香港寬頻
HONG KONG BROADBAND NETWORK

HDTV Higher-tier Receiver
Wi-Fi Setup Guide

Model No.: S-Box7580P

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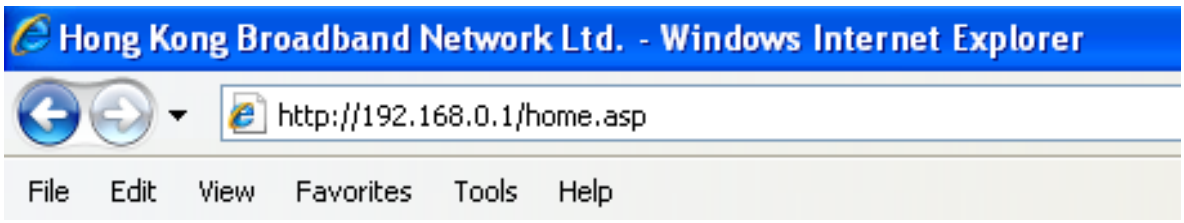
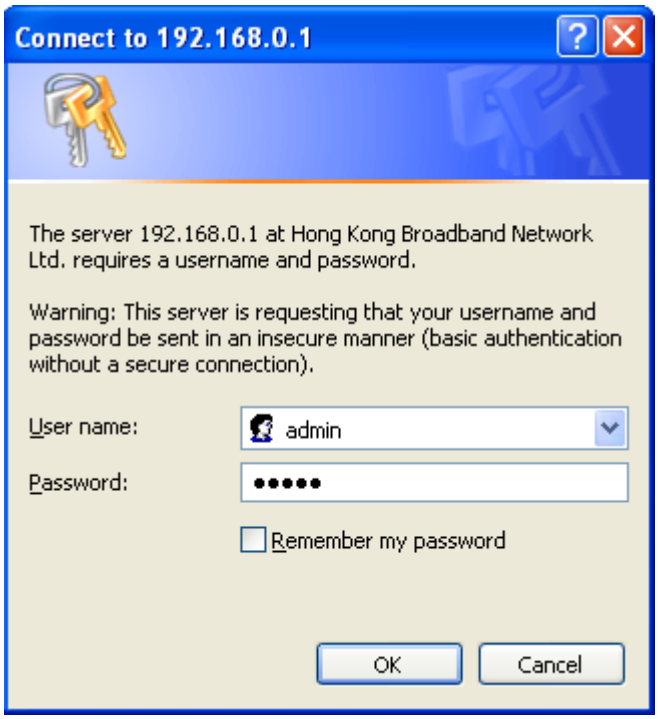
1 Wi-Fi Router Login

In order to access the router setup program, computer IP setup needs to be in the same IP subnet of the HDTV Higher-tier Receiver (e.g. 192.168.0.50)

1. Connecting to the Wi-Fi network of the Receiver, input the Receiver's IP address on the internet browsing software (192.168.0.1)
2. If users wish to login to the system with a computer Ethernet cable and connect it to the LAN socket of the Receiver, please change the operation mode to Gateway Mode (see details in 2.1.2) through Wi-Fi connection at once.





- Input the user name and password "admin" (The default user name and password is "admin")

2 Language Selection

Select “HKBN” from the function list on the left and the “Select Language” option is displayed on the right hand side of the web page. This Wi-Fi setup supports “Traditional Chinese” and “English” interfaces.

2.1 Operation Mode

Select “Operation Mode” from the left hand side and operation mode can be selected on the right hand side of the page. The Receiver supports both “Bridge” mode and “Gateway” mode.

2.1.1 Bridge Mode

This mode connects the WAN port and LAN port in serial to the same connection interface and is treated as a wide area network. The Wi-Fi network is treated as a local area network.

2.1.2 Gateway Mode

This mode connects the LAN port and Wi-Fi port in serial to the same connection interface and is treated as a local area network. WAN is the wide area network.

3 Network Setup

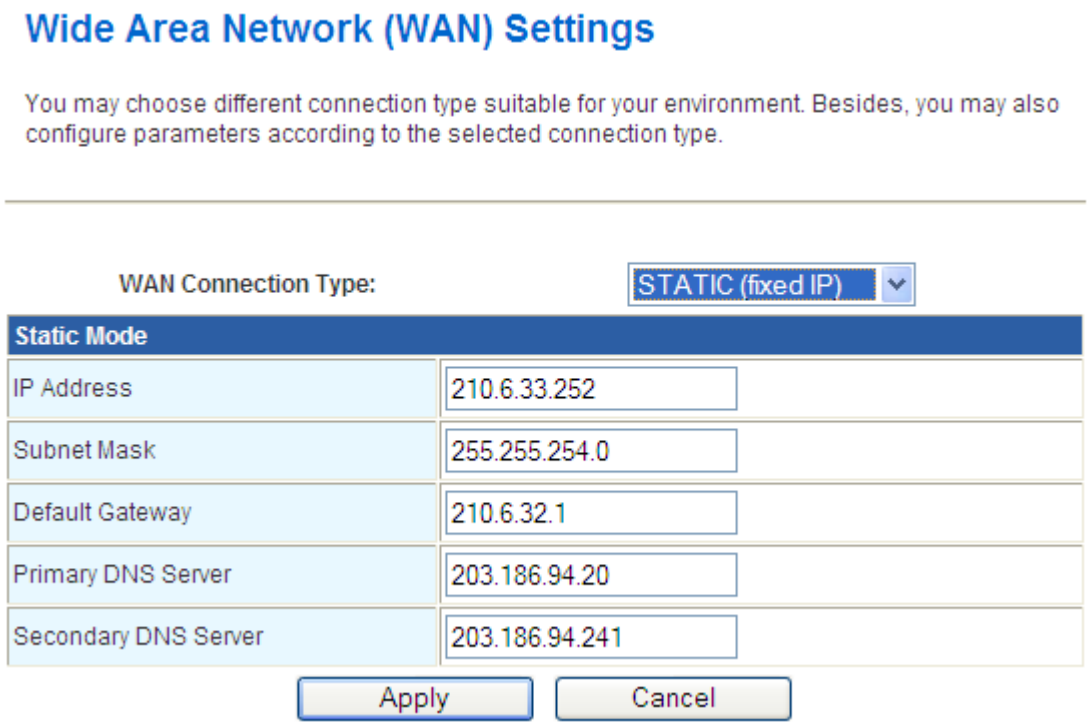
3.1 WAN

Select “WAN” from the list on the left and the wide area network connection setup can be configured on the right hand side of the web page. The Receiver supports Static, DHCP, PPPoE, L2TP and PPTP connection modes.

3.1.1 Static (Fixed IP)

In case all the IP information is provided by the ISP, please select Static (Fixed IP) address. It is required to input the IP address, subnet mask, default gateway address and DNS address. The IP address must be in the correct format (x.x.x.x) with “.” to separate four 8-bits numbers. The Receiver does not accept IP address in other formats.

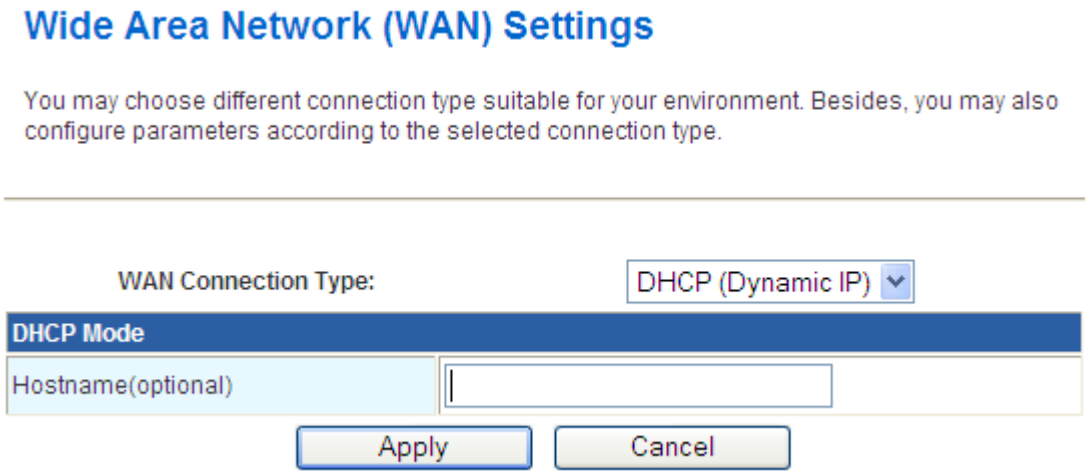
IP Address : input the IP address provided by the ISP
Subnet Mask : input the subnet mask provided by the ISP
Default Gateway : input the gateway address provided by the ISP
Primary DNS Server : input the primary DNS address provided by the ISP
Secondary DNS Server : input the secondary DNS address provided by the ISP



3.1.2 DHCP (Dynamic IP)

In case your ISP does not provide the exact IP address, please select “DHCP (Dynamic IP)” option to get IP related information from your ISP automatically.

Hostname : network name is optional and depends on the ISP requirements

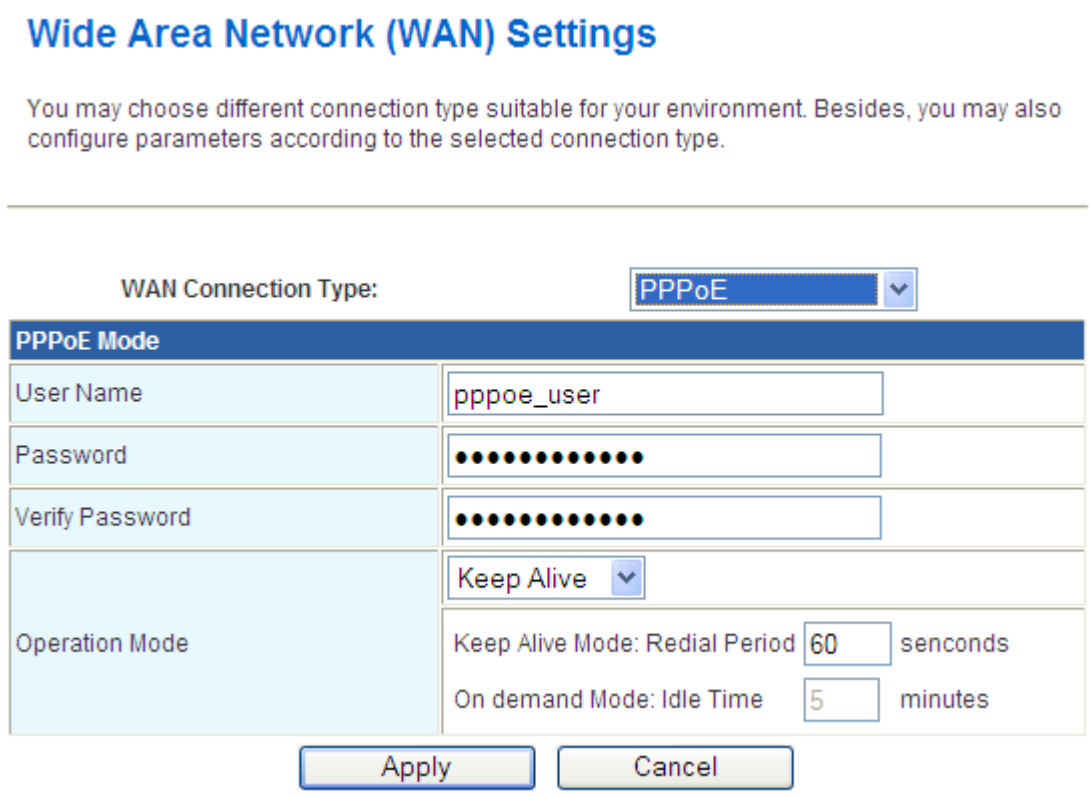


3.1.3 PPPoE (ADSL)

Select “PPPoE” option in case ISP uses PPPoE (ADSL) for internet connection based on the point-to-point communication protocol. This option is used in common DSL connection. The

username and password are provided by your IP for login purpose and you do not need to login from the PPPoE software in your computer again.

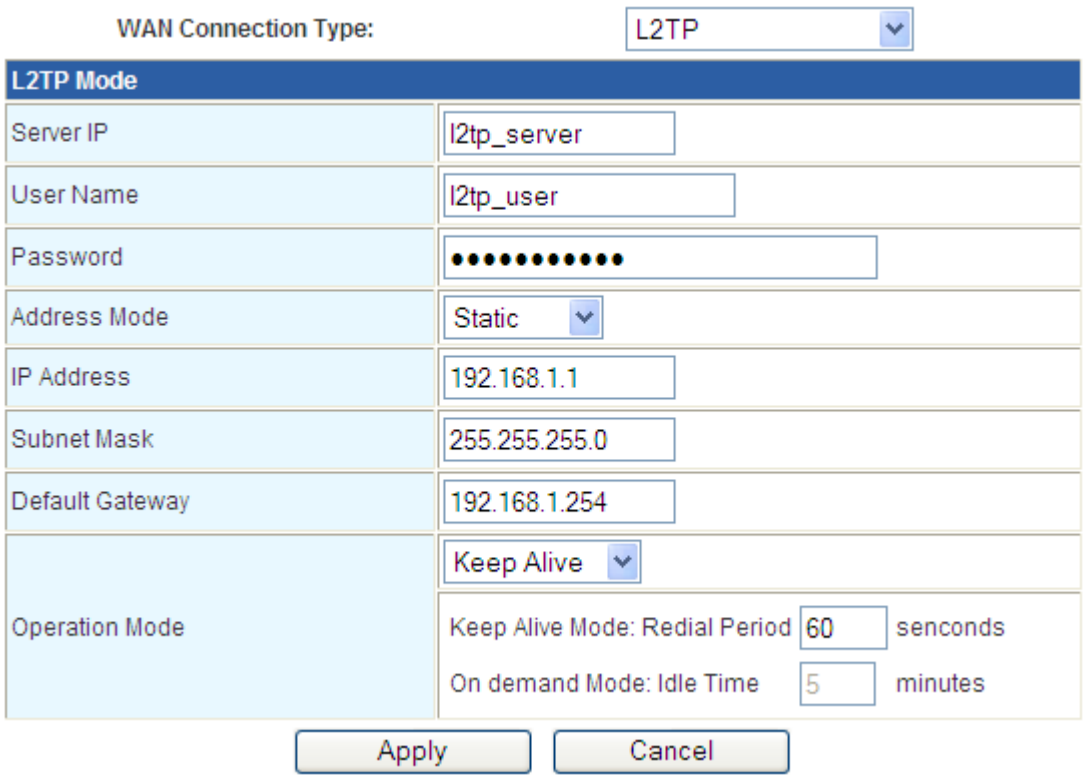
User Name : input your PPPoE user name
Password : input your PPPoE password
Verify Password : input your PPPoE password again
Operation Mode : select “Keep Alive”, “On Demand” or “Manual” mode



3.1.4 L2TP

Select “L2TP” option if ISP uses L2TP (Layer 2 Tunnel Protocol) for internet connection. The user name and password are provided by your ISP. This option is suitable for common DSL connection.

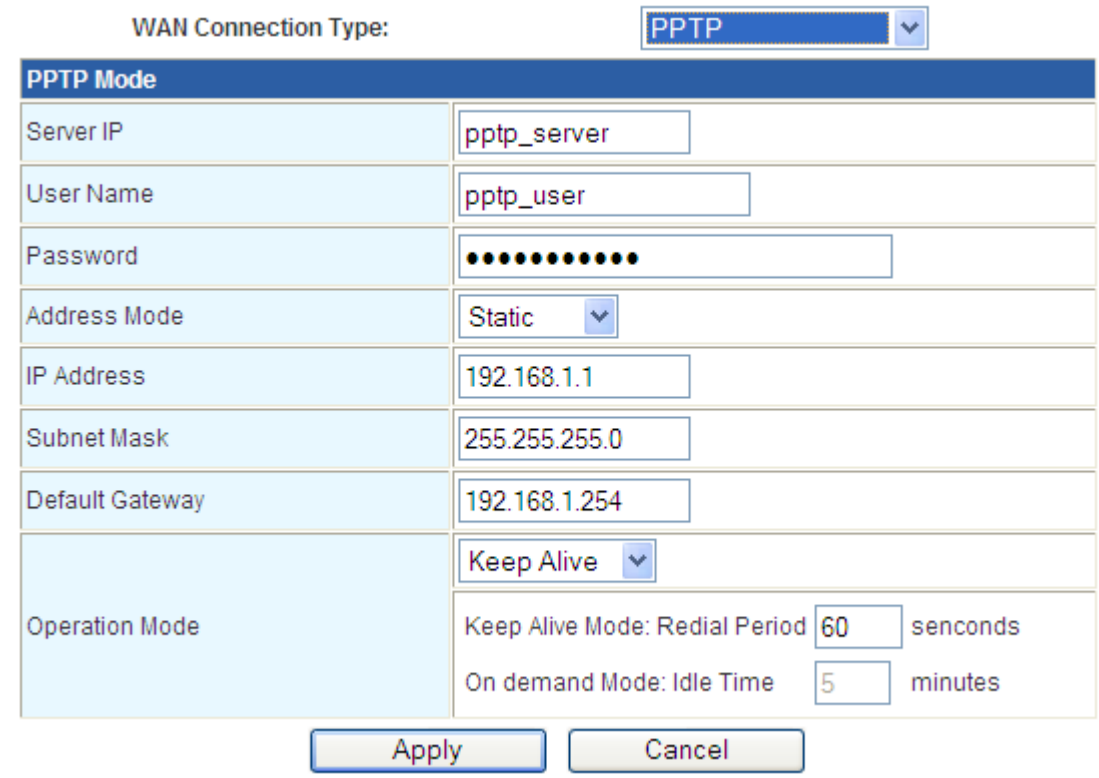
Server IP : input the server IP provided by the ISP (optional)
User Name : input the L2TP user name
Password : input the L2TP password
Address Mode : select “Static” if your ISP provides IP address, subnet mask, default gateway and DNS IP address. Otherwise, please select “Dynamic” option.
IP address : input the L2TP IP address provided by the ISP (“Static” option only)
Subnet Mask : input the subnet mask provided by the ISP (“Static” option only)
Default Gateway : input the default gateway IP address provided by the ISP (“Static” option only)
Operation Mode : select “Keep Alive”, “On Demand” or “Manual” mode



3.1.5 PPTP

Select “PPTP” option if ISP uses PPTP (Point-to-Point Tunneling Protocol) for internet connection based on point-to-point protocol. This option can be used in common DSL connection. The user name and password are provided by the ISP.

Server IP : input the server IP provided by the ISP (optional)
User Name : input the PPTP user name
Password : input the PPTP password
Address Mode : select “Static” if your ISP provides IP address, subnet mask, default gateway and DNS IP address. Otherwise, please select “Dynamic” option.
IP address : input the L2TP IP address provided by the ISP (“Static” option only)
Subnet Mask : input the subnet mask provided by the ISP (“Static” option only)
Default Gateway : input the default gateway IP address provided by the ISP (“Static” option only)
Operation Mode : select “Keep Alive”, “On Demand” or “Manual” mode



3.2 Local Area Network (LAN)

Select “LAN” from the list on the left and the local area network connection setup can be configured on the right hand side of the web page.

IP Address : input the IP Address of the the Receiver. The default IP address is 192.168.0.1.
Subnet Mask : input the subnet mask of the Receiver. The default subnet mask is 255.255.255.0.
DHCP Type : indicate the DHCP server control mode (select “Server” or “Disable”)
DHCP IP address range : input DHCP server start and end IP addresses for address assignment to computer and other IP devices connected to the the Receiver. The assigned IP address is within the DHCP IP address range.

Subnet Mask : input the subnet mask of the Receiver
Default Gateway : input the gateway address of the Receiver
Primary DNS Server : input the primary DNS address of the Receiver
Secondary DNS Server : input the secondary DNS address of the Receiver
Lease Time : input the time duration for IP address renewal

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Local Area Network (LAN) Settings

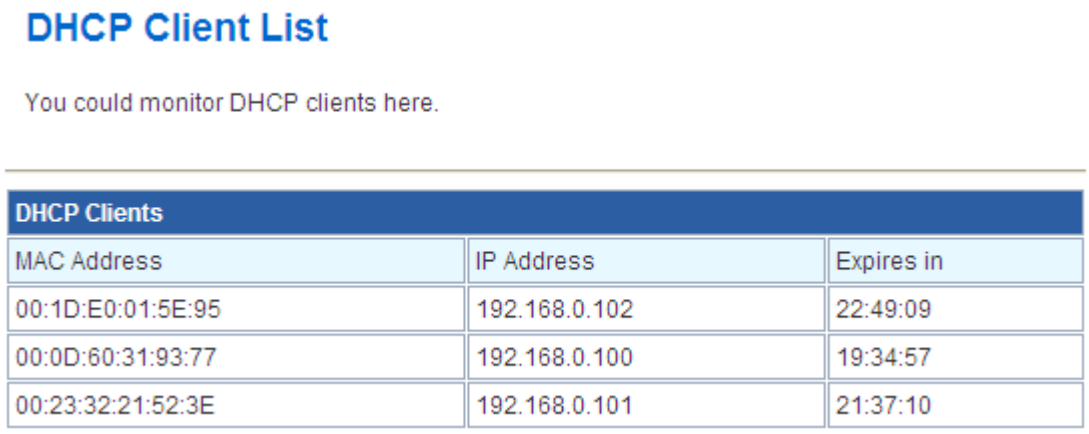
You may enable/disable networking functions and configure their parameters as your wish.

LAN Setup	
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
MAC Address	00:0C:43:20:75:84
DHCP Type	Server
Start IP Address	192.168.0.100
End IP Address	192.168.0.200
Subnet Mask	255.255.255.0
Primary DNS Server	192.168.0.1
Default Gateway	192.168.0.1
Lease Time	86400
Statically Assigned	MAC: IP:
Statically Assigned	MAC: IP:
Statically Assigned	MAC: IP:
LLTD	Disable
IGMP Proxy	Enable
UPnP	Disable
Router Advertisement	Disable
PPPoE Relay	Disable
DNS Proxy	Disable

Apply Cancel

3.3 DHCP Client List

Select “DHCP Clients” from the list on the left. All DHCP clients are listed on the right hand side of the web page.



DHCP Client List

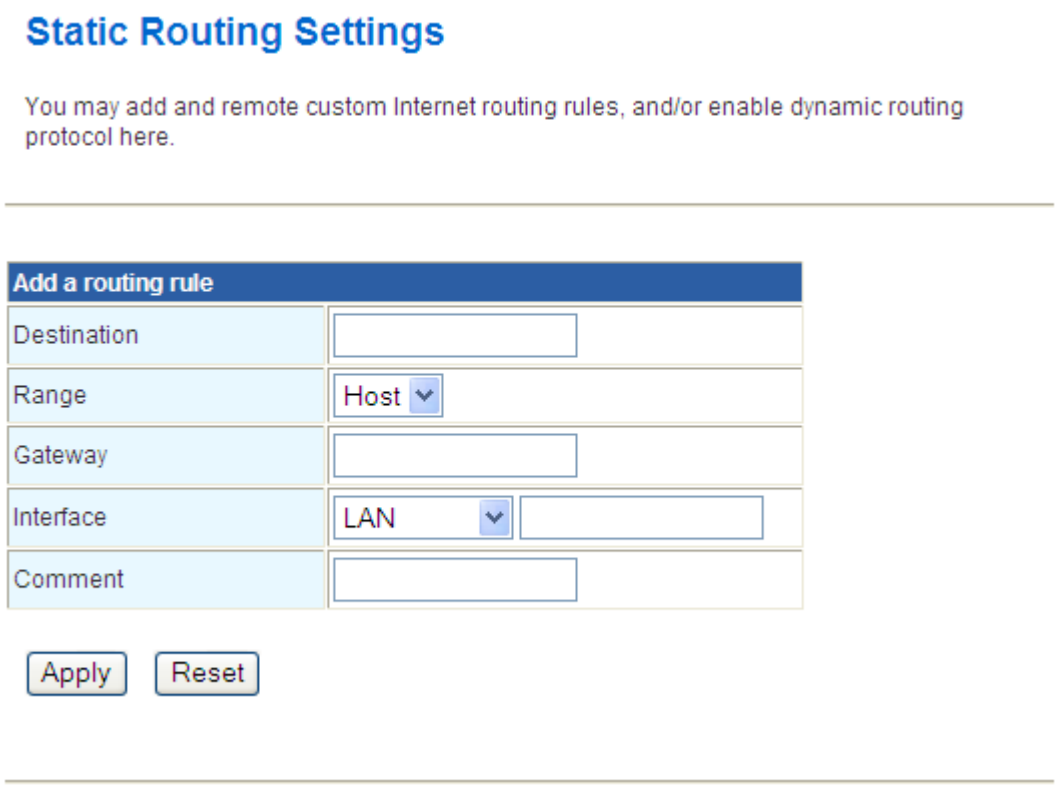
You could monitor DHCP clients here.

DHCP Clients		
MAC Address	IP Address	Expires in
00:1D:E0:01:5E:95	192.168.0.102	22:49:09
00:0D:60:31:93:77	192.168.0.100	19:34:57
00:23:32:21:52:3E	192.168.0.101	21:37:10

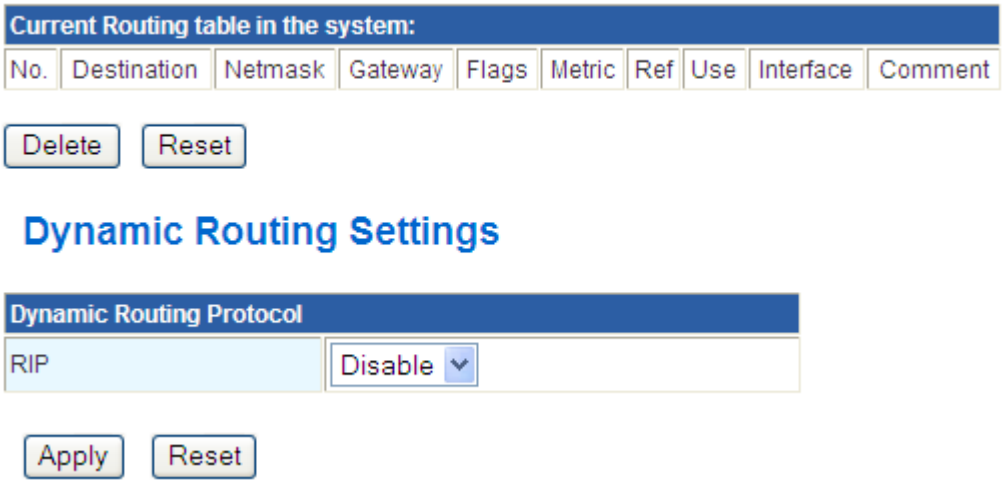
3.4 Advanced Routing

Select “Advanced Routing” from the list on the left, and routing rules can be added or deleted for static routing or activate dynamic routing, i.e. RIP (Routing Information Protocol).

Destination : input the destinated IP address of the routing rule
Range : select either “Host” or “Net”. “Net” defines a subnet and “Host” defines a specific IP address
Gateway : input gateway address for any IP packets to the defined destination
Interface : select the network interface card for the routing rule
Comment : provide related information for the routing rule

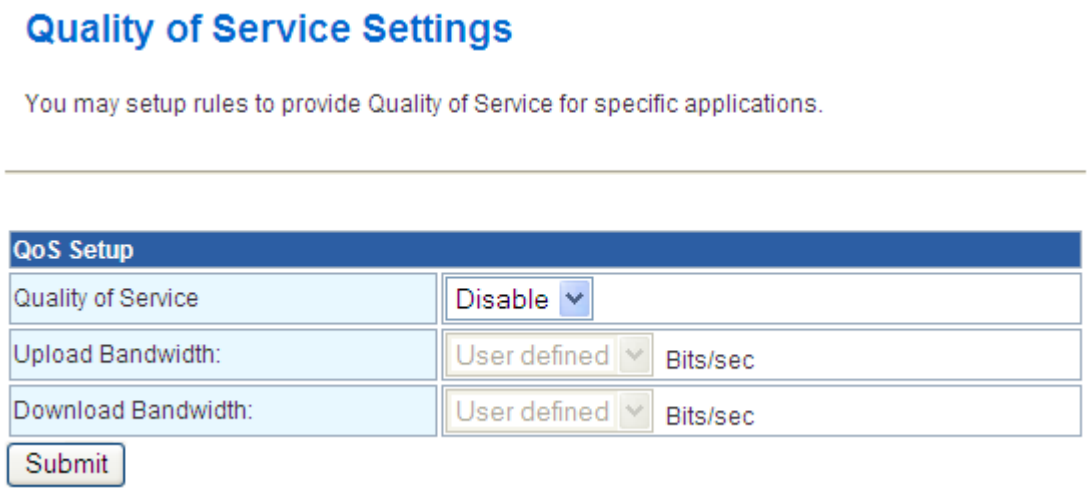


Display the present routing settings.
RIP : enable or disable the dynamic routing, i.e. RIP



3.5 Quality of Service Settings

Quality of service (QoS) rules can be added or deleted to provide different upload and download throughput and priority.



4 Wireless Network Setup

4.1 Basic Wireless Settings

Select “Basic” from the list on the left to configure basic wireless setup, for example, network name (SSID, Service Set identifier) and channel. Basic configuration can be done for simple router settings.

Radio On/Off : Select this button to enable the Wi-Fi function. Press the button again to disable the Wi-Fi function.
Network Mode : Select the 802.11b/g/n and mixed mode
Network Name (SSID) : SSID is the Wi-Fi network name and it can support up to 32 characters. (Note: SSID is case sensitive)
Broadcast Network Name (SSID) : Select “enable” and “disable” mode. If “disable” is selected, the SSID will not broadcast through the Receiver and scanned by clients’ Wi-Fi devices. Therefore, the user must know the correct SSID of the Receiver’s Wi-Fi network in order to access it.
BSSID : BSSID (Basic service set identifier) shows the MAC address of the Receiver
Frequency (Channel) : Support both auto-select and manual channel select options

Basic Wireless Settings

You could configure the minimum number of Wireless settings for communication, such as Network Name (SSID) and Channel. The Access Point can be set simply with only the minimum setting items.

Wireless Network	
Radio On/Off	Radio Off
Network Mode	11b/g/n mixed mode
Network Name(SSID)	HKBN_207584
Broadcast Network Name (SSID)	Enable / Disable
AP Isolation	Enable / Disable
MBSSID AP Isolation	Enable / Disable
BSSID	00:0C:43:20:75:84
Frequency (Channel)	AutoSelect

4.2 Advanced Wireless Settings

Advanced wireless settings can be used to perform detailed Wi-Fi setup (including advanced parameters setup), for example, beacon interval, transmission power and data beacon rate (DTM), etc.

Advanced Wireless Settings

Use the Advanced Setup page to make detailed settings for the Wireless. Advanced Setup includes items that are not available from the Basic Setup page, such as Beacon Interval, Control Tx Rates and Basic Data Rates.

Advanced Wireless	
BG Protection Mode	Auto
Beacon Interval	100 ms (range 20 - 999, default 100)
Data Beacon Rate (DTIM)	1 ms (range 1 - 255, default 1)
Fragment Threshold	2346 (range 256 - 2346, default 2346)
RTS Threshold	2347 (range 1 - 2347, default 2347)
TX Power	100 (range 1 - 100, default 100)
Short Preamble	○ Enable ◉ Disable
Short Slot	◉ Enable ○ Disable
Tx Burst	◉ Enable ○ Disable
Pkt_Aggregate	◉ Enable ○ Disable
IEEE 802.11H Support	○ Enable ◉ Disable(only in A band)

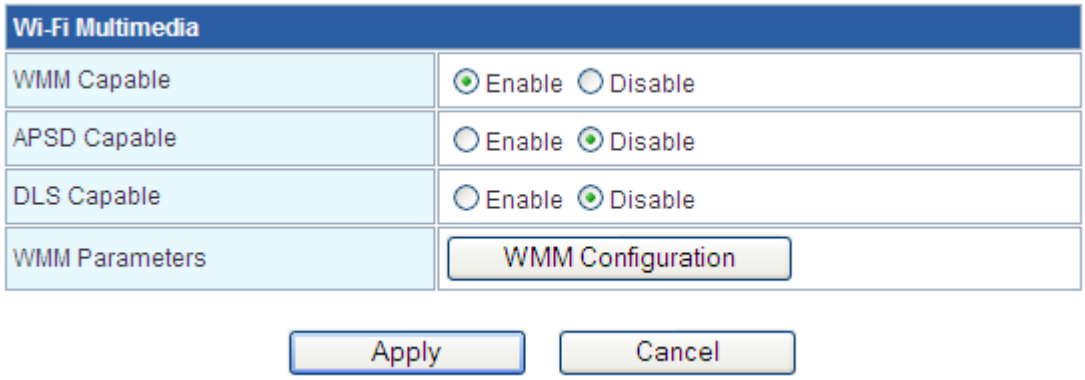
The default setting of WMM (Wi-Fi Multimedia) is “Disable”.

Wi-Fi Multimedia	
WMM Capable	○ Enable ◉ Disable
WMM Parameters	WMM Configuration

Apply Cancel

WMM can be enabled manually and more options will pop up with additional parameters:
WMM Capable : select “enable” or “disable” the WMM
APSD Capable : select “enable” or “disable”, alternatively, you can also choose power management method - Automatic Power Save Delivery

DLS Capable : select “enable” or “disable” direct station-to-station frame transfer – Direct Link Setup



4.3 Wireless Security Settings

Select “Security” from the list on the left to setup the Wi-Fi network security and encryption to prevent unauthorized access of the Wi-Fi network and data snoop.

SSID Option : Service Set Identifier (SSID) is the wireless network name. It consists of a maximum of 32 case-sensitive characters.
Security Mode : select the Wi-Fi network security/encryption algorithm. The default security algorithm is WPA-PSK (Wi-Fi Protected Access – Pre-shared Key).
WPA Algorithms : select TKIP (Temporal Key Integrity Protocol), AES (Advanced Encryption Standard) or TKIPAES security/encryption protocol.
Pass Phrase : display and generate key for Wi-Fi network
Key Renewal Interval : configure the key renewal time interval. The Wi-Fi router determines whether the security key needs to be renewed based on this interval setting.
Policy : allow or restrict the access from the configured MAC address to the Wi-Fi router by selecting “allow” or “reject”

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Wireless Security/Encryption Settings

Setup the wireless security and encryption to prevent from unauthorized access and monitoring.

Select SSID	
SSID choice	HKBN_207584

"HKBN_207584"	
Security Mode	Disable

Access Policy	
Policy	Disable
Add a station Mac:	

Apply Cancel

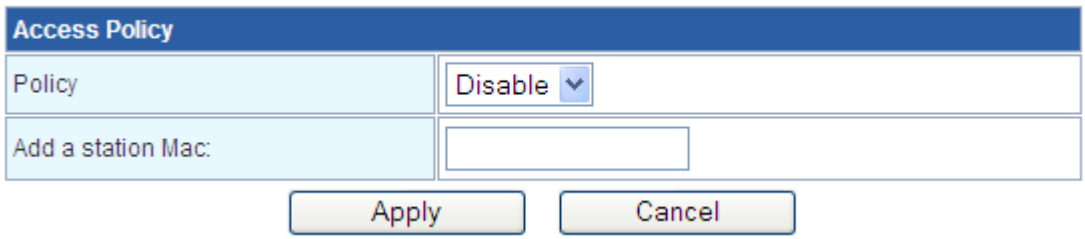
Wireless Security/Encryption Settings

Setup the wireless security and encryption to prevent from unauthorized access and monitoring.

Select SSID	
SSID choice	HKBN_207584

"HKBN_207584"	
Security Mode	WPA-PSK

WPA	
WPA Algorithms	TKIP AES TKIPAES
Pass Phrase	04412304 Generate
Key Renewal Interval	3600 seconds



4.4 WPS

Select “WPS” from the list on the left to establish a secured Wi-Fi connection. Simply input a PIN or press button (PBC) to execute Wi-Fi security by using an easier security connection setup procedure. Wi-Fi Protected Setup (WPS) is a standard for easy and secure establishment of a wireless home network created by the Wi-Fi Alliance (WFA), in which it enables the Wi-Fi devices from different manufacturers to certify this function. WPS can enable the protection of Wi-Fi network security for both initial setup and new device pairing through simpler procedures, as it only requires the press of the button or PIN input. The setup procedure for highly secured WPA2 security mode is greatly simplified by WPS and it enables users to establish a secured Wi-Fi connection quickly.

New WPS PIN can be generated by pressing “Generate” button. The other Wi-Fi devices can establish connections with the Wi-Fi router by inputting PIN to the registrar through the AP user interface.

The secured Wi-Fi connection can also be established by pressing the button (PBC) in AP and Wi-Fi devices.

Wi-Fi Protected Setup

You can choose PIN or PBC method to perform Wi-Fi Protected Setup.

WPS Config	
WPS:	Enable
Apply	

WPS Summary	
WPS Current Status:	Not used
WPS Configured:	Yes
WPS SSID:	HKBN_207584
WPS Auth Mode:	Open
WPS Encryp Type:	None
WPS Default Key Index:	1
WPS Key(ASCII)	
AP PIN:	04412304 Generate

WPS Progress	
WPS mode	PBC PIN
Apply	

WPS Status
WSC:Idle

4.5 Station List

Select “Station List” from the list on the left, and the list of Wi-Fi devices connected to the Wi-Fi network will be displayed on the web page.

Station List

You could monitor stations which associated to this AP here.

Wireless Network							
MAC Address	Aid	PSM	MimoPS	MCS	BW	SGI	STBC
00:1D:E0:01:5E:95	1	0	3	14	20M	0	0

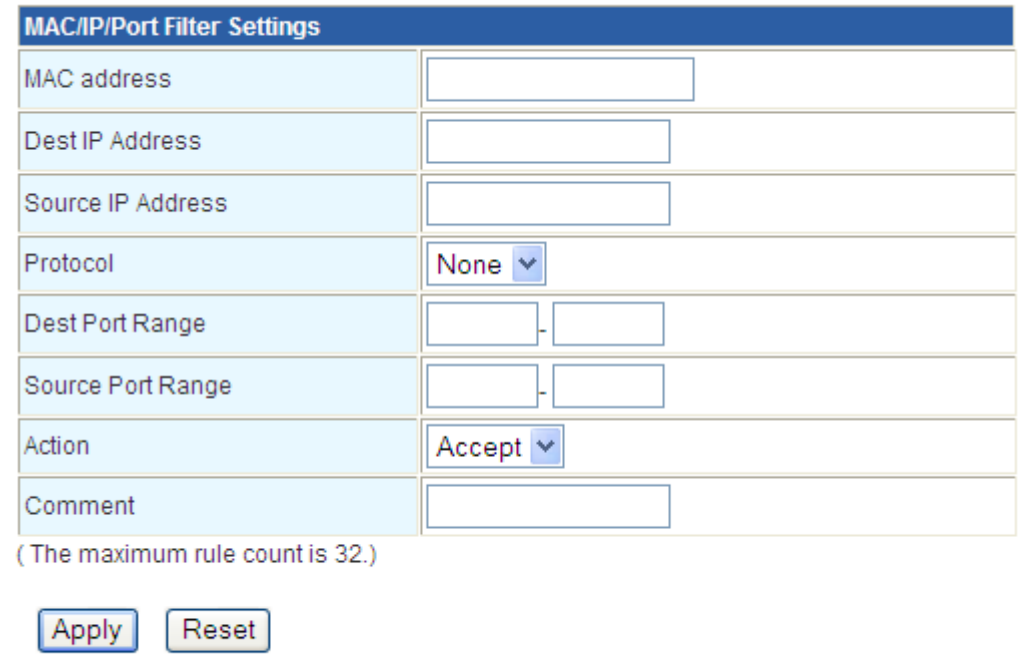
5 Firewall

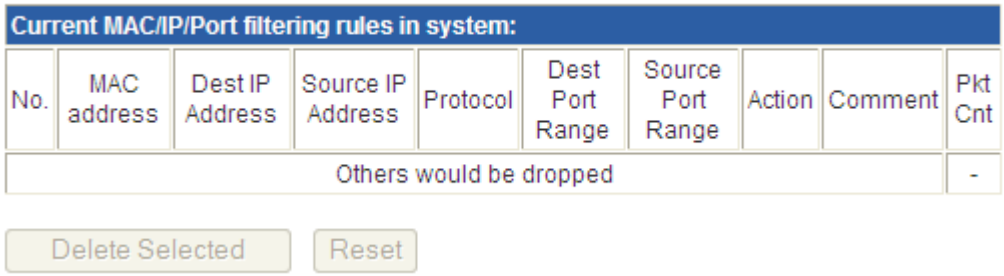
Firewall protects your network from external networks through isolation. Rules can be setup in the firewall to protect your network from malicious attacks, spoof and snoop from Internet, virus and worms.

5.1 MAC/IP/Port Filtering

MAC/IP/Port Filtering function can enable users to define the filtering policies for packets based on MAC address, IP address and port.

MAC/IP/Port filtering : select “enable” or “disable” mode
Default Policy : select “accepted” or “dropped” any packets that do not fulfill the rules





5.2 Port Forwarding

Port forwarding function enables users to configure a virtual server, whereas remote users can access applications through common IP address and connect to the appropriate server in the local area network (LAN).

Virtual Server Setting : select “enable” or “disable” the function
IP Address : input the IP address to allow the access of the application server
Port Range : input the TCP and / or UDP port or a range of ports to be enabled for the application
Protocol : select TCP and / or UDP protocol
Comment : input remark for the configuration

Virtual Server Settings

You may setup Virtual Servers to provide services on Internet.

Virtual Server Settings	
Virtual Server Settings	Disable
IP Address	
Port Range	-
Protocol	TCP&UDP
Comment	

(The maximum rule count is 32.)

Apply Reset

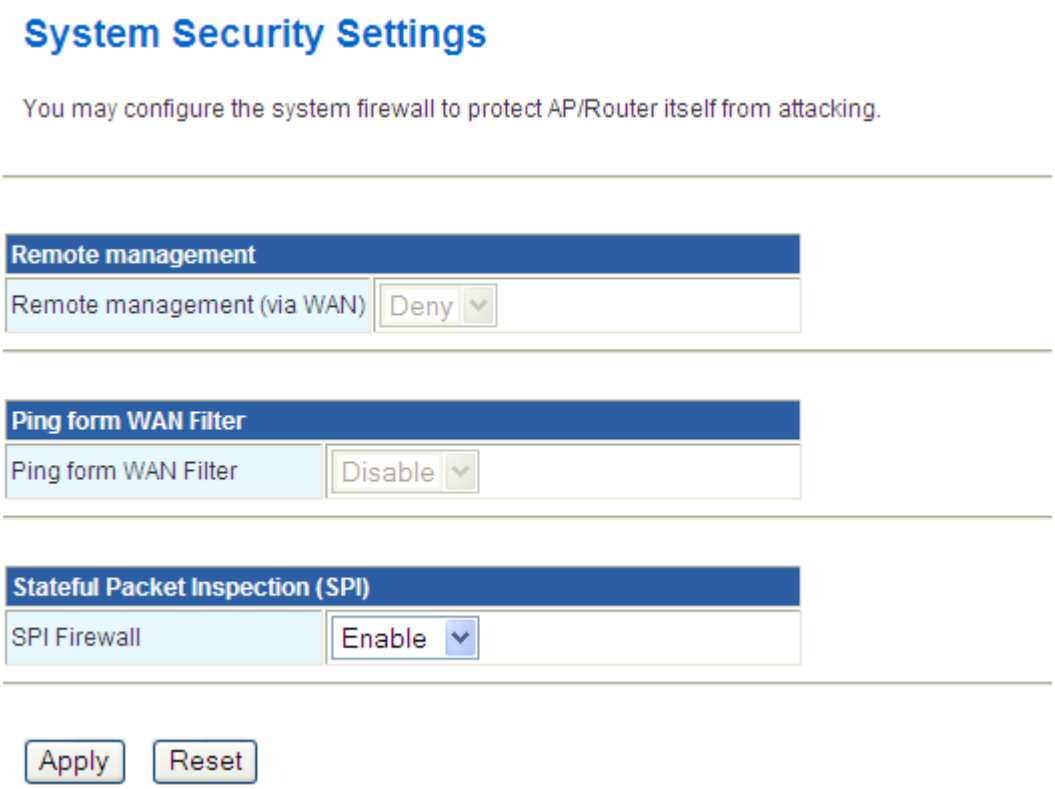
Current Virtual Servers in system:				
No.	IP Address	Port Range	Protocol	Comment

Delete Selected Reset

5.3 System Security

The Wi-Fi router can be protected by configurating the system firewall.

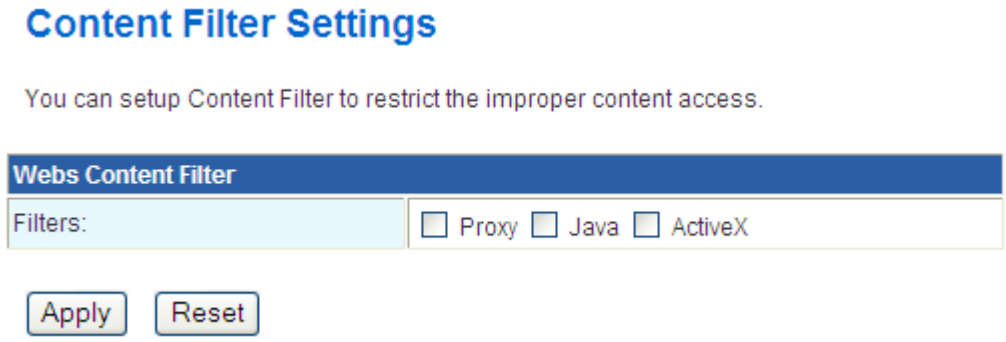
Remote Management (via Web) : select “enable” or “disable” the remote management
Ping from WAN Filter : select “enable” or “disable” ping from WAN
Stateful Packet Inspection (SPI) Firewall : select “enable” or “disable” SPI firewall



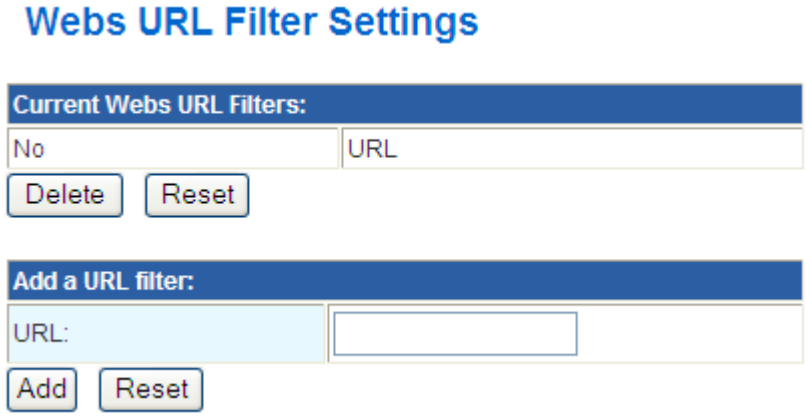
5.4 Content Filtering

Content filtering is most widely used on the internet to filter email and web access, for example, spam. This function enables users to configure content filtering policies to allow or restrict access of web pages based on the content.

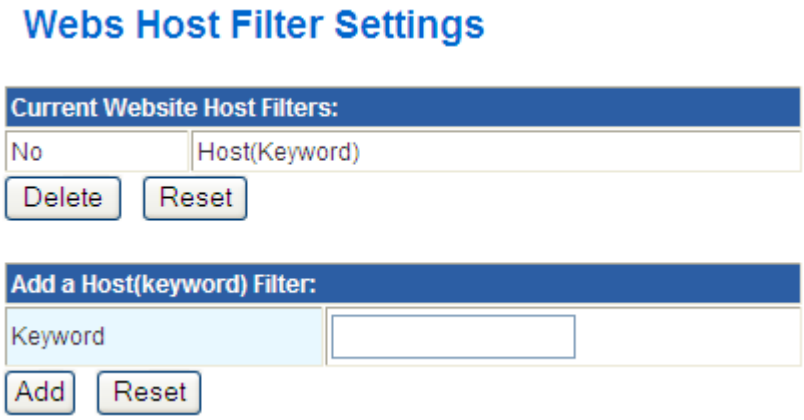
Configure the content filter based on the format : select three different formats of packets to be filtered, i.e. Proxy, Java and ActiveX.



Configure the filter based on the source of packet : input the URL to be filtered in the URL filter.



Configure the filter based on the host : input the host to be filtered in the Host Filter.



6 Administration

The administration functions enable users to perform the following:

- Manage the general functions of the Wi-Fi router, including language & administrator password etc.
- Load and restore the settings of the Wi-Fi router
- Monitor the status of the Wi-Fi router

6.1 System Management

Users can configure the language, administrator password, network time and power saving mode.

System Management

You can configure administrator account and password NTP settings and Dynamic DNS settings here.

Language Settings

Select Language	English

Apply Cancel

Adminstrator Settings

Account	admin
Password	●●●●●

Apply Cancel

NTP Settings

Current Time	Fri Nov 13 19:20:43 GMT 2009

Power Saving Mode

Duration	Action
00 : 00 ~ 00 : 00	Disable
00 : 00 ~ 00 : 00	Disable
00 : 00 ~ 00 : 00	Disable
00 : 00 ~ 00 : 00	Disable

Apply Cancel

6.2 Settings Management

Users can export the settings of the system in a configuration file, or import the configuration file to restore the settings of the system. Users can also select to reset all configuration to default settings.

Settings Management

You might save system settings by exporting them to a configuration file, restore them by importing the file, or reset them to factory default.

Load Factory Defaults	
Load Default Button	Load Default

6.3 Status

Users can monitor the system status information.

Access Point Status

Take a look at the status of this device.

System Info	
Kernel Version	7381039 (Nov 3 2009)
System Up Time	3 hours, 4 mins, 37 secs
Operation Mode	Gateway Mode
Internet Configurations	
Connected Type	DHCP
WAN IP Address	210.6.33.252
Subnet Mask	255.255.254.0
Default Gateway	210.6.32.1
Primary Domain Name Server	203.186.94.20
Secondary Domain Name Server	203.186.94.241
MAC Address	00:07:63:12:6D:20
Local Network	
Local IP Address	192.168.0.1
Local Netmask	255.255.255.0
MAC Address	00:0C:43:20:75:84

Ethernet Port Status