to have outbound access to the WAN. These PCs can still communicate with each other on your LAN, but packets they send to WAN addresses are blocked by the gateway.

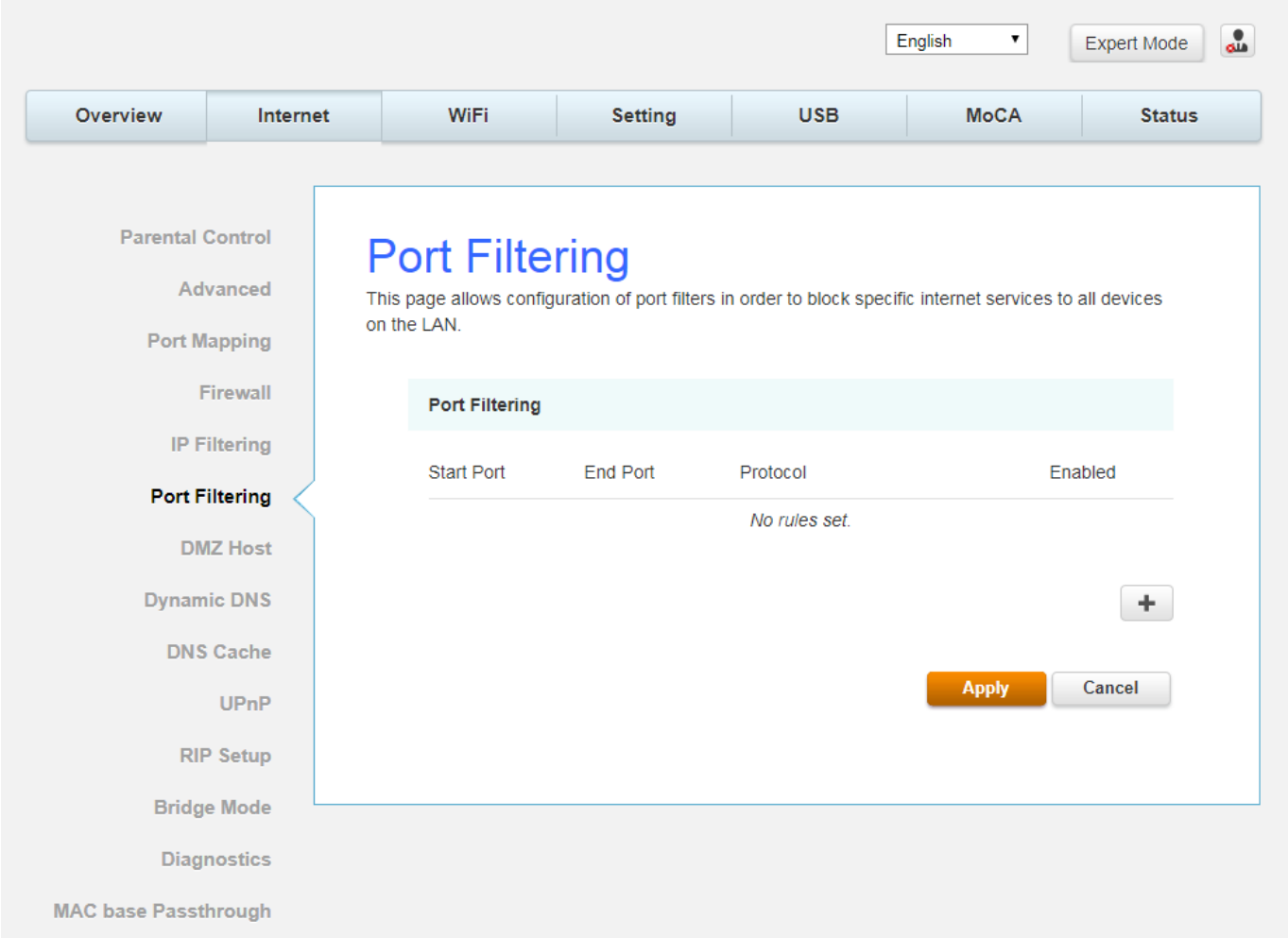

Fig.2-31 Internet\IP Filtering

DMZ Host

Use this page to designate one PC on your LAN that should be left accessible to all PCs from the WAN side, for all ports. e.g., if you put an HTTP server on this machine, anyone will be able to access that HTTP server by using your gateway IP address as the destination.

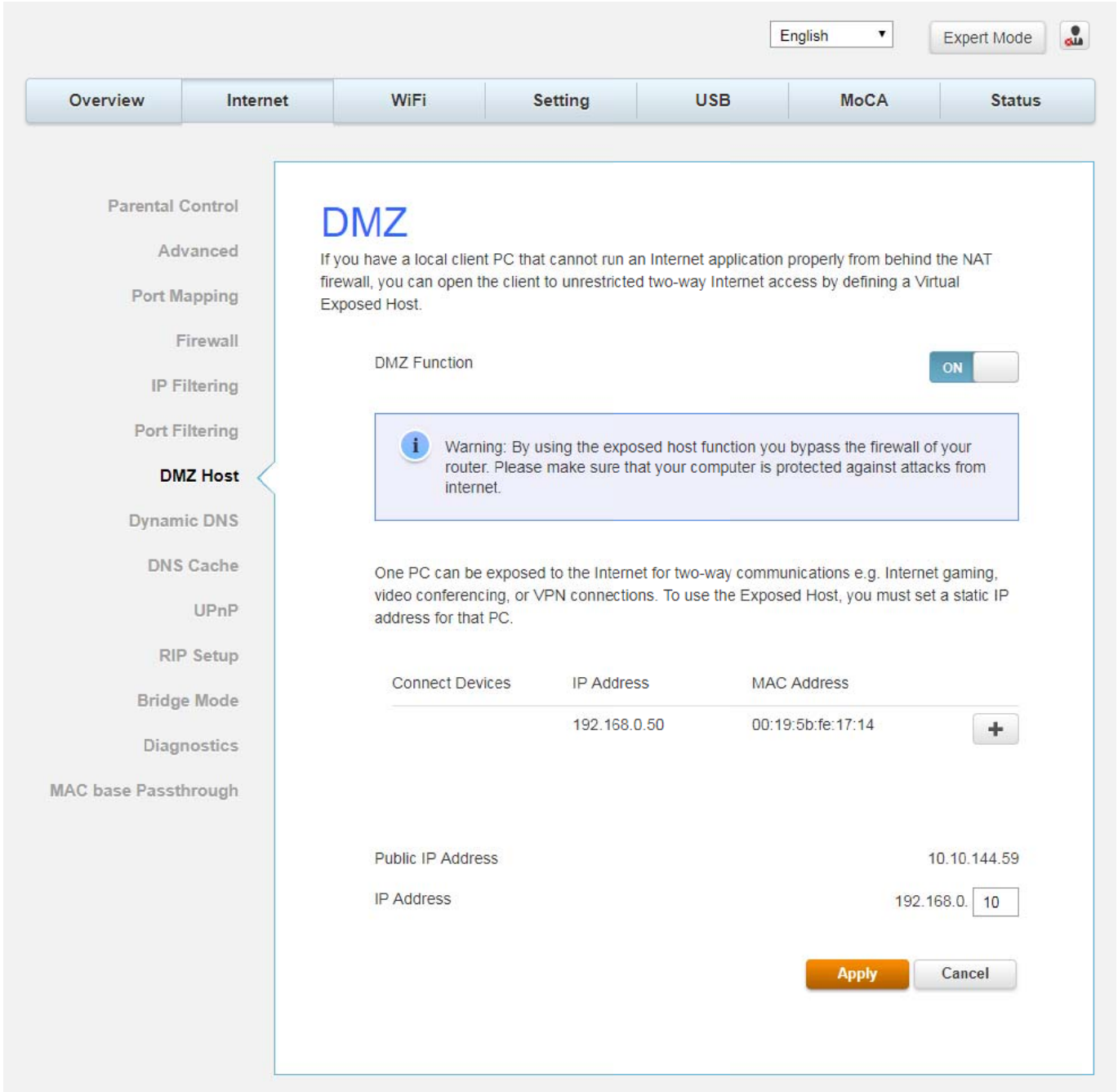

Fig.2-32 Internet\DMZ Host

Dynamic DNS

This page allows to setup for Dynamic DNS server.

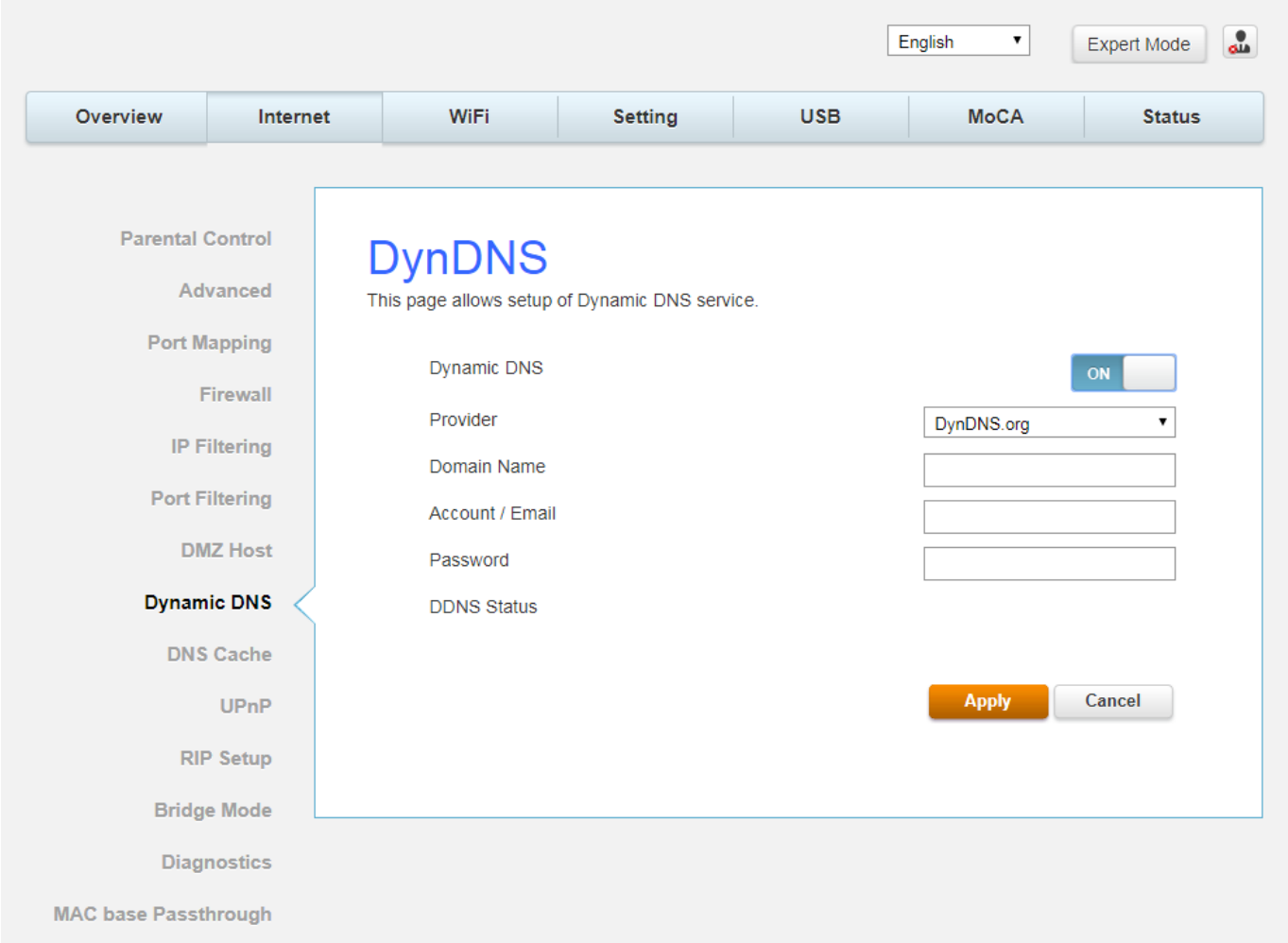

Fig.2-33 Internet\Dynamic DNS

- **Dynamic DNS-** Turn “ON” to enable the dynamic DNS function.
- **Provider-** Choose Provider to enable the basic setting.
- **Domain Name-** The domain name that you registered with your DDNS provider.
- **Account / Email-** The account that is registered with your DDNS provider.
- **Password-** The password that you registered with your DDNS provider

Click **Apply** to save the changes.

DNS Cache

This page allows configuration static DNS in DNS proxy mode. Enter the domain name in plain format (Ex. mydomain.com)

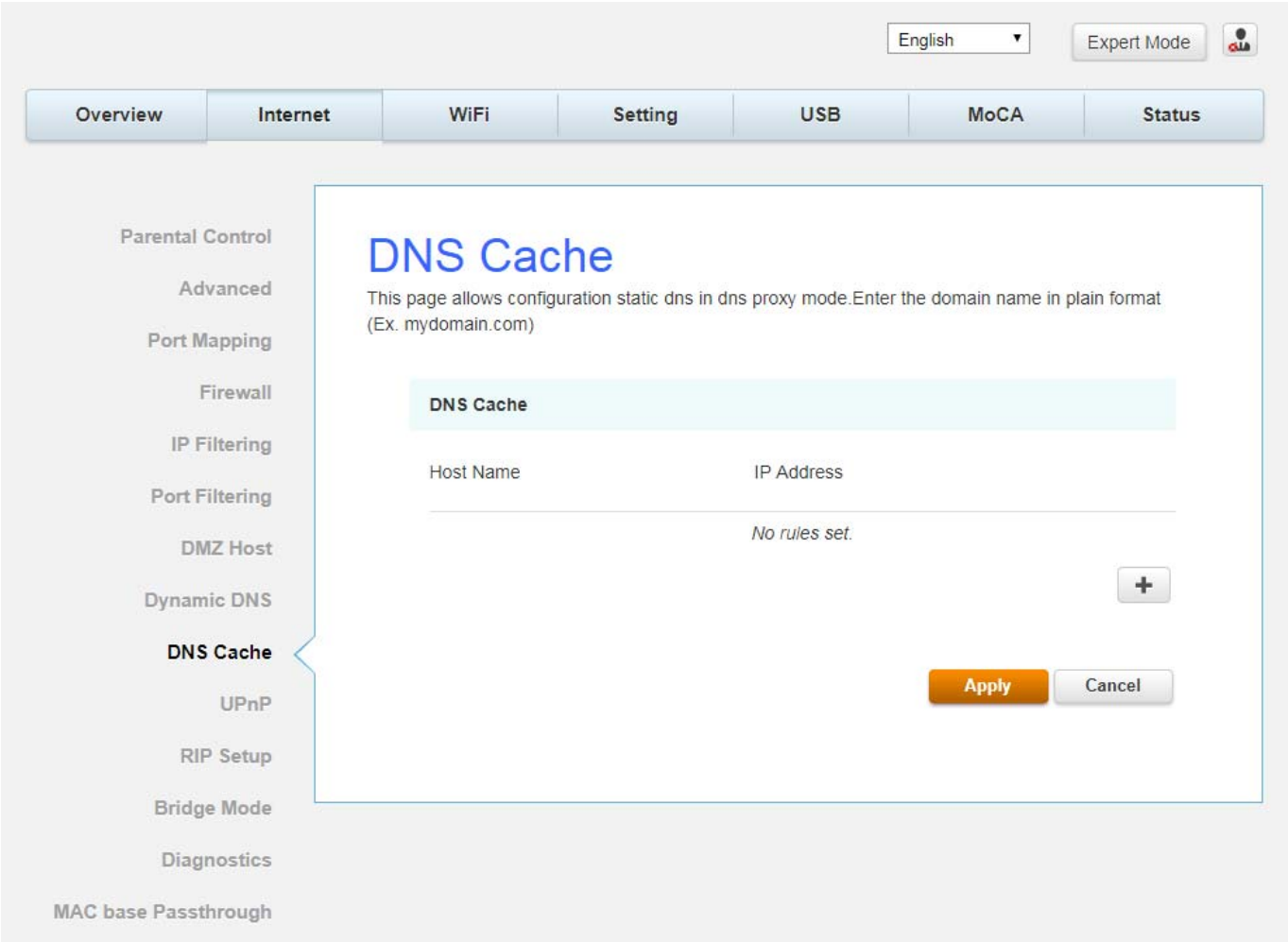

Fig.2-34 Internet\DNS Cache

UPnP

Enable IGD UPnP to allow any local UPnP control point to perform a variety of actions, include retrieving the external IP address of the device, enumerate existing port mappings, and add or remove port mappings.

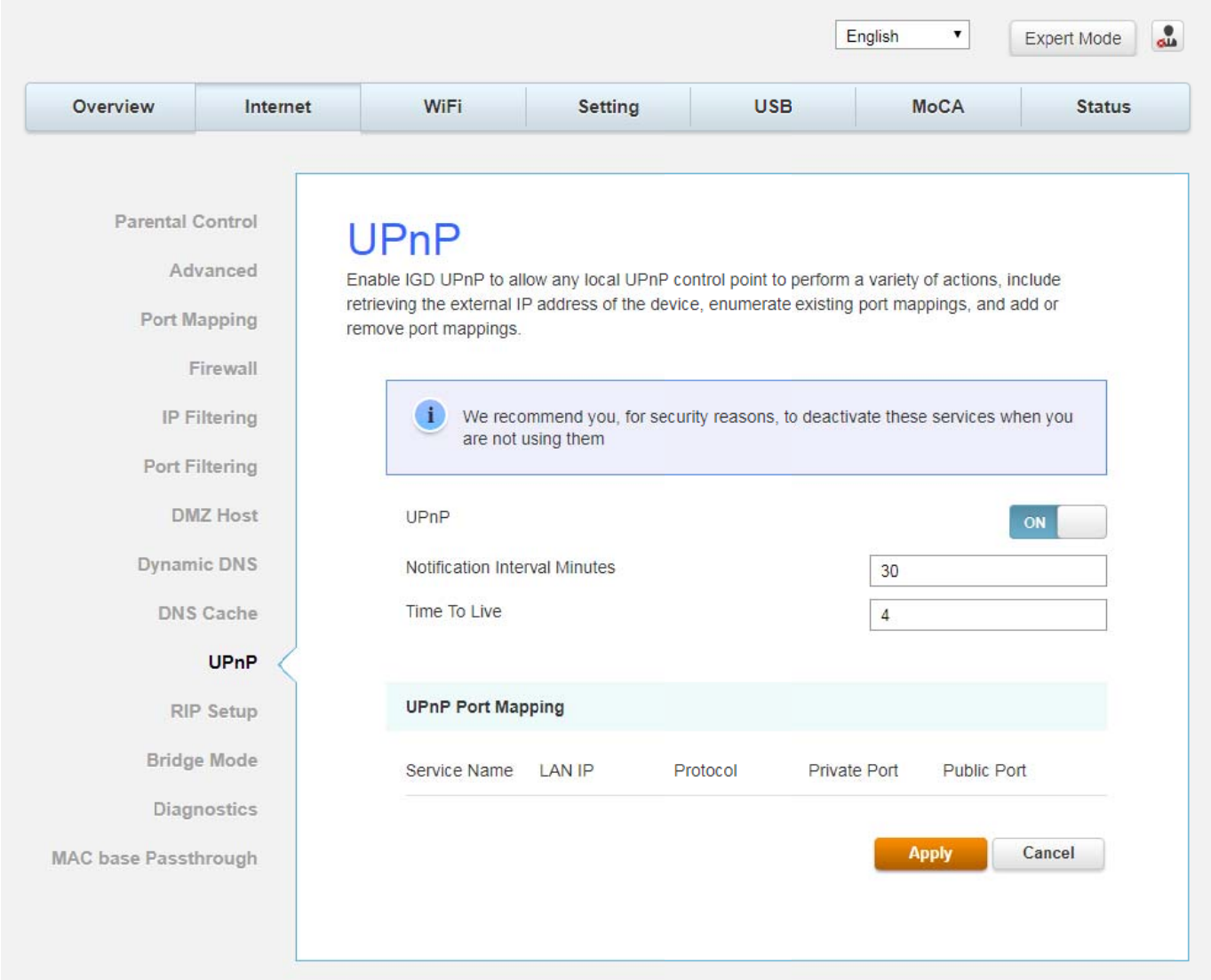

Fig.2-35 Internet\UPnP

RIP Setup

This page allows configuration of RIP parameters related to authentication, destination IP address, and reporting intervals. RIP is used in WAN networks to identify and use the best known and quickest route to given destination addresses to help reduce congestion and delays.

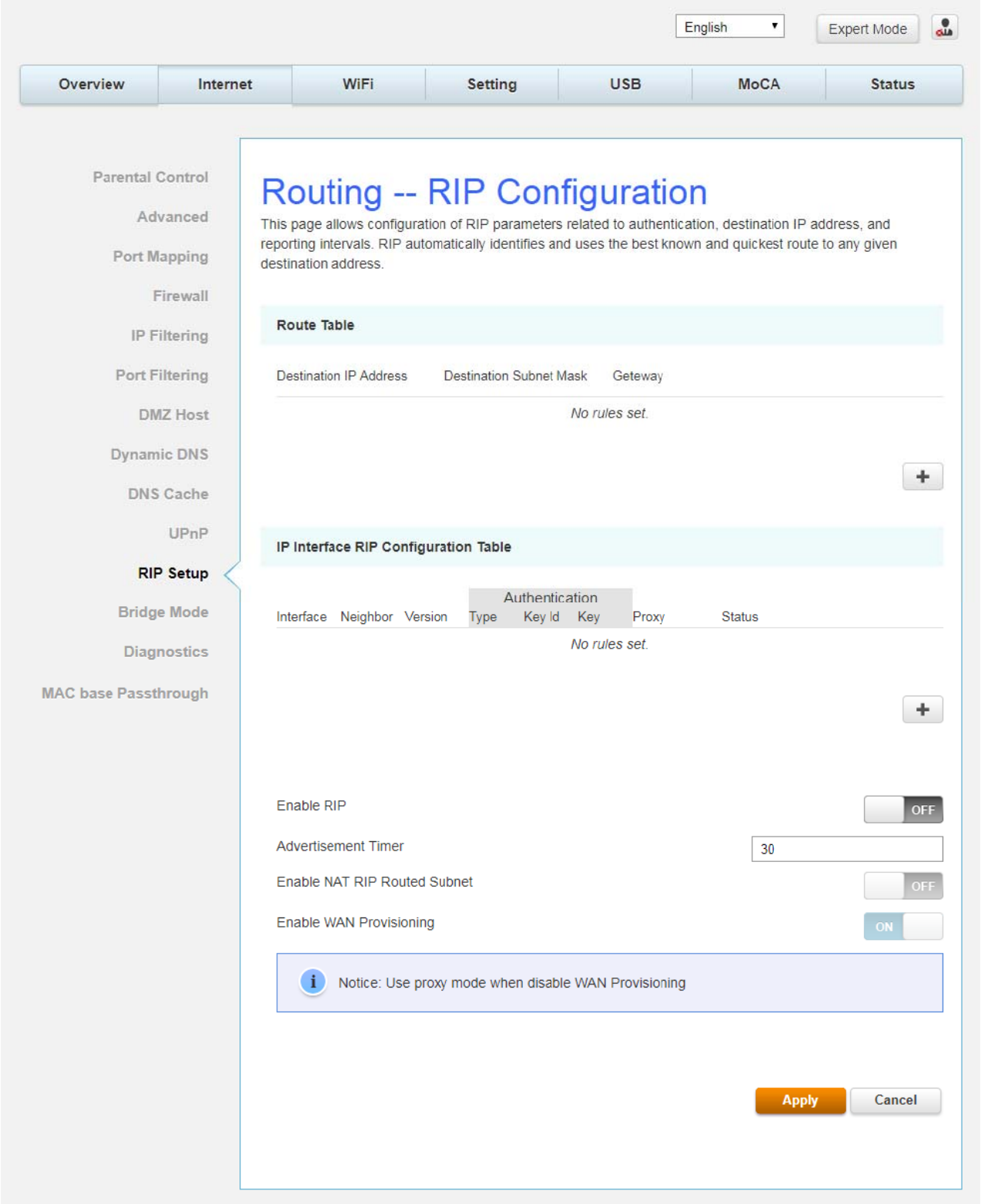

Fig.2-36 Internet\RIP Setup

Bridge Mode

This page displays configuration Bridge Mode to internet.

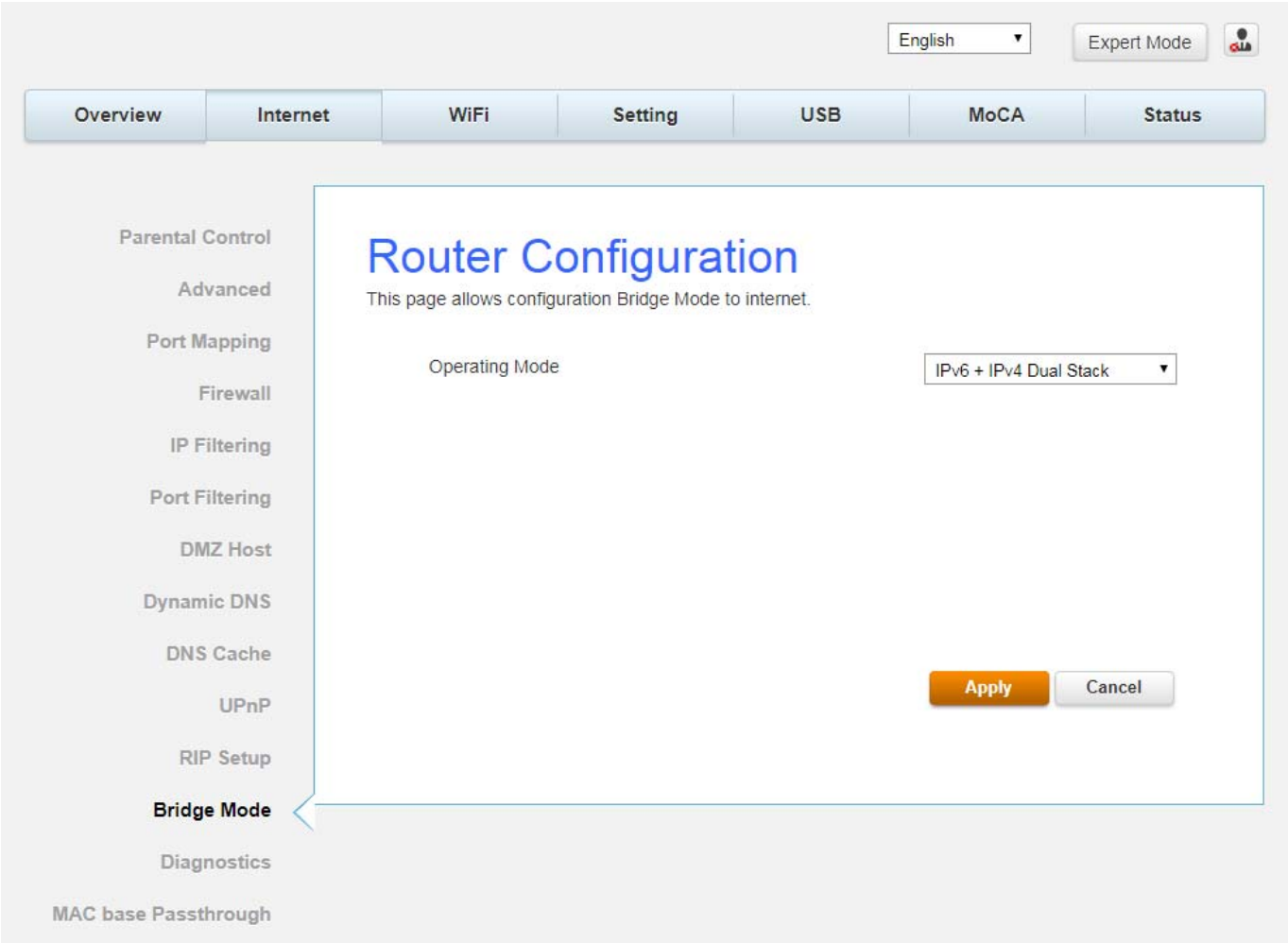

Fig.2-37 Internet\Bridge Mode

Diagnostic

This page offers basic diagnostic tools for you to use when connectivity problems occur. When you ping an Internet device, you send a packet to its TCP/IP stack, and it sends one back to yours. To use the ping Test, enter the information needed and press Start Test; the Result will be displayed in the lower part of the window. Press Abort Test to stop, and Clear Results to clear the result contents.

Note: Firewalls may cause pings to fail but still provide you TCP/IP access to selected devices behind them. Keep this in mind when ping a device that may be behind a firewall. Ping is most useful to verify connectivity with PCs which do not have firewalls, such as the PCs on your LAN side.

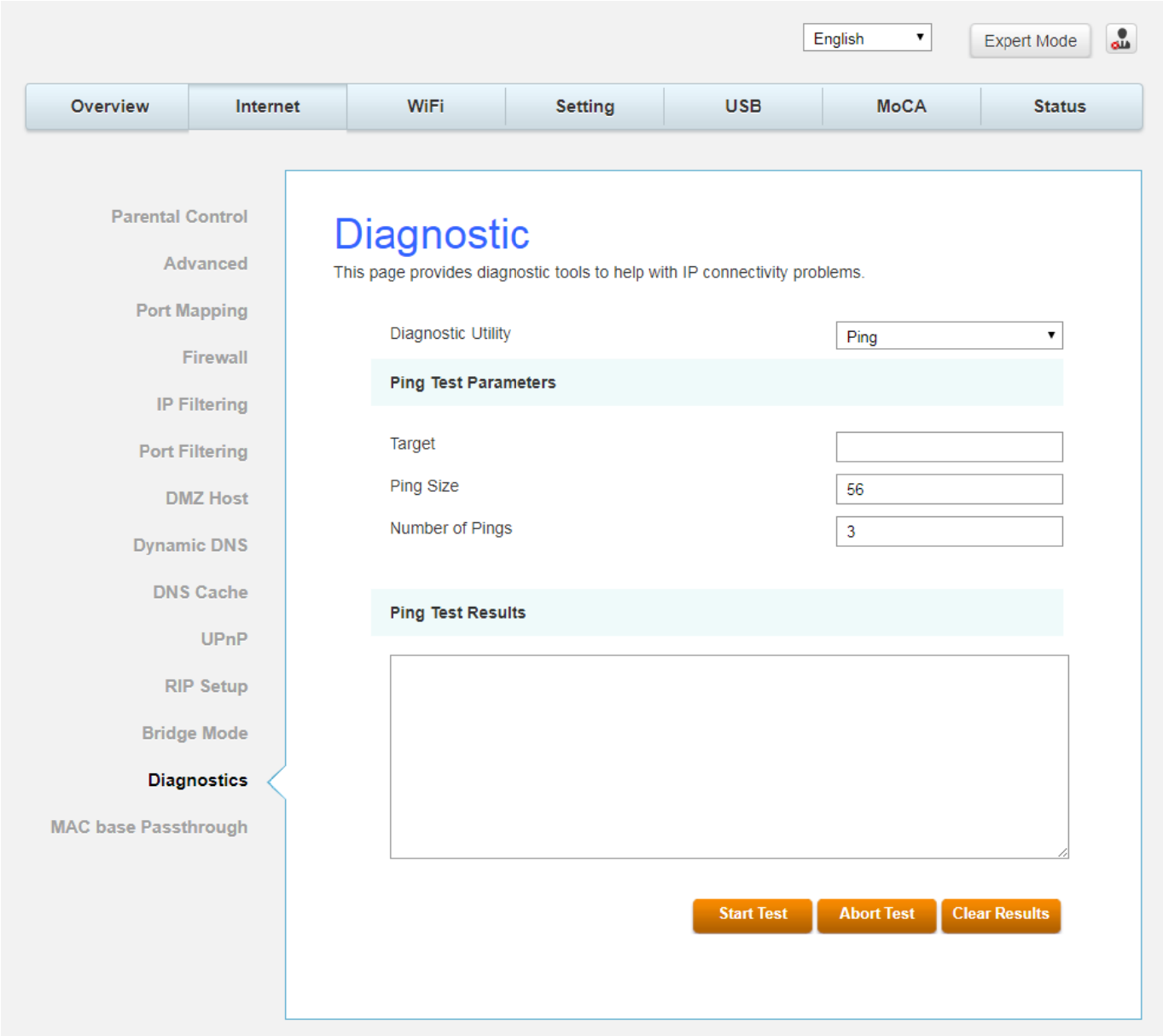

Fig.2-38 Internet\Diagnostic

MAC base Passthrough

This page allows you configure passthrough CPEs via MAC address. (bypass NAT)

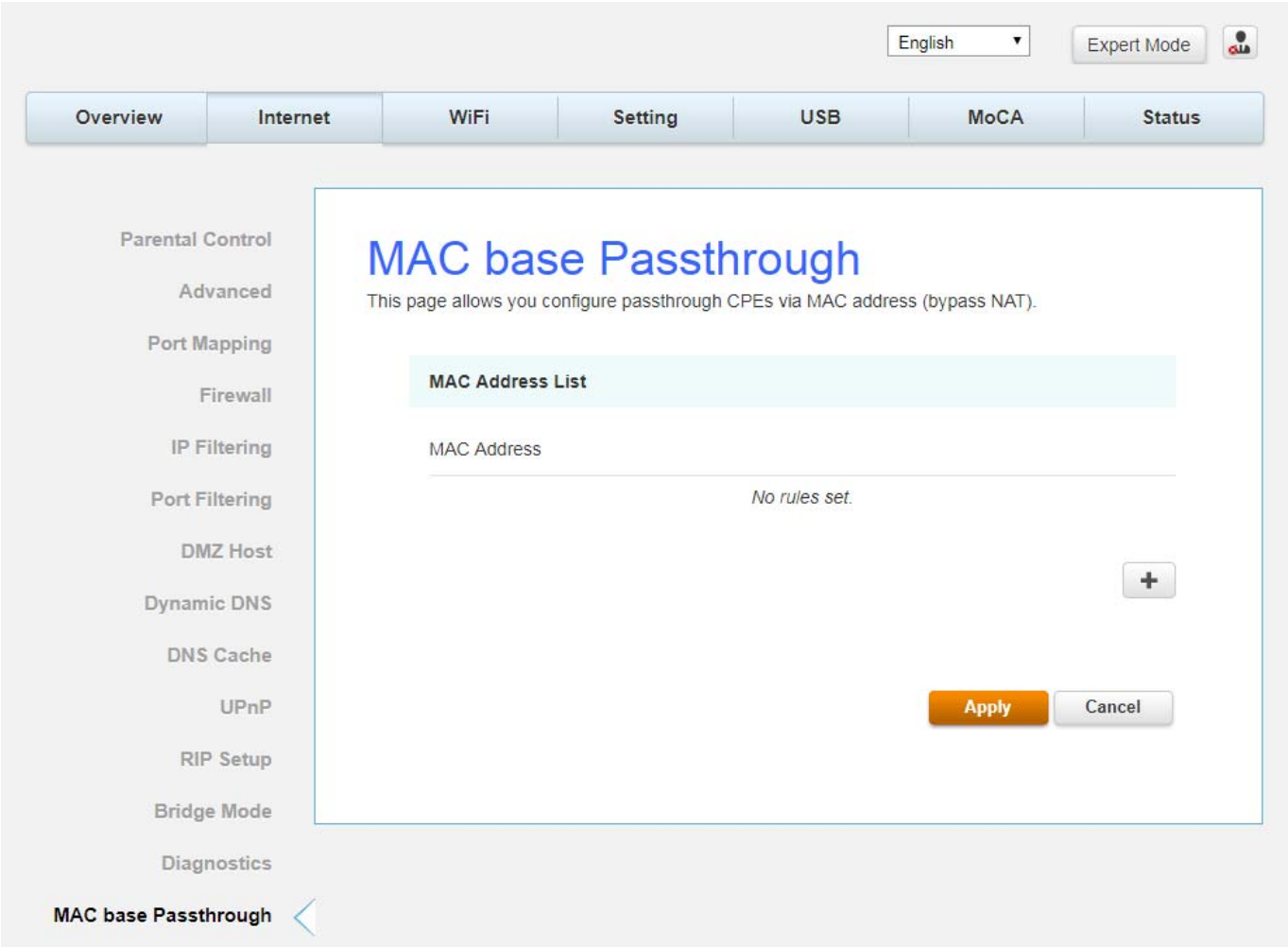

Fig.2-39 Internet\MAC base Passthrough

Wi-Fi Web Page Group

Schedule

Schedule the times when you want the Wi-Fi of your router to be turned on or off. When it is turned back on, you return to your chosen Wi-Fi settings.

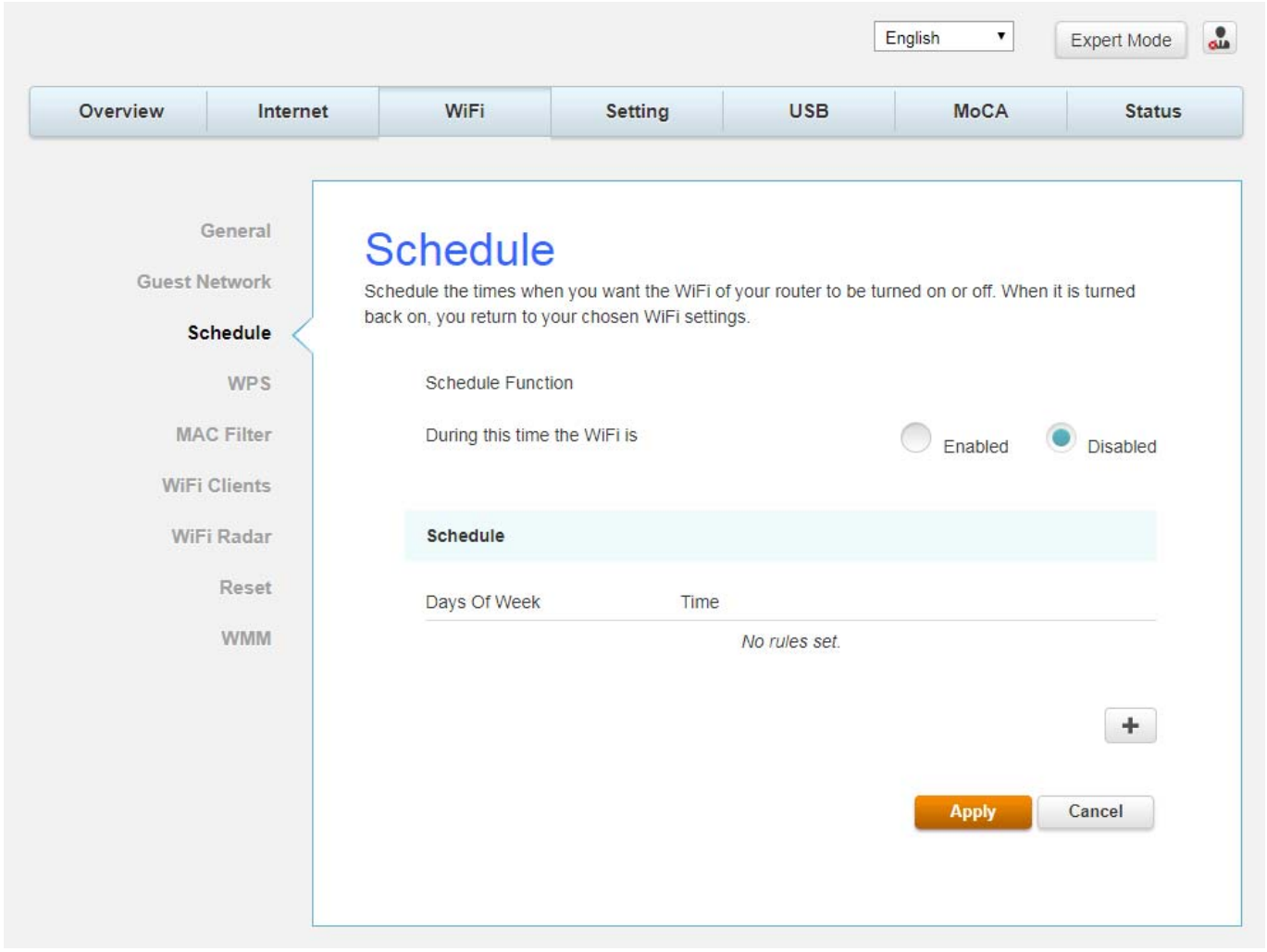

Fig.2-40 Wi-Fi\Schedule

MAC Filter

By entering MAC Address, you can configure which local PCs are allowed access to the WAN. Besides the list of MAC filter, any local PCs else would be blocked to the WAN.

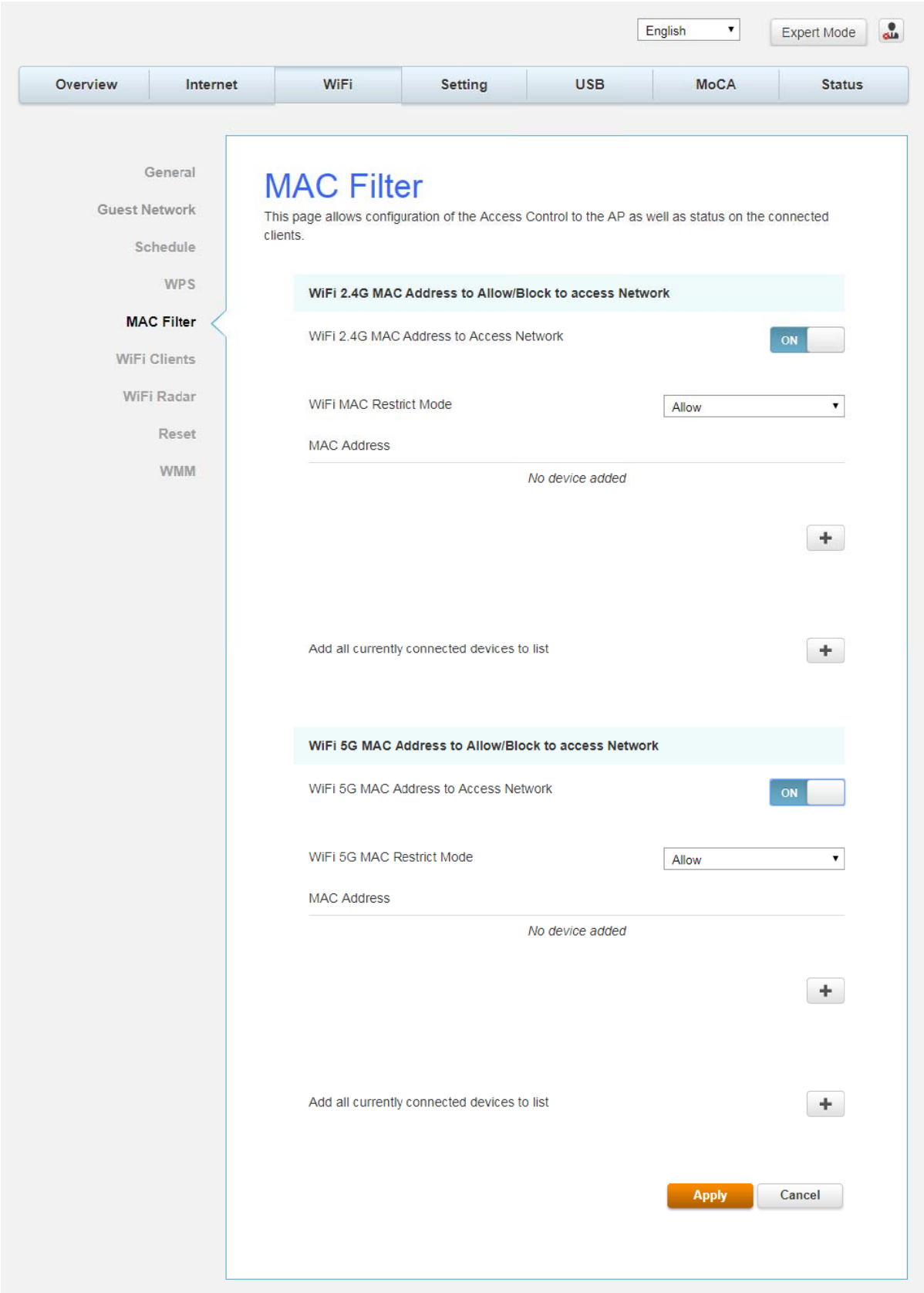

Fig.2-41 Wi-Fi\MAC Filter

WMM (Wi-Fi Multi-Media)

This page allows you to configure Wi-Fi Multi-Media (WMM). WMM is an implementation of Quality of Service (QoS) which is defined by the IEEE standard 802.11e.

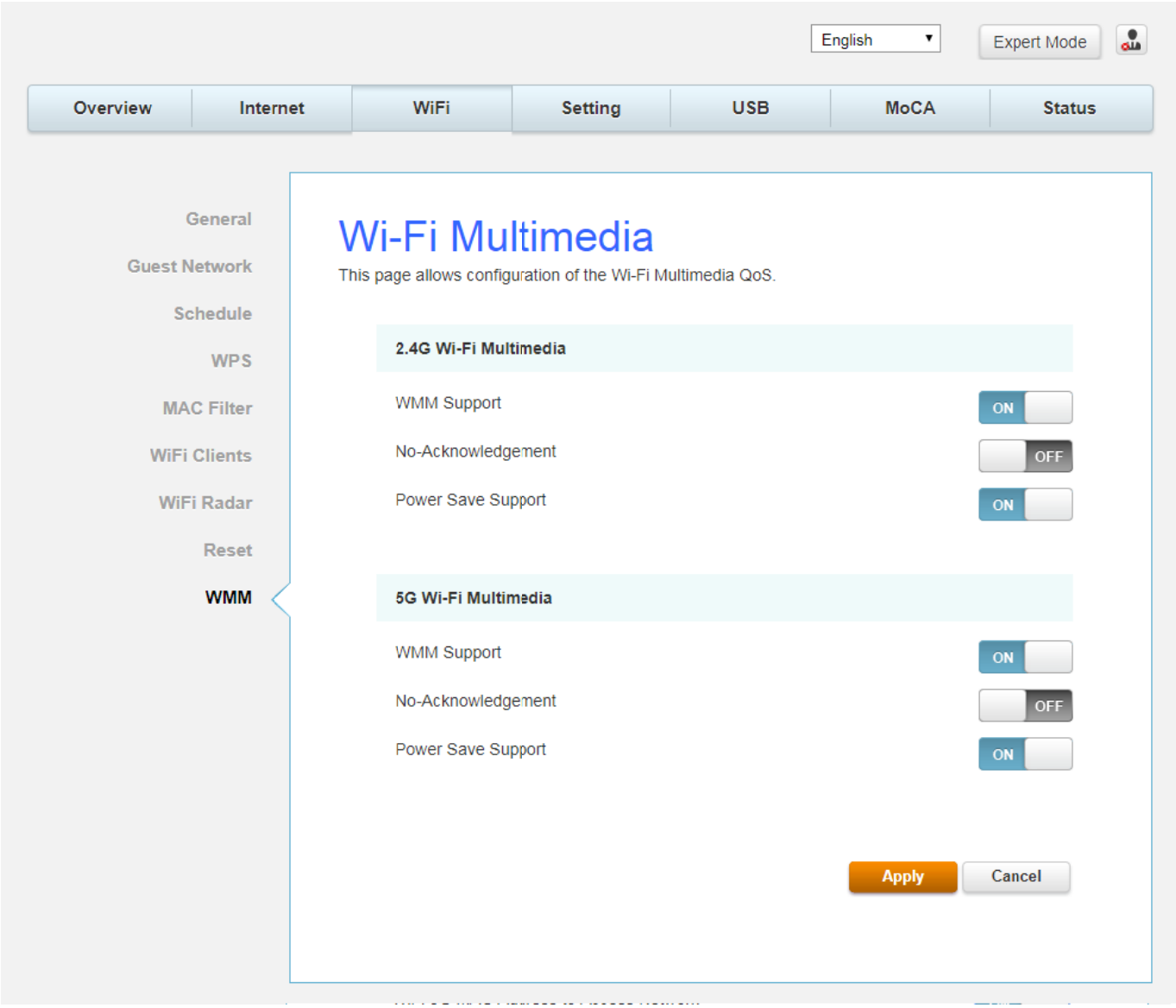

Fig.2-42 Wi-Fi\WMM

- **WMM Suport-** If enabled, the WMM information Element is included in beacon frame.
- **No-Acknowledgement-** When enabled, acknowledgment for data are not transmitted.
- **Power Save Support-** When Power Save is enabled, the AP queues packets for STAs that are in power-save mode. Queued packets are transmitted when the STA notifies AP that it has left power-save mode.

Settings Web Page Group

Remote Access

This page allows configuration of the Remote Access.

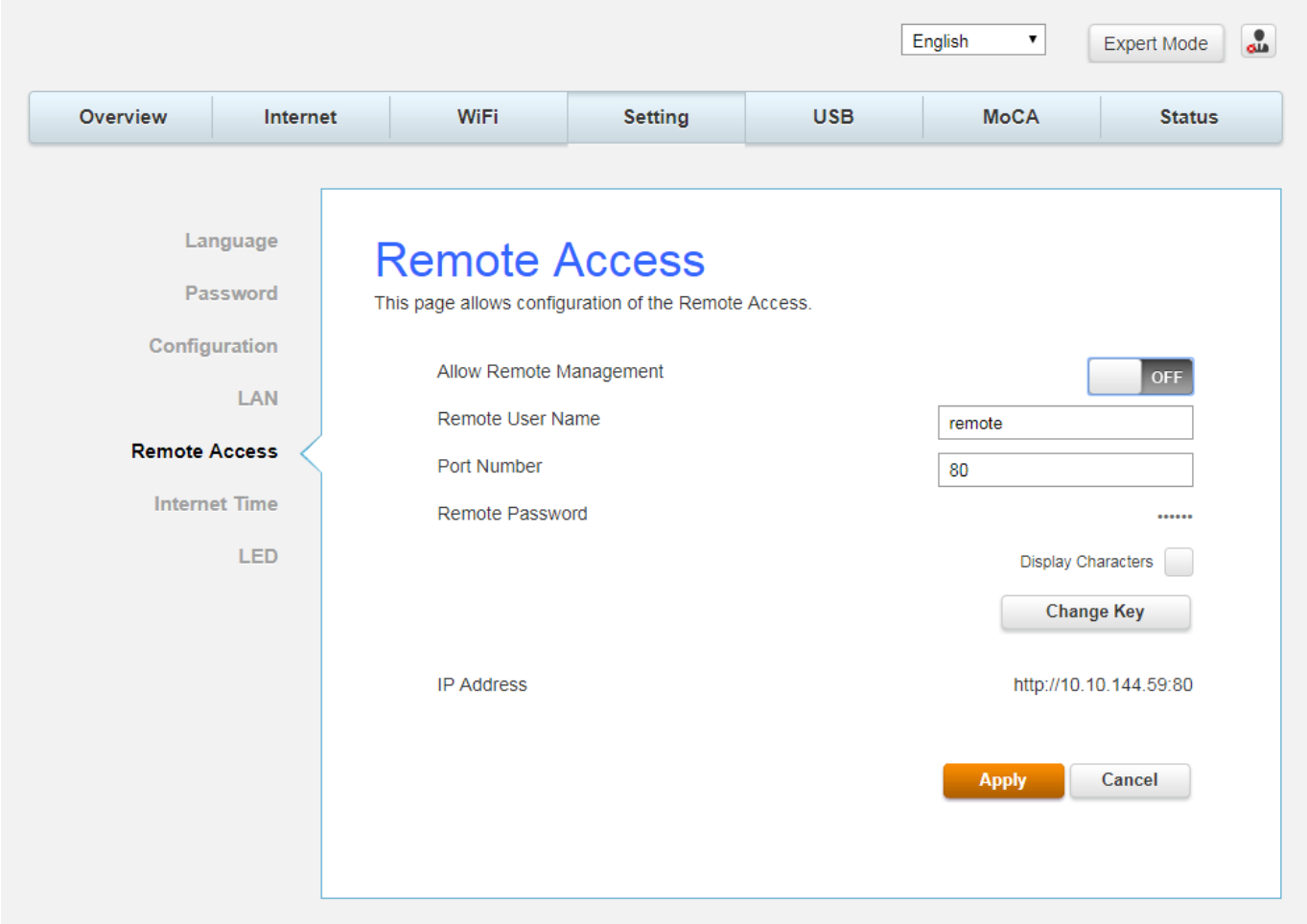

Fig. 2-43 Setting\Remote Access

- **Allow Remote Management**: It may help you to **Enable** or **Disable** the remote access function.
- **Remote User Name**: The user name that when you remote access able to login.
- **Port Number**: Configure specific port number when you remote access to GUI.
- **Remote Password**: The remote password that when you remote access able to login.
- **IP Address**: The IP address that you can use to remote access.

Internet Time

This page display configuration of time servers and the system time obtained from network servers via Simple Network Time Protocol. The system has to be reset for any changes to take effect.

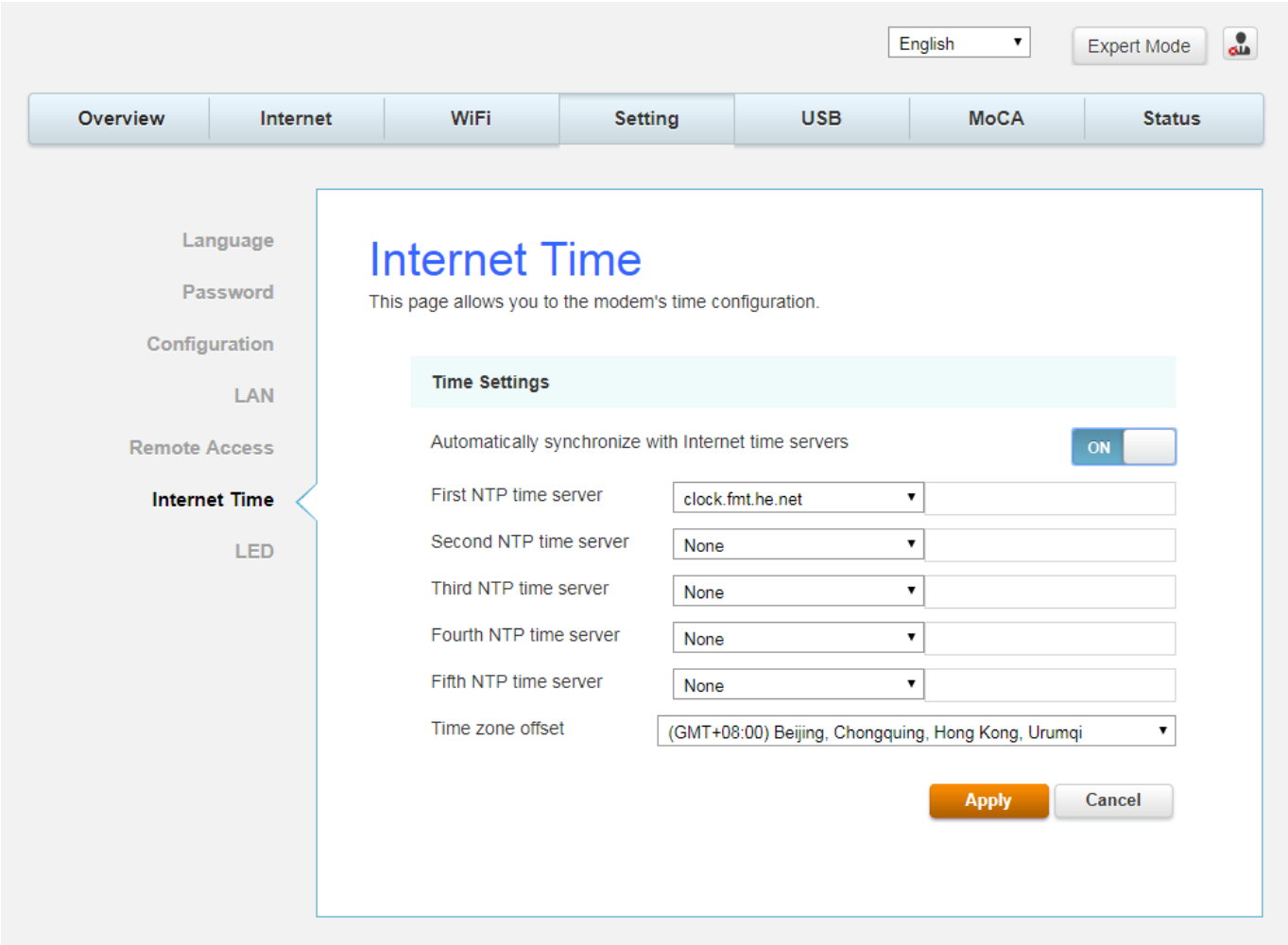

Fig.2-44 Setting\Internet Time

USB Web Page Group

USB Basic

This page allows basic control of the USB devices shared over the network.

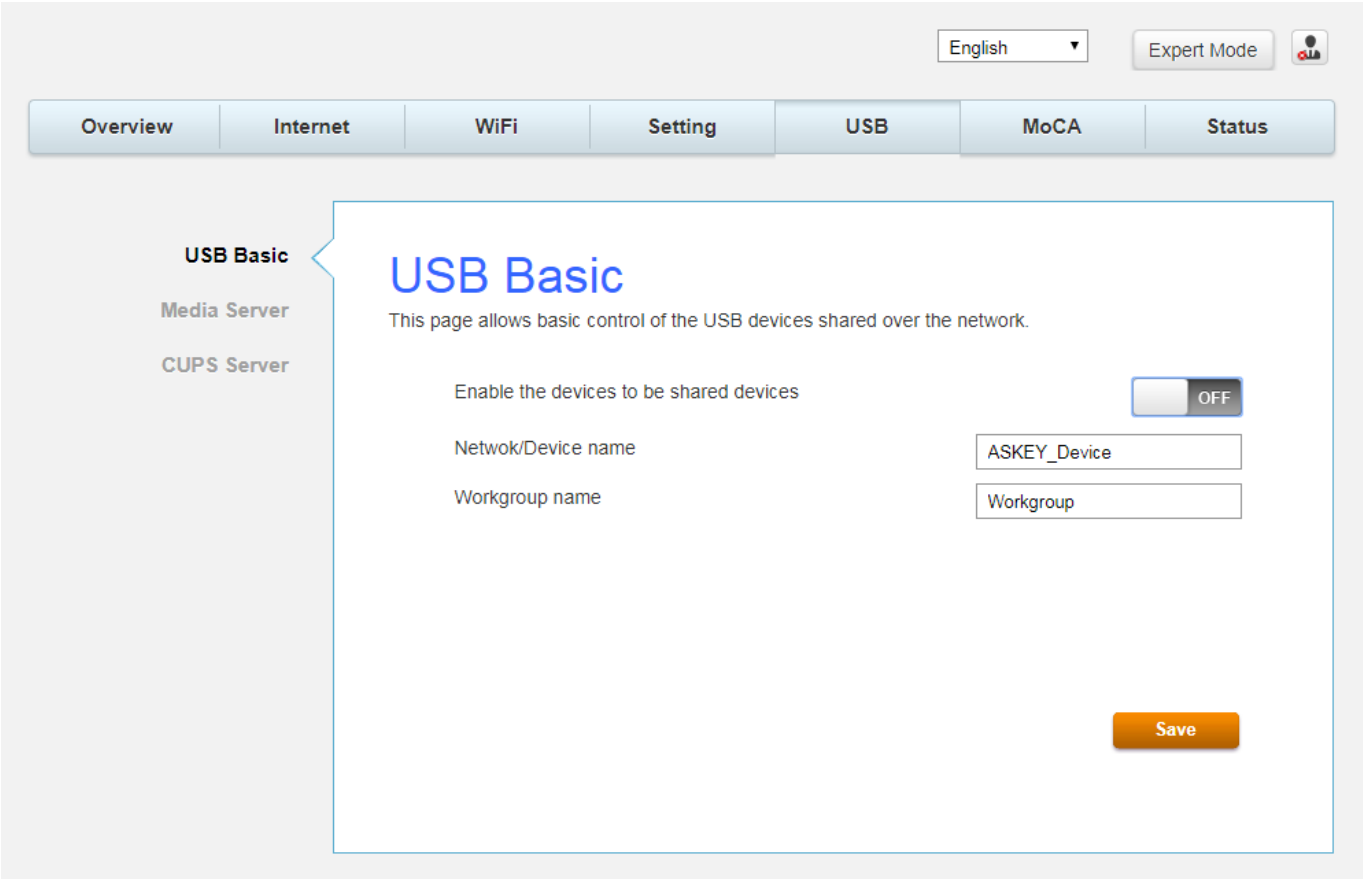

Fig.2-45 USB\USB Basic

Media Server

This page controls configuration and scanning of the cable modem's media server.

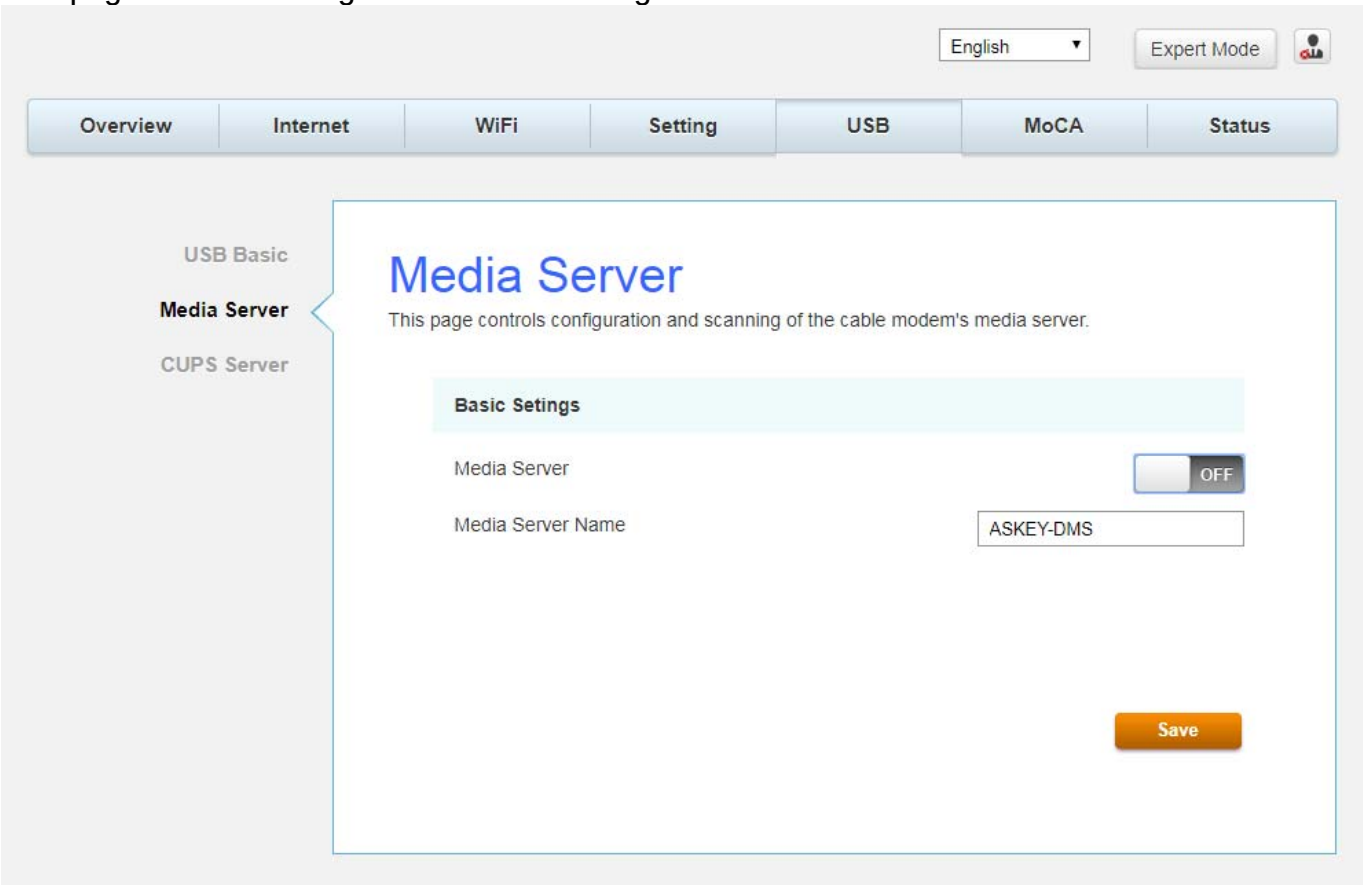

Fig.2-46 USB\Media Server

CPUS Server

This page allows control of the USB Printer shared over the network.

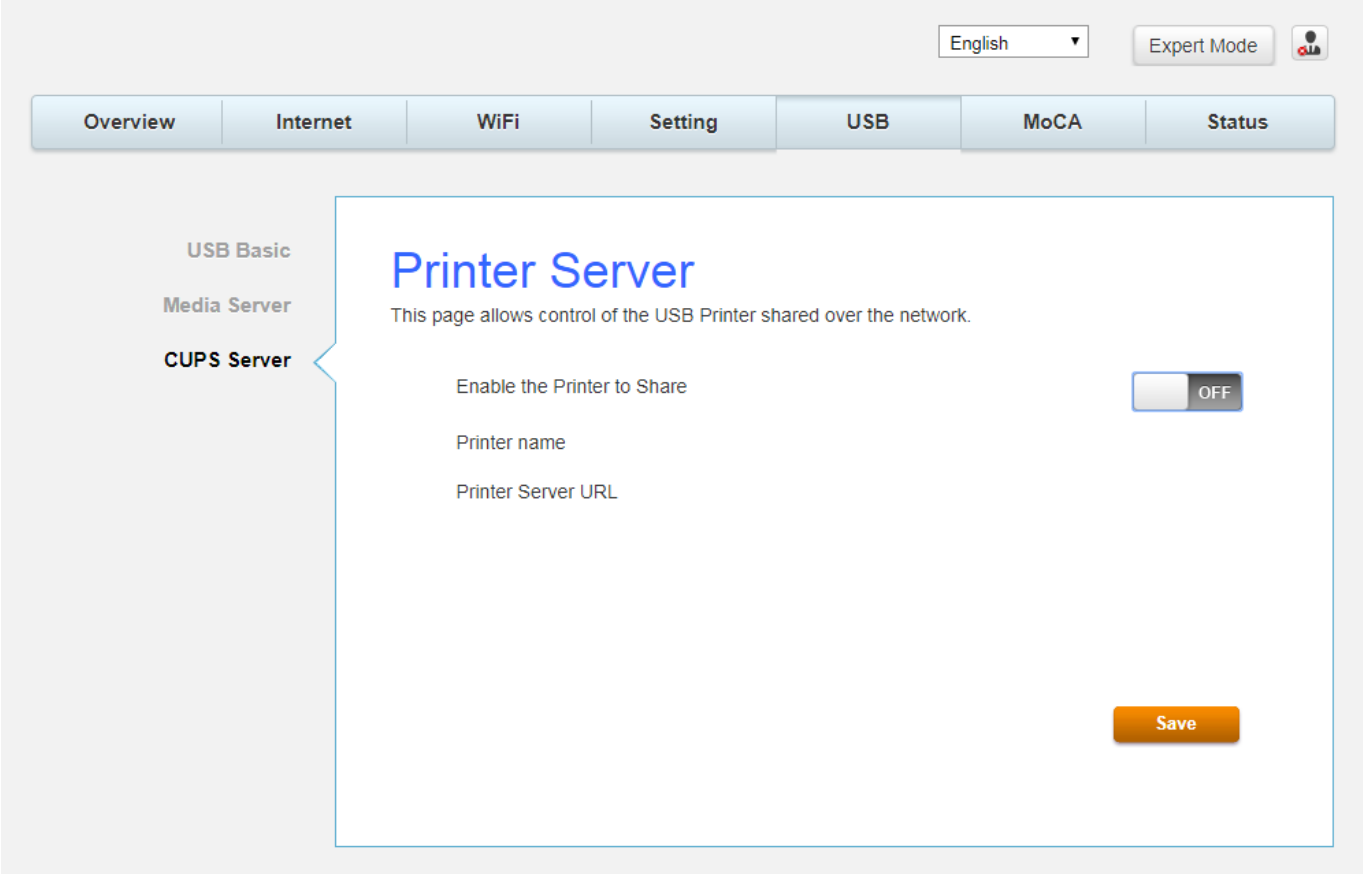

Fig.2-47 USB\CPUS Server

CHAPTER 3: ADDITIONAL INFORMATION

Frequently Asked Questions

Q. How do I get the system installed?

A. Professional installation from your cable provider is strongly recommended. They will ensure proper cable connection to the modem and your computer. However, your retailer may have offered a self- installation kit, including the necessary software to communicate with your cable ISP.

Q. Once my Cable Modem is connected, how do I get access to the Internet?

A. Your local cable company provides your internet service*, offering a wide range of services including email, chat, and news and information services, and a connection to the World Wide Web.

Q. Can I watch TV, surf the Internet, and talk to my friends through the Cable Modem at the same time?

A. Absolutely!

Q. What do you mean by "Broadband?"

A. Simply put, it means you'll be getting information through a "bigger pipe," with more bandwidth, than a standard phone line can offer. A wider, "broader" band means more information, more quickly.

Q. What is DOCSIS and what does it mean?

A. "Data over Cable Service Interface Specifications" is the industry standard that most cable companies are adopting as they upgrade their systems. Should you ever decide to move, the Cable Modem will work with all upgraded cable systems that are DOCSIS-compliant.

* Monthly subscription fee applies.

** Additional equipment required. Contact your Cable Company and ISP for any restrictions or additional fees.

General Troubleshooting

You can correct most problems you have with your product by consulting the troubleshooting list that follows.

I can't access the internet.

- Check all of the connections to your Cable Modem.
- Your Ethernet card may not be working. Check each product's documentation for more information.
- The Network Properties of your operating system may not be installed correctly or the settings may be incorrect. Check with your ISP or cable company.

I can't get the modem to establish an Ethernet connection.

- Even new computers don't always have Ethernet capabilities – be sure to verify that your computer has a properly installed Ethernet card and the driver software to support it.
- Check to see that you are using the right type of Ethernet cable.

The modem won't register a cable connection.

- If the modem is in Initialization Mode, the INTERNET light will be flashing. Call your Cable Company if it has not completed this 5-step process within 30 minutes, and note which step it is getting stuck on.
- The modem should work with a standard RG-6 coaxial cable, but if you're using a cable other than the one your Cable Company recommends, or if the terminal connections are loose, it may not work. Check with your Cable Company to determine whether you're using the correct cable.
- If you subscribe to video service over cable, the cable signal may not be reaching the modem. Confirm that good quality cable television pictures are available to the coaxial connector you are using by connecting a television to it. If your cable outlet is "dead", call your Cable Company.
- Verify that the Cable Modem service is DOCSIS compliant by calling your cable provider.

Service Information

If you purchased or leased your Cable Modem directly from your cable company, then warranty service for the Digital Cable Modem may be provided through your cable provider or its authorized representative. For information on 1) Ordering Service, 2) Obtaining Customer Support, or 3) Additional Service Information, please contact your cable company. If you purchased your Cable Modem from a retailer, see the enclosed warranty card.

Federal Communication Commission Interference 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.

For operation within 5.15 ~ 5.25GHz frequency range, it is restricted to indoor environment. This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

FOR MOBILE DEVICE USAGE (>32cm/low power)

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 32cm between the radiator & your body.

FOR COUNTRY CODE SELECTION USAGE (WLAN DEVICES)

Note: The country code selection is for non-US model only and is not available to all US model. Per FCC regulation, all Wi-Fi products marketed in US must fix to US operation channels only.

CAUTION for UL (Check caution label on gift box)

North American Cable Installer:

This reminder is provided to call your attention to Article 820.93 of the National Electrical Code (Section 54 of the Canadian Electrical Code, Part 1) which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.