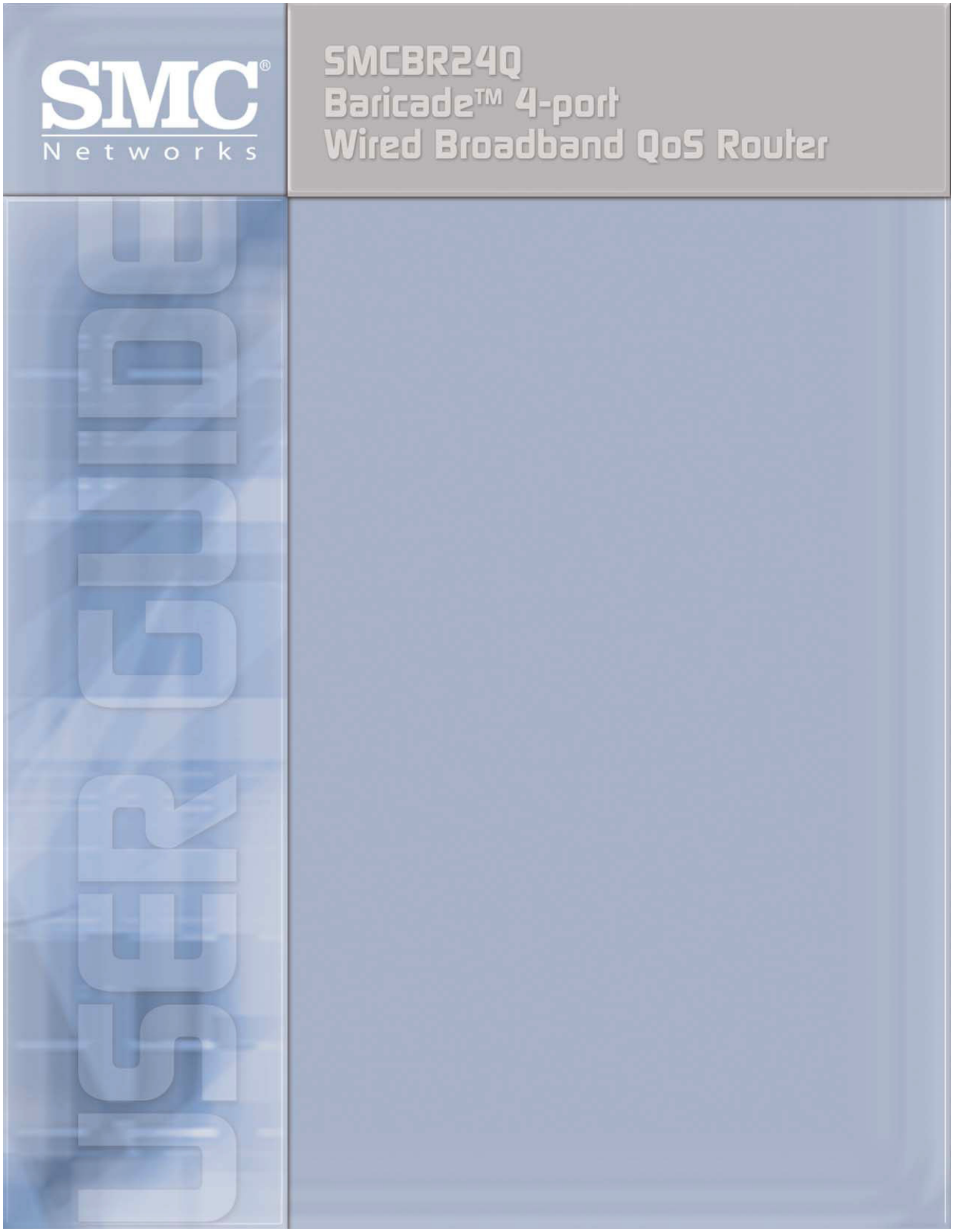
SMC
Networks
SMCBR24Q
Baricade™ 4-port
Wired Broadband QoS Router
USER GUIDE

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Introduction

SMCBR24Q is a 4-port QoS router which can be easily used at home and in a SOHO environment. It contains two WAN ports and four Ethernet 10/100 LAN ports. The SMCBR24Q combines flexible and easy-to-use QoS, parental control, firewall, and NAT with Fast Ethernet connections.

The flexible and easy-use QoS is a very practical function for bandwidth management. It supports traffic prioritization, guaranteed bandwidth, and limited bandwidth. By using these useful functions, every user behind SMCBR24Q can have his/her own bandwidth to access internet without having to worry about traffic congestion caused by randomly shared bandwidth. SMCBR24Q's QoS function is ideal for bandwidth sensitive applications such as VoIP and media streams since it can guarantee those specific applications or users the minimum essential bandwidth rates.

For home, SMCBR24Q's easy-to-use parental control utilities (access rules, bandwidth management, and content filtering), can help parents easily setup the access rules for their children to limit internet access time and protect children from accessing unwanted websites.

For SOHO, SMCBR24Q will allow two separate broadband connections of many types, including Cable and DSL for failover and load balancing/ connection backup with the unique two WAN ports.

SMCBR24Q also features built-in firewall to block various kinds of malicious attacks and curious intruders. The product uses stateful packet inspection (SPI) to inspect all data packets based on the established security policies. It also provides automatic protection from Denial of service (DoS) attacks such as SYN flooding, IP Spoofing, LAND, ping of death and all reassembly attacks. NAT functionality with firewall conceals network address avoiding the disclosure as public information and also provides a solution for IP address depletion problem. The product also has reverse NAT capabilities that enable users to host various internet services in the private IP address space such as web servers or e-mail servers.

SMCBR24Q also features easy to use WEB UI configuration for end users with different operation systems and with Setup Wizard support, end users can configure the router easily right out of the box.

Main features:

- **Flexible and easy-to-use QoS**
  - Guaranteed bandwidth (Min. bandwidth rate)
  - Limited bandwidth (Max. bandwidth rate)
  - Supports traffic prioritization

- **Flexible and easy-to-use Parental Control**
  - Access rules
  - Bandwidth Management
  - Content Filtering

- **Firewall Security**
  - Denial of Service (DoS) prevention
  - Stateful Packet Inspection (SPI)
  - IP filtering: allows you to configure IP address filters
  - Port filtering: allows you to configure TCP/UDP port filters

- **Networking**
  - Smart Link Backup
  - Load Balance
  - DHCP Client/Server
  - PPPoE
  - NAT with popular ALG support
  - NAT with port forwarding
  - NAT with port triggers
  - DNS Relay
  - ARP
  - ICMP
  - FTP/TFTP
  - Password protected configuration or management sessions for web access

- **Network Management**
  - Comprehensive web based management and policy settings
  - Built-in Setup Wizard simplifies installation
  - Monitoring, Logging, and Alarms of system activities
  - Locate and configure all devices with the same subnet
  - Parental control Utility for home user

1. How to Install SMCBR24Q

Hardware Features

Feature List

▪ WAN:	2 RJ-45 10/100Base-T Ethernet Ports
▪ LAN:	4 RJ-45 10/100Base-T Ethernet ports
▪ CPU:	Intel IXP425-266MHz
▪ SDRAM:	16 Mbytes SDRAM
▪ Flash ROM:	8 Mbytes Flash
▪ Sys. Power:	3.3V@2.5A
▪ EMI/EMC:	FCC Class B, CE Class B
▪ Operation Requirement	Operating Temp. 0ºC to 40ºC (32ºF to 104ºF) Storage Temp. 0ºC to 70ºC (32ºF to 158ºF) Operating Humidity 10% to 85% Non-Condensing Storage Humidity 5% to 90% Non-Condensing
Dimensions	16.38 x 16.21 x 6.99 cm/ 6.4 x 6.3 x 2.7 in

LED Status

LED	Color	Description
System	Green	Green On: Power On
DIAG	Orange	Orange On: System not ready Orange Off: System ready
Q-button	Green	Green On: Button On
1~2 WAN Ports	Green	Green On: Ethernet Link Green Blinking: Activity
1~4 LAN Ports	Green	Green On: Ethernet Link Green Blinking: Activity

Reset Button

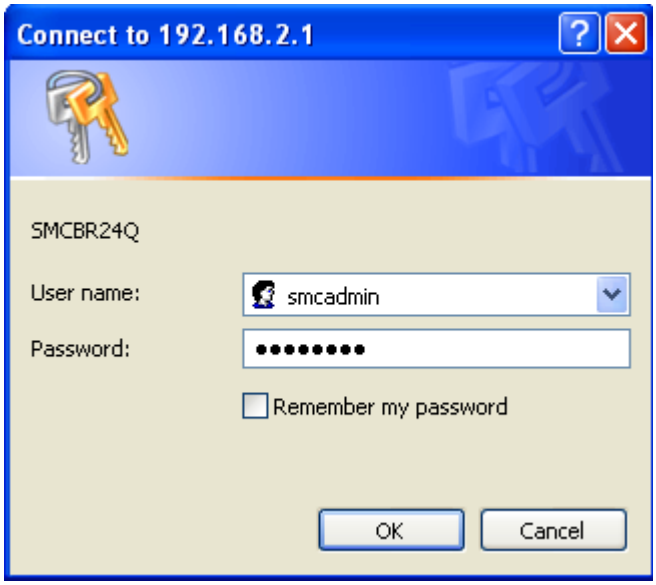
Action	Description
Push button for 4 seconds	Warm Reset Diag LED : Red Blinking slowly
Push button for 10 seconds	Factory Default Diag LED : Red Blinking fast

Q-Button

Action	Description
Push the button on	Green LED and Q-button On
Push the button off	Green LED and Q-button Off

2. How to Manage SMCBR24Q – Home Mode

Login



In the web browser, enter the IP address “192.168.2.1” as SMCBR24Q’s URL. Enter User Name and Password then OK. The default User Name and Password are 'smcadmin' when you first power up the Router.

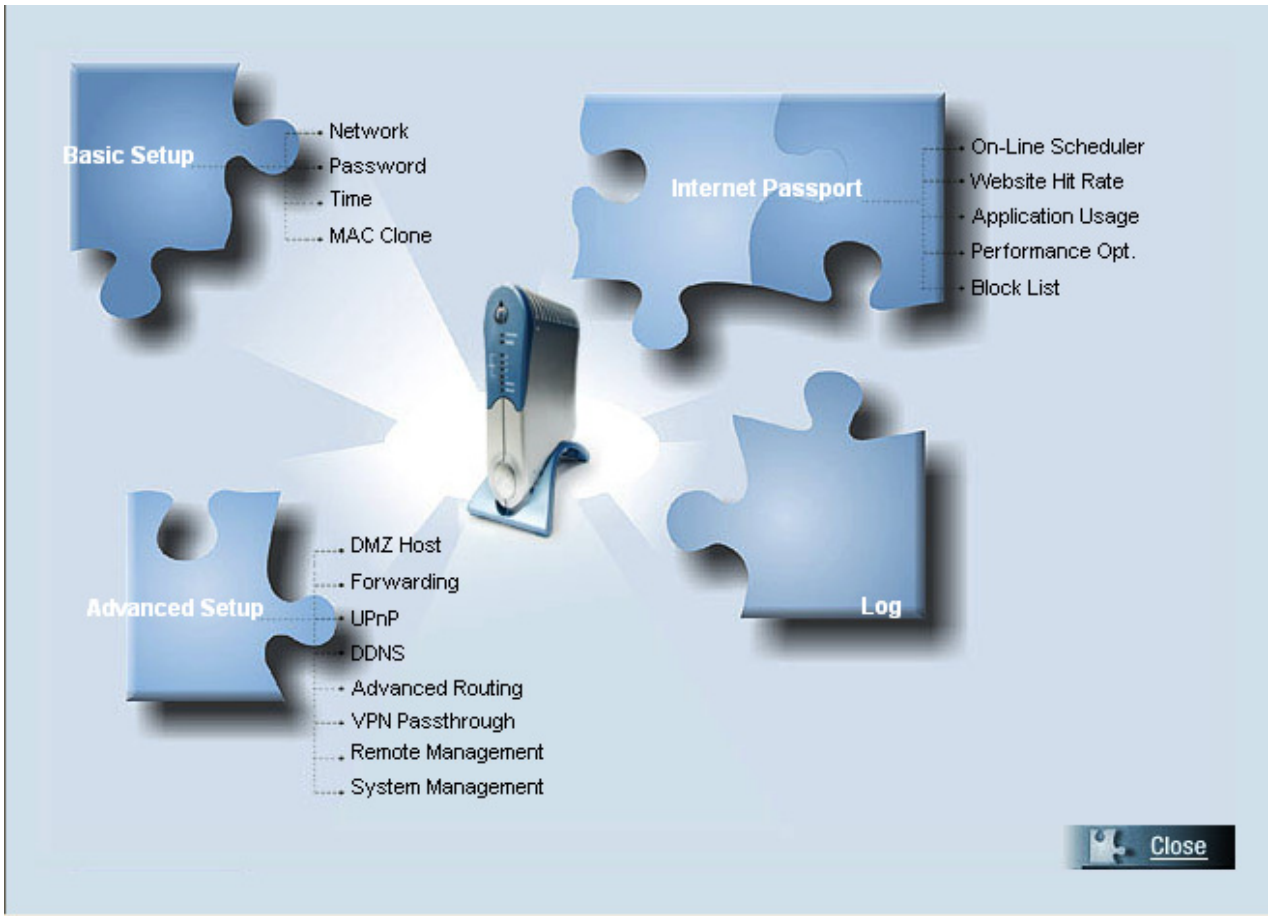
Mode

You can choose between Home Mode and SOHO Mode. The default is Home Mode. It is suggested for home users to use Home mode to apply individual and basic settings for family members. SOHO mode provides more advanced functions, and SOHO mode is suggested for SOHO users. If you need to change modes, please save your settings before changing modes.

Note: *The Utility will only work with Home Mode.*

Site Map

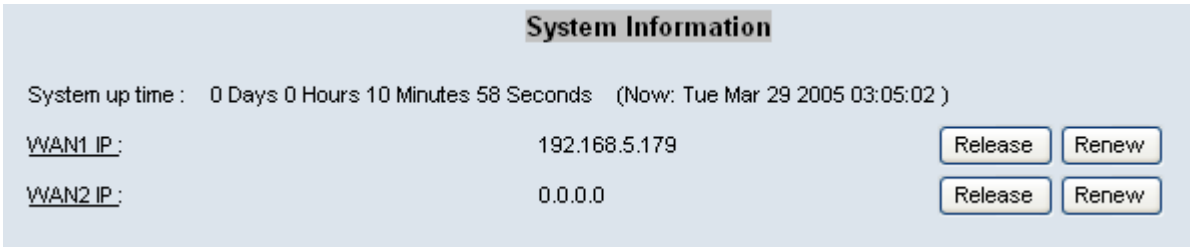
You can click the site map button to view the site map. Click on desired tab subject and it will hyperlink to the page you have chosen.



System Summary

The System summary screen displays the router's current status, settings, and all PCs that are connected to the SMCBR24Q.

System Information

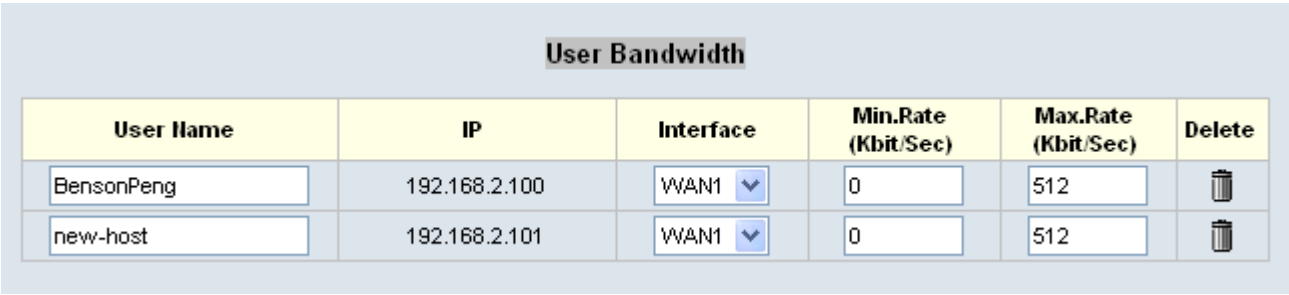


System up time: The length of time in Days, Hours, and Minutes that the SMCBR24Q has been active.
WAN1/2 IP: Shows the current WAN1/2 IP Address of the Router, as seen by external users on the Internet and hyperlinks to WAN Connection type in Basic Setup page. When users select **obtain an IP automatically,** it will show two buttons, **release** and **renew.** Users can click the **release** button to release the current IP address and click **renew** button to update the DHCP Lease Time or to get a new IP address.

User Usage

This page will display the real time percentages of bandwidth usage for individual users and it is based on the max downstream rate provided by ISP. If dual WANs are used, you can see on this page who is using WAN 1 and who is using WAN 2. Parents have the option to use bandwidth control for the specific family member by the user's usage information.

User Bandwidth



All PCs connected to SMCBR24Q will be recorded and displayed here.

User Name: SMCBR24Q will display PC's host name automatically, and will also have the option to rename it.

IP: IP address issued to the PC by SMCBR24Q DHCP Server.

Interface: The default is WAN 1. If dual WANs are used, you can assign WAN 1 or WAN 2 to the users from the Interface drop-down menu for bandwidth management.

Min. Rate (Kbit/Sec): You can set up Min. Rate to guarantee bandwidth for individual user. The default is zero. Total Min. Rate you allocate for all users will not exceed the max upstream rate provided by ISP.

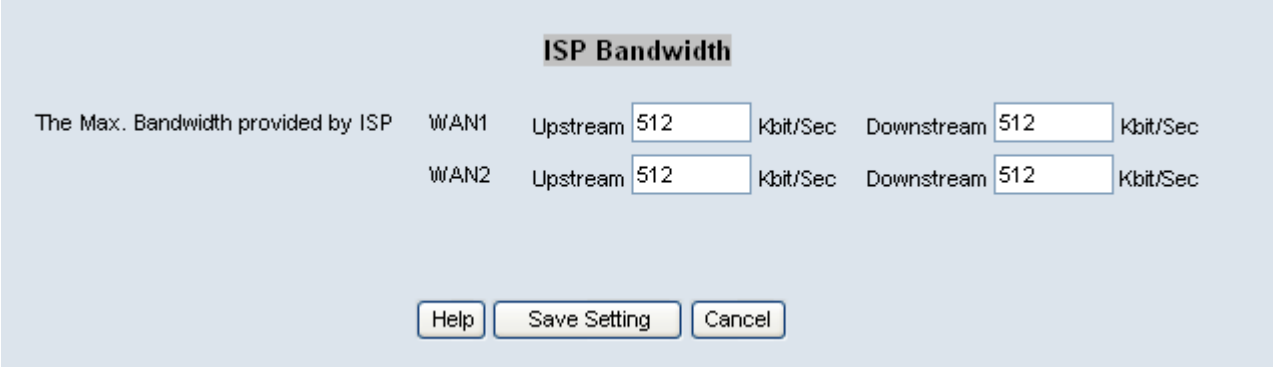
Max. Rate (Kbit/Sec): You can set up Max. Rate to limit bandwidth for individual user. The default is the max upstream rate provided by ISP. If you set up the max rate as 0 Kbit/Sec for the specific user, that user will not be able to access the internet.

Delete: You can click the trash can icon to delete the users whose bandwidth you don't need to manage anymore.

Note 1: *Any deleted on-line client can be recovered by an* ***ipconfig /release*** *&* ***ipconfig /renew****. To make this happen, at the command prompt of a client computer, type* ***ipconfig /release****. After the computer finishes performing the command, type* ***ipconfig /release****, then type* ***ipconfig /renew****.*

Note 2: *Any configurations here except the default will make the Q-button a hot key. For more details, please refer to* ***Q-button–Home Mode****.*

ISP Bandwidth



Enter the max upstream and downstream rates provided by ISP. The default rate is 512 Kbit/Sec.

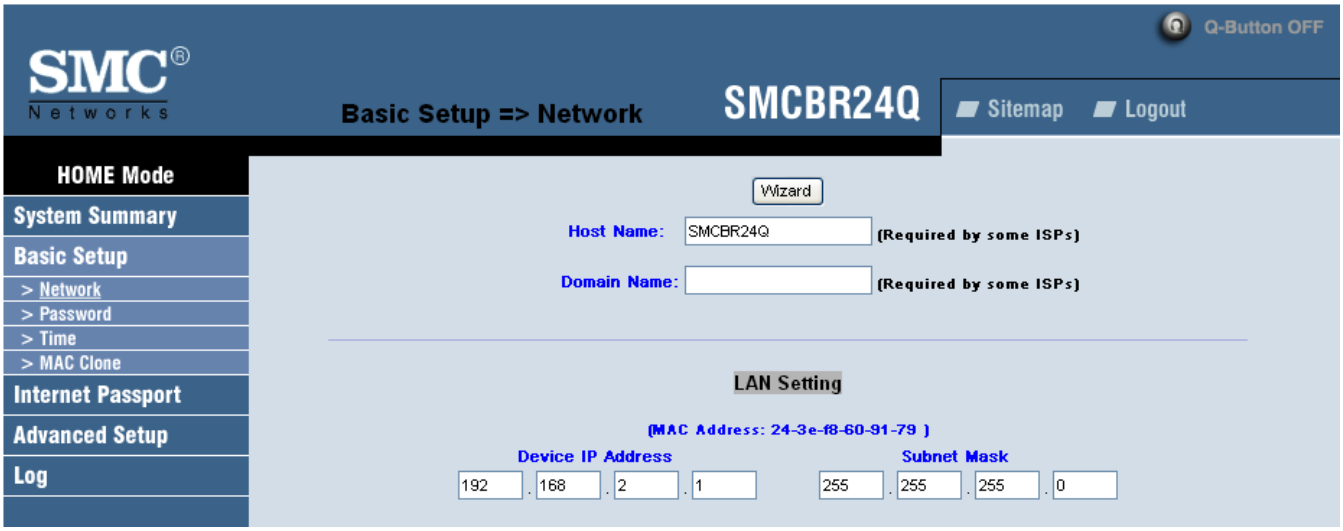
Note: *Any configurations here except the default will make the Q-button a hot key. For more details, please refer to* ***Q-button–Home Mode****.*

For more information, click the **Help** button. Click the **Save Settings** button to save System Summary settings or click the **Cancel** button to undo changes.

Basic Setup

The Setup screen contains all of the router's basic setup functions. For most users, the default values for the device should be satisfactory. The device can be used in most network settings without changing any of the values. Some users will need to enter additional information in order to connect to the Internet through an ISP (Internet Service Provider) or broadband (DSL, cable modem) carrier.

Network

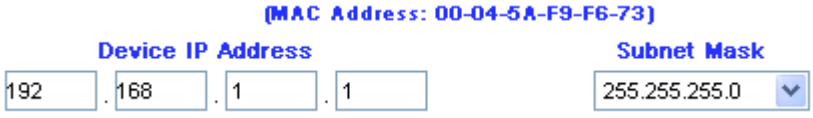


Network

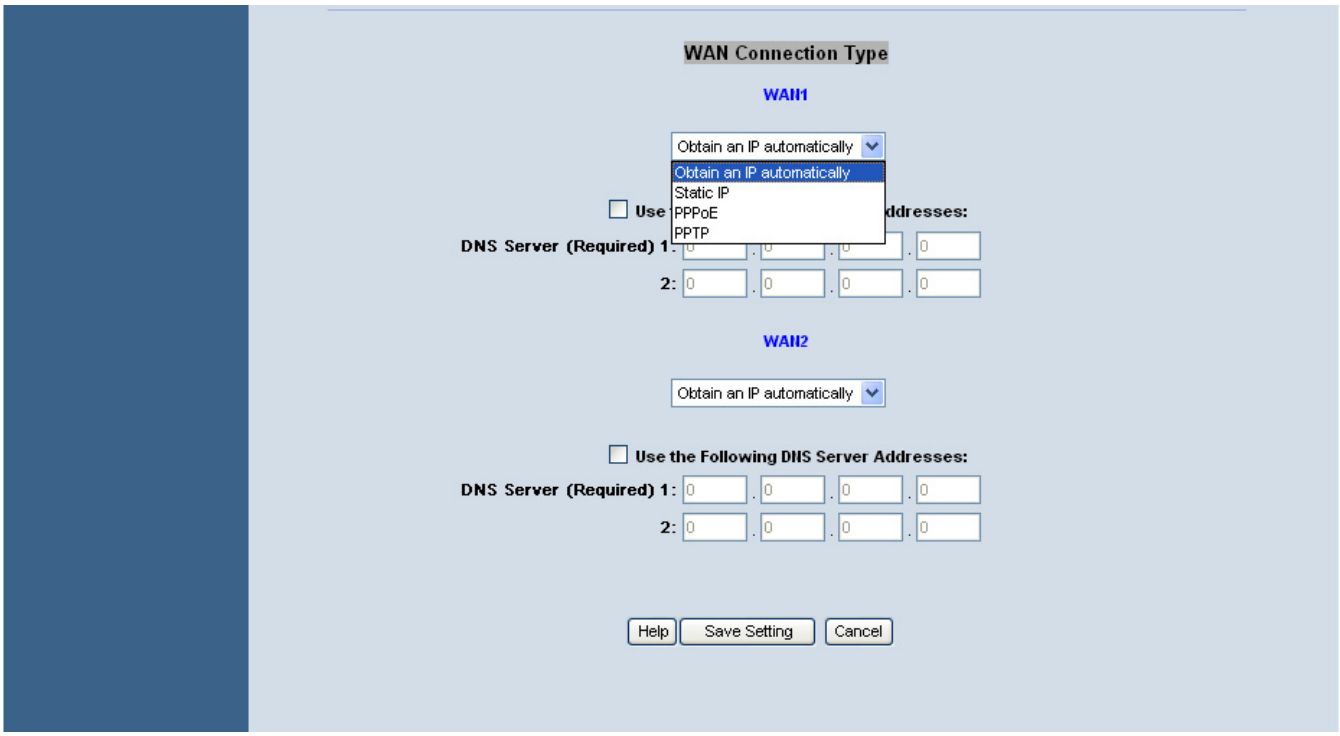
Host Name & **Domain Name**: Enter a host and domain name for the Router. Some ISPs (Internet Service Providers) may require these names as identification and these settings can be obtained from your ISP. In most cases, leaving these fields blank will work.

LAN Setting

This is the Router's LAN IP Address and Subnet Mask. The default value is 192.168.1.1 for IP address and 255.255.255.0 for the Subnet Mask.

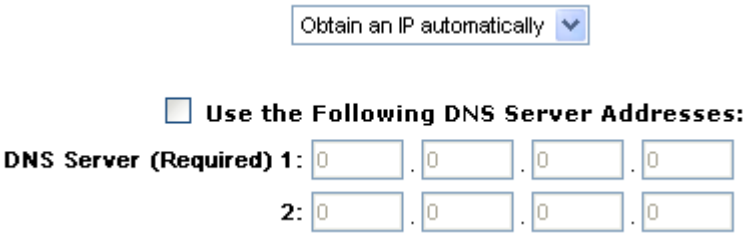


WAN Connection Type:



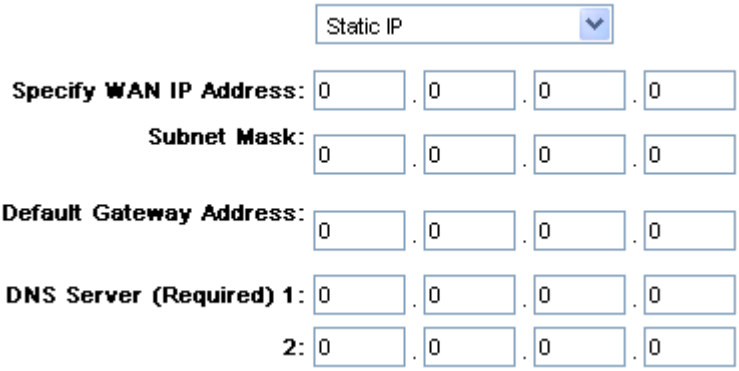
Obtain an IP automatically:

If your ISP is running a DHCP server, select **Obtain an IP automatically** option. Your ISP will assign these values automatically. Check the Following DNS Server Addresses. Multiple DNS IP Settings are common. In most cases, the first available DNS entry is used.



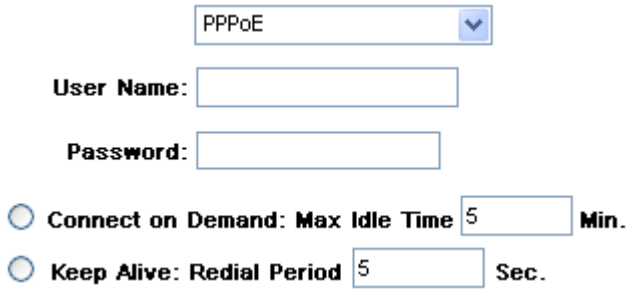
Static IP:

If you have a specify WAN IP Address, Subnet Mask, Default Gateway Address and DNS Server, select Static IP. You can get this information from your ISP.



PPPoE (Point-to-Point Protocol over Ethernet):

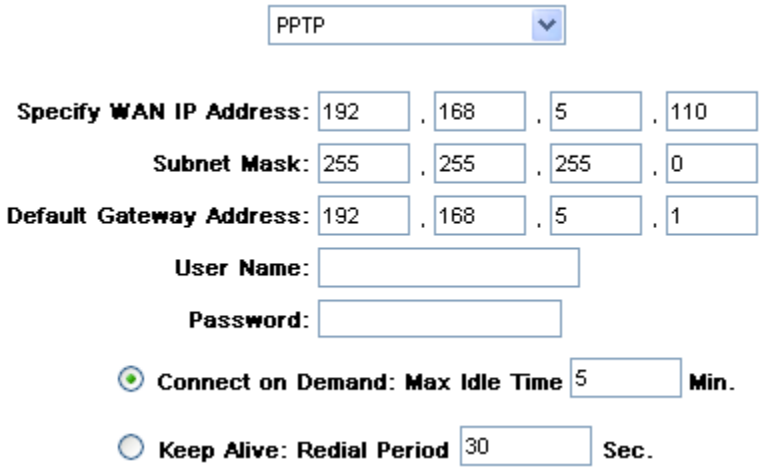
Please check with your ISP to make sure whether PPPoE should be enabled or not.



If they do use PPPoE,

1. Enter your **Username** and **Password**.
2. If you select **Connect on Demand** option, the PPPoE connection will be disconnected if it has been idle for a period longer than the **Max Idle Time** setting.
3. If you select **Keep Alive** option, the Router will keep the connection alive by sending out a few data packets at **Redial Period,** so your Internet service thinks that the connection is still alive.

PPTP (Point-to-Point Tunneling Protocol):

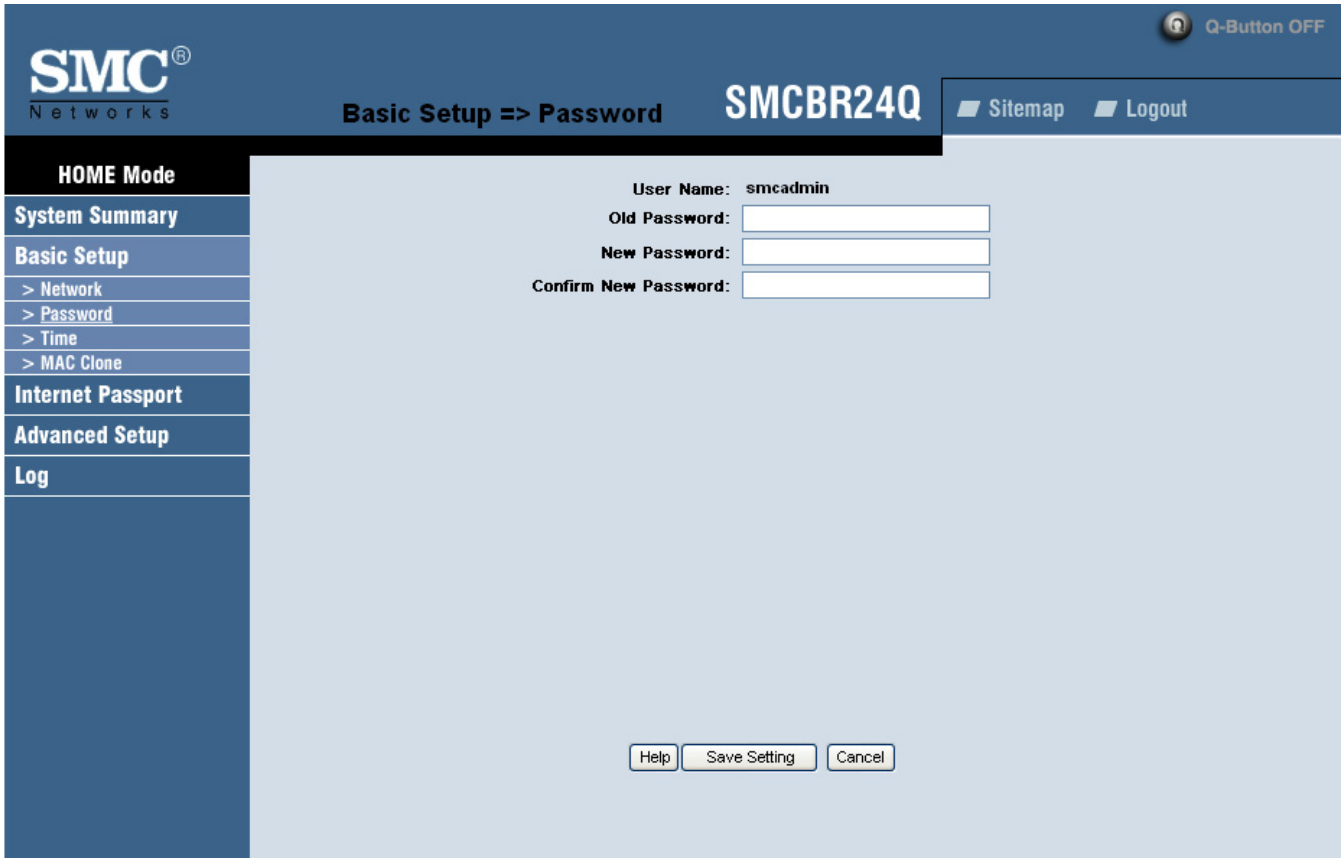


1. Enter the Specify WAN IP Address, Subnet Mask, and Default Gateway Address that is the PPTP server's IP that resides in the Modem.
2. Enter your **Username** and **Password**.
3. If you select **Connect on Demand** option, the connection will be disconnected if it has been idle for a period longer than the **Max. Idle Time** setting.
4. If you select **Keep Alive** option, the Router will keep the connection alive by sending out a few data packets at **Redial Period,** so your Internet service thinks that the connection is still alive.

For more information, click the **Help** button. Click the **Save Settings** button to save the Basic Setup settings or click the **Cancel** button to undo the changes.

Password

The SMCBR24Q's default password is 'smcadmin', and it is strongly recommended that you change the Router's password. If you leave the password blank, all users on your network will be able to access the Router simply by entering the unit's IP address into their web browser's location window.



Old Password:

Enter the old password. The default Password is 'smcadmin' when you first power up the Router.

(**Note**: The password cannot be recovered if it is lost or forgotten. If the password is lost or forgotten, you will need to reset the Router to its factory default state.)

New Password:

Enter a new password for the Router. Your password must be less than 64 characters long and it can not contain any spaces.

Confirm New Password:

Re-enter the password for confirmation.

For more information, click the **Help** button. Click the **Save Settings** button to save the Password settings or click the **Cancel** button to undo the changes.

Time

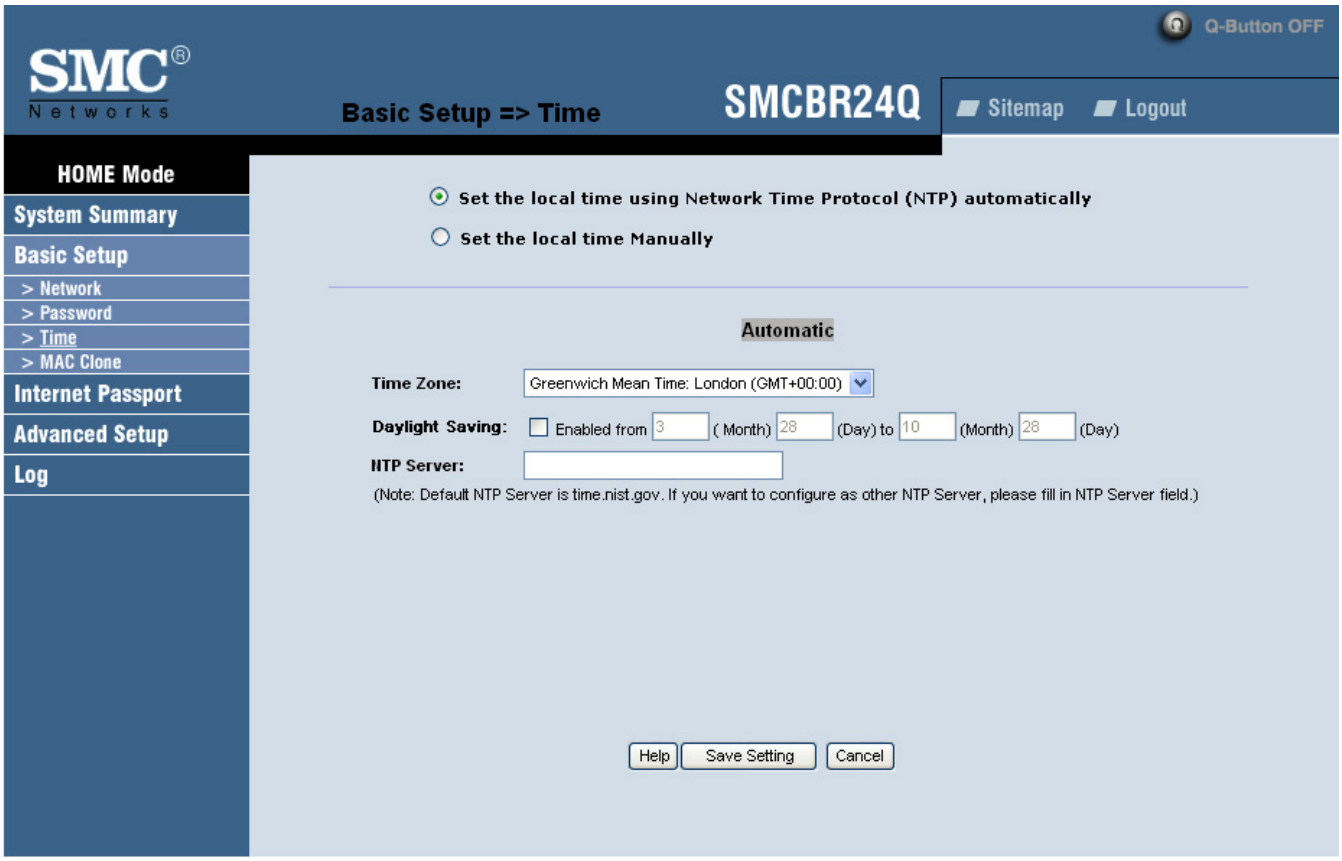
SMCBR24Q uses the time settings to time stamp log events, to automatically update the Content Filter List, On-Line Scheduler, and for other internal purposes.

Set the local time using Network Time Protocol (NTP) automatically or manually.

Automatically:

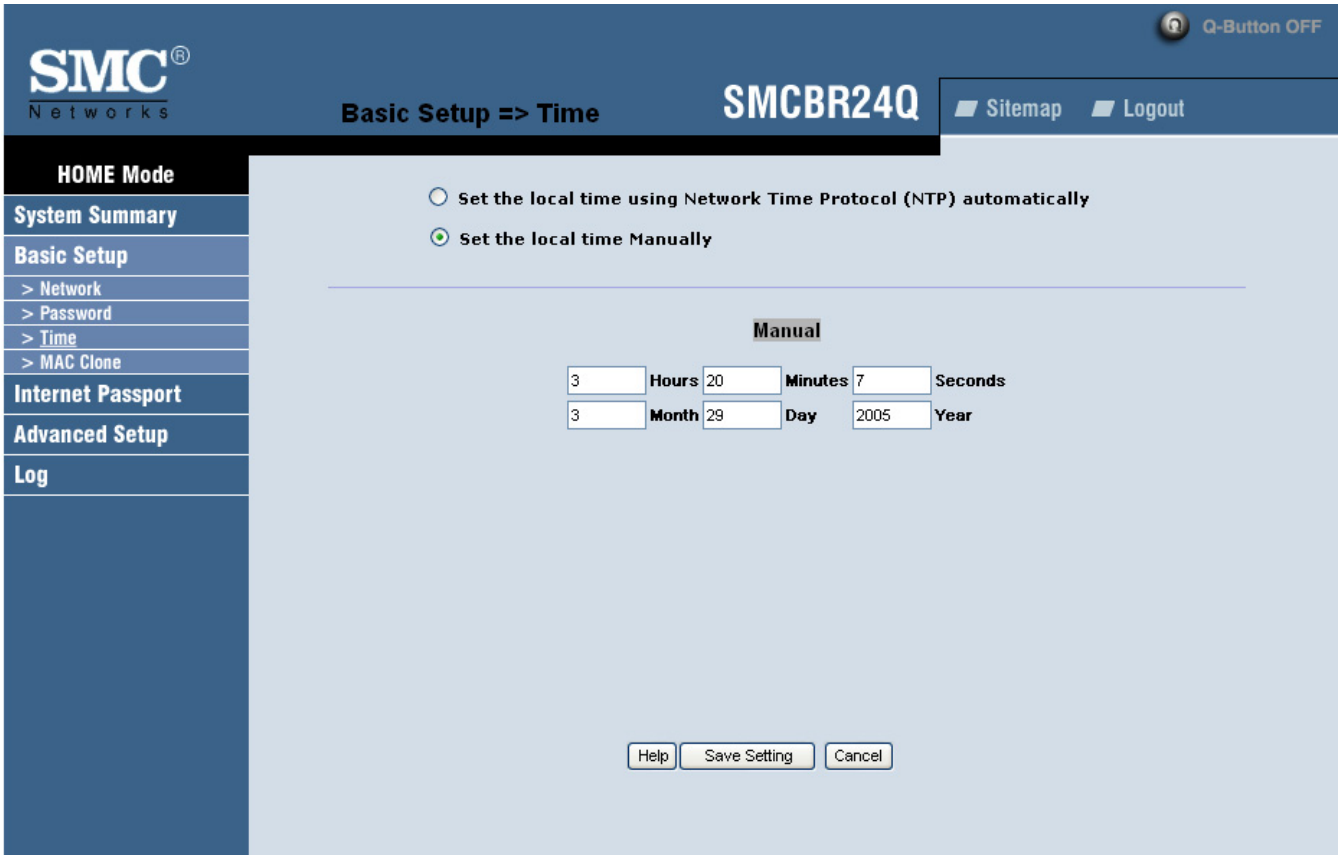
Select the Time Zone and enter the Daylight Saving and NTP Server.

(Note: Default NTP Server is time.nist.gov. If you want to configure as other NTP Server, please fill in NTP Server field.)



Manual:

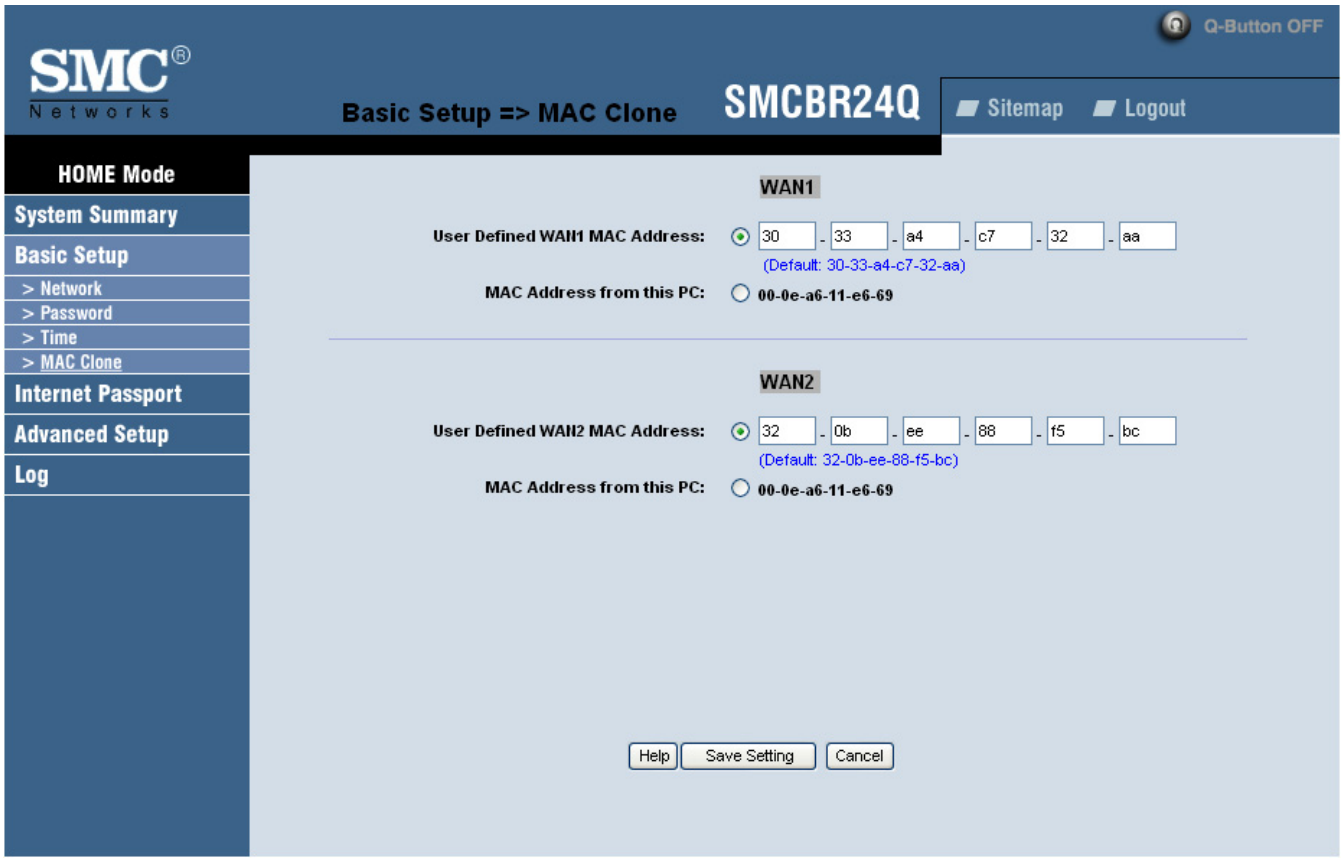
Enter the Hours, Minutes, Seconds, Month, Day and Year.



For more information, click the **Help** button. Click the **Save Settings** button to save the Time settings or click the **Cancel** button to undo the changes.

MAC Clone

Some ISPs require you to register a MAC address. This "clones" your network adapter's MAC address onto the Cable/DSL Firewall Router, and prevents you from having to call your ISP to change the registered MAC address to the Cable/DSL Firewall Router's MAC address. The Cable/DSL Firewall Router's MAC address is a 12-digit code assigned to a unique piece of hardware for identification, like a social security number.

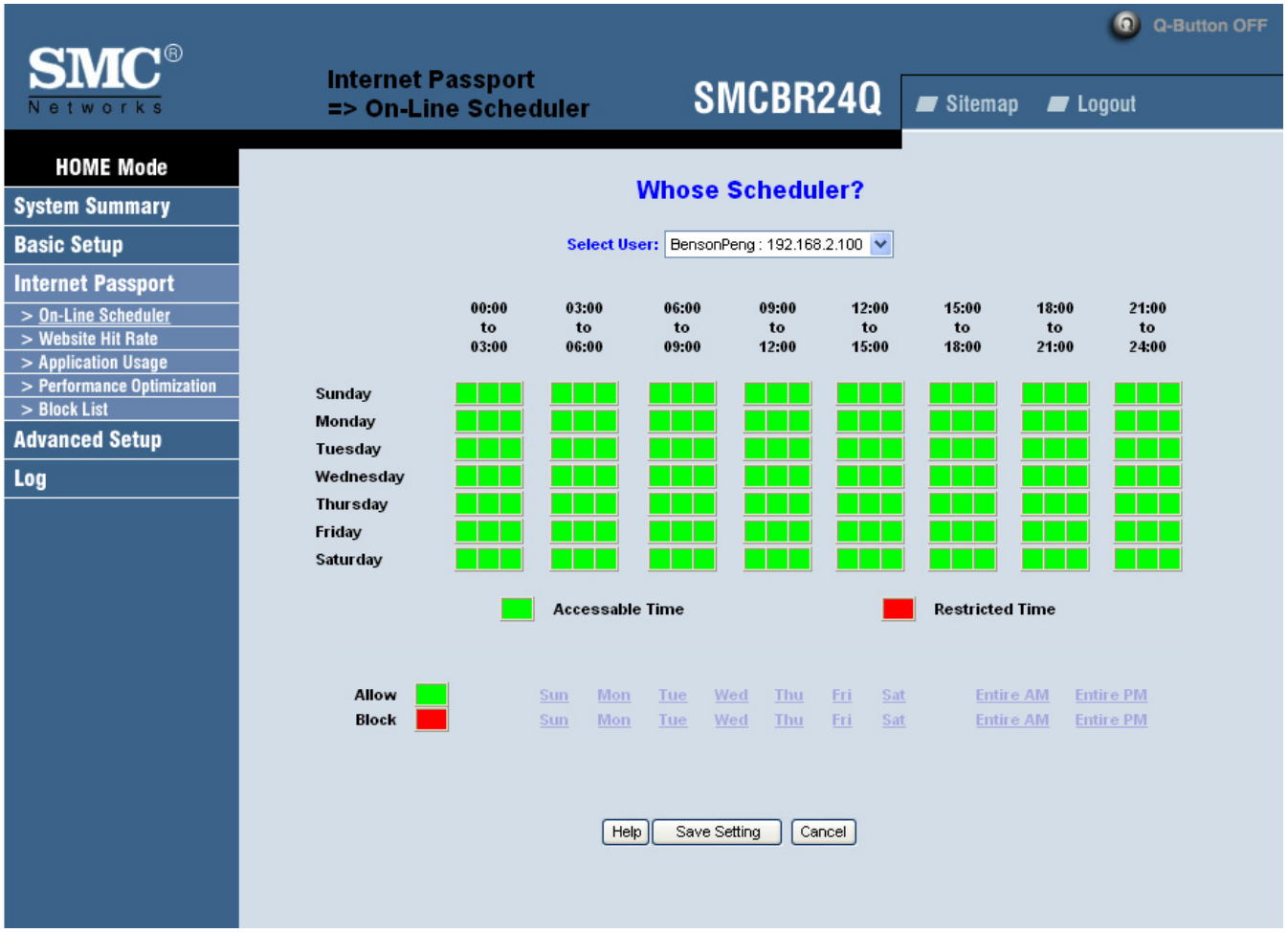


Input the MAC Address to **User Defined WAN MAC Address** field or select **MAC Address from this PC**.

For more information, click the **Help** button. Click the **Save Settings** button to save the MAC Clone settings or click the **Cancel** button to undo the changes.

Remote Internet Passport

On-Line Scheduler



The SMCBR24Q allows or denies Internet access for the selected users in units of hour, day, entire AM, or entire PM.

Select Users: Select the users from the drop-down menu.

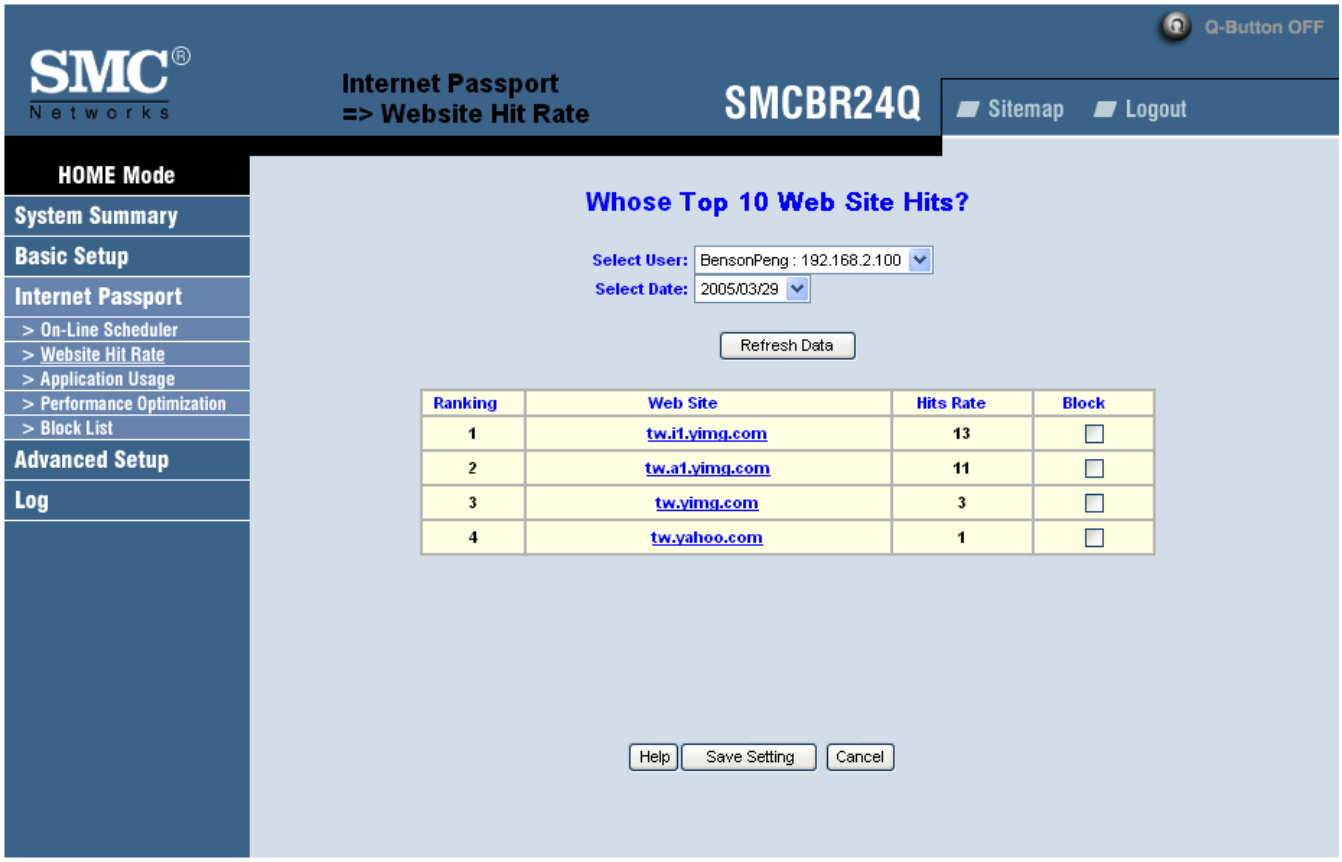
On-Line Scheduler screen: Click on any hour to allow or deny Internet access. Green indicates allowed Internet access, and Red indicates blocked Internet access.

Allow: To allow Internet access for an entire day, AM, or PM, click the day of the week, Entire AM, or Entire PM in the *Allow* row.

Block: To block Internet access for an entire day, AM, or PM, click the day of the week, Entire AM, or Entire PM in the *Block* row.

For more information, click the **Help** button. Click the **Save Settings** button to save the On-line Scheduler settings or click the **Cancel** button to undo the changes.

Web Site Hit Rate



The **Website Hit Rate** tab shows the top 10 websites by frequency the selected user has visited today, last six days, and their related information, **Ranking**, **Web Site**, and **Hit Rates.** This also allows you to block the selected website.

Select Users: Select the users from the drop-down menu.

Select Date: Select the date from the drop-down menu.

Refresh Data: Click the **Refresh Data** button to update the data.

Ranking: The rankings of the top 10 websites are in a descending order.

Web Site: Click the website address and Internet Explorer will open at that address to find out the site contents.

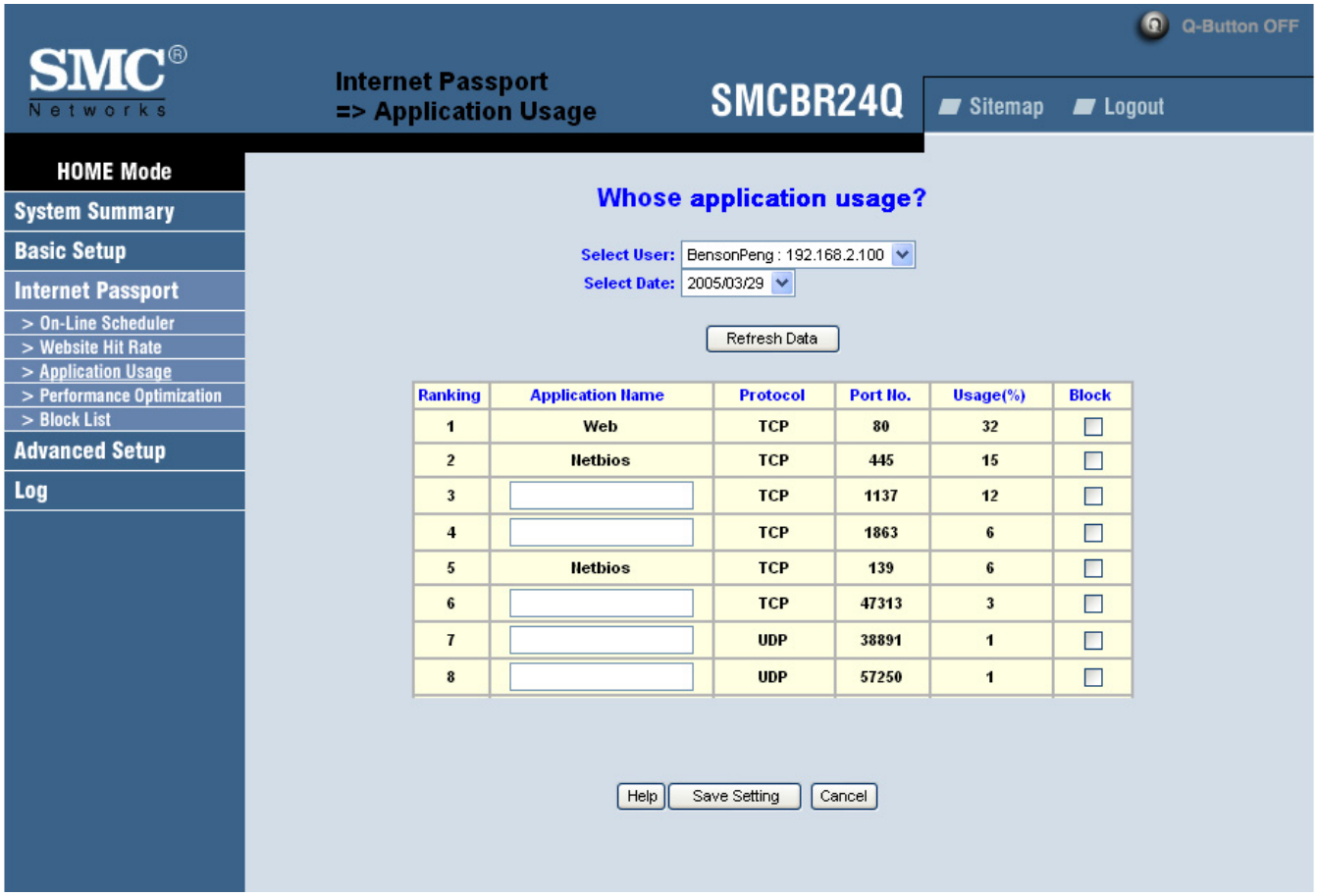
Hit Rates: This shows how many times the web has been visited.

Block: Check the box to block the site by clicking once. Click again to unblock the site. The default is "unblock".

After saving the settings, the blocked website will be listed in the Website Block list.

For more information, click the **Help** button. Click the **Save Settings** button to save the Website Hit Rate settings or click the **Cancel** button to undo the changes.

Application Usage



This **Application Usage** tab shows the current usages of applications. The max number of applications is 20. You will be able to determine which application is consuming most bandwidth currently.

Select Users: Select the users from the drop-down menu,

Refresh Data: Click the **Refresh Data** button to update the data.

Ranking: The rankings of the applications by bandwidth consumption are in a descending order.

Application names: The field shows the application name. The field of any undefined application name is blank. You can enter the desired name in the blank field.

Protocol: This indicates the protocol used by the application.

Port No.: This indicates the port number used by the application.

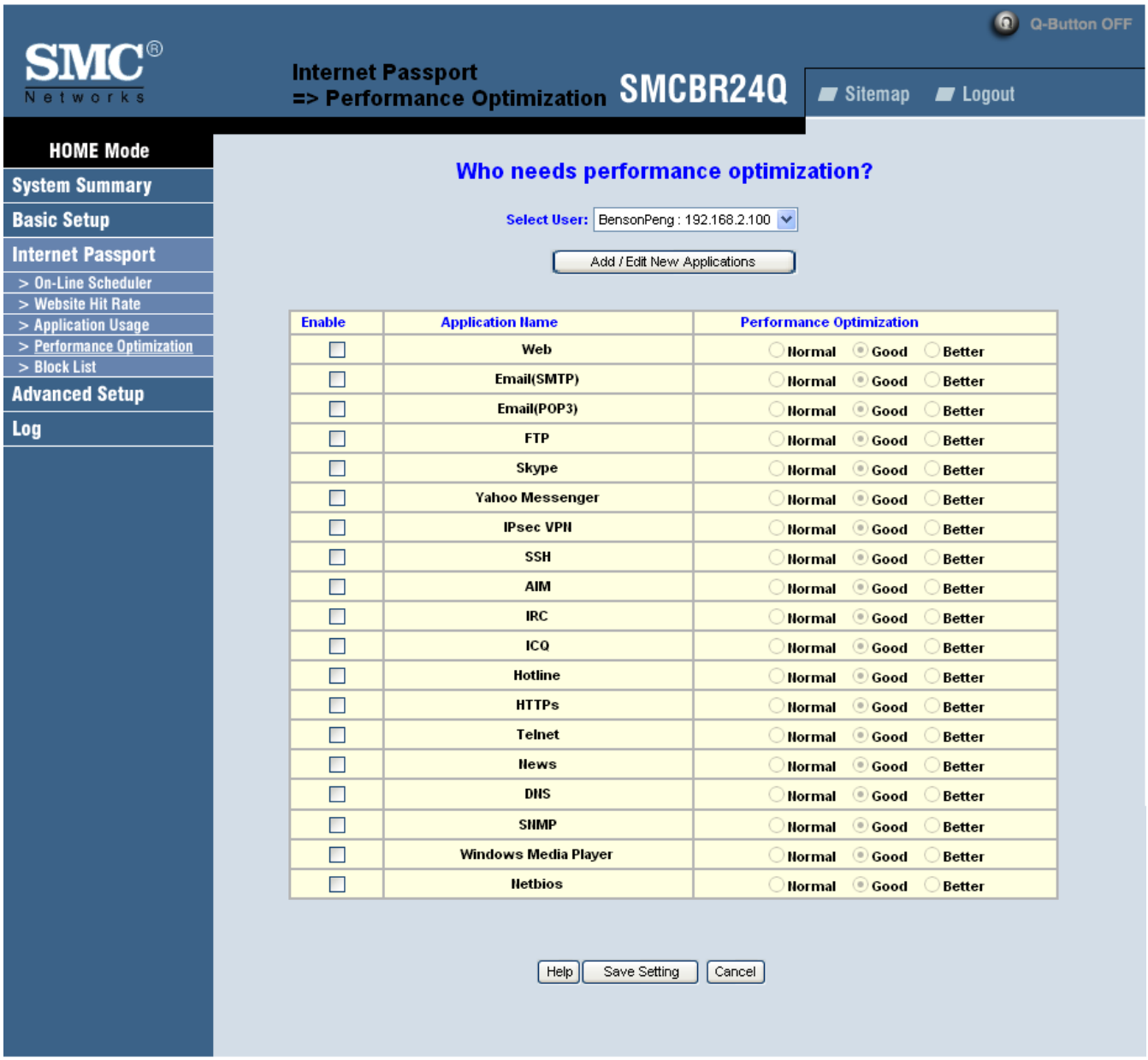
Usage (%): This shows the value of the current usages of the top 20 applications by percentage of the selected user's usable bandwidth.

Block: Check the box to block the application by clicking once. Click again to unblock the site. The default is "unblock".

After saving the settings, the blocked website will be listed in the Application Block list.

For more information, click the **Help** button. Click the **Save Settings** button to save the Application Usage settings or click the **Cancel** button to undo the changes.

Performance Optimization



The screen displays the 19 default suggested applications where you can optimize their performance and view their **Application Names** and **Performance Optimization**. You can also add or edit new applications whose performance you wish to optimize. Before enabling the bandwidth suggestion, please make sure you have allocated the min. bandwidth rate for this family member.

Select Users. Select the users from the drop-down menu,

Enable: To enable **Performance Optimization** check the box by clicking once and pushing the **Q-button** on (located on the top of the front panel of the router). Click again or push the **Q-button** off to undo your setting. The default is "disable".

Application Names: The field shows the application names.

Performance Optimization: After enabled, select Normal, Good, or Better performance level by clicking the radio button. The default is "Good"

Note: *Any configurations here except the default will make the Q-button a hot key. For more details, please refer to* ***Q-button–Home Mode****.*

For more information, click the **Help** button. Click the **Save Settings** button to save the Performance Optimization settings or click the **Cancel** button to undo the changes.

To create a new application:

Click the **Add/Edit New Applications** button. Then the *Application Management* screen will appear.

To add an application, enter the name of the application in the **Application Name** field. Select protocol from the *Protocol* drop-down menu, enter range in the **Port Range** fields and fill out a value in kbps in the **Recommended bandwidth to a good degree** field. Then click the **Add to list** button.

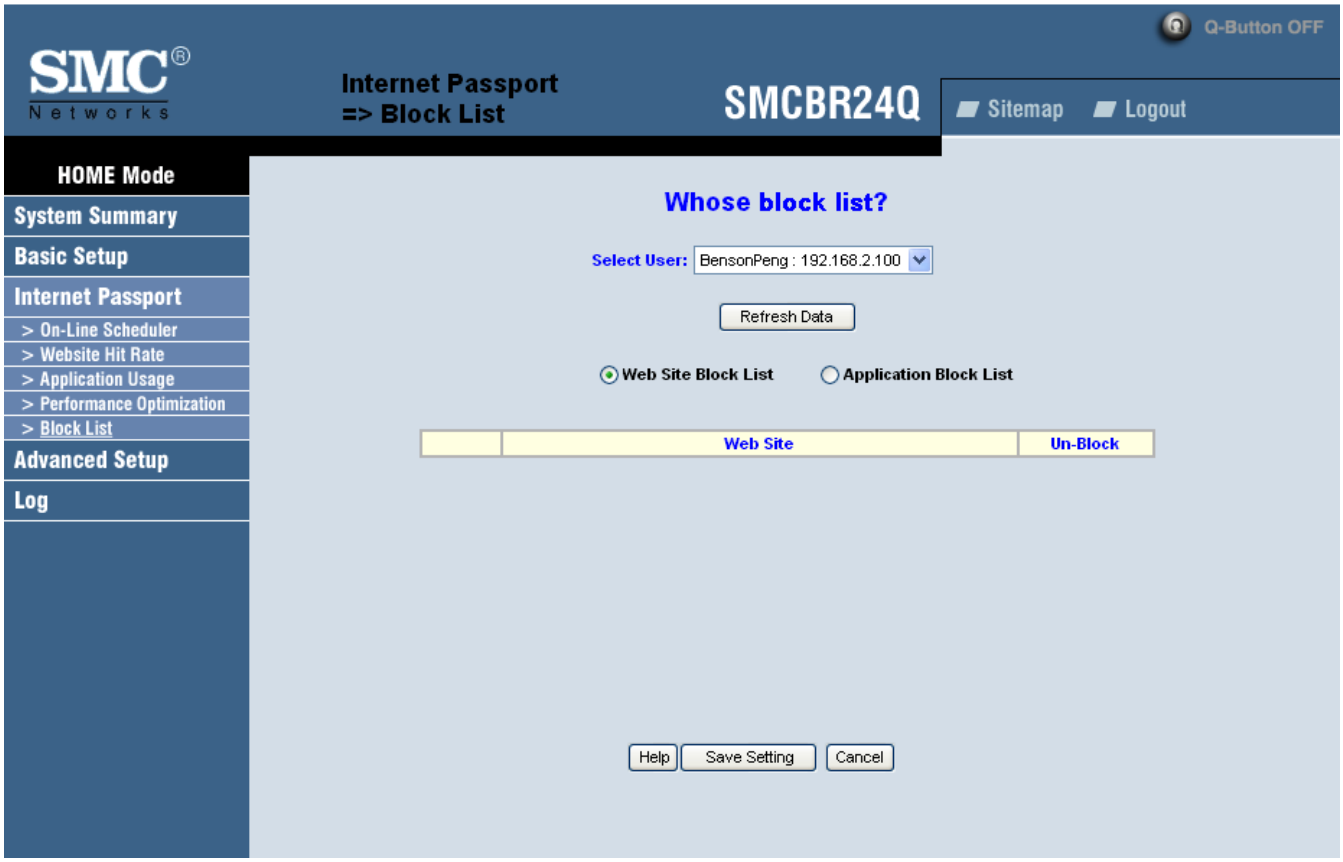
To modify an application, select the application from the list on the right. Change its name, protocol setting, port range, or recommended bandwidth to a good degree. Then click the **Modify** button.

To delete an application, select the application from the list on the right. Then click the **Delete** button.

When you are finished making changes on the *Application Management* screen, click the **Save Setting** button to save changes.

If you want to cancel your changes, click the **Cancel Changes** button. To close the *Application Management* screen and return to the Performance Optimization screen, click the **Exit** button.

Block List



The *Block List* screen shows two lists, **Web Site Block List** and **Application Block List**.

You can view all blocked websites and applications on this screen and can also unblock these blocked websites and applications.

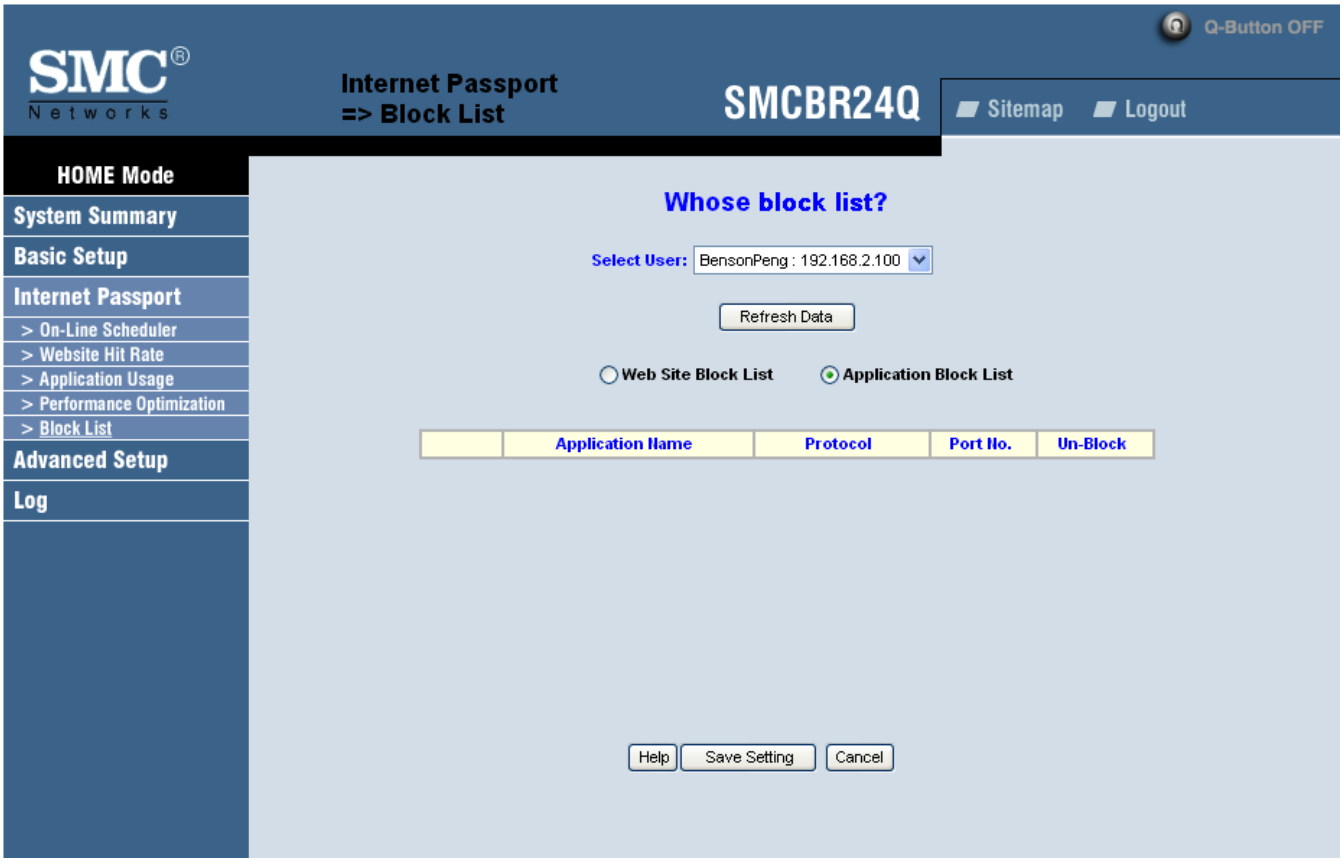
Web Site Block List

Select Users: Select the users from the drop-down menu.

Refresh Data: Click the **Refresh Data** button to update the data.

Web Site: Click the website address and Internet Explorer will open at that address to find out the site contents.

Unblock: You can cancel your settings by clicking the checked box and the website will turn to unblock.



Application Block List

Select Users: Select the users from the drop-down menu,

Refresh Data: Click the **Refresh Data** button to update the data.

Application Block List: Click the radio button to see blocked applications.

Application Names: The field shows the blocked application names.

Protocol: This indicates protocol used by the application.

Port No.: This indicates port number used by the application.

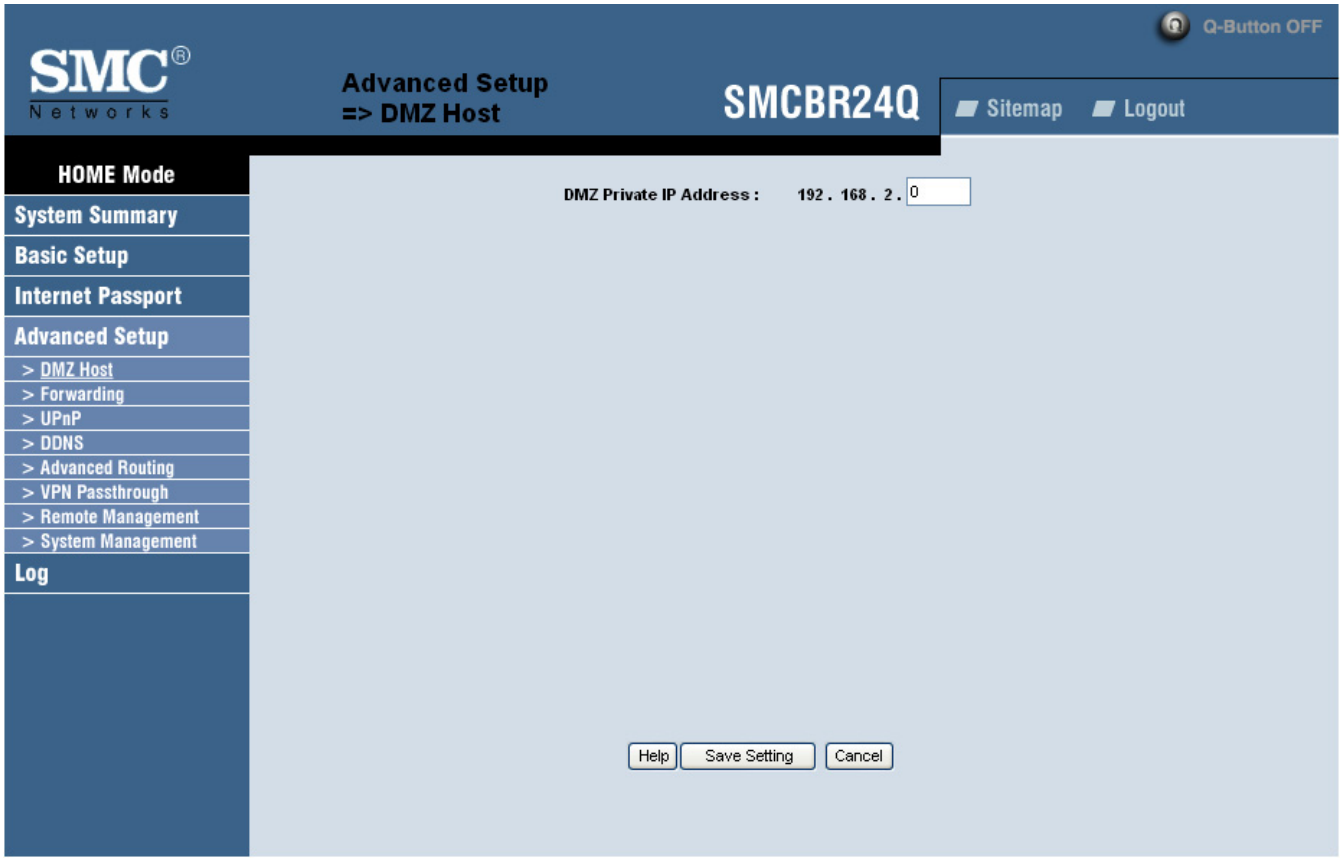
Unblock: You can cancel your settings by clicking the checked box.

For more information, click the **Help** button. Click the **Save Settings** button to save the Block List settings or click the **Cancel** button to undo the changes.

Advanced Setup

DMZ Host

The DMZ (Demilitarized Zone) Host feature allows one local user to be exposed to the Internet for a special-purpose service such as Internet gaming and video-conferencing.



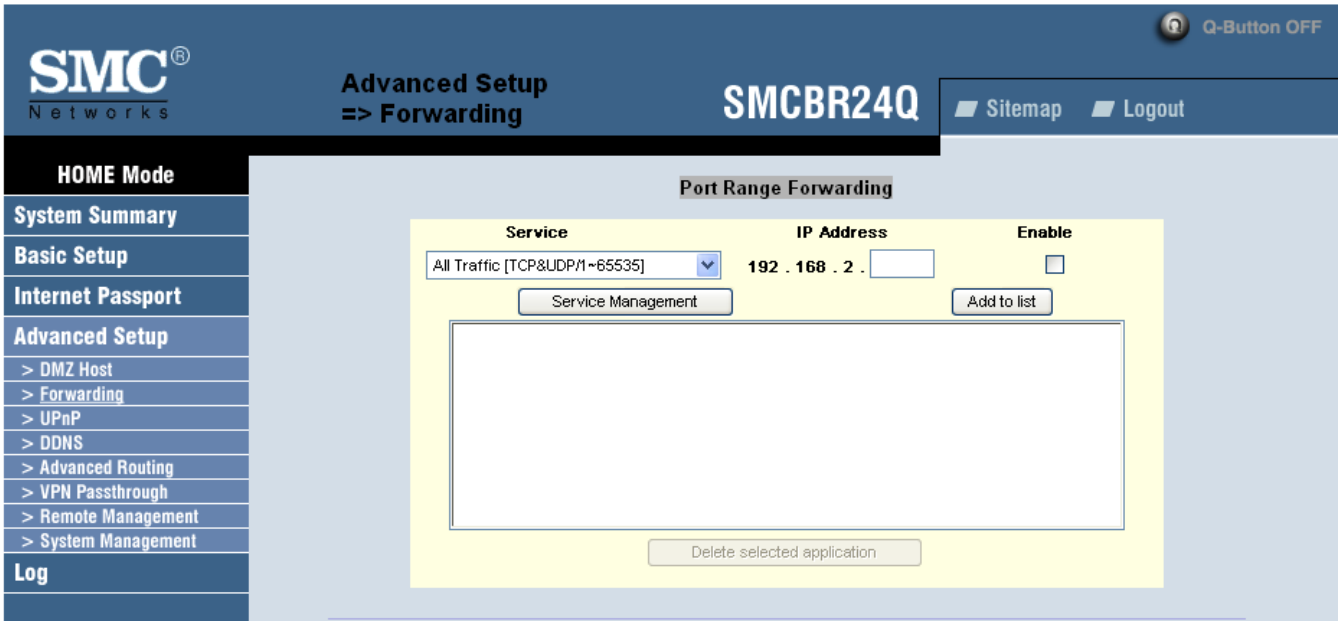
Enter the DMZ Private IP Address to access DMZ Host settings.

For more information, click the **Help** button. Click the **Save Settings** button to save the DMZ Host settings or click the **Cancel** button to undo the changes.

Forwarding

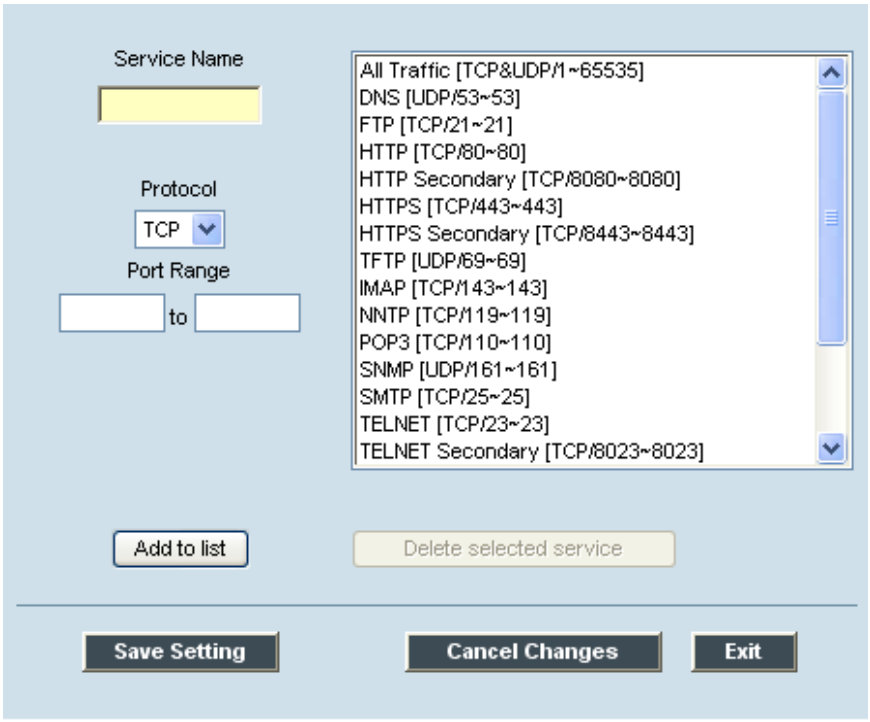
Port forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. For example, if you set the port number **80 (HTTP)** to be forwarded to IP Address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2.

You may use this function to establish a Web server or FTP server via an IP Gateway. Be sure that you enter a valid IP Address. (You may need to establish a static IP address in order to properly run an Internet server.) For added security, Internet users will be able to communicate with the server, but they are not actually connected. The packets are simply forwarded through the Router.



Port Range Forwarding:

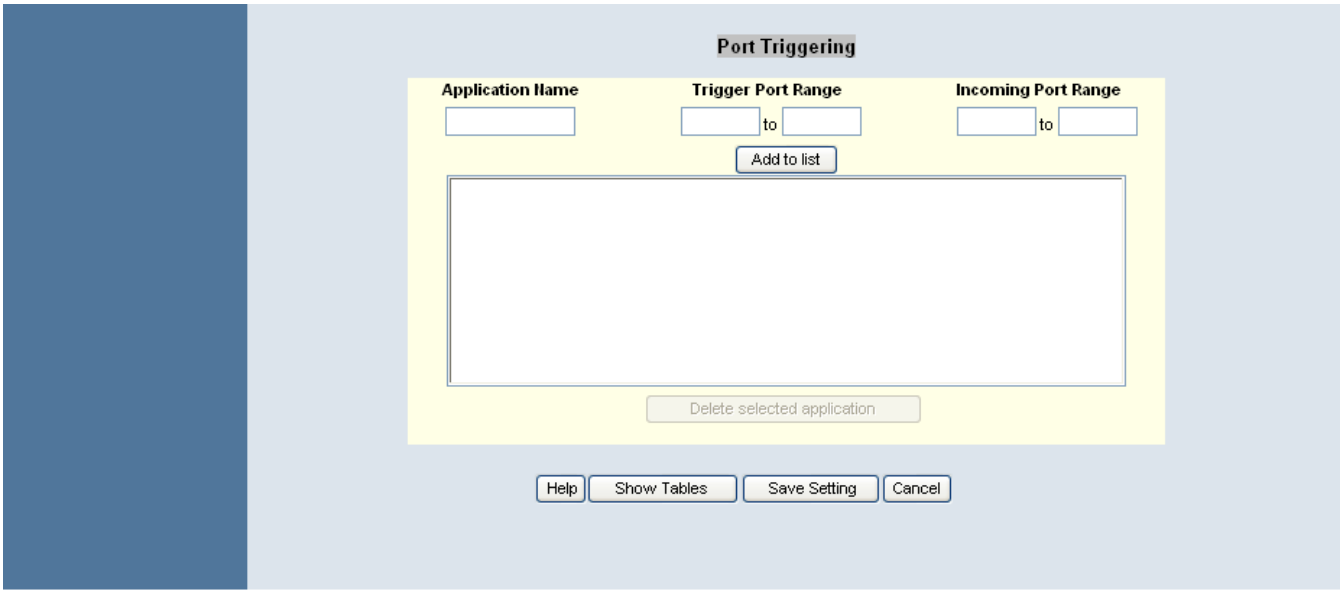
1. Select the Service from the pull-down menu.
2. If the Service you need is not listed in menu, please click the Service Management button to add new Service and enter the Protocol and Port Range. Then click the Save Setting button.



3. Enter the IP Address of the server that you want the Internet users to access. Then enable the entry.

4. Click the **Add to List button**, and configure as many entries as you would like. You also can delete selected application.

Port Triggering



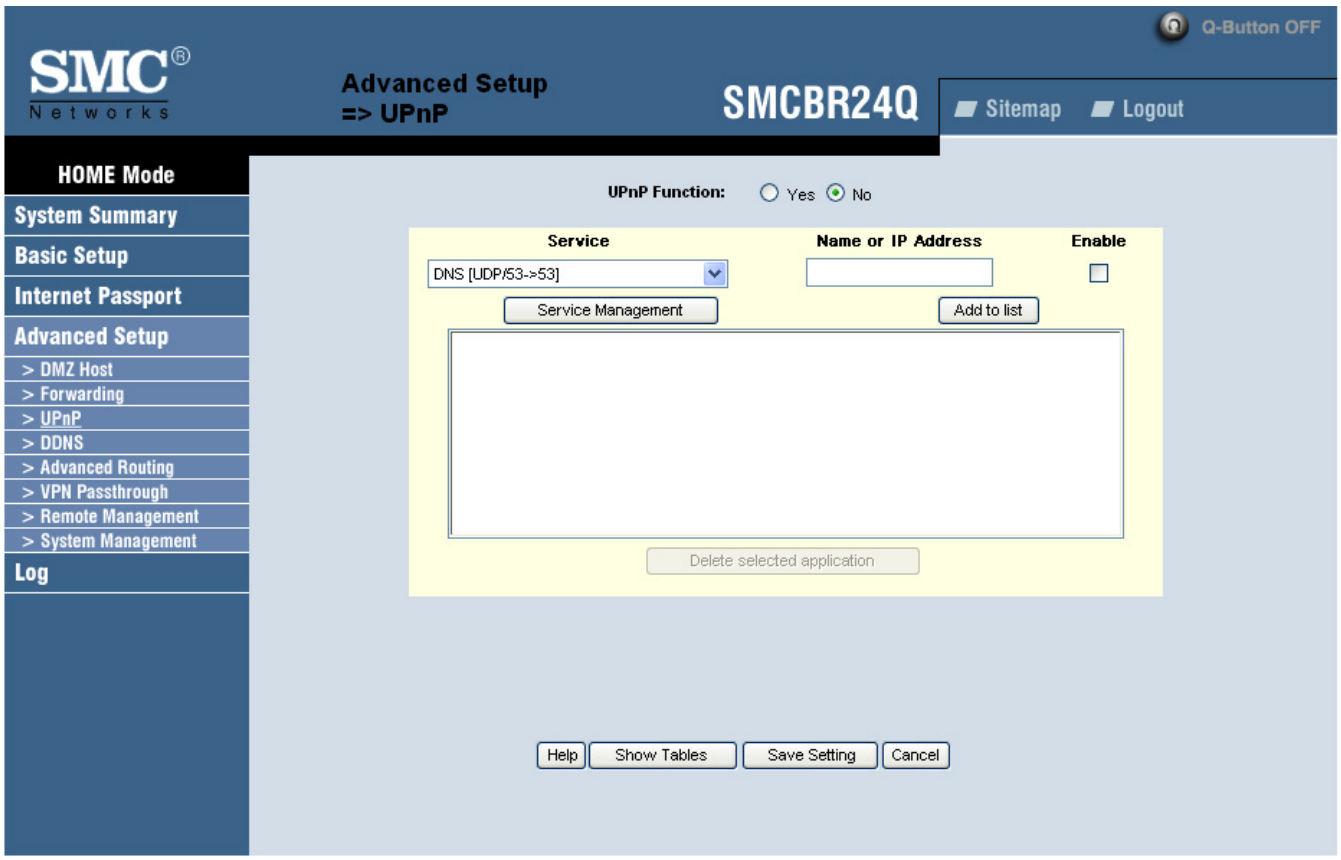
Some Internet applications or games use alternate ports to communicate between server and LAN host. When you want to use those applications, enter the triggering (outgoing) port and alternate incoming port in

this table. The Router will forward the incoming packets to the LAN host.

1. Enter the range of port numbers, application name, and incoming port range.
2. You can click the **Add to List** button to add Port Triggering or **Delete selected application**.

For more information, click the **Help** button. Click the **Save Settings** button to save the Forwarding settings or click the **Cancel** button to undo the changes. Click the **Show Tables** to see the details.

UPnP



UPnP forwarding can be used to set up public services on your network. Windows XP can modify those entries via UPnP when UPnP function is enabled by selecting **Yes.**

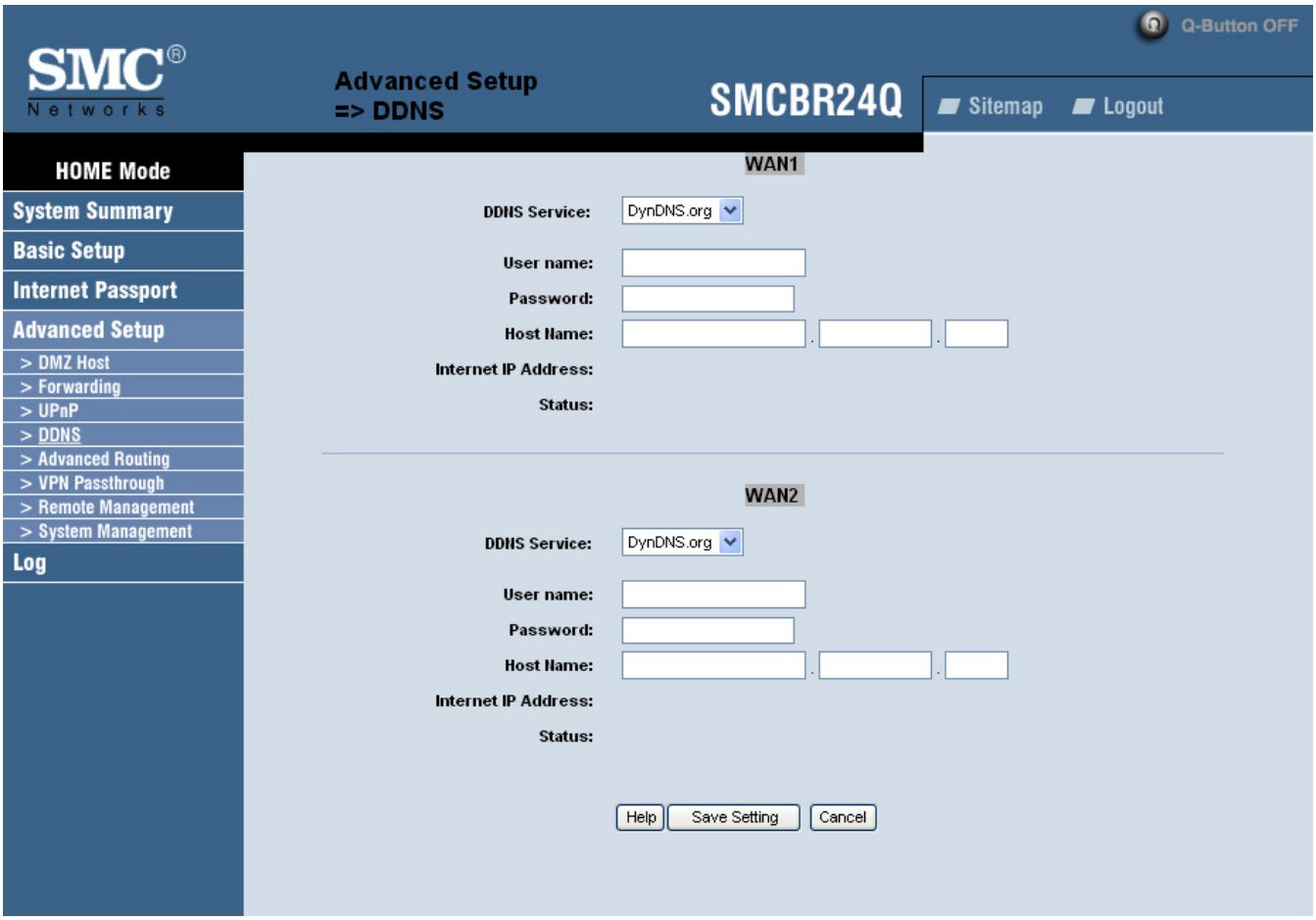
1. Users need to click the **Service Management** to enter the Service Name, Protocol, External Port, Internal Port, and then click **Add to list** and then **Save Settings**.
2. Enter the **Host Name or IP Address** of the server that you want the Internet users to access, and then enable the entry by checking the **Enable** box.
3. Click the **Add to List** button, and configure as many entries as you would like to. The max. entry is 30. You can also delete the entry by clicking the **Delete selected application** button.
4. Users can also change the IP address and Disable the entry. Click the selected entry, change IP or

disable the entry by clicking the checked **Enable** box to be blank. Finally, click the **Update this Application** button.

For more information, click the **Help** button. Click the **Save Settings** button to save the UPnP settings or click the **Cancel** button to undo the changes. Click the **Show Tables** to see the details. Click the **Show Tables** to see the details.

DDNS

DDNS(Dynamic DNS) service allows you to assign a fixed domain name to a dynamic WAN IP address. This allows you to host your own Web, FTP or other type of TCP/IP server in your LAN.
Before configuring DDNS, you need to visit www.dyndns.org and register a domain name. (The DDNS service is provided by DynDNS.org).



DDNS Service The DDNS feature is disabled by default. To enable this feature, just check the box. **Username**, **Password**, and **Host Name:** Enter the Username, Password, and Host Name of the account you set up with DynDNS.org.

Your IP Address: The Router's current Internet IP Address is displayed here. Because it is dynamic, this will change.

For more information, click the **Help** button. Click the **Save Settings** button to save the DDNS settings or click the **Cancel** button to undo the changes.

Advanced Routing

The Router's dynamic routing feature can be used to automatically adjust to physical changes in the network layout. The Router uses the dynamic RIP protocol. It determines the route that the network packets take based on the fewest number of hops between the source and the destination. The RIP protocol regularly broadcasts routing information to other routers on the network.

Working Mode: Select **Gateway** mode if your Router is hosting your network's connection to the Internet. Select **Router** mode if the Router exists on a network with other routers, including a separate network gateway that handles the Internet connection.

Dynamic Routing:

Choose the TX: protocol you want for transmitting data on the network. (RIP1 / RIP2)

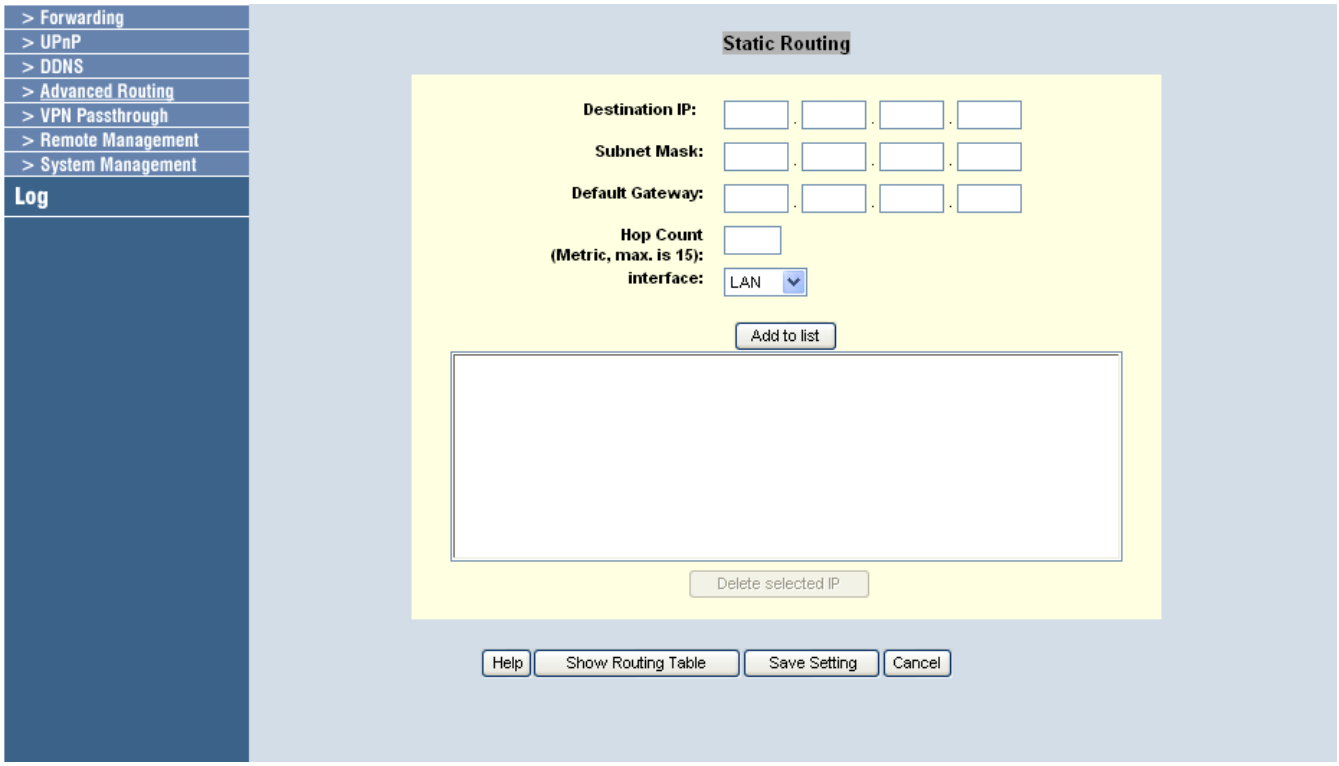
Choose the RX: protocol you want for receiving data from the network. (RIP1 / RIP2)

Static Routing:

You will need to configure Static Routing if there are multiple routers installed on your network. The static routing function determines the path that data follows over your network before and after it passes through the Router. You can use static routing to allow different IP domain users to access the Internet through this device. **This is an advanced feature. Please proceed with caution**.

This Router is also capable of dynamic routing (see the Dynamic Routing tab). In many cases, it is better to use dynamic routing because the function will allow the Router to automatically adjust to physical changes in the network layout. In order to use static routing, the Router's DHCP settings must be disabled.

To set up static routing, you should add routing entries in the Router's table that tells the device where to send all incoming packets. All of your network routers should direct the default route entry to the SMC Router.



Enter the following data to create a static route entry.

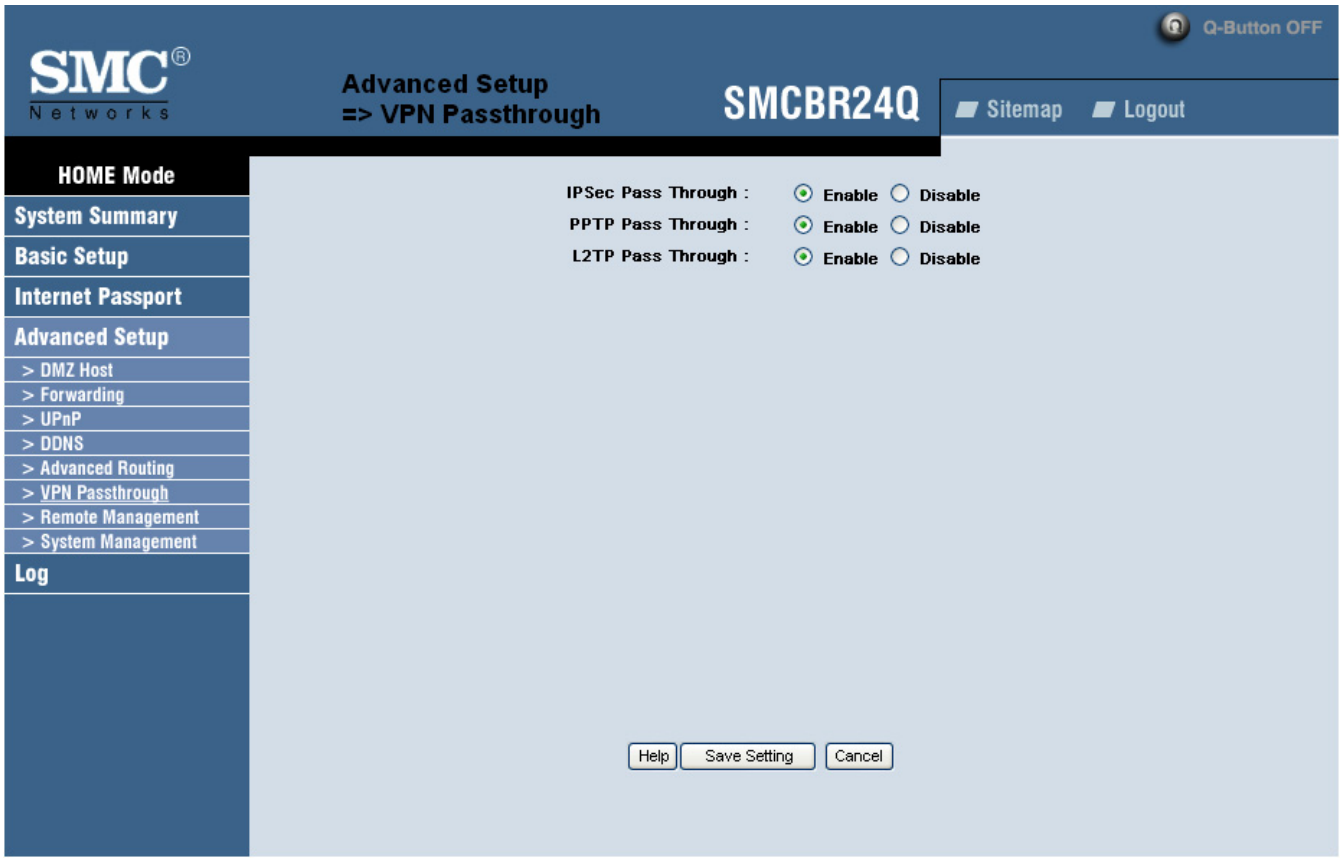
1. **Destination IP**: Enter the network address of the remote LAN segment. For a standard Class C IP domain, the network address is the first three fields of the Destination LAN IP, while the last field

should be zero.

2. **Subnet Mask**: Enter the Subnet Mask used on the destination LAN IP domain. For Class C IP domain, the Subnet Mask is 255.255.255.0.
3. **Default Gateway IP**: If this Router is used to connect your network to the Internet, then your Gateway IP is the Router's IP Address. If you have another router handling your network's Internet connection, enter the IP Address of that router instead.
4. Enter hop count (max. 15)
5. **Interface**: Select LAN, WAN1 or WAN2.

For more information, click the **Help** button. Click the **Save Settings** button to save the Advanced Routing settings or click the **Cancel** button to undo the changes. Click the **Show Routing Tables** to see the current routing table.

VPN Pass Through



IPSec Pass Through

Internet Protocol Security (IPSec) is a suite of protocols used to implement secure exchange of packets at the IP layer. To allow IPSec tunnels to pass through the Router, IPSec Pass Through is enabled by default.

PPTP Pass Through

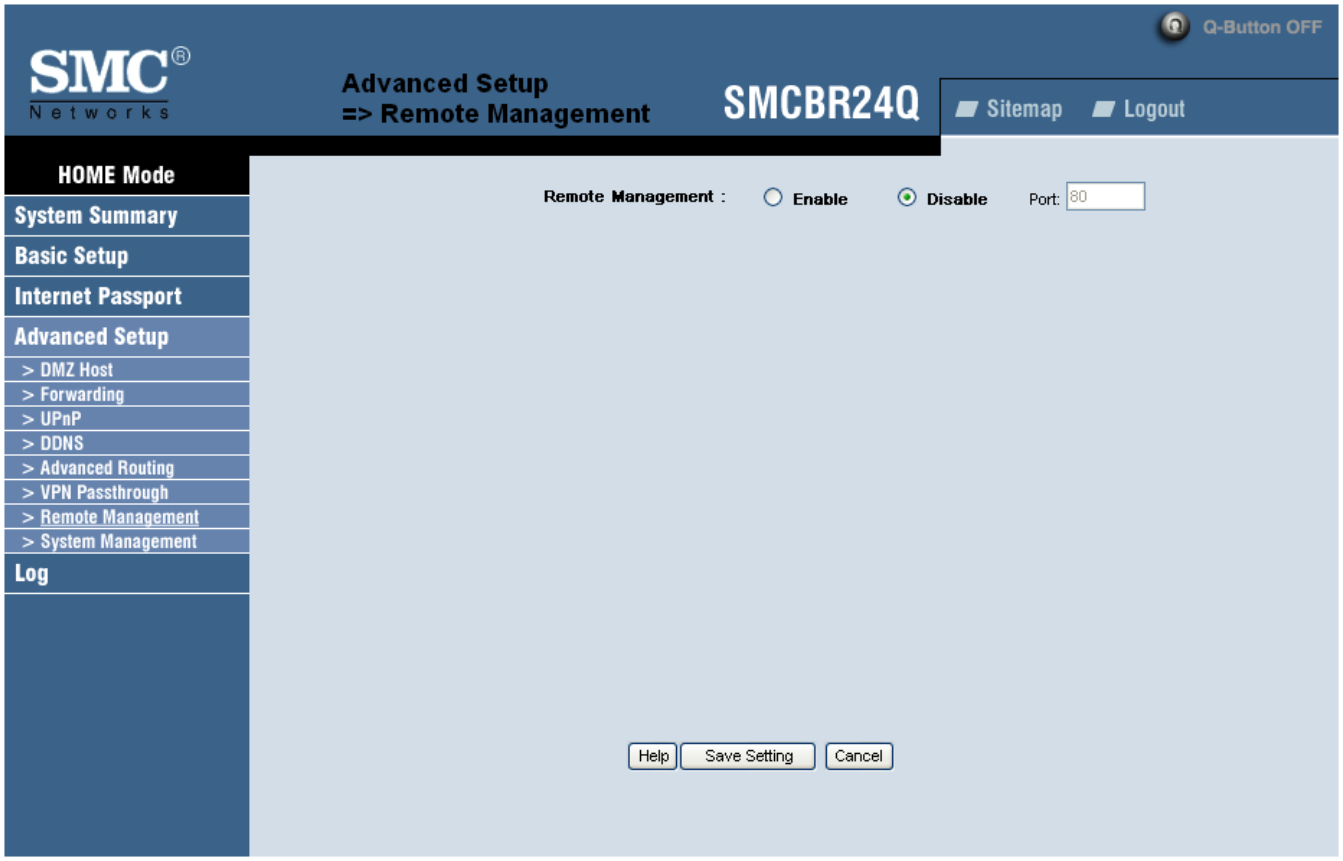
Point to Point Tunneling Protocol (PPTP) Pass Through is the method used to enable VPN sessions. PPTP Pass Through is enabled by default.

L2TP Pass Through

Layer 2 Tunneling Protocol (L2TP) Pass Through is the method used to enable VPN sessions. PPTP Pass Through is enabled by default.

For more information, click the **Help** button. Click the **Save Settings** button to save the VPN Passthrough settings or click the **Cancel** button to undo the changes.

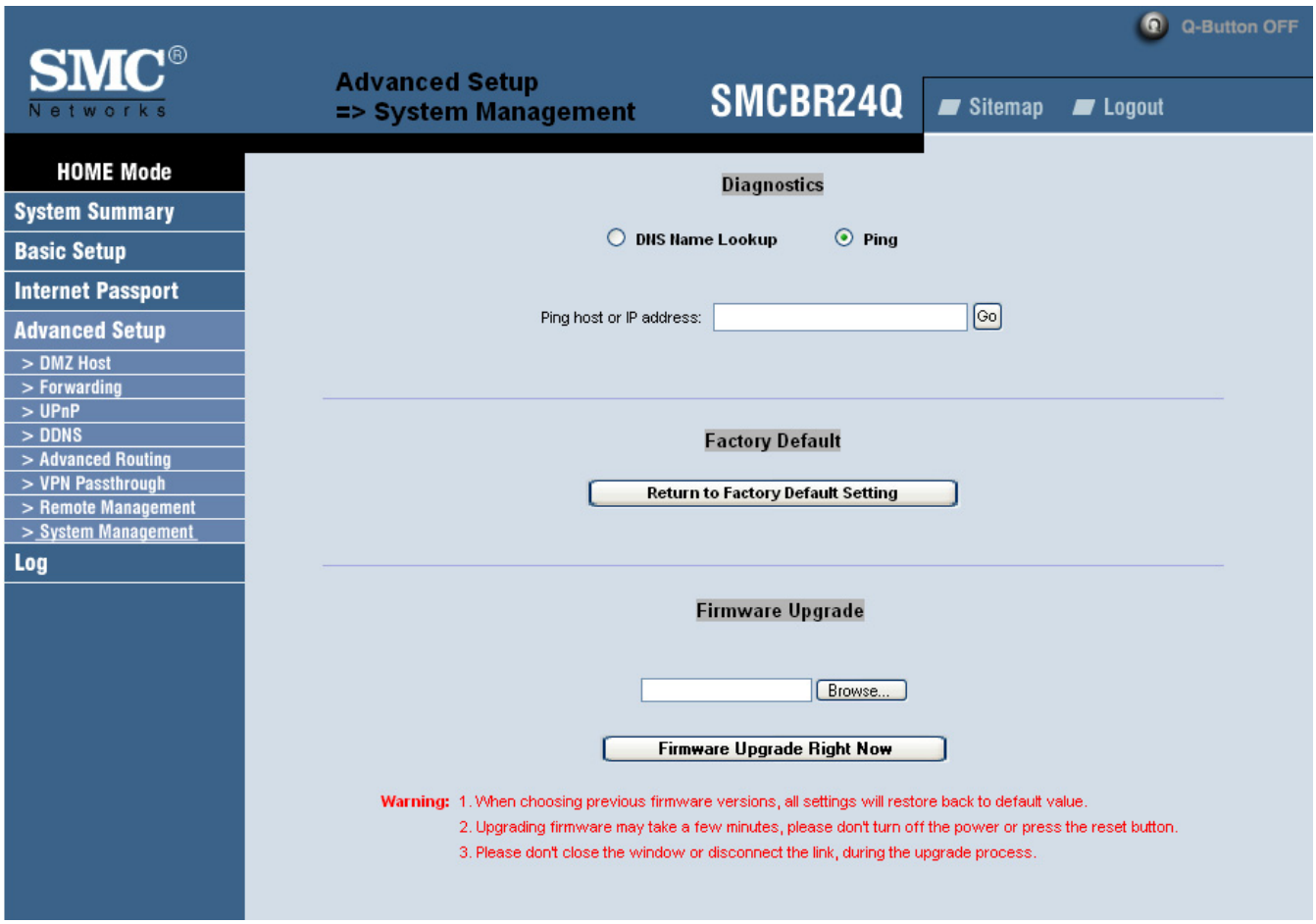
Remote Management



The SMCBR24Q supports remote management. If you want to manage this Router through the WAN connection, you have to 'Enable' this option. User can enter the port number for remote management. The default is disabled.

For more information, click the **Help** button. Click the **Save Settings** button to save the Remote Management settings or click the **Cancel** button to undo the changes.

System Management



Diagnostics

SMCBR24Q has several tools built in to help with trouble shooting network problems.

DNS Name Lookup

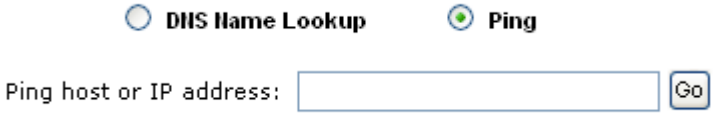
The Internet has a service called the Domain Name Service (DNS) which allows users to enter an easily remembered host name, such as www.SMCBR24Q.com, instead of numerical TCP/IP addresses to access Internet resources. SMCBR24Q has a DNS lookup tool that will return the numerical TCP/IP address of a host name.

Enter the host name to lookup in the **Look up the name** field and click the **Go** button. SMCBR24Q will then query the DNS server and display the result at the bottom of the screen.

Note: The IP address of the DNS server must be entered in the **Network Settings** tab in the **General** button for the **Name Lookup** feature to function.

Ping

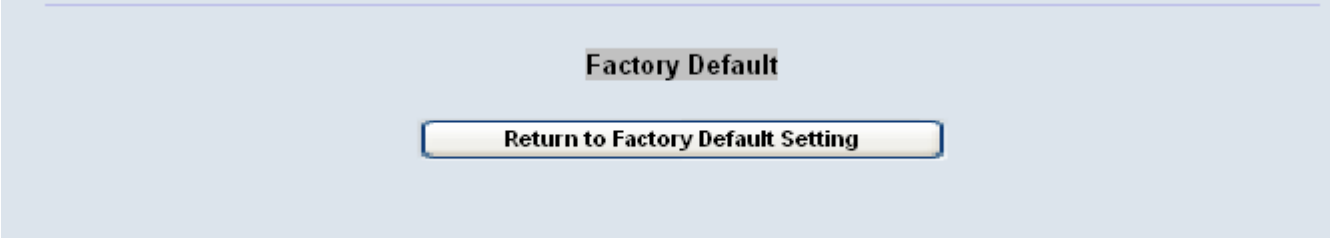
The **Ping** test bounces a packet off a machine on the Internet back to the sender. This test shows if SMCBR24Q is able to contact the remote host. If users on the LAN are having problems accessing services on the Internet, try pinging the DNS server, or other machine at the ISP's location. If this test is successful, try pinging devices outside the ISP. This will show if the problem lies with the ISP's connection.



Enter the IP address of the device being pinged and click the **Go** button. The test will take a few seconds to complete. Once completed, a message showing the results will be displayed at the bottom of the Web browser window.

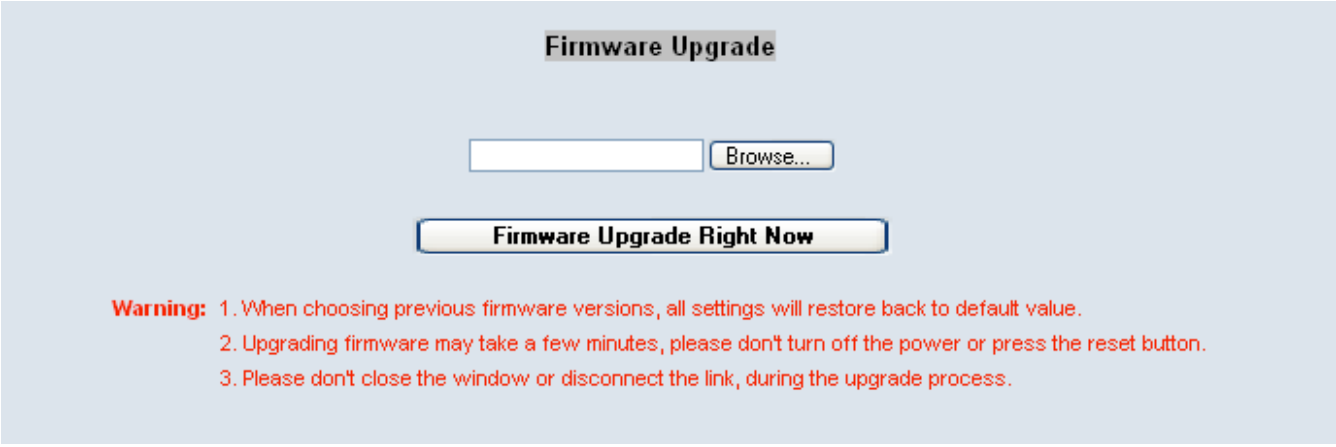
Note: **Ping** requires an IP address. SMCBR24Q's **DNS Name Lookup** tool may be used to find the IP address of a host.

Factory Default

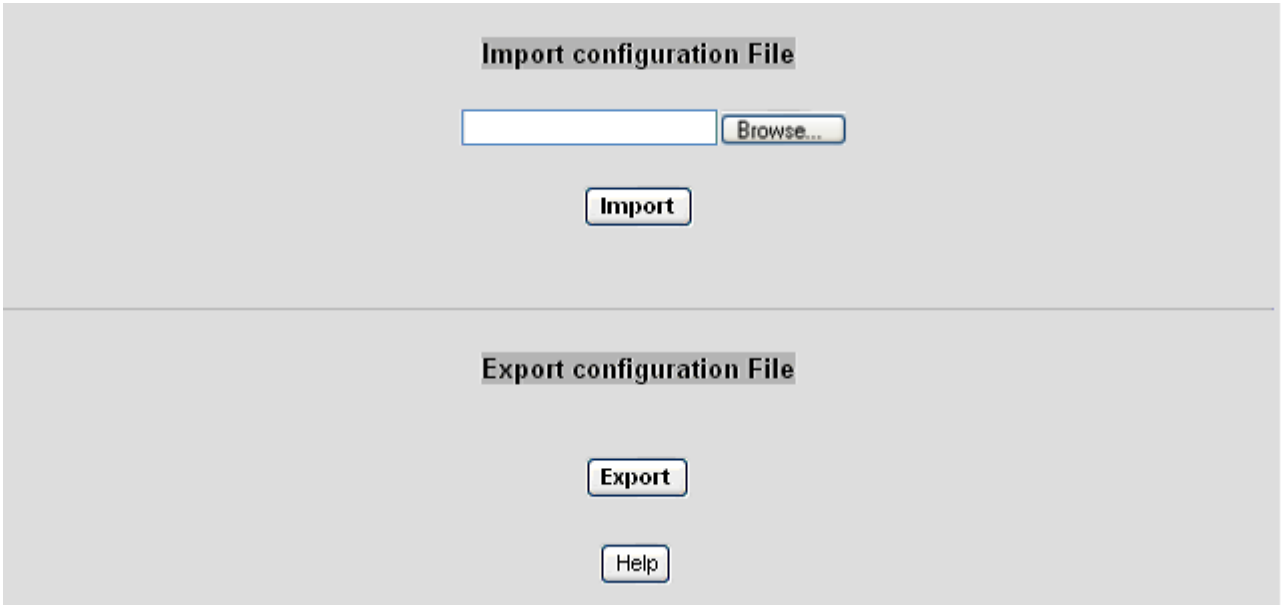


The "Factory Default" button can be used to clear all of your configuration information and restore SMCBR24Q to its factory state. Only use this feature if you wish to discard all other configuration preferences.

Firmware Upgrade



Users can download the new version of firmware into computer in advance, and then select the file. Finally, click the **Firmware Upgrade Right Now** button.



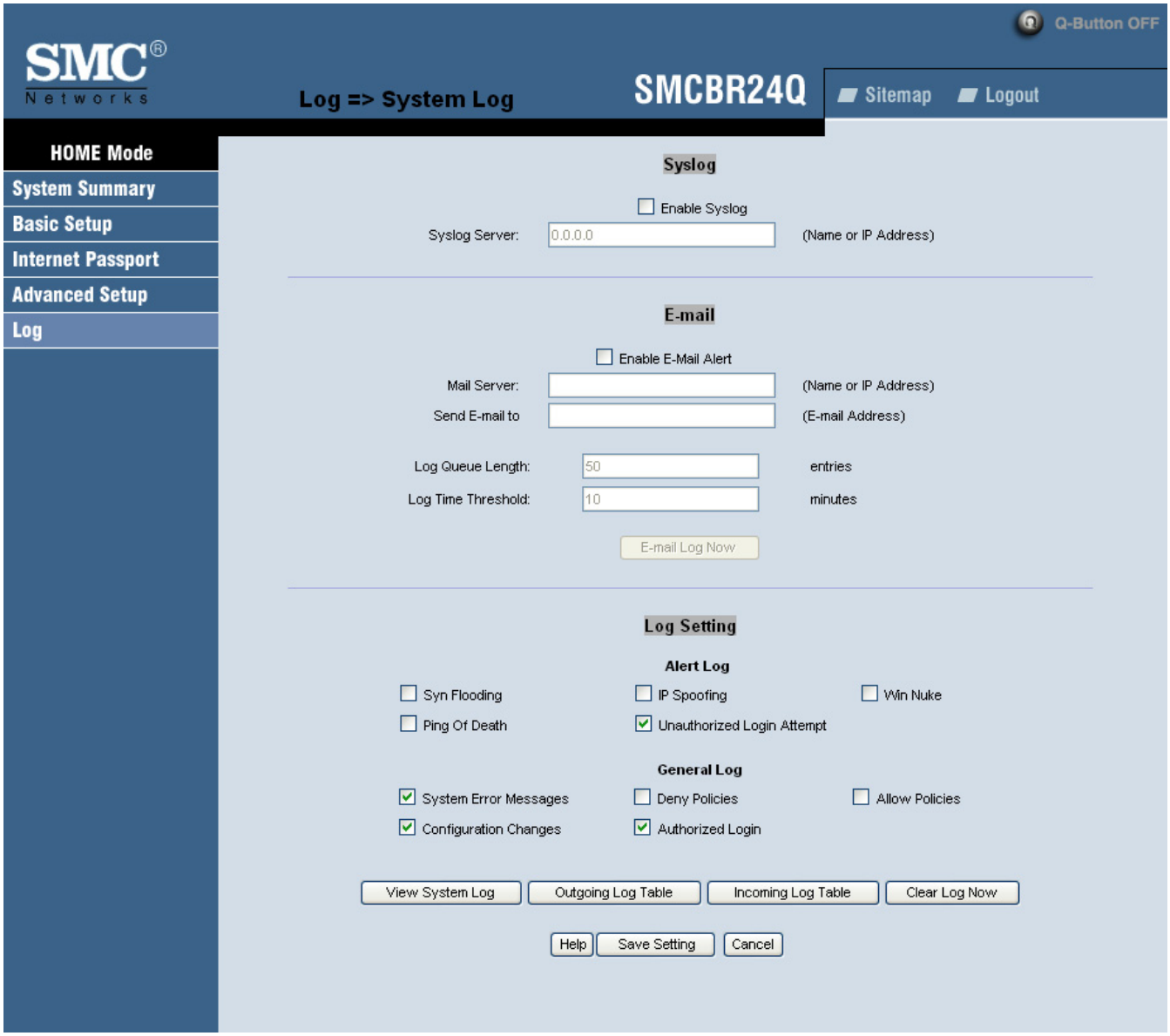
Import Configuration File:

You will need to specify where your preferences file is located. When you click "Browse", your browser will bring up a dialog which will allow you to select a file which you had previously saved using the "Export Settings" button. After you have selected the file, click the "Import" button. This process may take up to a minute. You will then need to restart your SMCBR24Q in order for the changes to take effect.

Export Configuration File:

When you click the "Export" button, your browser will bring up a dialog asking you where you would like to store your preferences file. This file will be called "SMCBR24Q.exp" by default, but you may rename it if you wish. This process may take up to a minute.

Log



There are three parts in **Log Setting**.

Syslog

Enable Syslog: If check the box, Syslog will be enabled.

Syslog Server: In addition to the standard event log, the SMCBR24Q can send a detailed log to an external Syslog server. Syslog is an industry-standard protocol used to capture information about network activity. The SMCBR24Q Syslog captures all log activity and includes every connection source and destination IP address, IP service, and number of bytes transferred. Enter the Syslog server name or IP address in the **Syslog Server** field. Restart the SMCBR24Q for the change to take effect.

E-mail

Mail Server: If you wish to have any log or alert information E-mailed to you, then you must enter the name or numerical IP address of your SMTP server. Your Internet Service Provider can provide you with this information.

Send E-mail To: This is the E-mail address to which your log files will be sent. You may leave this field blank if you do not want to receive copies of your log information.

Send E-mail: The menu determines the frequency of log e-mail messages (None, Hour, Daily, When Full), and at the time you set up

When system alert, send log immediately.

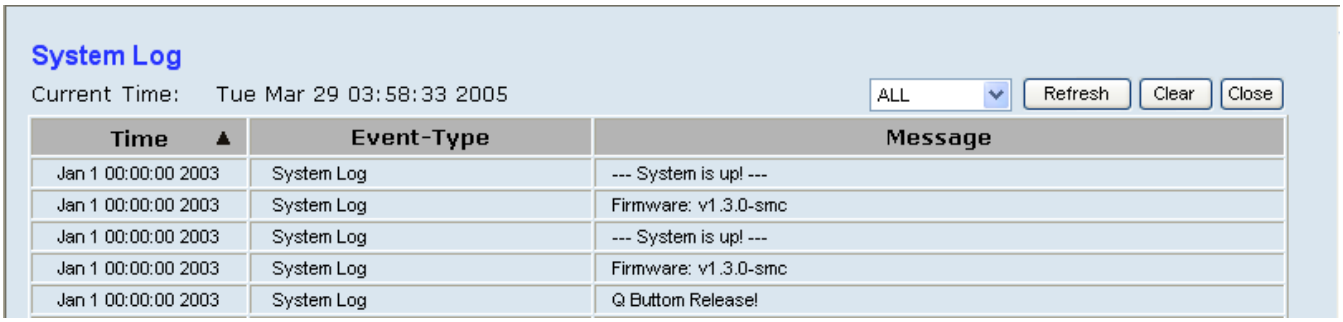
E-mail Log Now: Clicking E-mail Log Now immediately sends the log to the address in the **Send E-mail to** Filed.

Log Status

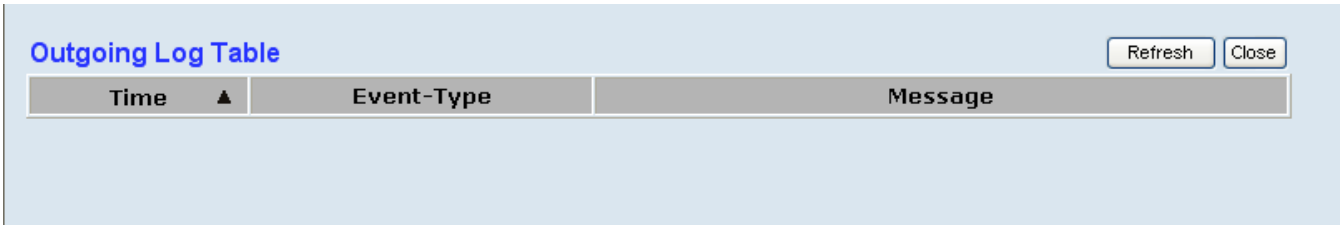
When log overflows: In some cases, your log buffer may fill up. This will only happen if there is a problem sending out the E-mail (for instance, if you have not properly filled in the "Mail Server" and "Send Log To" fields, or if there is a problem with your mail server). The default behavior is to **Overwrite Log** and discard its contents. However, you can select **Stop Log** to shut down and prevent traffic from traveling through the SMCBR24Q if the log is full.

There are four buttons follow the setup section.

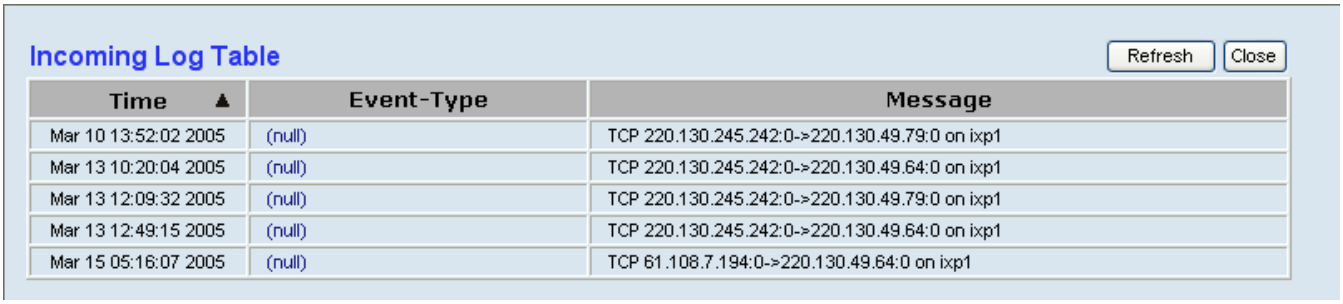
View System Log: Once you press this button, the new window will pop up System Log.



Outgoing Log Table: Once you press this button, the new window will pop up and show you the outgoing packet information including LAN IP, Destination URL/IP and Service/Port number.



Incoming Log Table: Once you press this button, the new window will pop up and show you the incoming packet information including Source IP and Destination Port number.



Clear Log Now: This button will clear out your log without E-mailing it. Only use this button if you don't mind losing your log information.

SMCBR24Q is able to perform a report includes the Device Name, Status, IP Address, Received Packets, Sent Packets, Total Packets, Received Bytes, Sent Bytes, Total Bytes, Error Packets Received and Dropped Packets Received for LAN, WAN1 and WAN2.

Q-button in the Home Mode

The Q-button is a user friendly design. It provides a basic bandwidth management method with just one push. The end user can enjoy smooth Internet applications without any hassles.

Q-button, Q-button LED and Q-button icon

The Q-button is on the front panel with an LED above the button and an icon in the upper right corner of the UI indicating its current status. The default is 'off". When the Q-button is off (shown in Fig. 2), the green LED is off and the icon is grayed out. When the Q-button is on (shown in Fig. 2), the green LED is on and the icon turns yellow.

Fig. 1: Q-button off

Fig. 2: Q-button on

If no bandwidth management configuration by the UI or Utility:

When the button is pushed on without any bandwidth management configurations, the router distributes the available bandwidth provided by the ISP evenly to the min. rate of bandwidth of each PC on the LAN. The max. rate of each PC is 100% of the available bandwidth provided by the ISP.

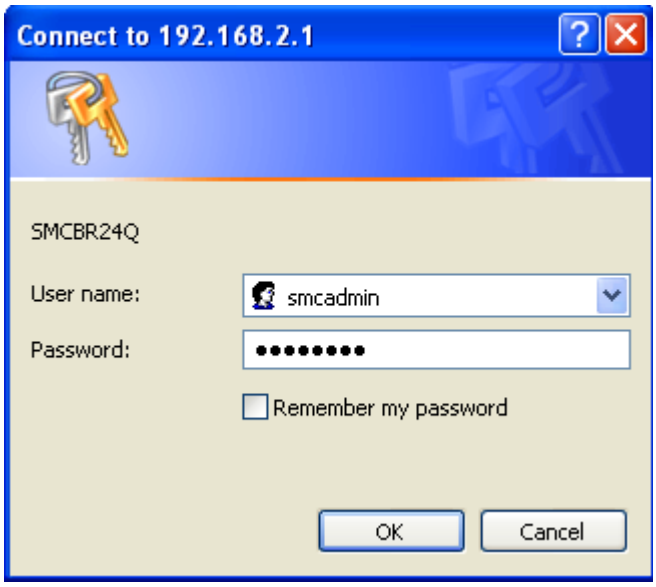
If any bandwidth management configuration by the UI or Utility:

Any bandwidth management configurations will make the Q-button a hot key. That means any configurations of *User bandwidth* or *ISP bandwidth* in the System Summary page or those in the Performance Optimization page. The end user can set the bandwidth management with the Q-button pushed off in advance. Once the Q-button is on, the pre-settings will be enabled. The end user can also set the bandwidth management with the Q-button pushed on.

Note: *bandwidth management settings will only work with the Q-button pushed on.*

3. How to Manage SMCBR24Q – SOHO Mode

Login



Enter User Name and Password then click OK.

The Router's default User Name and Password are 'smcadmin' when you first power up the Router.

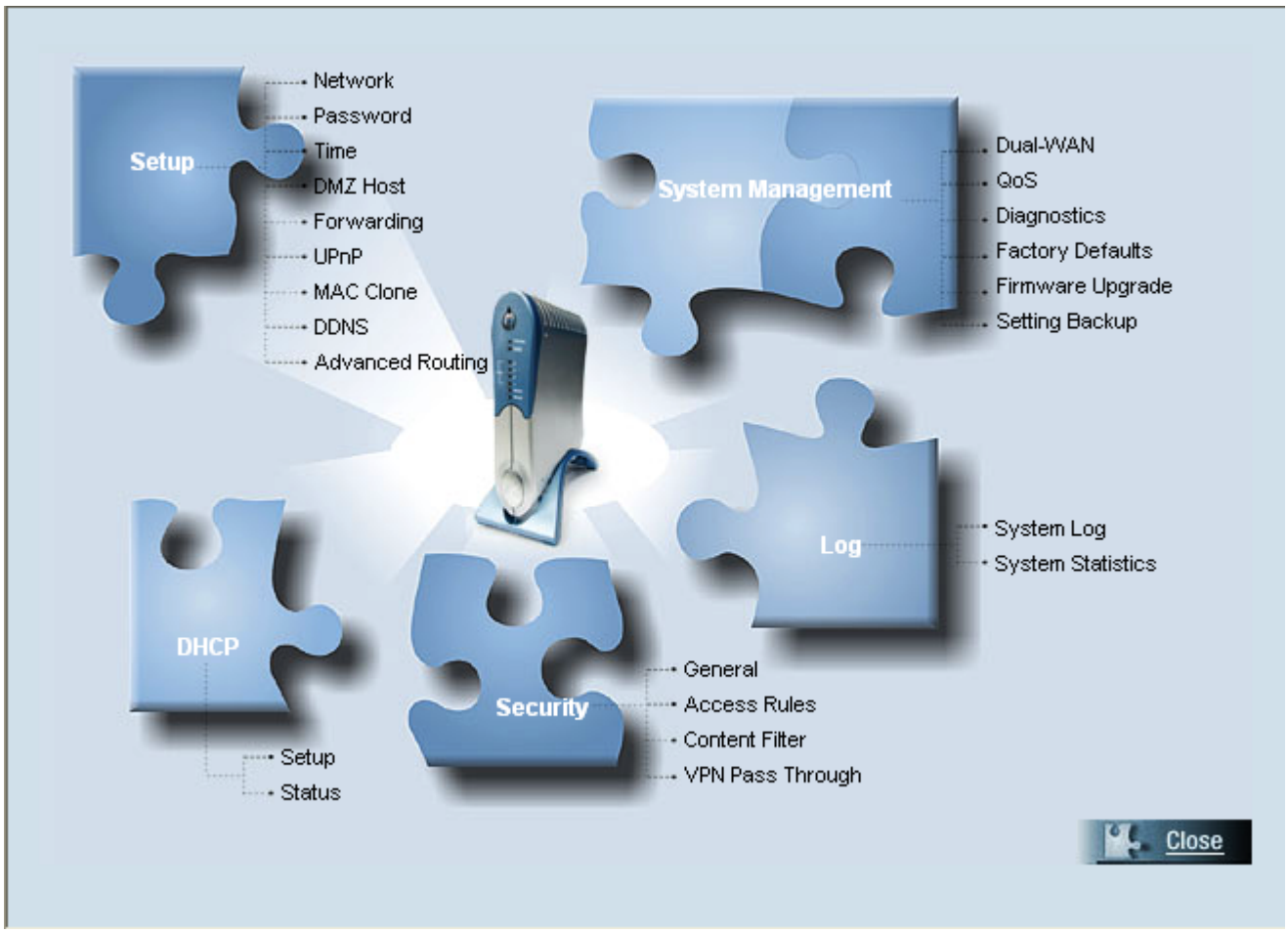
Mode

You can choose between Home Mode and SOHO Mode. The default is Home Mode. It is suggested for home users to use Home mode to apply individual and basic settings for family members. SOHO mode provides more advanced functions, and SOHO mode is suggested for SOHO users. If you need to change modes, please save your settings before changing modes.

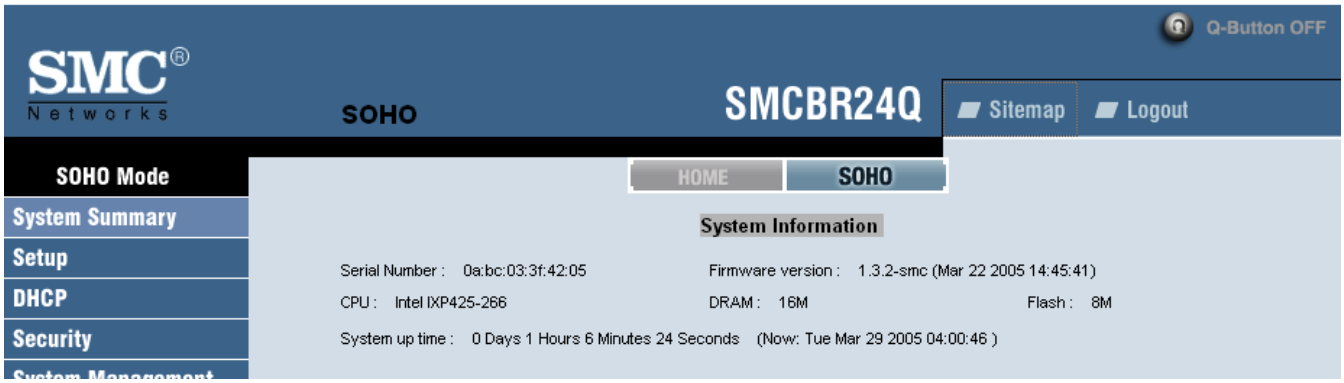
Note: *The Utility does not work with SOHO Mode.*

Site Map

You can click the site map button to view site map. Click on desired tab subject and it will hyperlink to the page you have chosen.



System Summary



The Summary screen displays the router's current status and settings. This information is read only. If you click the button with underline, it will hyperlink to related setup pages.

System Information

Serial Number:

The serial number of the SMCBR24Q.

System up time:

The length of time in Days, Hours, and Minutes SMCBR24Q has been active.

Firmware version:

The current version number of the firmware installed on this unit.

CPU:

SMCBR24Q processor: Intel IXP420.

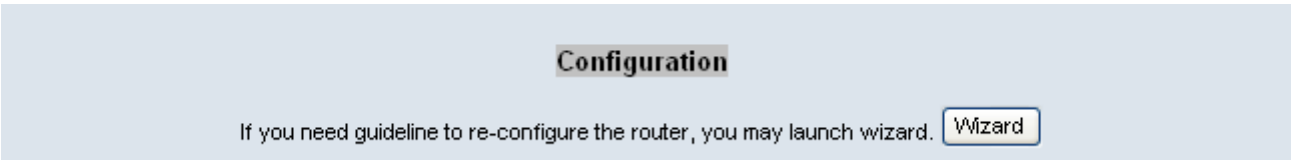
DRAM:

DRAM size on the board: 16MB.

Flash:

Flash on the board: 16MB.

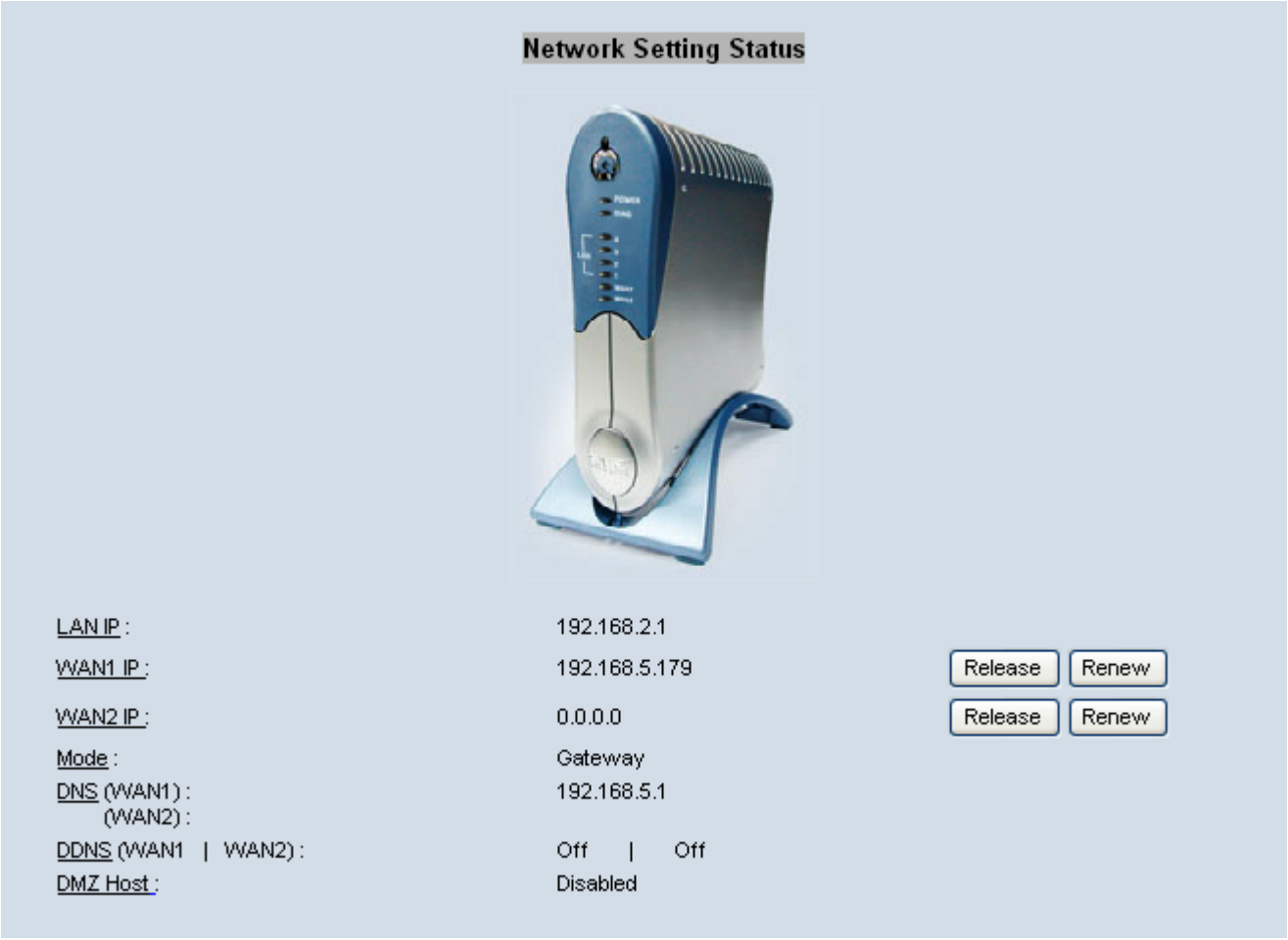
Configuration



The Configuration shows you how to configure the basic setting of the router step by step.

To enable the function, click the **Wizard** button.

Network Setting Status



LAN IP: It shows the current IP Address of the Router, as seen by internal users on the Internet, and hyperlinks to LAN Setting in Setup page.

WAN1/2 IP: It shows the current WAN1 IP Address of the Router, as seen by external users on the Internet and hyperlinks to WAN Connection type in Setup page. When users select **Obtain an IP automatically** and it shows two buttons, **release** and **renew**. Users can click the **release** button to release the current IP address and click **renew** button to update the DHCP Lease Time or to get a new IP address. When users select **PPPoE** or **PPTP**, and it shows Connect / Disconnect.

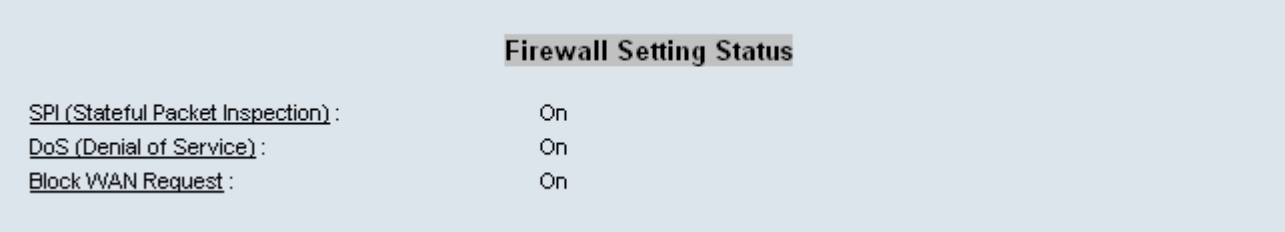
Mode: It shows the Working Mode (Gateway or Router) and hyperlinks to Dynamic Routing in Setup page.

DNS: It shows all DNS Server Addresses and hyperlinks to WAN Connection Type in Setup page.

DDNS: It shows the status (Enable / Disable) and hyperlinks to DDNS in Setup page.

DMZ Host: It shows DMZ Private Address and hyperlinks to DMZ Host in Setup page. The default is disabled.

Firewall Setting Status



SPI (Stateful Packet Inspection): It shows the status (On/Off) and hyperlinks to the General in Firewall page.

DoS (Deny of Service): It shows the status (On/Off) and hyperlinks to the General in Firewall page.

Block WAN Request: It shows the status (On/ Off) and hyperlinks to the Block WAN Request in Firewall page.

Log Setting Status

It hyperlinks to System Log of Log page of More.

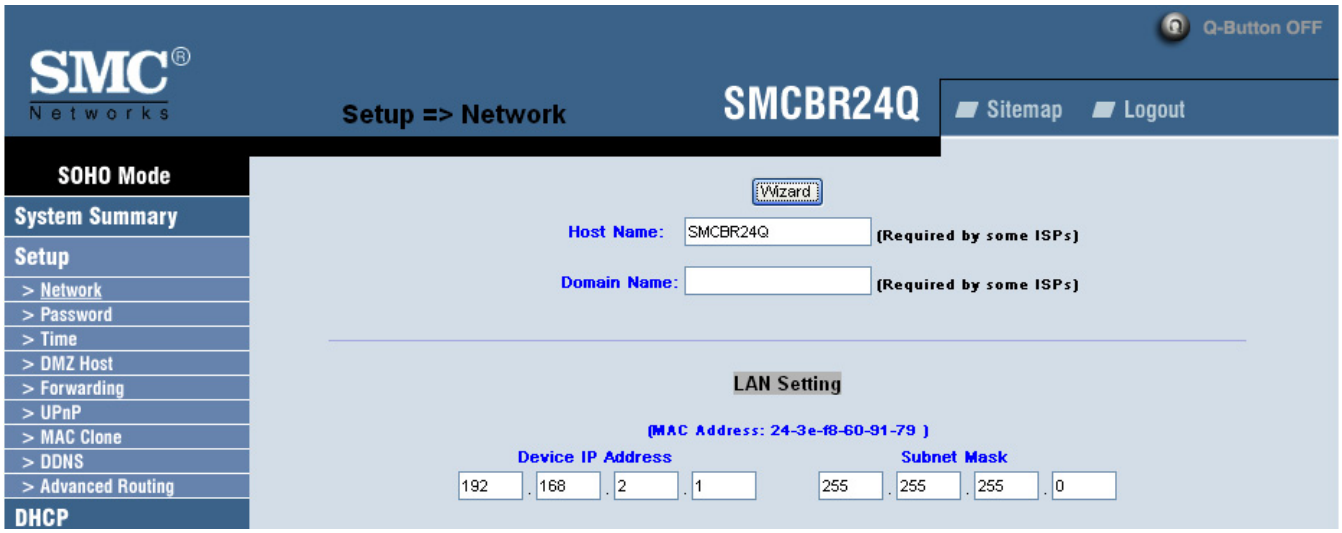
If you have not set up the mail server in Log page, it shows “E-mail cannot be sent because you have not specified an outbound SMTP server address.”

If you have set up the mail server but the log has not been come out due to Log Queue Length and Log Time Threshold settings, it shows “E-mail settings have been configured.”

If you have set up the mail server and the log has been sent to the mail server, it shows “E-mail settings have been configured and sent out normally.”

If you have set up the mail server and log can not be sent to mail sever successfully, it shows “E-mail cannot be sent out, probably use incorrect settings.”

Setup



The Setup screen contains all of the router's basic setup functions. For most users, the default values for the device should be satisfactory. The device can be used in most network settings without changing any of the values. Some users will need to enter additional information in order to connect to the Internet through an ISP (Internet Service Provider) or broadband (DSL, cable modem) carrier.

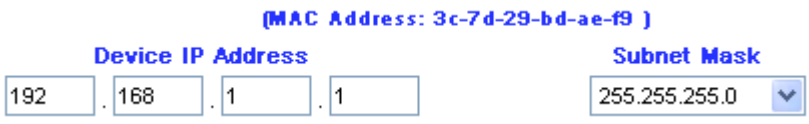
Network

Network

Host Name & **Domain Name**: Enter a host and domain name for the Router. Some ISPs (Internet Service Providers) may require these names as identification, and these settings can be obtained from your ISP. In most cases, leaving these fields blank will work.

LAN Setting

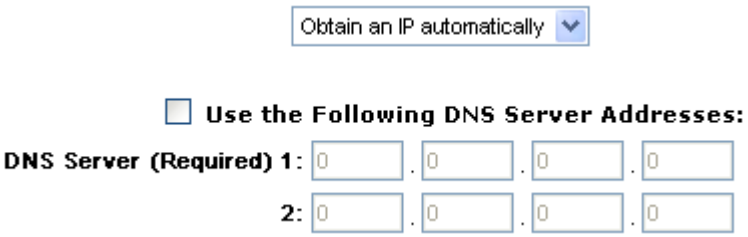
This is the Router's LAN IP Address and Subnet Mask. The default value is 192.168.1.1 for IP address and 255.255.255.0 for the Subnet Mask.



WAN Connection Type:

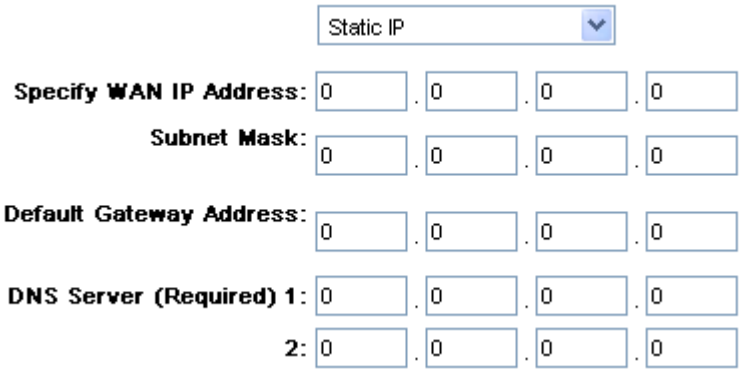
Obtain an IP automatically:

If your ISP is running a DHCP server, select **Obtain an IP automatically** option. Your ISP will assign these values automatically. Check the Following DNS Server Addresses. Multiple DNS IP Settings are common. In most cases, the first available DNS entry is used.



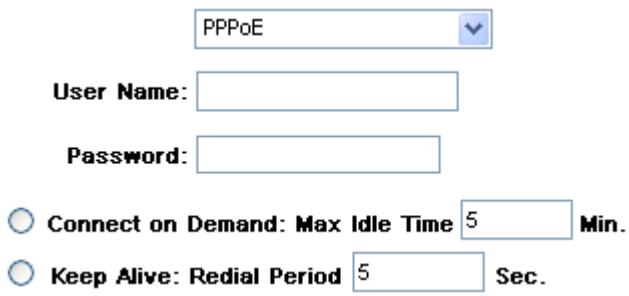
Static IP:

If you have a specify WAN IP Address, Subnet Mask, Default Gateway Address and DNS Server, select Static IP. You can get this information from your ISP.



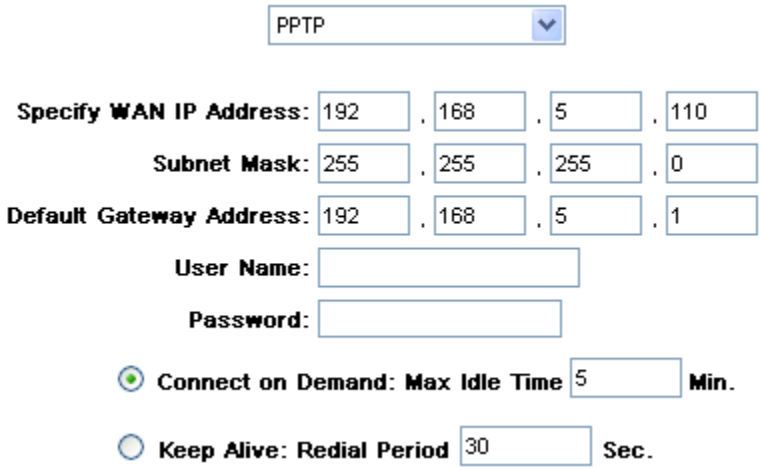
PPPoE (Point-to-Point Protocol over Ethernet):

You have to check with your ISP to make sure whether PPPoE should be enabled or not. If they do use PPPoE,



1. Enter your **Username** and **Password**.
2. If you select **Connect on Demand** option, the PPPoE connection will be disconnected if it has been idle for a period longer than the **Max Idle Time** setting.
3. If you select Keep Alive option, the Router will keep the connection alive by sending out a few data packets at **Redial Period,** so your Internet service thinks that the connection is still alive.

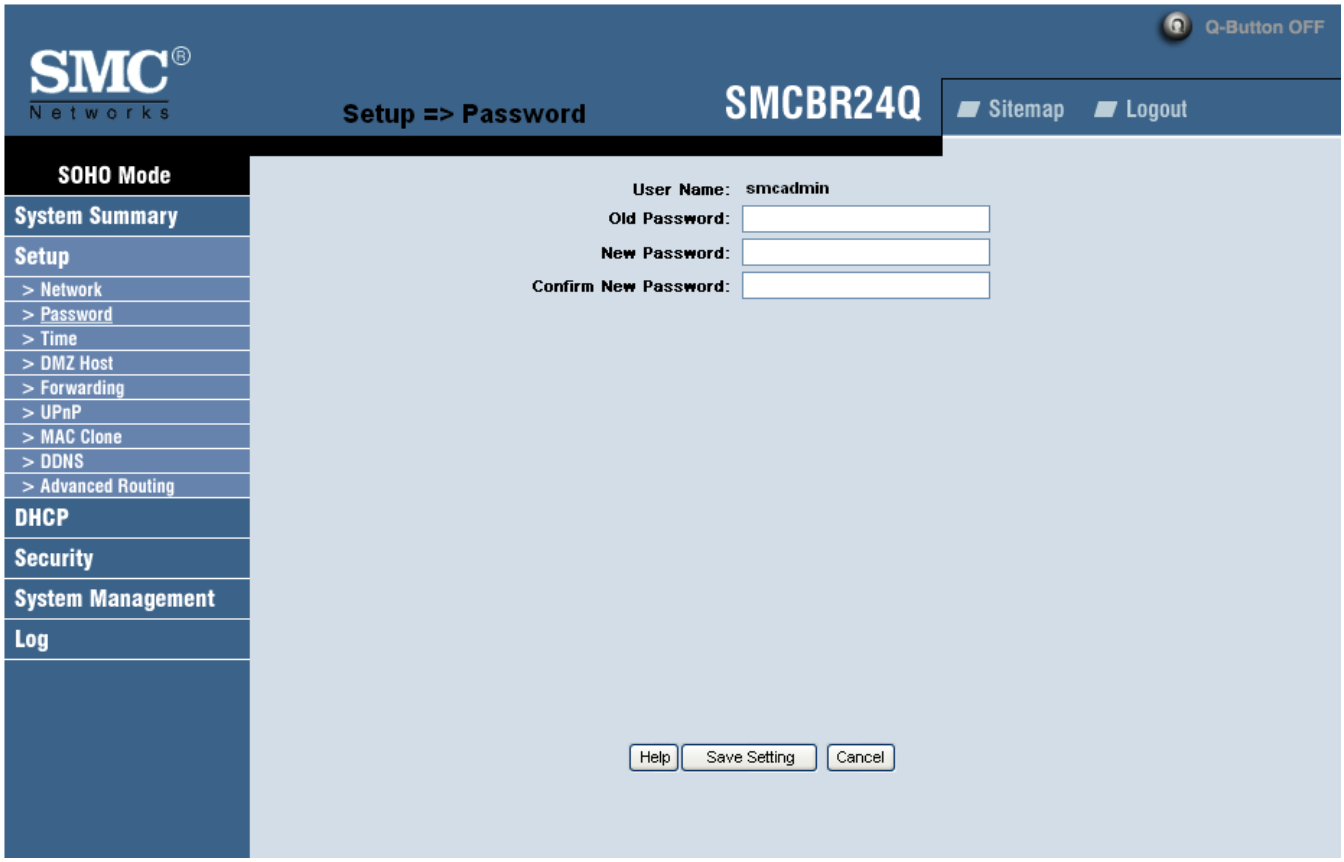
PPTP (Point-to-Point Tunneling Protocol):



2. Enter the Specify WAN IP Address, Subnet Mask and Default Gateway Address that is the PPTP server's IP that resides in the Modem.
2. Enter your **Username** and **Password**.
3. If you select **Connect on Demand** option, the connection will be disconnected if it has been idle for a period longer than the **Max Idle Time** setting.
4. If you select **Keep Alive** option, the Router will keep the connection alive by sending out a few data packets at **Redial Period,** so your Internet service thinks that the connection is still alive.

Password

The Router's default password is 'smcadmin', and it is strongly recommended that you change the Router's password. If you leave the password as blank, all users on your network will be able to access the Router simply by entering the unit's IP address into their web browser's location window.



Old Password:

Enter the old password. The default Password is 'admin' when you first power up the Router.

(Note: The password cannot be recovered if it is lost or forgotten. If the password is lost or forgotten, you will need to reset the Router to its factory default state.)

New Password:

Enter a new password for the Router. Your password must be less than 64 characters long and it can't contain any spaces.

Confirm New Password:

Re-enter the password for confirmation.

Administrator Inactivity Time-out:

This setting allows you to configure the length of inactivity that can elapse before you are automatically logged out of the Web Management Interface. Once logged out, you have to re-login. The default value is 5 minutes.

For more information, click the **Help** button. Click the **Save Settings** button to save the Password settings or click the **Cancel** button to undo the changes.

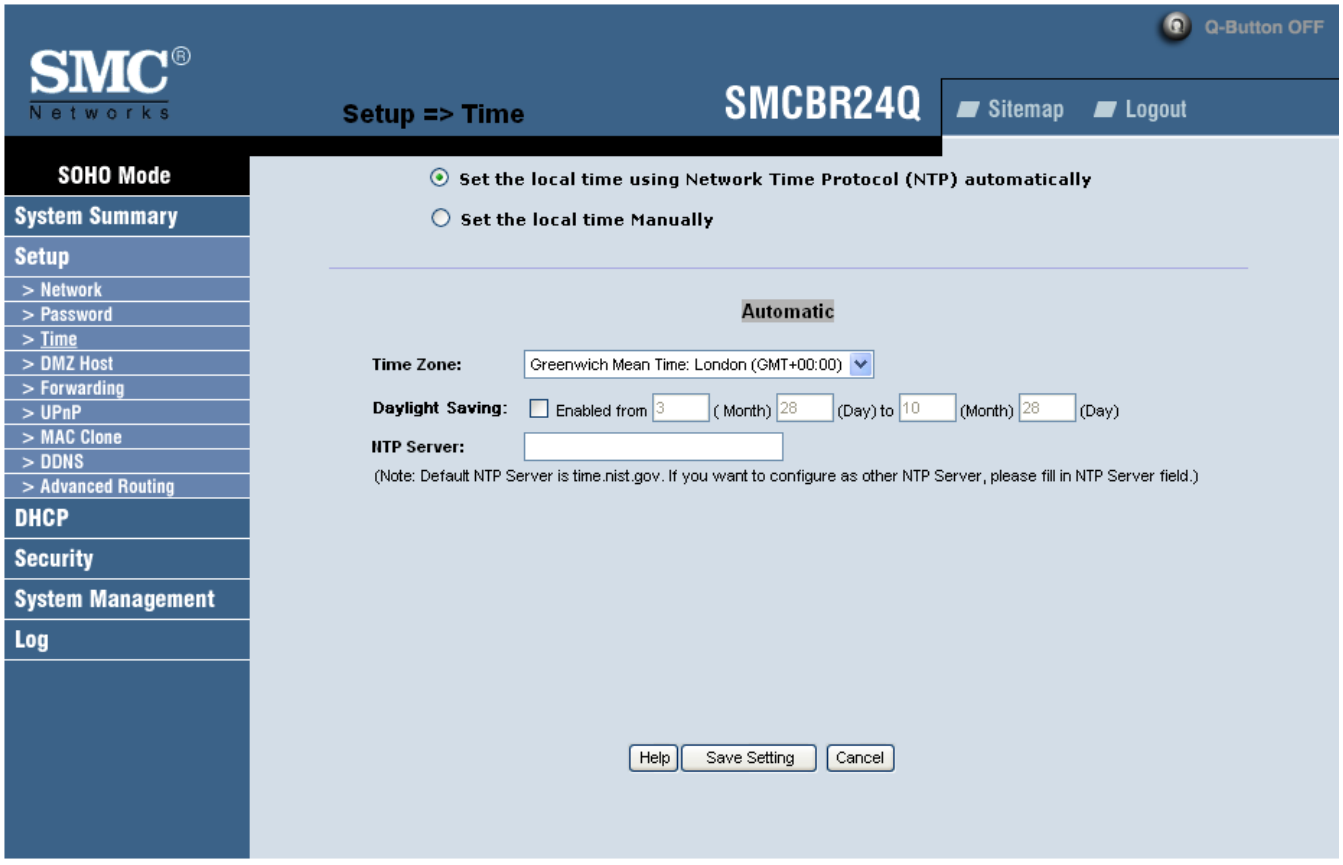
Time

SMCBR24Q uses the time settings to time stamp log events, to automatically update the Content Filter List, On-Line Scheduler and for other internal purposes.

Set the local time using Network Time Protocol (NTP) automatically or manually.

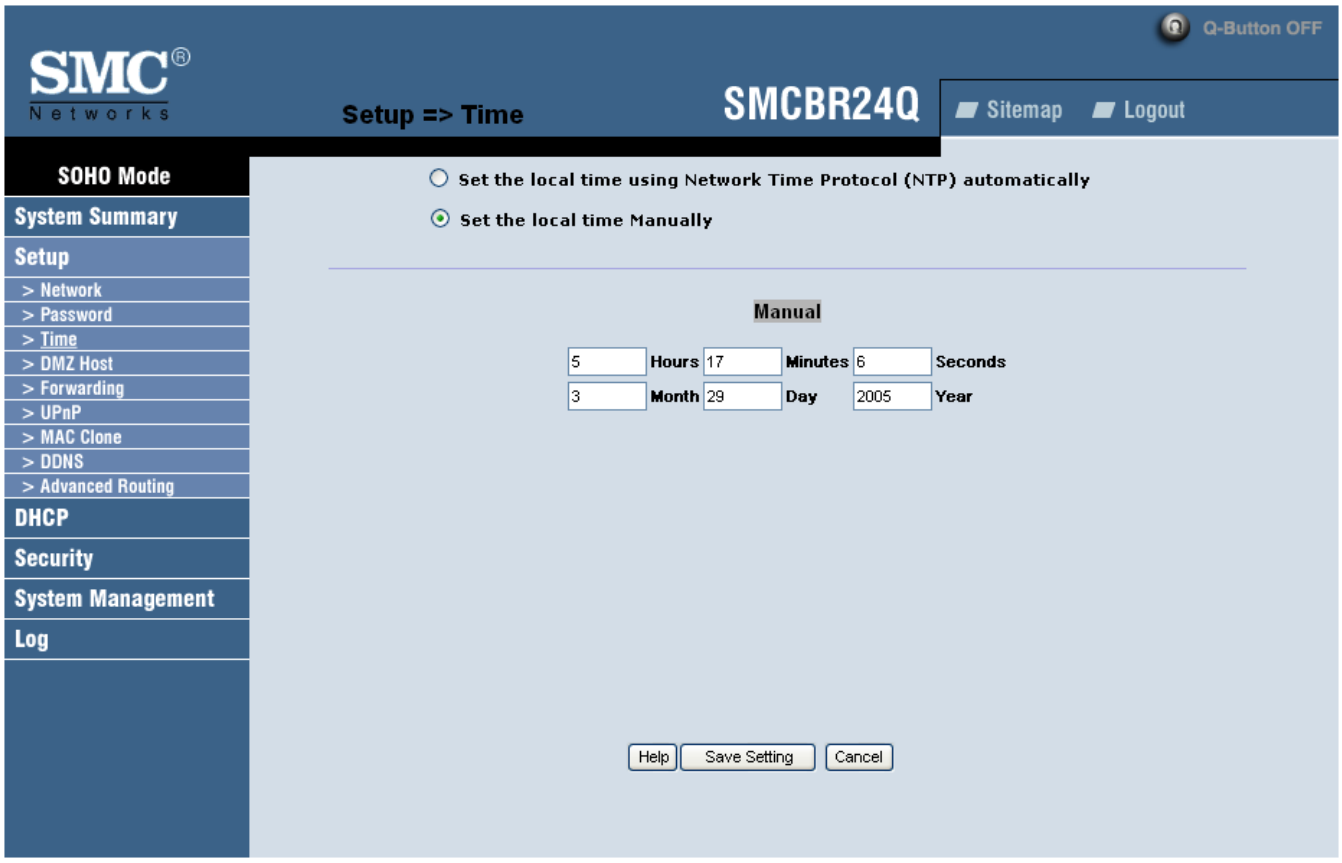
Automatically:

Select the Time Zone and enter the Daylight Saving and NTP Server.



Manual:

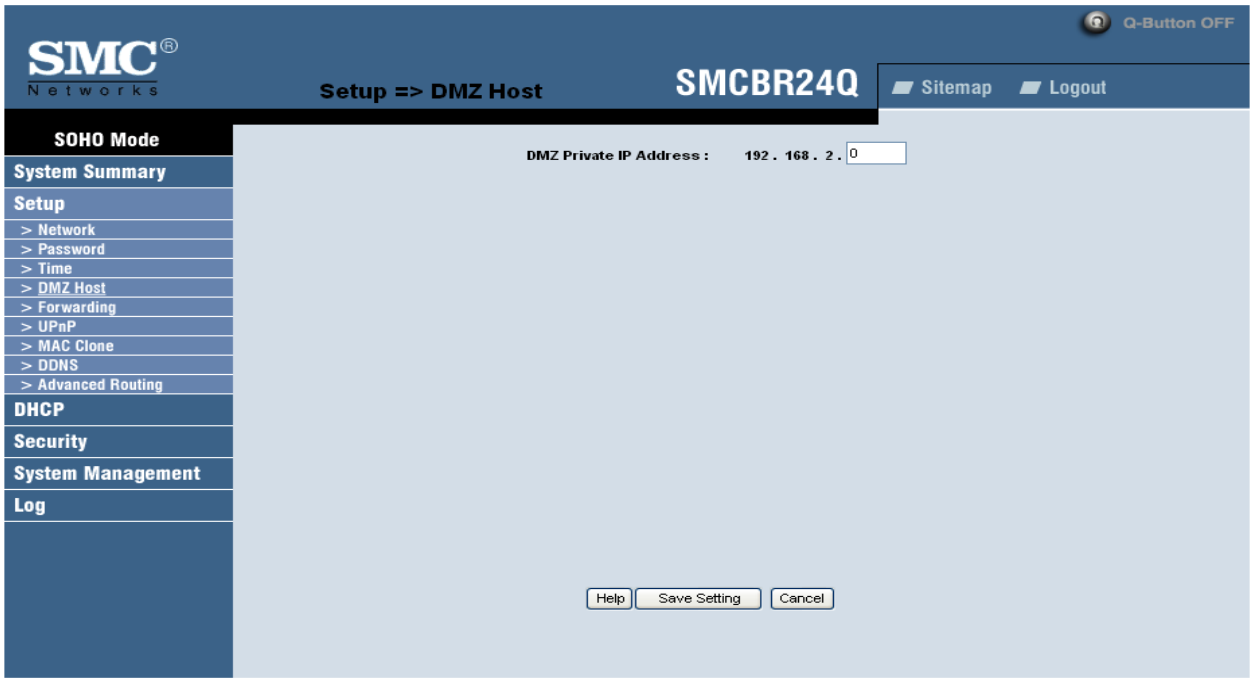
Enter the Hours, Minutes, Seconds, Month, Day and Year.



For more information, click the **Help** button. Click the **Save Settings** button to save the Time settings or click the **Cancel** button to undo the changes.

DMZ Host

The DMZ (Demilitarized Zone) Host feature allows one local user to be exposed to the Internet to use a special-purpose service such as Internet gaming and video-conferencing.



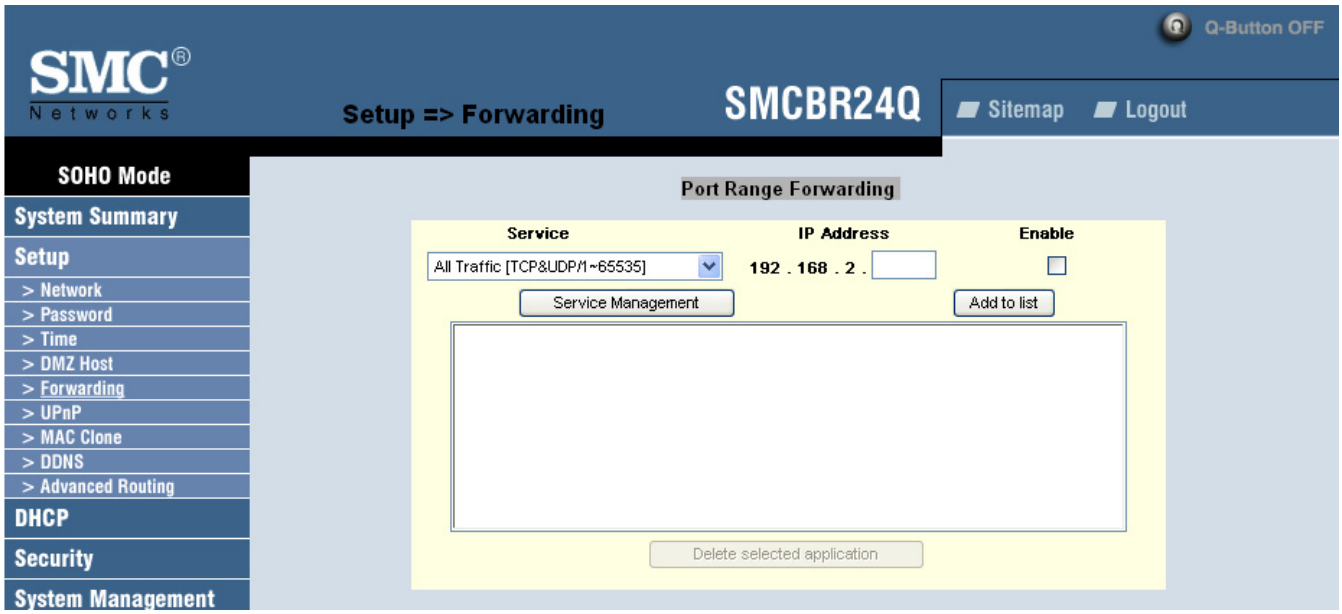
Enter the DMZ Private IP Address to access DMZ Host settings.

For more information, click the **Help** button. Click the **Save Settings** button to save the DMZ Host settings or click the **Cancel** button to undo the changes.

Forwarding

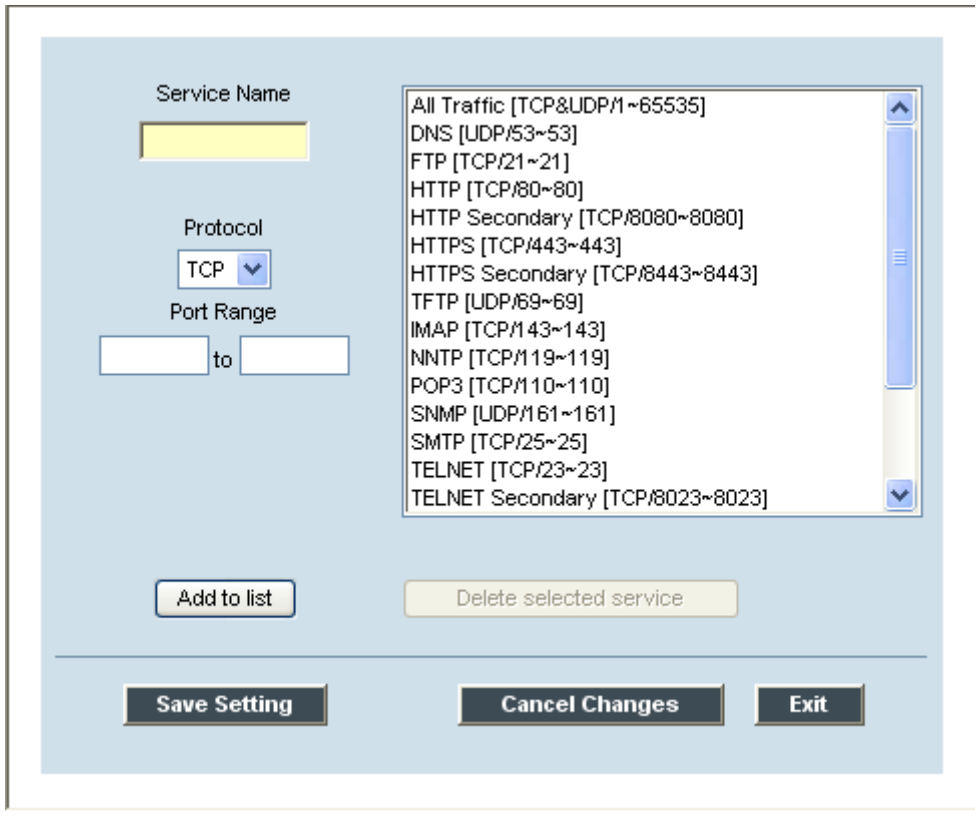
Port forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. For example, if you set the port number **80 (HTTP)** to be forwarded to IP Address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2.

You may use this function to establish a Web server or FTP server via an IP Gateway. Be sure that you enter a valid IP Address. (You may need to establish a static IP address in order to properly run an Internet server.) For added security, Internet users will be able to communicate with the server, but they will not actually be connected. The packets will simply be forwarded through the Router.



Port Range Forwarding:

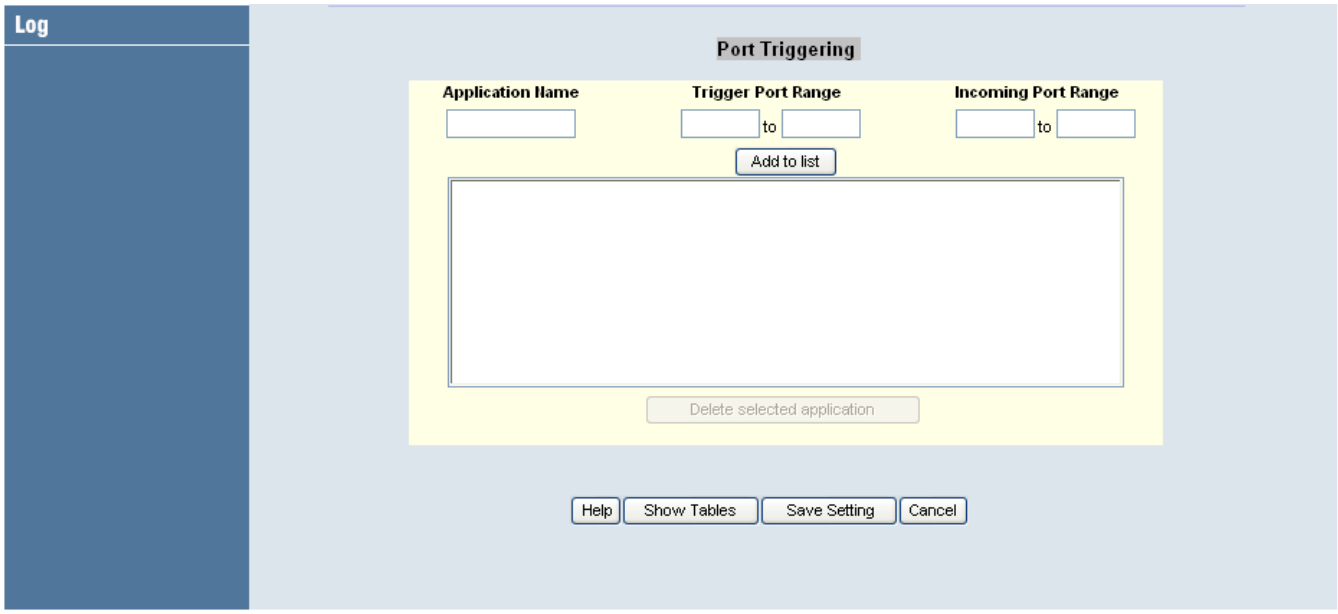
1. Select the Service from the pull-down menu.
2. If the Service you need is not listed in menu, please click the Service Management button to add new Service and enter the Protocol and Port Range. Then click the Save Setting button.



3. Enter the IP Address of the server that you want the Internet users to access. Then enable the entry.

4. Click the Add to List button, and configure as many entries as you would like. You also can Delete the selected application.

Port Triggering

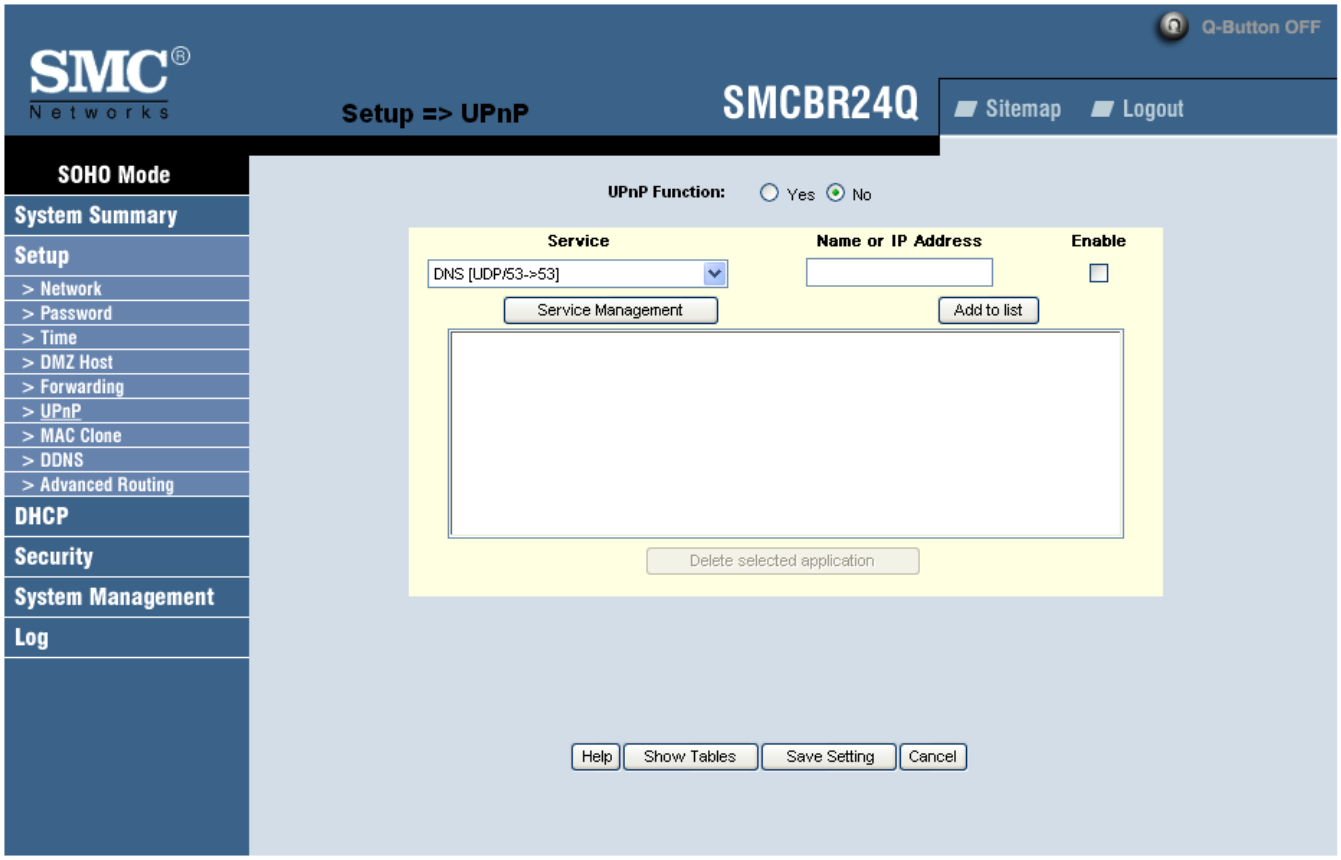


Some Internet applications or games use alternate ports to communicate between server and LAN host. When you want to use those applications, enter the triggering (outgoing) port and alternate incoming port in this table. The Router will forward the incoming packets to the LAN host.

1. Enter the range of port numbers and enter the application name, and enter the incoming port range.
2. You can click the **Add to List** button to add Port Triggering or **Delete selected application**.

For more information, click the **Help** button. Click the **Save Settings** button to save the Forwarding settings or click the **Cancel** button to undo the changes. Click the **Show Tables** to see the details.

UPnP



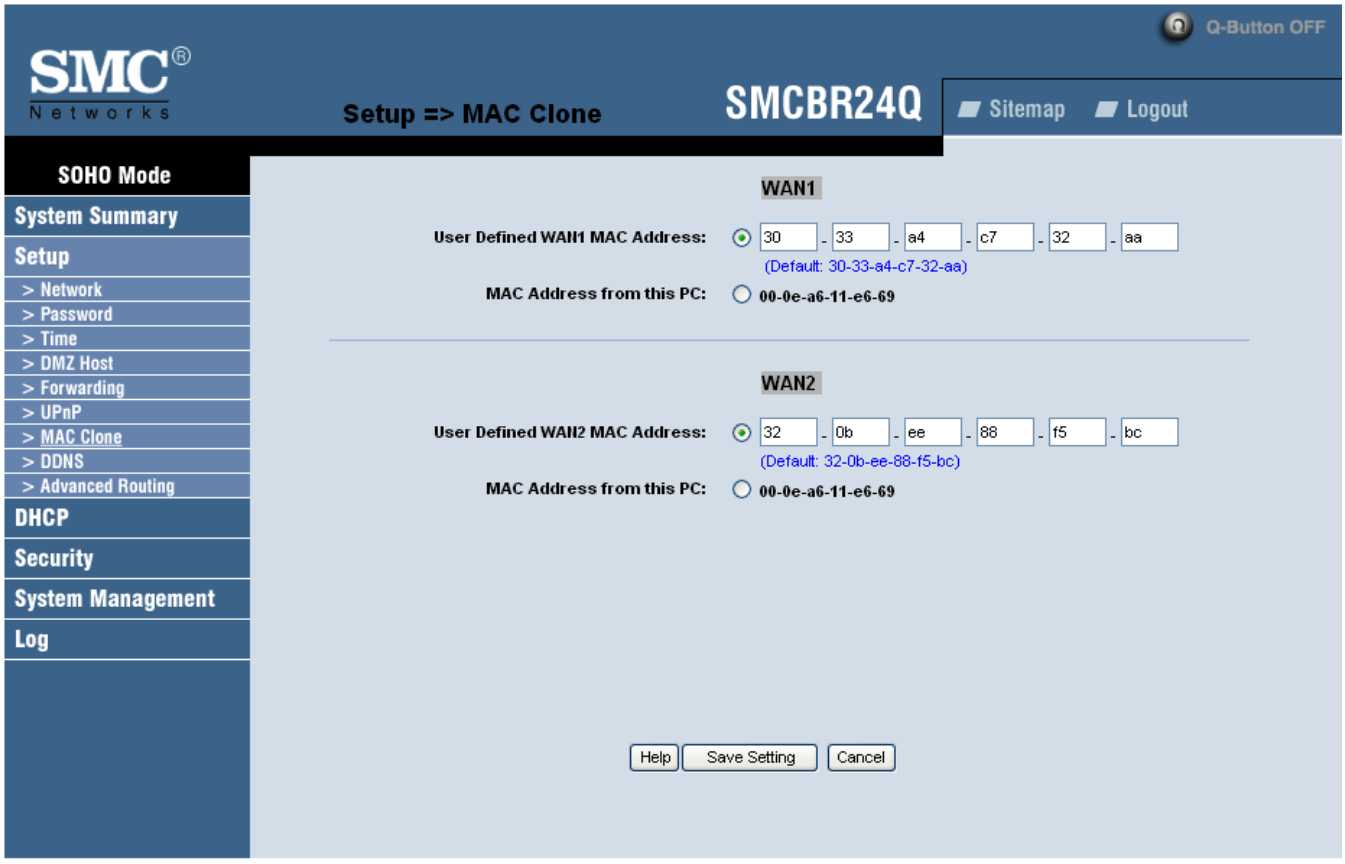
UPnP forwarding can be used to set up public services on your network. Windows XP can modify those entries via UPnP when UPnP function is enabled by selecting Yes.

1. **Users have to click the Service Management first** to enter the Service Name, Protocol and External Port and Internal Port, and then Add to list and Save Settings. Otherwise, there will be no entry in Service menu.
2. Enter the Host Name or IP Address of the server that you want the Internet users to access, and then enable the entry.
3. Click the Add to List button, and configure as many entries as you would like to. The max entry is 30. You also can delete the selected application.
4. Users also can change the IP address and Disable the entry. Click the selected entry, change IP or Disable, then click Update this Application button.

For more information, click the **Help** button. Click the **Save Settings** button to save the UPnP settings or click the **Cancel** button to undo the changes. Click the **Show Tables** to see the details.

MAC Clone

Some ISPs require that you register a MAC address. This "clones" your network adapter's MAC address onto the Cable/DSL Firewall Router, and prevents you from having to call your ISP to change the registered MAC address to the Cable/DSL Firewall Router's MAC address. The Cable/DSL Firewall Router's MAC address is a 12-digit code assigned to a unique piece of hardware for identification, like a social security number.



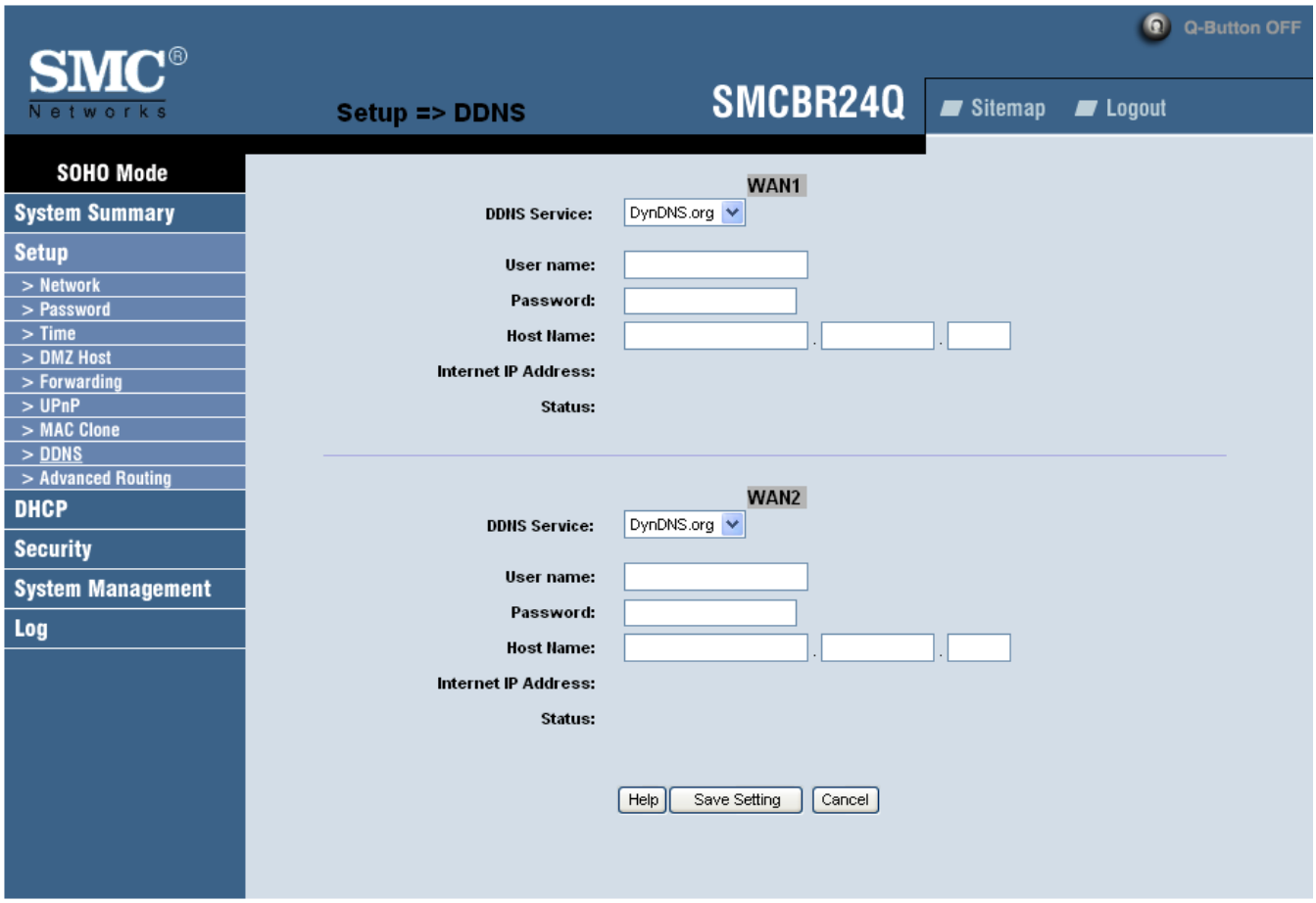
Input the MAC Address to **User Defined WAN MAC Address** field or select **MAC Address from this PC** .

For more information, click the **Help** button. Click the **Save Settings** button to save the MAC Clone settings or click the **Cancel** button to undo the changes.

DDNS

DDNS(Dynamic DNS) service allows you to assign a fixed domain name to a dynamic WAN IP address. This allows you to host your own Web, FTP or other type of TCP/IP server in your LAN.

Before configuring DDNS, you need to visit www.dyndns.org and register a domain name. (The DDNS service is provided by DynDNS.org).



DDNS Service The DDNS feature is disabled by default. To enable this feature, just check the box. **Username**, **Password**, and **Host Name:** Enter the Username, Password, and Host Name of the account you set up with DynDNS.org.

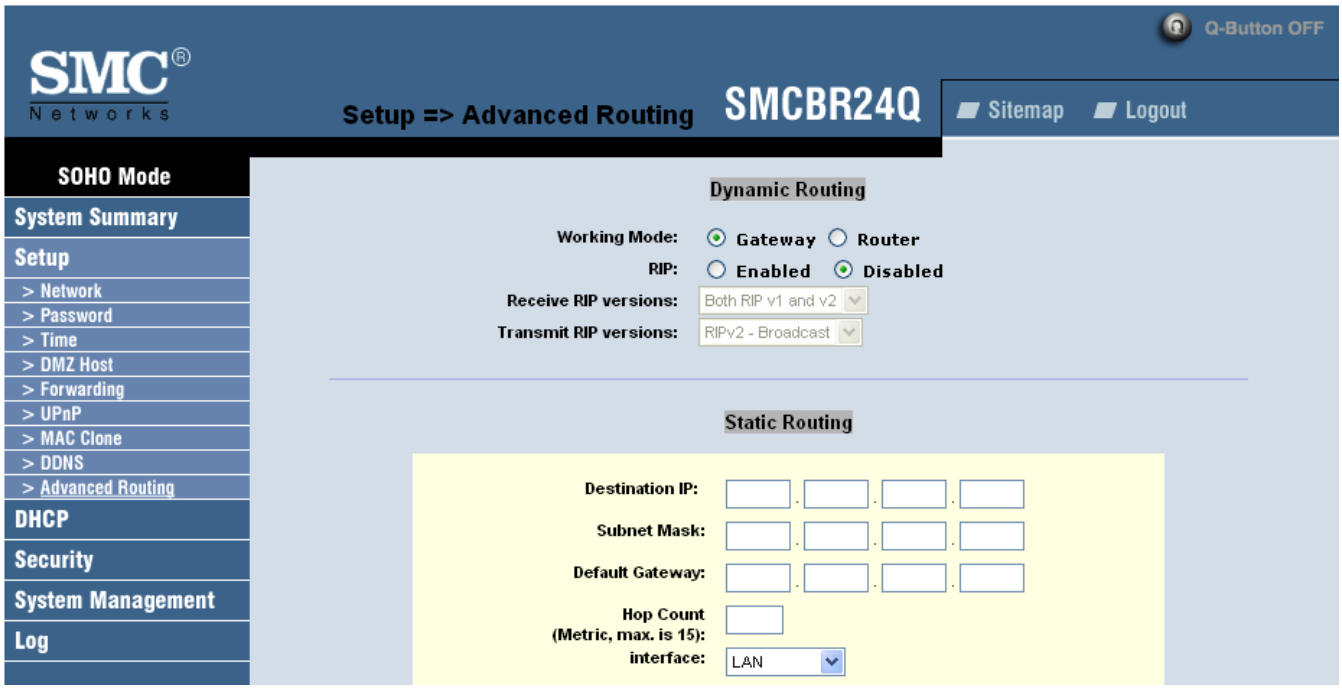
Your IP Address: The Router's current Internet IP Address is displayed here. Because it is dynamic, this will change.

For more information, click the **Help** button. Click the **Save Settings** button to save the DDNS settings or click the **Cancel** button to undo the changes.

Advanced Routing

The Router's dynamic routing feature can be used to automatically adjust to physical changes in the network's layout. The Router uses the dynamic RIP protocol. It determines the route that the network

packets take based on the fewest number of hops between the source and the destination. The RIP protocol regularly broadcasts routing information to other routers on the network.



Working Mode: Select **Gateway** mode if your Router is hosting your network's connection to the Internet. Select **Router** mode if the Router exists on a network with other routers, including a separate network gateway that handles the Internet connection.

Dynamic Routing:

Choose the TX: protocol you want for transmitting data on the network. (RIP1 / RIP2)

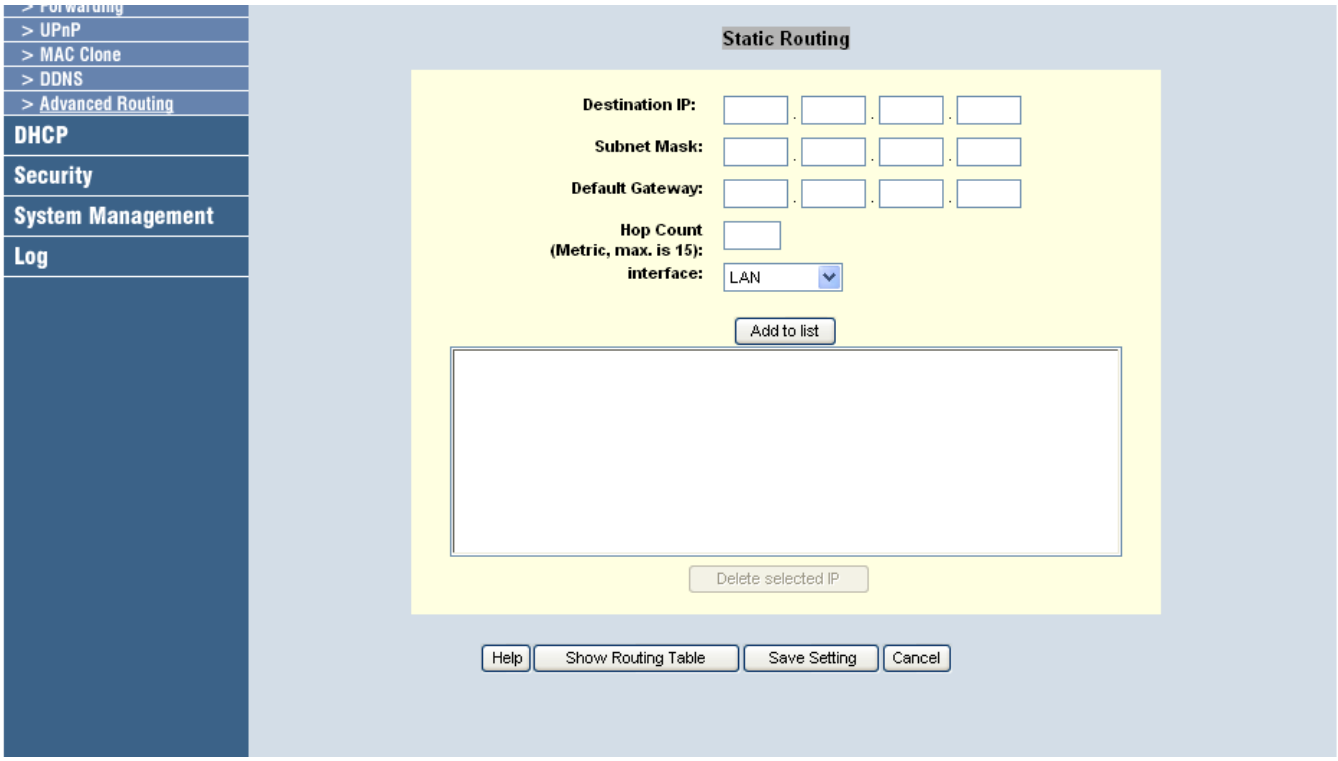
Choose the RX: protocol you want for receiving data from the network. (RIP1 / RIP2)

Static Routing:

You will need to configure Static Routing if there are multiple routers installed on your network. The static routing function determines the path that data follows over your network before and after it passes through the Router. You can use static routing to allow different IP domain users to access the Internet through this device. **This is an advanced feature. Please proceed with caution**.

This Router is also capable of dynamic routing (see the Dynamic Routing tab). In many cases, it is better to use dynamic routing because the function will allow the Router to automatically adjust to physical changes in the network layout. In order to use static routing, the SMCBR24Q's DHCP settings must be disabled.

To set up static routing, you should add routing entries in the Router's table that tells the device where to send all incoming packets. All of your network routers should direct the default route entry to SMC Router.



Enter the following data to create a static route entry:

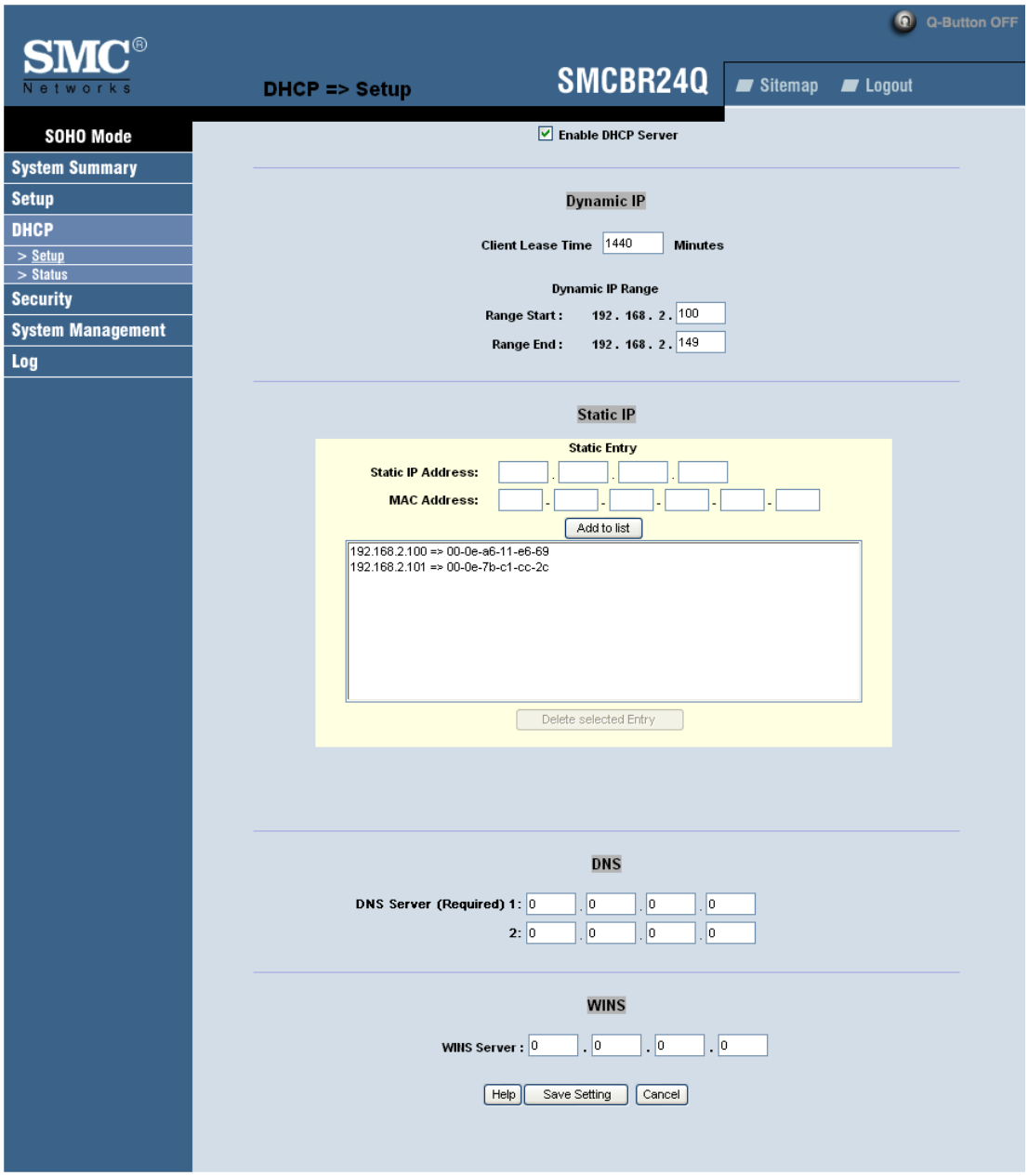
1. **Destination IP**: Enter the network address of the remote LAN segment. For a standard Class C IP domain, the network address is the first three fields of the Destination LAN IP, while the last field should be zero.
2. **Subnet Mask**: Enter the Subnet Mask used on the destination LAN IP domain. For Class C IP domain, the Subnet Mask is 255.255.255.0.
3. **Default Gateway IP**: If this Router is used to connect your network to the Internet, then your Gateway IP is the Router's IP Address. If you have another router handling your network's Internet connection, enter the IP Address of that router instead.
4. Enter hop count (max. 15)
5. Interface: Select LAN or WAN

Click **Add to list** to add route entry or click **Delete Selected IP** to delete the static route entry.
For more information, click the **Help** button. Click the **Save Settings** button to save the Advanced Routing settings or click the **Cancel** button to undo the changes or click the **Show Routing Table** button to view the current routing table.

DHCP

Setup

The Router can be used as a DHCP (Dynamic Host Configuration Protocol) server on your network. A DHCP server assigns available IP addresses to each computer on your network automatically. If you choose to enable the DHCP server option, you must configure all of the PCs on your LAN to connect to a DHCP server.



If the Router's DHCP server function is disabled, you have to carefully configure the IP address, Mask, and DNS settings of every computer on your network. Be careful not to assign the same IP Address to different computers.

Make any changes to the available fields as described below.

Enable DHCP Server: Check the box to enable the DHCP Server. If you already have a DHCP server on your network, leave the box blank.

Dynamic IP

Client Lease Time: This is the lease time assigned if the computer (DHCP client) requests one. The range is 5 ~ 43,200 Minutes.
Range Start/End: Enter a starting IP address and ending IP address to make a range to assign dynamic IPs. The default range is 100~149.

Static IP

The administrator can assign the Static IP for the specific client based on this user's MAC address. Enter the **Static IP Address** and **MAC Address,** and then click the **Add to list** button. You can set up to 30 static IP entries.

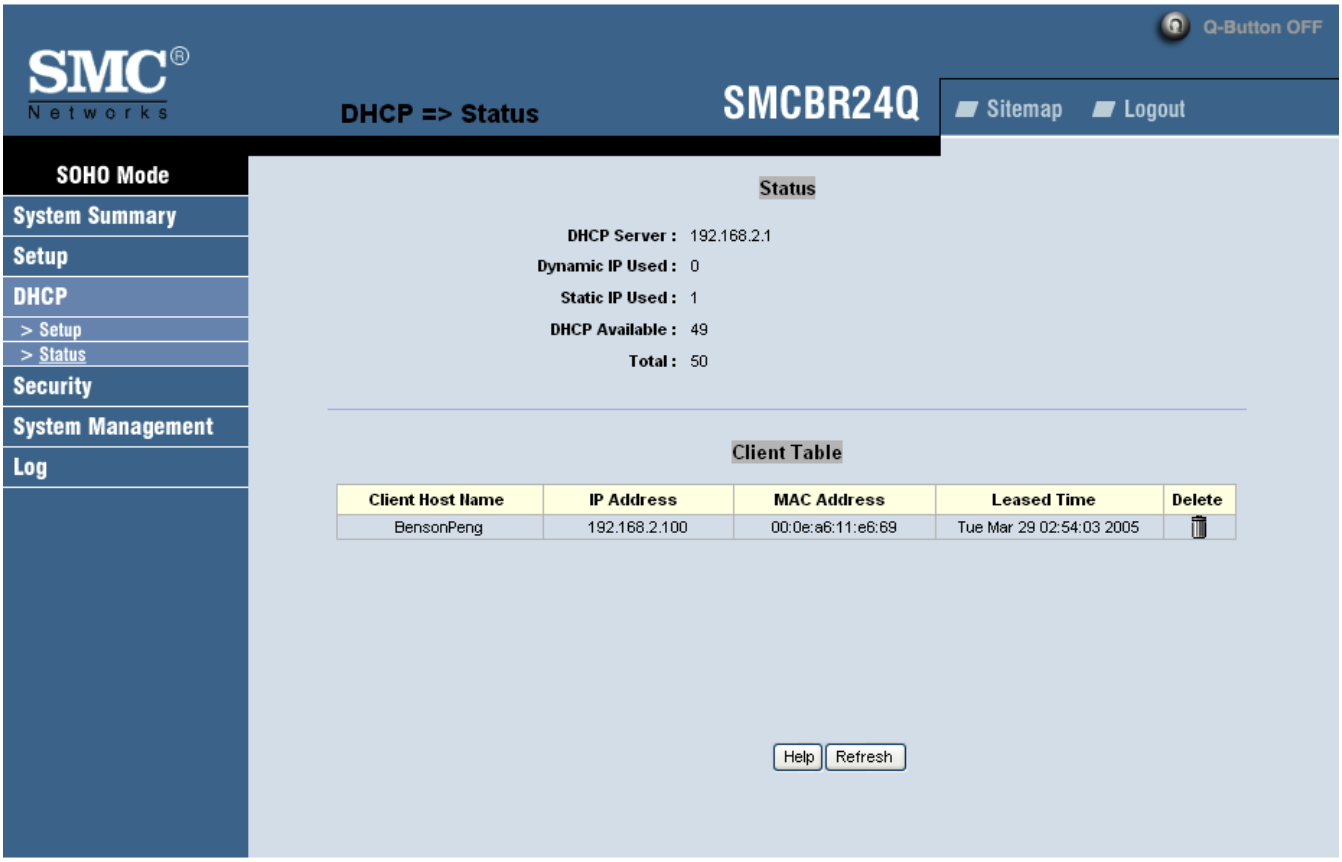
DNS

You can assign the DNS server(s) to the DHCP clients. This is optional, and the Router will use these for quicker access to functioning DNS service.

WINS Server
Windows Internet Naming Service (WINS) is a service that resolves NetBIOS names to IP addresses. The WINS is assigned if the computer (DHCP client) requests one. If you do not know the WINS, leave it as 0.

For more information, click the **Help** button. Click the **Save Settings** button to save the Setup settings or click the **Cancel** button to undo the changes.

Status



A Status page is available to review **DHCP Server Status**. The **DHCP Server Status** reports the IP of DHCP Server, the number of **Dynamic IP Used**, **DHCP Available,** and **Total. Client Table** shows the current DHCP Client information. You will see the related information (Client Host Name, IP Address, MAC Address, and Leased Time) of all network clients using the DHCP server. You can click the **Trash Can** button to delete the line, and the previously issued IP Address of Client Host will be released. Or you can click **Refresh** button to refresh the Client Table.

Security

General

From the Firewall Tab, you can configure the Router to deny or allow specific internal users from accessing the Internet. You can also configure the Router to deny or allow specific Internet users from accessing the internal servers. You can set up different packet filters for different users that are located on internal (LAN) or external (WAN) side based on their IP addresses or their network Port number.

Firewall

The default is enabled. If users disable the Firewall function, SPI, DoS, Block WAN Request will be disabled, Remote Management will be enabled and Access Rules and Content Filter will be disabled.

SPI (Stateful Packet Inspection)

The Router's Firewall uses Stateful Packet Inspection to maintain connection information that passes through the firewall. It will inspect all packets based on the established connection, prior to passing the packets for processing through a higher protocol layer.

DoS (Denial of Service)

Protect internal networks from Internet attacks, such as SYN Flooding, Smurf, LAND, Ping of Death, IP Spoofing and reassembly attacks.

Block WAN Request

This feature is designed to prevent attacks through the Internet. When it is enabled, the Router will drop both the unaccepted TCP request and ICMP packets from the WAN side. The hacker will not find the Router by pinging the WAN IP address. If DMZ is enabled, this function will be disabled.

Remote Management

This Router supports remote management. If you want to manage this Router through the WAN connection, you have to 'Enable' this option. User can enter the port number for remote management.

Multicast Pass Through

IP Multicasting occurs when a single data transmission is sent to multiple recipients at the same time. Using this feature, the Router allows IP multicast packets to be forwarded to the appropriate computers.

MTU (Maximum Transmission Unit)

This feature specifies the largest packet size permitted for network transmission. It is recommended that you enable this feature. Default of MTU size is 1500 bytes.

For more information, click the **Help** button. Click the **Save Settings** button to save the General settings or click the **Cancel** button to undo the changes

Access Rules

Network Access Rules evaluate network traffic's Source IP address, Destination IP address, and IP protocol type to decide if the IP traffic will be allowed to pass through the firewall.

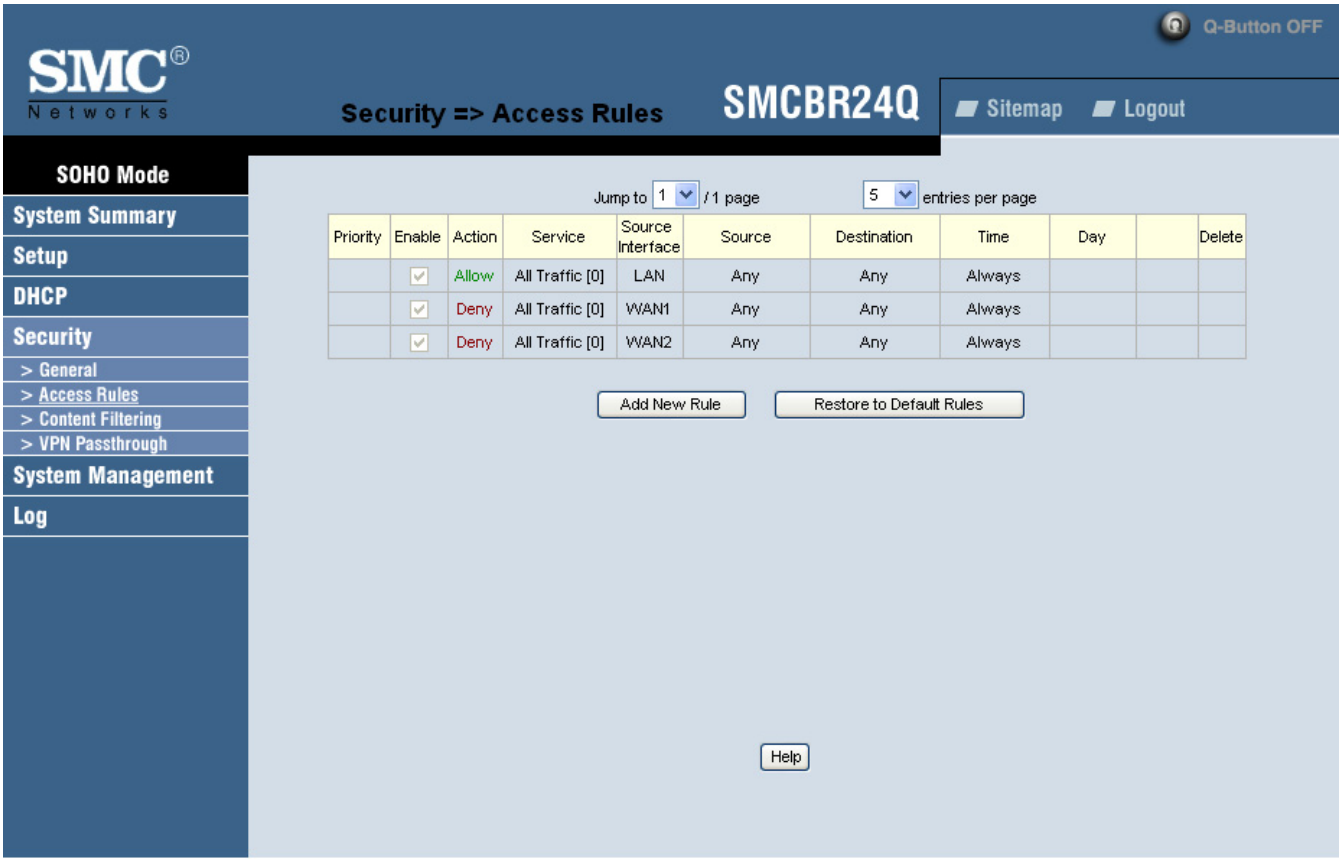
The ability to define Network Access Rules is a very powerful tool. Using custom rules, it is possible to disable all firewall protection or block all access to the Internet. Use extreme caution when creating or deleting Network Access Rules.

SMCBR24Q has the following Default Rules.

* All traffic from the LAN to the WAN is allowed.
* All traffic from the WAN to the LAN is denied.

Custom rules can be created to override the above SMCBR24Q default rules, but there are four additional default rules that will always be active, and custom rule can not override these four rules.

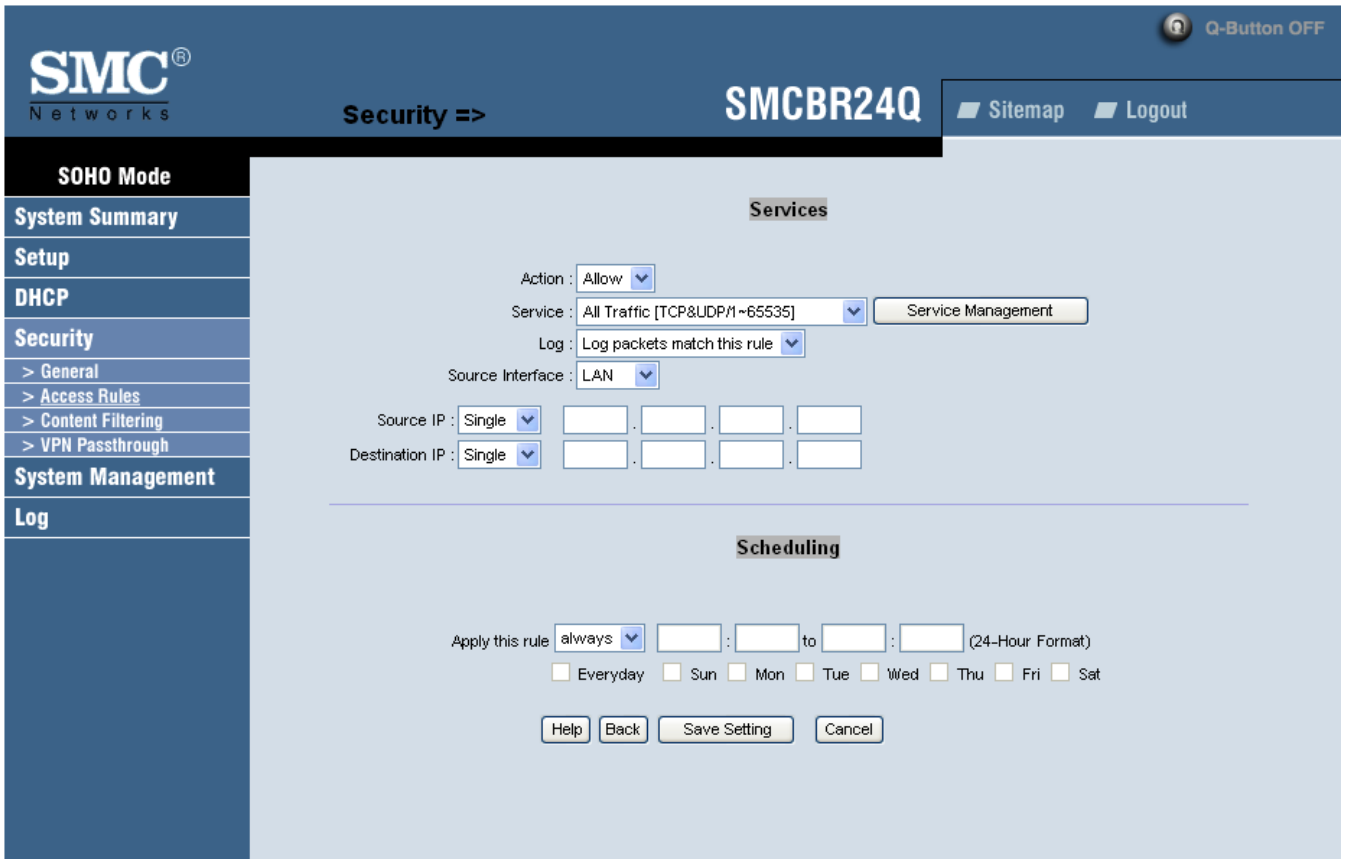
* HTTP service from LAN side to SMCBR24Q is always allowed.
* DHCP service from LAN side is always allowed.
* DNS service from LAN side is always allowed.
* Ping service from LAN side to SMCBR24Q is always allowed.



Besides the Default Rules, all configured Network Access Rules are listed in the table, and you can choose the **Priority** for each custom rule. Click the Edit button to **Edit the Policy**, and click the Trash Can icon to delete the rule.

Click **Add New Rule** button to add new Access Rules, or click the **Restore to Default Rules button** to restore to the default rules, and all custom rules will be deleted.

Add a new Policy



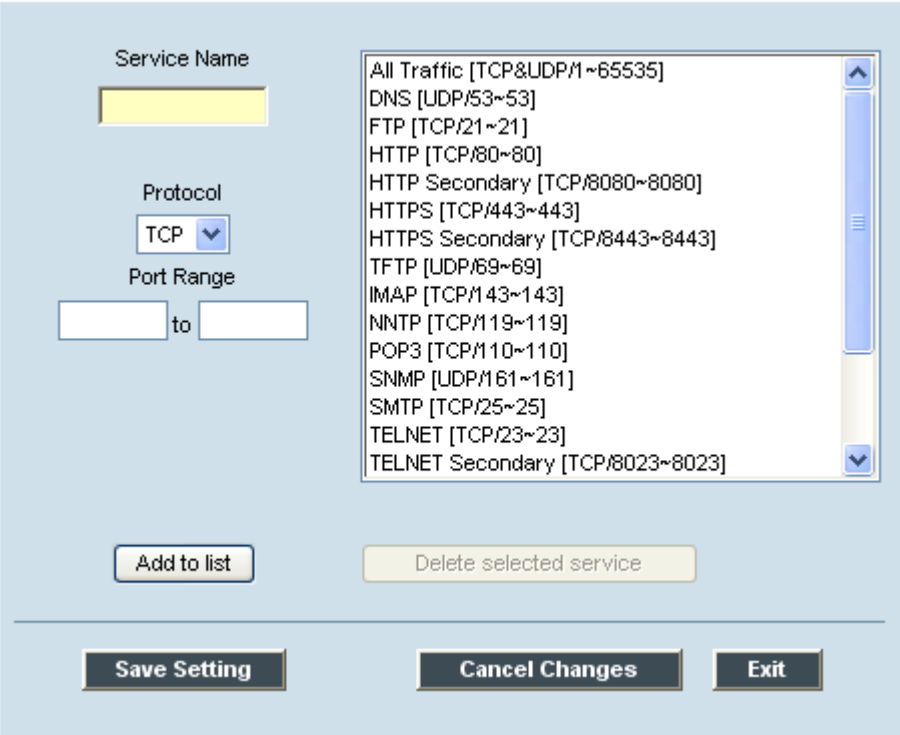
Services

Action

Select the **Allow** or **Deny** radio button depending on the intent of the rule.

Service

Select the service from the Service pull-down menu. If the service you need is not listed in the menu, click the **Service Management** button to add new Service. Enter Service Name, Protocol and Prot Range, and click Add to list and Save Setting.



Log

User can select **Log packet match this rule** or **Not log**.

Source Interface

Select the Source Interface (LAN, WAN1, WAN2, Any) from the pull-down menu. Once DMZ is enabled, the options will be LAN, WAN1, DMZ, Any.

Source IP

Select **Any**, **Single** or **Range**, and enter IP Address for single and range.

Destination IP

Select **Any**, **Single** or **Range**, and enter IP Address for single and range.

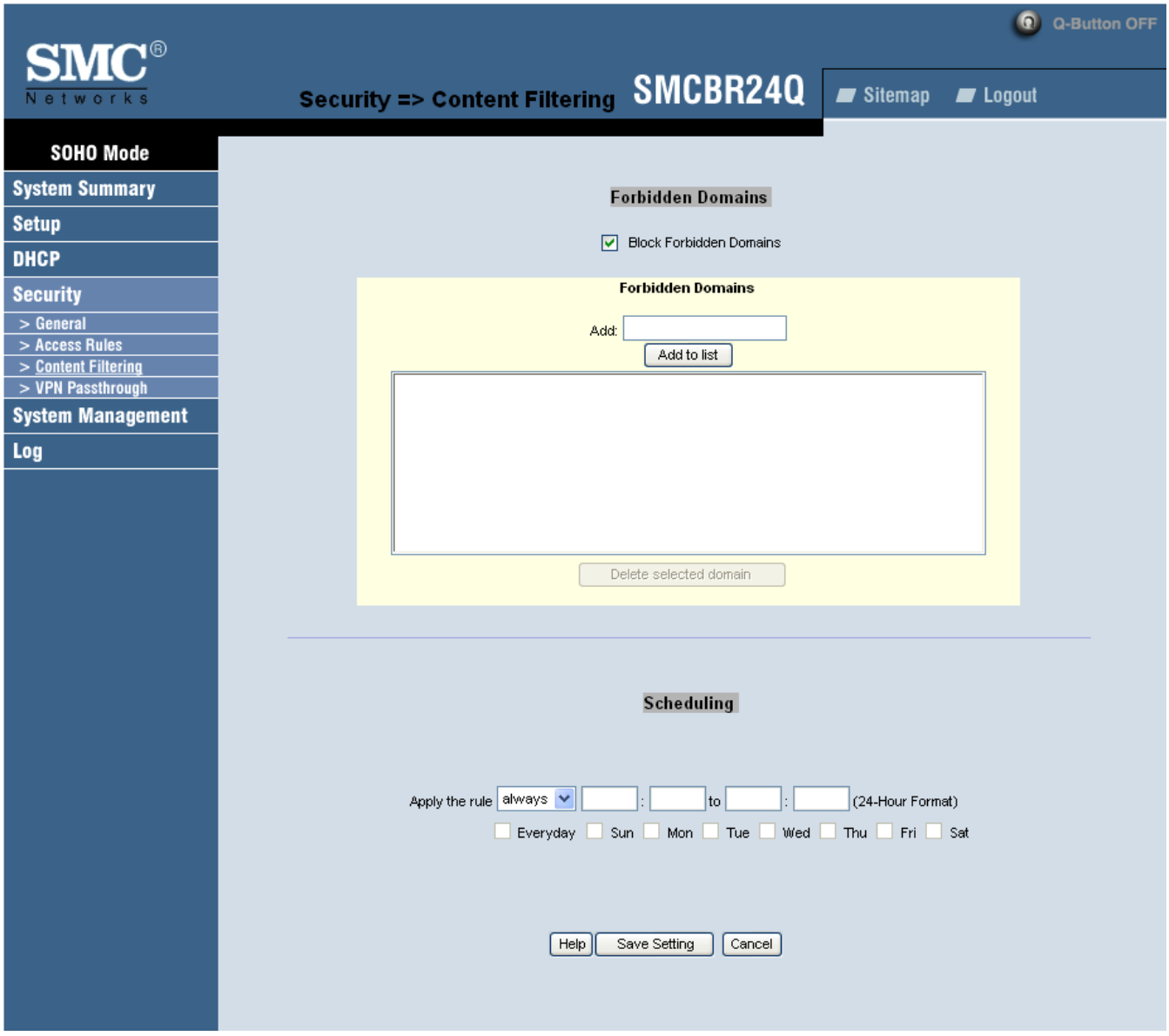
Scheduling

Apply this rule (time parameter)

Select the time range and the day of the week for this rule to be enforced. The default condition for any new rule is always enforced.

For more information, click the **Help** button. Click the **Save Settings** button to save the Access Rules settings or click the **Cancel** button to undo the changes

Content Filter



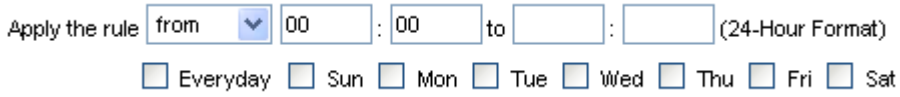
Forbidden Domains

When the **Block Forbidden Domains** check box is selected, the SMCBR24Q will block web access to sites on the **Forbidden Domains** list.

Scheduling

The Time of Day feature allows you to define specific times when Content Filtering is enforced. For example, you could configure the SMCBR24Q to filter employee Internet access during normal business hours, but allow unrestricted access at night and on weekends.

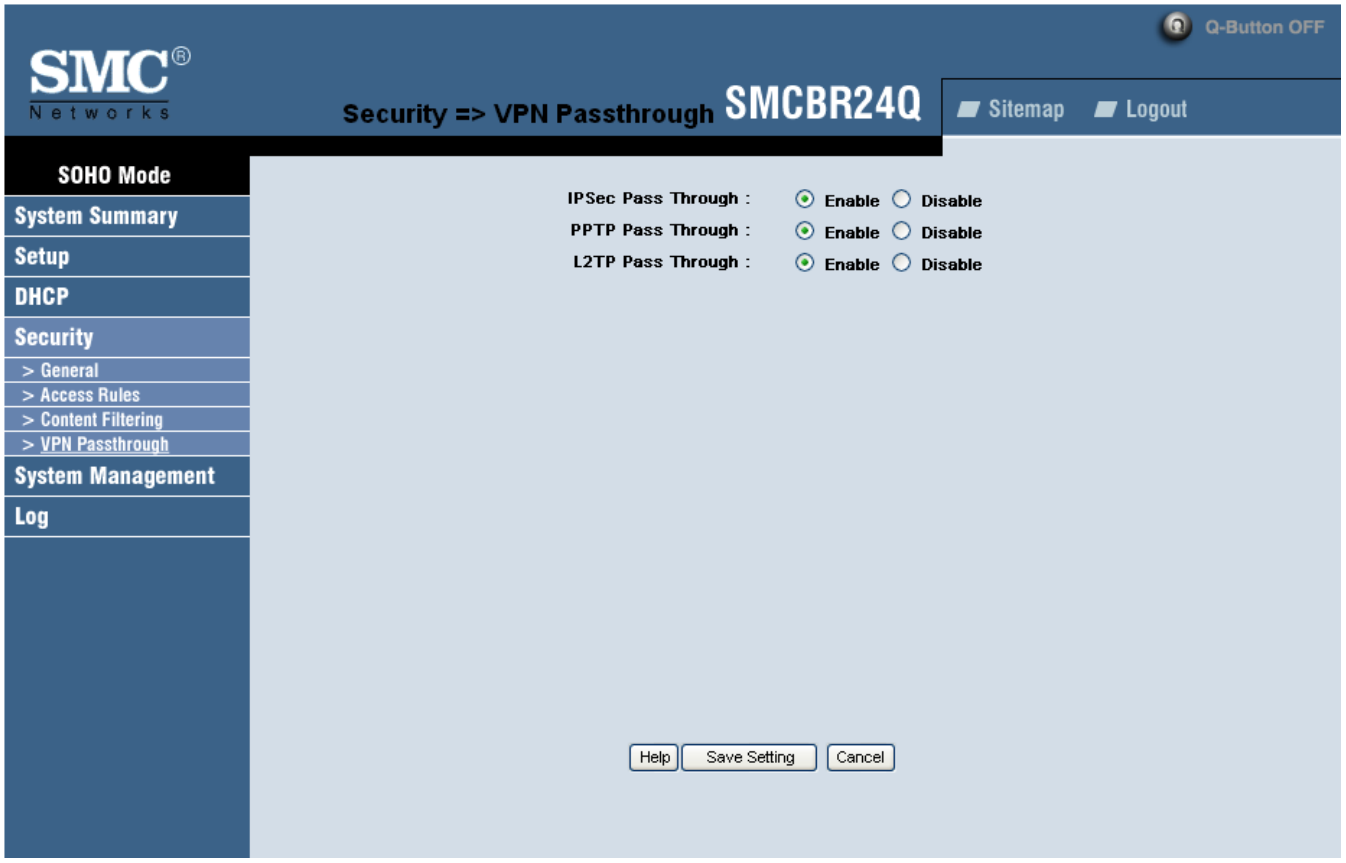
Apply this rule:



Always: When selected, Content Filtering is enforced at all times.
From: When selected, Content Filtering is enforced during the time and days specified. Enter the time period, in 24-hour format, and select the day of the week that Content Filtering is enforced.

For more information, click the **Help** button. Click the **Save Settings** button to save the Content Filtering settings or click the **Cancel** button to undo the changes.

VPN Pass Through



IPSec Pass Through

Internet Protocol Security (IPSec) is a suite of protocols used to implement secure exchange of packets at the IP layer. IPSec Pass Through is enabled by default.

PPTP Pass Through

Point to Point Tunneling Protocol (PPTP) Pass Through is the method used to enable VPN sessions. PPTP Pass Through is enabled by default.

L2TP Pass Through

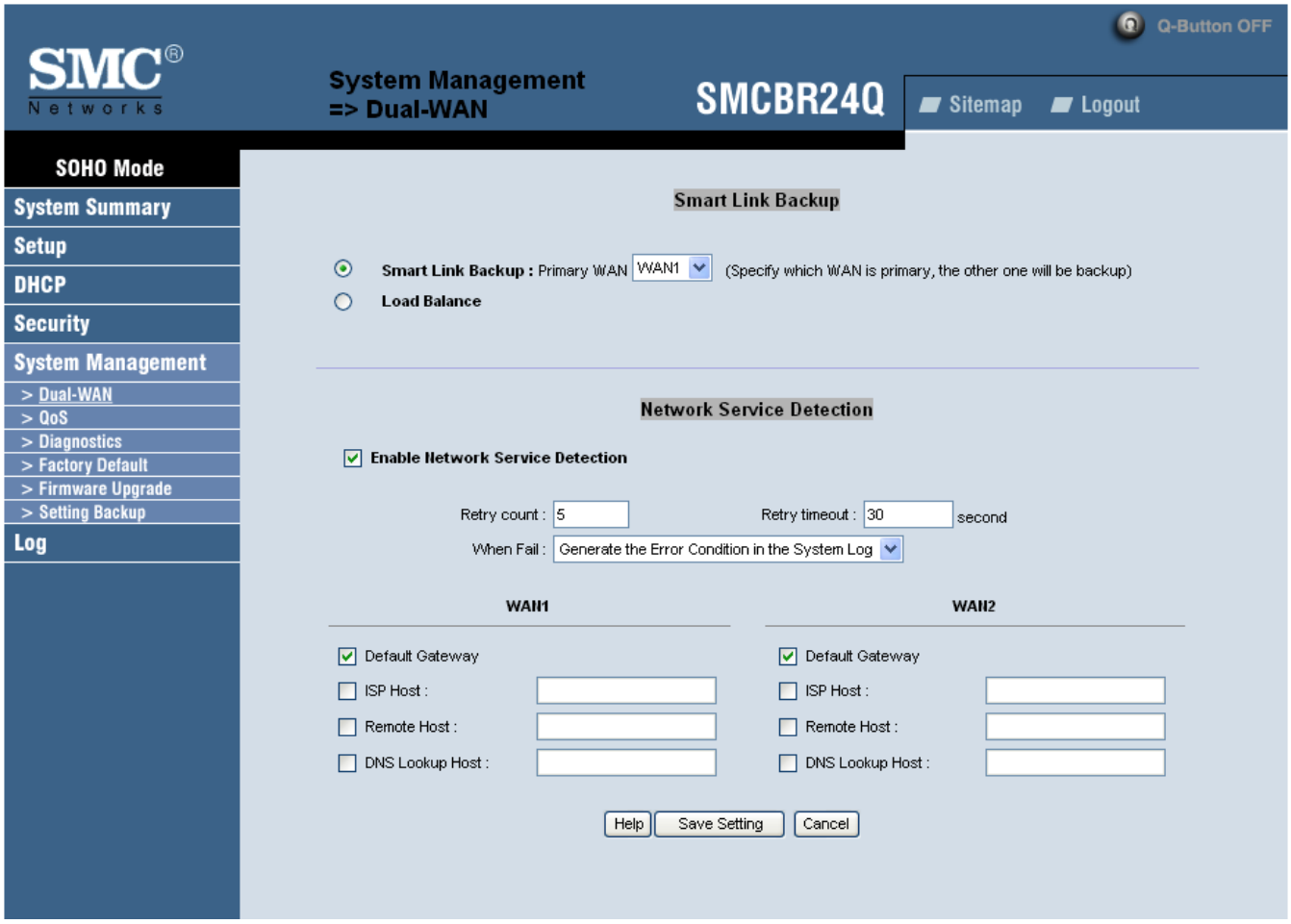
Layer 2 Tunneling Protocol (L2TP) Pass Through is the method used to enable VPN sessions. PPTP Pass Through is enabled by default.

For more information, click the **Help** button. Click the **Save Settings** button to save the VPN Passthrough settings or click the **Cancel** button to undo the changes

System Management

Dual WAN

There are two functions provided for users – **Smart Link Backup** and **Load Balance**.



Smart Link Backup: Users can choose which WAN port to be primary. Once primary WAN is chosen, other WAN will become backup by default.

Network Service Detection

This tool can detect the network connection status of ISP by pinging Default Gateway, ISP Host, Remote Host or DNS Lookup Host.

Retry count: The count of ping. The default is 5.

Retry timeout: The interval between two ping actions. The default is 30 seconds.

When Fail:

Generate the Error Condition in the System Log: The Router will generate the System Log when ping fails to inform users that the ISP connection is disconnected.

Remove the Connection: This WAN Interface will be suspended when the network connection to ISP is not active. The traffic on this WAN will be dispatched to the other WAN port. Once connection to ISP is re-established, the traffic will be dispatched back.

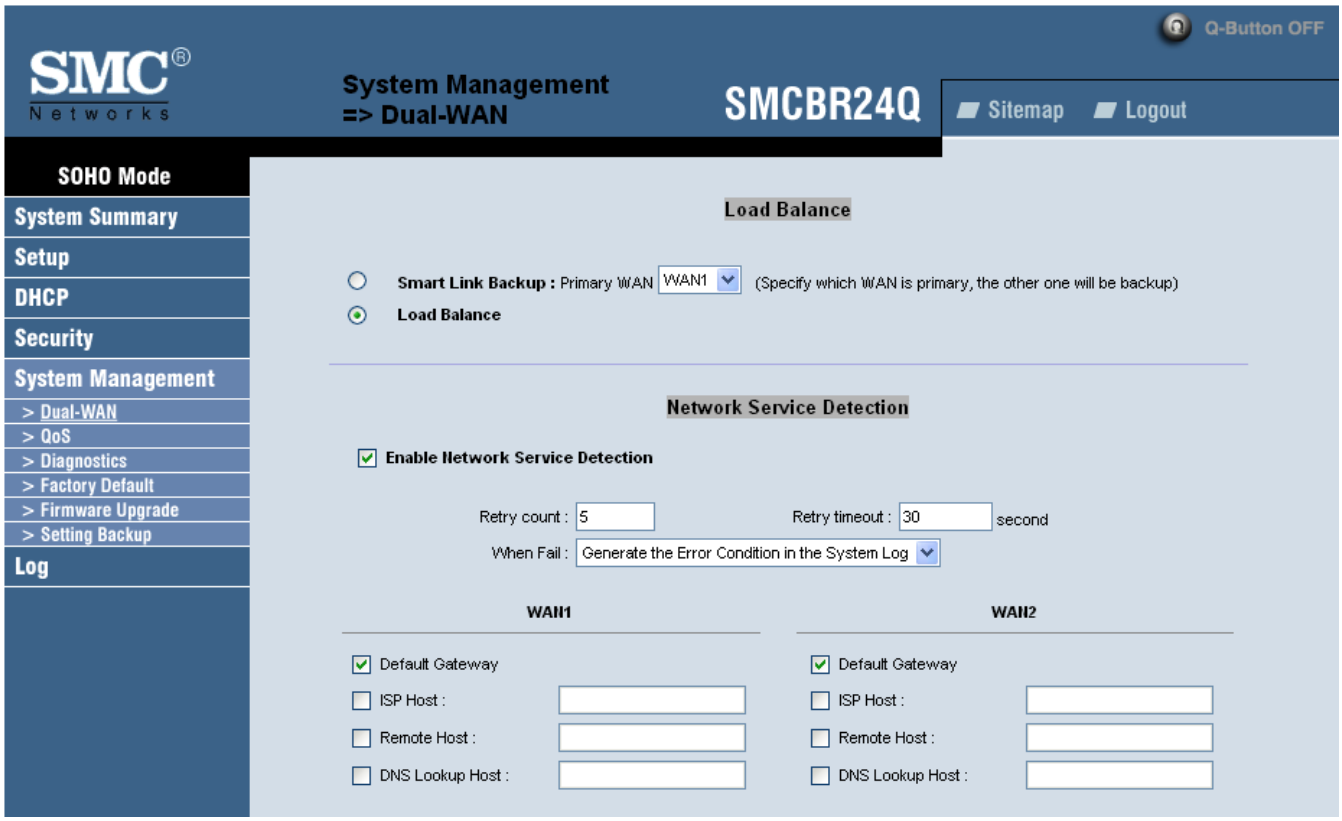
If you enable NSD, you have to choose at least one option from following four items.

Default Gateway: If you check this item, the Router will ping the default gateway first.

ISP Host: After pinging Default Gateway, the Router will ping ISP Host "Retry timeout" later. The ISP Host is provided by ISP.

Remote Host: Enter the IP address of Remote Host that you're going to ping.

DNS Lookup Host: Enter the Host Name or Domain Name that you're going to ping.



If **Load Balance (Auto)** is selected, it will be automatically computing the max. bandwidth of WAN1 and WAN2 by using Weighted Round Robin to balance the loading.

Network Service Detection

This tool can detect the network connection status of ISP by pinging Default Gateway, ISP Host, Remote Host or DNS Lookup Host.

Retry count: The count of ping. The default is 5.

Retry timeout: The interval between two ping actions. The default is 30 seconds.

When Fail:

Generate the Error Condition in the System Log: The Router will generate the System Log when ping fails to inform users that the ISP connection is disconnected.

Remove the Connection: This WAN Interface will be suspended when the network connection to ISP is not active. The traffic on this WAN will be dispatched to the other WAN port. Once connection to ISP is re-established, the traffic will be dispatched back.

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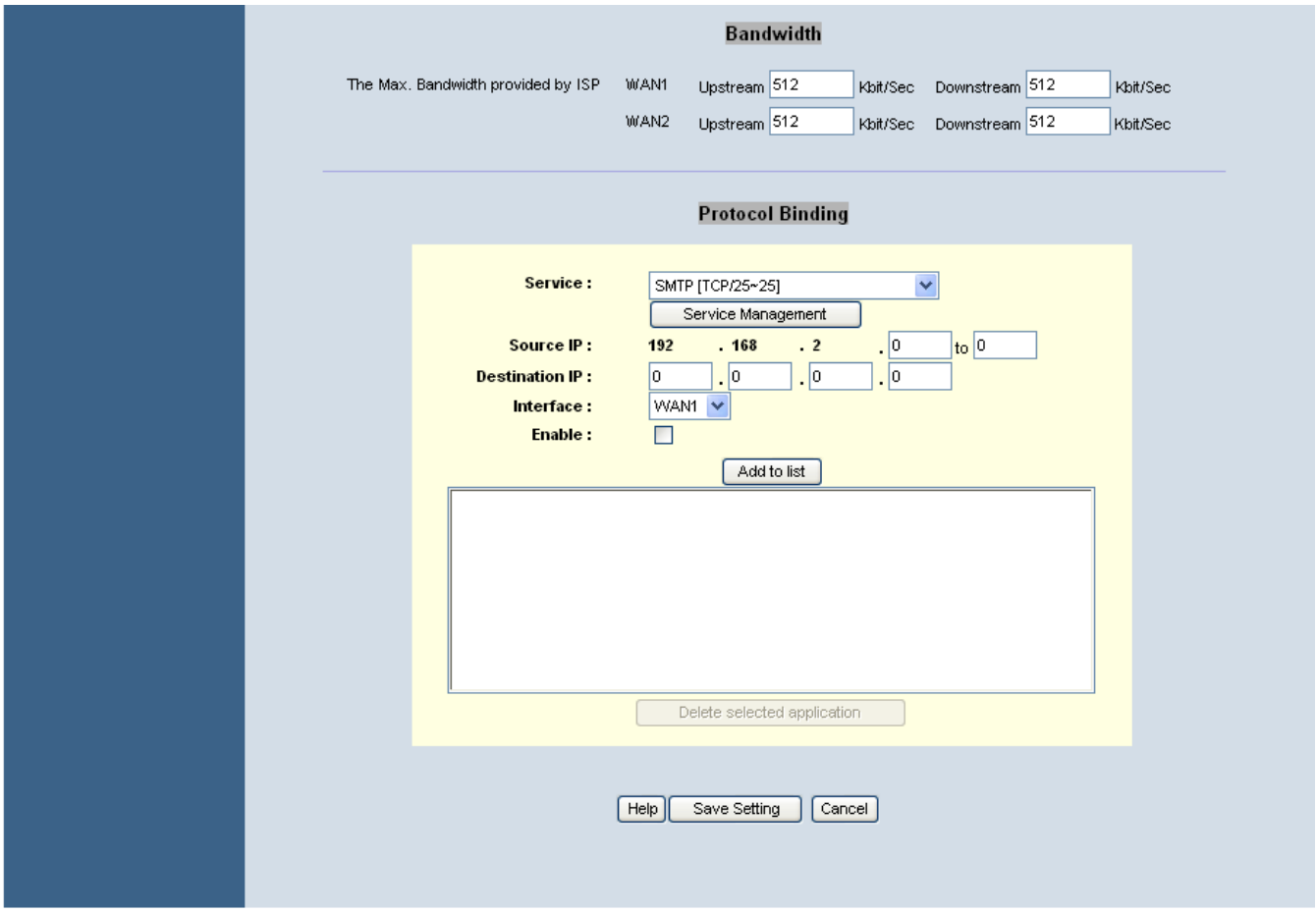
Default Gateway: If you check this item, the Router will ping the default gateway first.

ISP Host: After pinging Default Gateway, the Router will ping ISP Host "Retry timeout" later. The ISP Host is provided by ISP.

Remote Host: Enter the IP address of Remote Host that you're going to ping.

DNS Lookup Host: Enter the Host Name or Domain Name that you're going to ping.



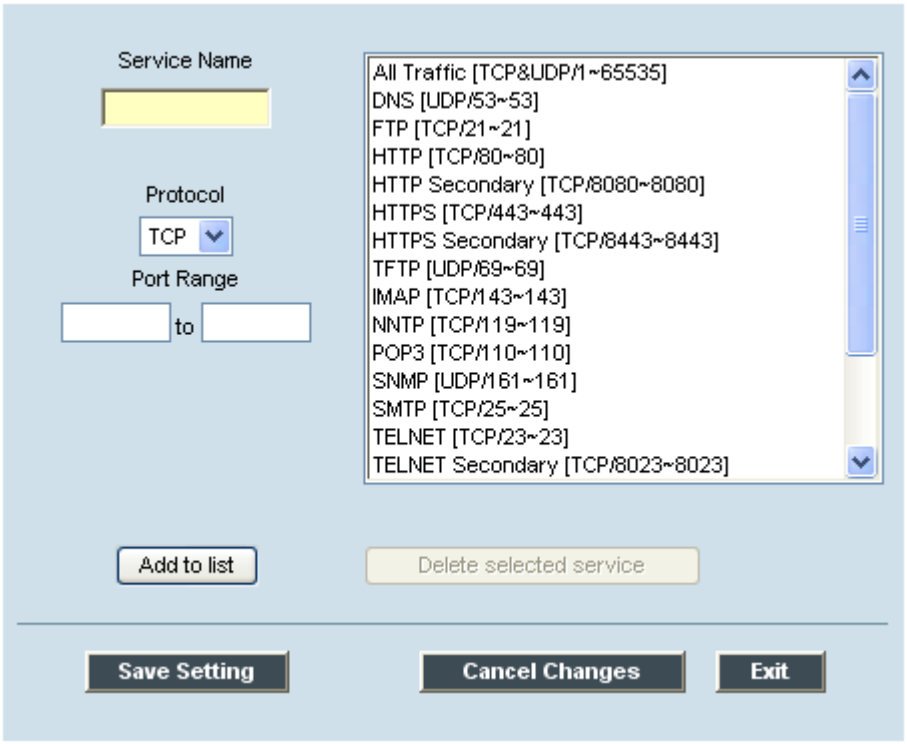
Bandwidth

Enter the max. upstream and downstream bandwidth provided by ISP.

Protocol Binding

SMCBR24Q supports the Protocol Binding functionality. It allows users to specify the internal IP **or/and** Service going through the specified WAN port.

Service: Users can choose the Service from the drop-down menu, or click the service management to add new Service. The default Service is SMTP.



Source IP: Users can specify the internal IP to go through the specific WAN port. If users need the Service Binding only, entering zero in Source IP filed is suggested.

Destination IP: Users can specify the specific Service from the internal Source IP to Destination IP go through the specific WAN port, and enter the Destination IP. If users need the Service Binding only, entering zero in Destination IP filed is suggested.

If users need IP Binding only, please select 'All' from the Service drop-down menu.

Interface: Choose WAN1 or WAN2.

Enable: Users can check the enable box to enable this Protocol Binding rule.

Click **Add to list** button to add the Protocol Binding rule to list, and users can set up to 30 rules, or click **Delete selected application** button to delete the selected rule.

For more information, click the **Help** button. Click the **Save Settings** button to save the Dual-WAN settings or click the **Cancel** button to undo the changes

QoS

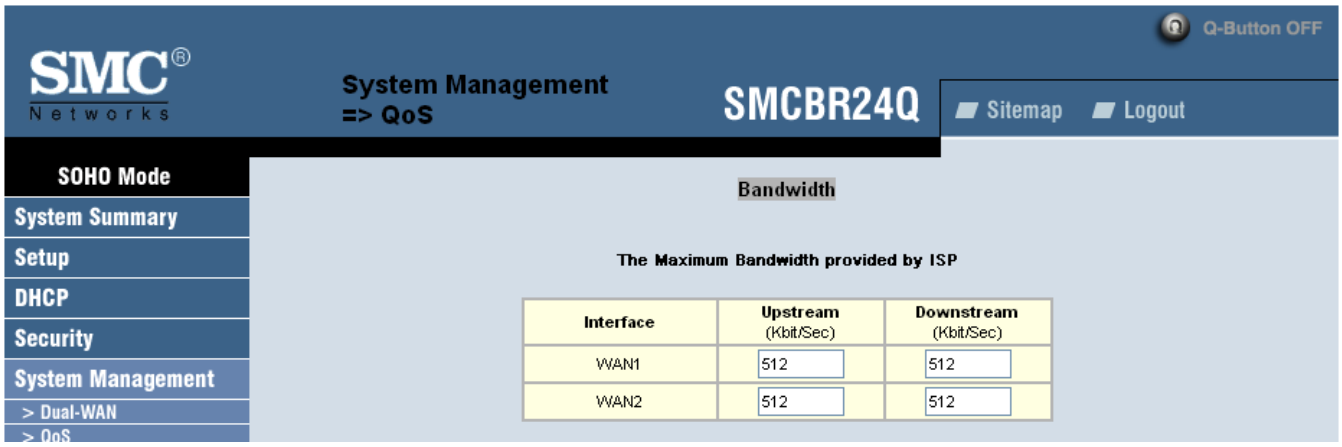
QoS (Quality of Service) refers to the capability of a network to provide better service to selected network traffic. The SMCBR24Q provides two types of functionality, and only one type of functionality can work at one time.

1. **Rate Control** for minimum bandwidth (guarantee bandwidth) and maximum bandwidth (limit bandwidth) by Service and/or IP Address.
2. **Priority** for services.

Both functionalities can control Inbound or Outbound traffic.

Bandwidth

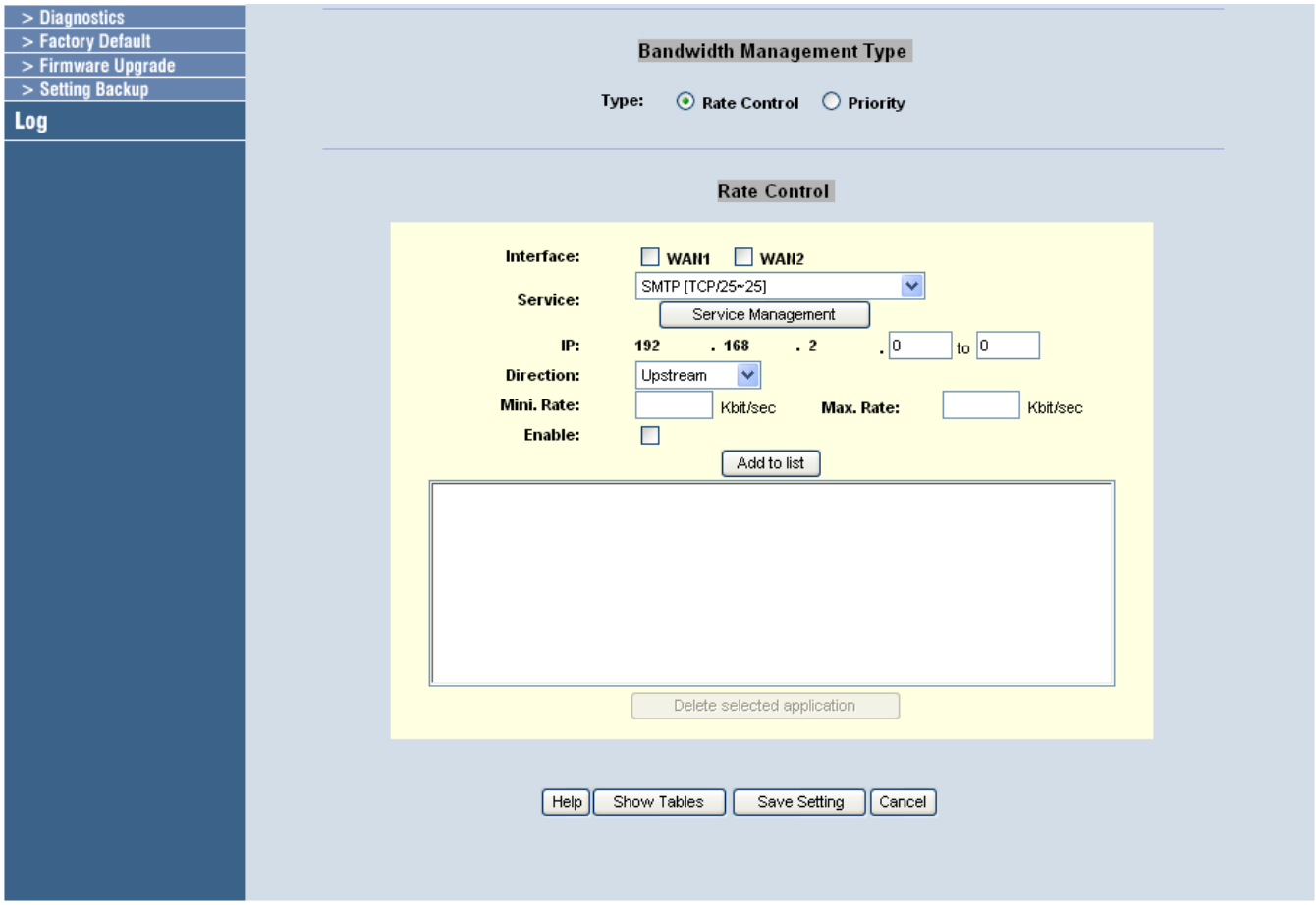
Bandwidth information you configured in Dual-WAN page will be displayed here for your reference for setting up the Min. Rate, Max. Rate, or priority. The quantity of WAN interface will be displayed according to your configuration in Setup and Dual-WAN page. The bandwidth information may be changed. Click the save setting button when done.



Bandwidth Management Type: The SMCBR24Q provides two type of bandwidth management.

Rate Control

The SMCBR24Q provides Rate Control for guarantying or limiting the specific Service and/or IP address for inbound traffic or outbound traffic at specific minimum rate or maximum rate.



Rate Control

Interface: Check the WAN interface box, and the Rate Control Rule will apply to the selected interface (s).

Service: Select the Service from the drop-down menu. If the Service you need to control is not in the drop down menu list, please click Service Management to add the Service.

IP: Enter the IP Address or IP range you need to control. The default is zero which includes all internal IP addresses.

Direction: Select **Upstream** for outbound traffic or **Downstream** for inbound traffic from the drop-down menu.

Min. Rate (Kbit/sec): Enter the Mini. Rate for guaranteeing bandwidth.

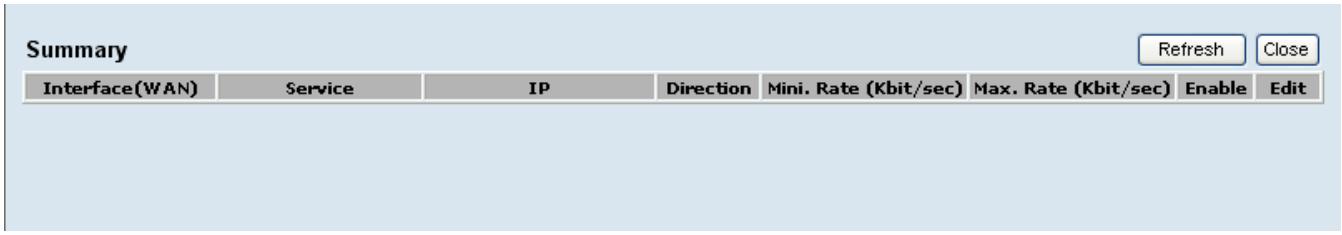
Max. Rate (Kbit/sec): Enter the Max Rate for limiting bandwidth.

Enable: Check the box and push the Q-button on to enable this Rate Control Rule.

Add to list: After set up the rule, click the Add to list button. The max entry is 30.

For more information, click the **Help** button. Click the *Save Settings* button to save the QoS Rules settings or click the **Cancel** button to undo the changes. Click **Summary button** to view the summary of Rate Control rule.

Summary

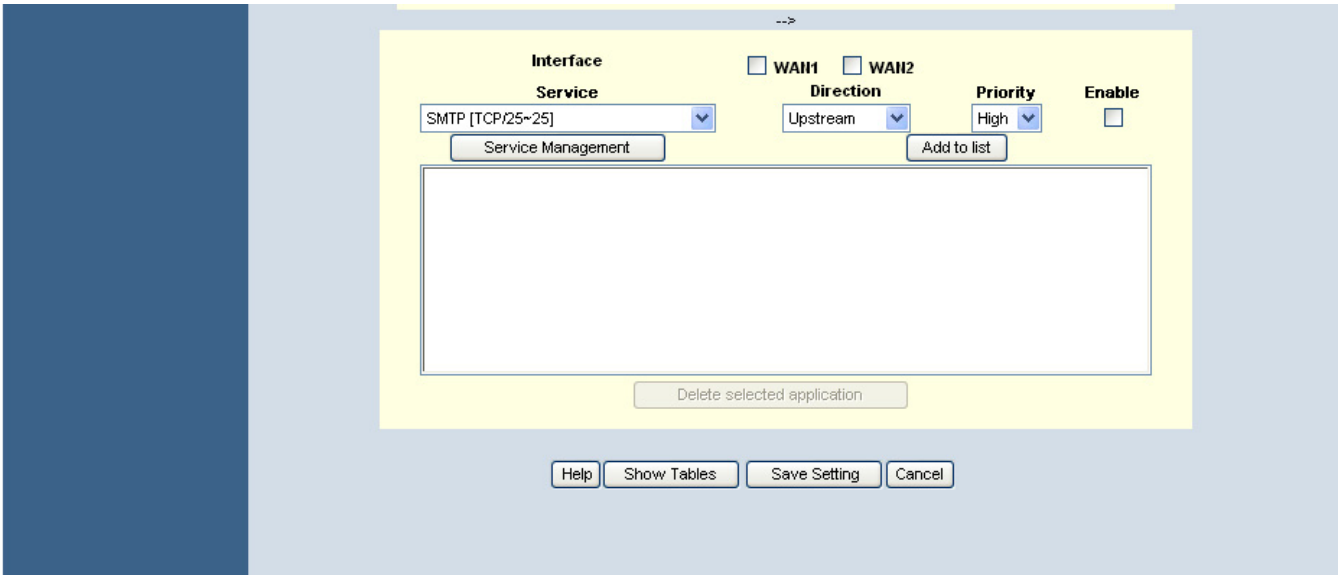


All Rate Control rules will be displayed in the Summary table. Users can click the Edit button to edit the rule.

Note: *Any configurations here except the default will make the Q-button a hot key. For more details, please refer to* ***Q-button–SOHO Mode****.*

Priority

The SMCBR24Q provides three types of priorities for the service. They are High, Middle and Low priorities.



Interface: Check the Interface box, and the Bandwidth Management Priority rule will apply to the selected interface(s).

Service: Select the service from the drop-down menu. If the Service you need to control is not in the drop down menu list, please click **Service Management** to add the Service.

Direction: Select **Upstream** for outbound traffic or **Downstream** for inbound traffic from the drop-down menu.

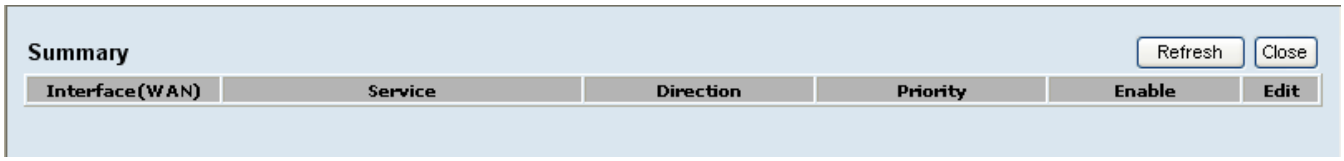
Priority: The default priority for the service is middle, so users can select high or low for the specific service. Services in high priority will **share 60%** of total system bandwidth, and services in low priority will **share 10%** of total bandwidth.

Enable: Check the box and push the Q-button on to enable this Priority rule.

Add to list: After set up the rule, click the Add to list button. The max entry is 30.

Note: *Any configurations here except the default will make the Q-button a hot key. For more details, please refer to* ***Q-button–SOHO Mode****.*

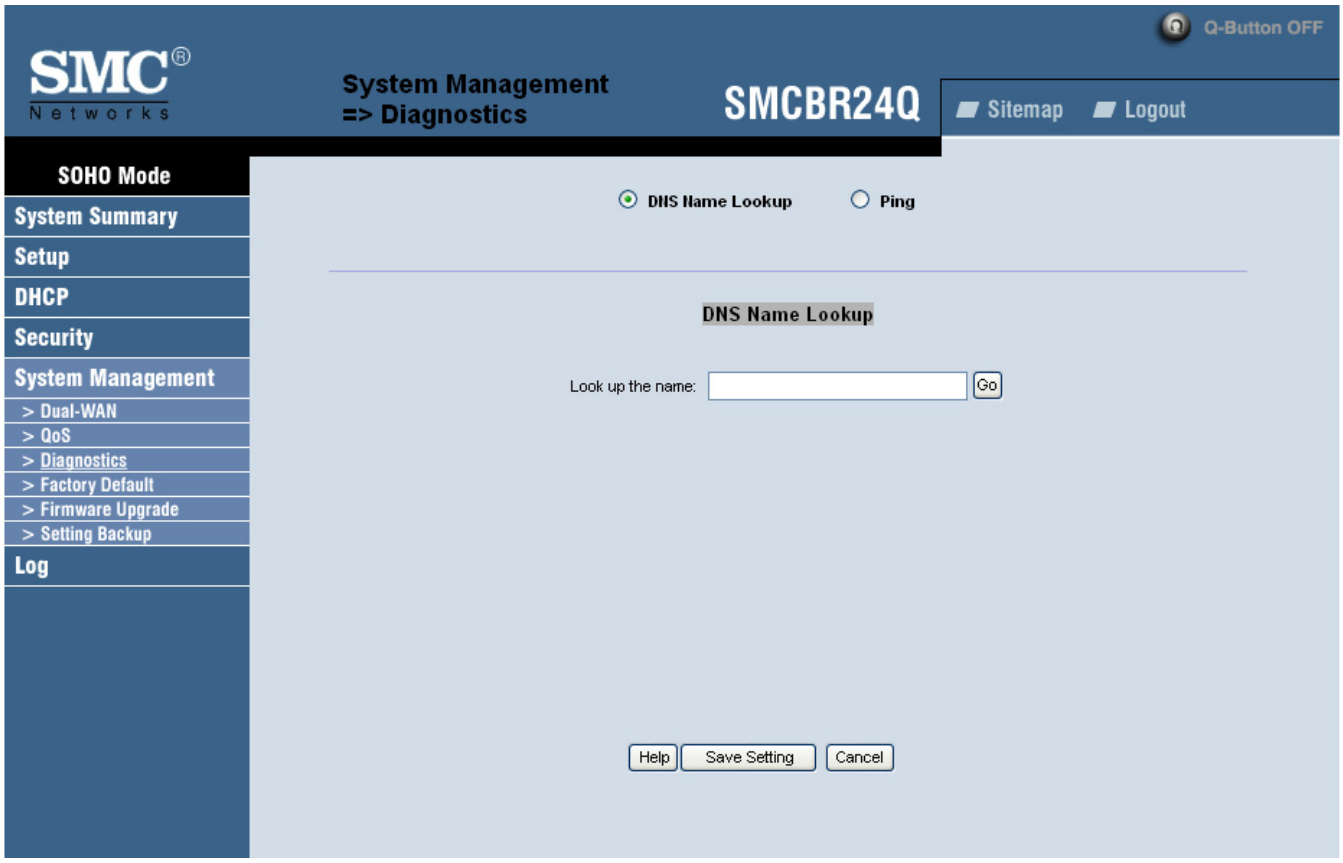
Click the **Save Settings** button to save the QoS Priority settings, click the **Cancel Changes** button to undo the changes, or click **Summary** button to view the summary of Priority rule.



All Priority rule set by the users will be displayed in Summary table by interface. Users can click the Edit button to edit the rule.

Diagnostic

SMCBR24Q has two tools built in to help with trouble shooting network problems.



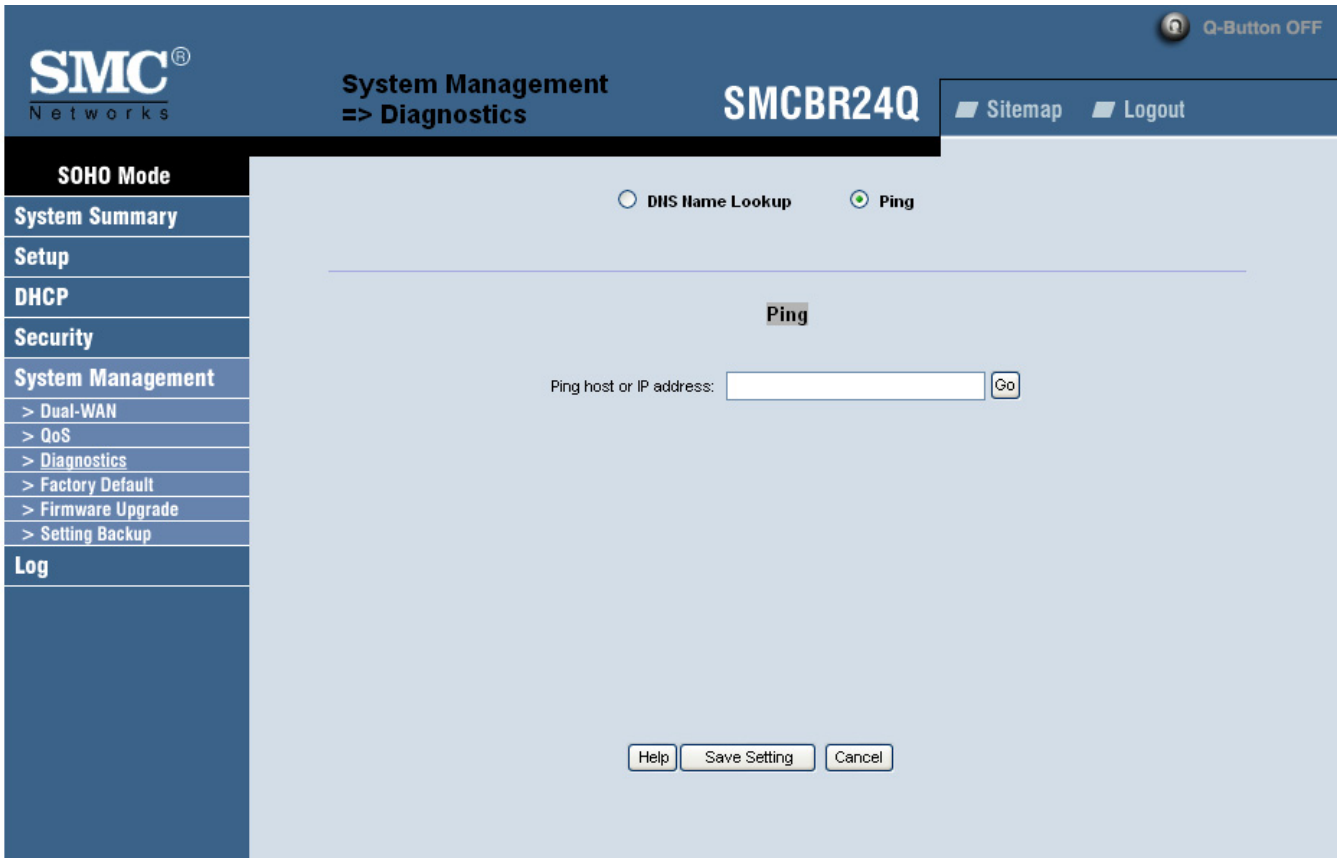
DNS Name Lookup

The Internet has a service called the Domain Name Service (DNS) which allows users to enter an easily remembered host name, such as www.SMCBR24Q.com, instead of numerical TCP/IP addresses to access Internet resources. SMCBR24Q has a DNS lookup tool that will return the numerical TCP/IP address of a host name.

Enter the host name to lookup in the **Look up the name** field and click the **Go** button. Do not add the prefix http://, otherwise the result will be Address Resolving Failed. SMCBR24Q will then query the DNS server and display the result at the bottom of the screen.

Note: The IP address of the DNS server must be entered in the **Network Settings** page for the **Name Lookup** feature to function.

Ping

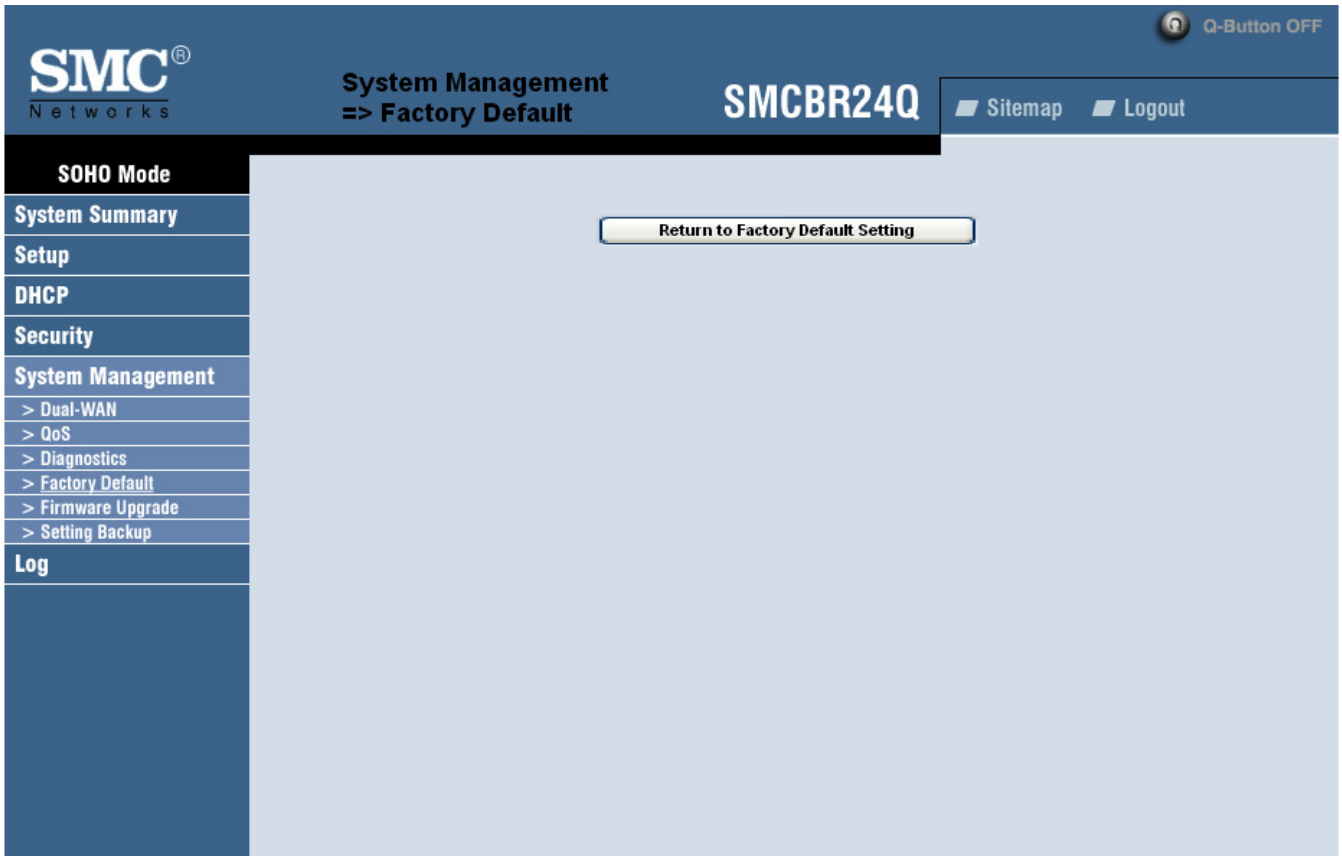


The **Ping** test bounces a packet off a machine on the Internet back to the sender. This test shows if SMCBR24Q is able to contact the remote host. If users on the LAN are having problems accessing services on the Internet, try pinging the DNS server or other machine at the ISP's location. If this test is successful, try pinging devices outside the ISP. This will show if the problem lies with the ISP's connection.

Enter the IP address of the device being pinged and click the **Go** button. The test will take few seconds to complete. Once completed, a message showing the results will be displayed at the bottom of the Web browser window. The results include Packets transmitted/ received/ loss and Round Trip Time (Minimum, Maximum, and Average).

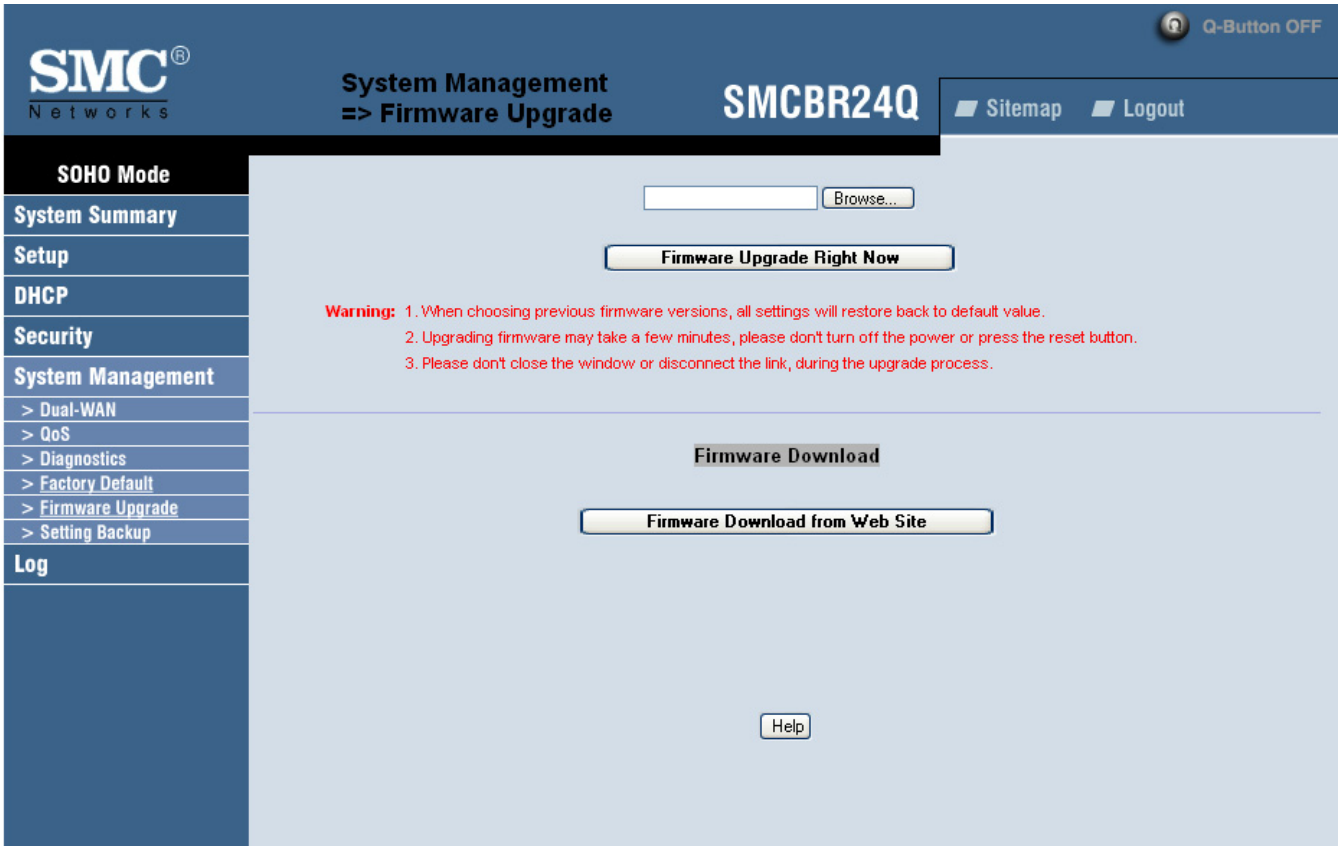
Note: **Ping** requires an IP address. SMCBR24Q's **DNS Name Lookup** tool may be used to find the IP address of a host.

Factory Default



The "Factory Default" button can be used to clear all of your configuration information and restore SMCBR24Q to its factory state. Use this feature only if you wish to discard all other configuration preferences.

Firmware Upgrade



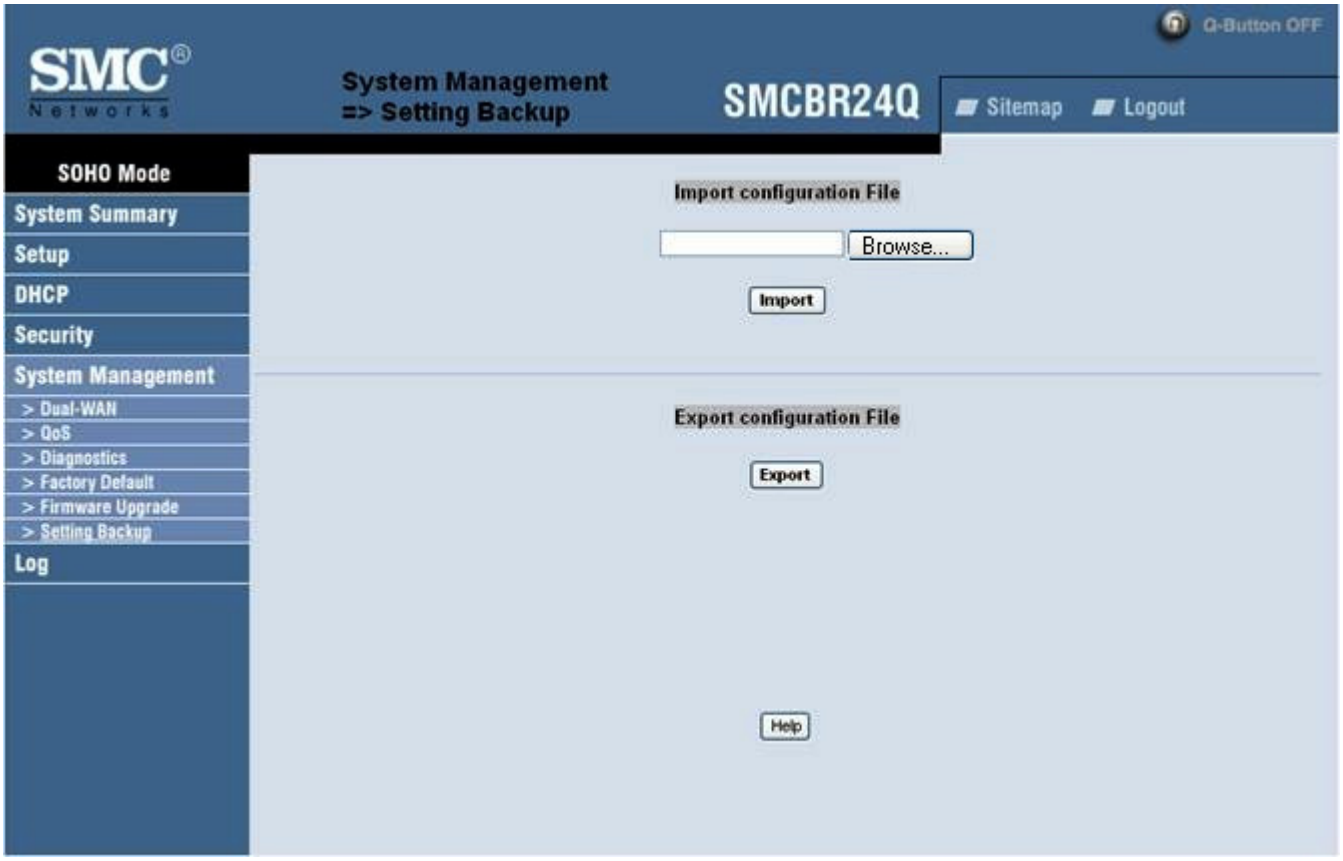
Firmware Upgrade

Users can use the following download function to download the new version of firmware into computer in advance and select the file to upgrade. Finally, click the **Firmware Upgrade Right Now** button to initiate the firmware upgrade.

Firmware Download

Users can click the **Firmware Download from SMC Web Site** button to link to the download page of Support of SMC website, and select the SMCBR24Q from the pull-down menu.

Setting Backup



Import Configuration File:

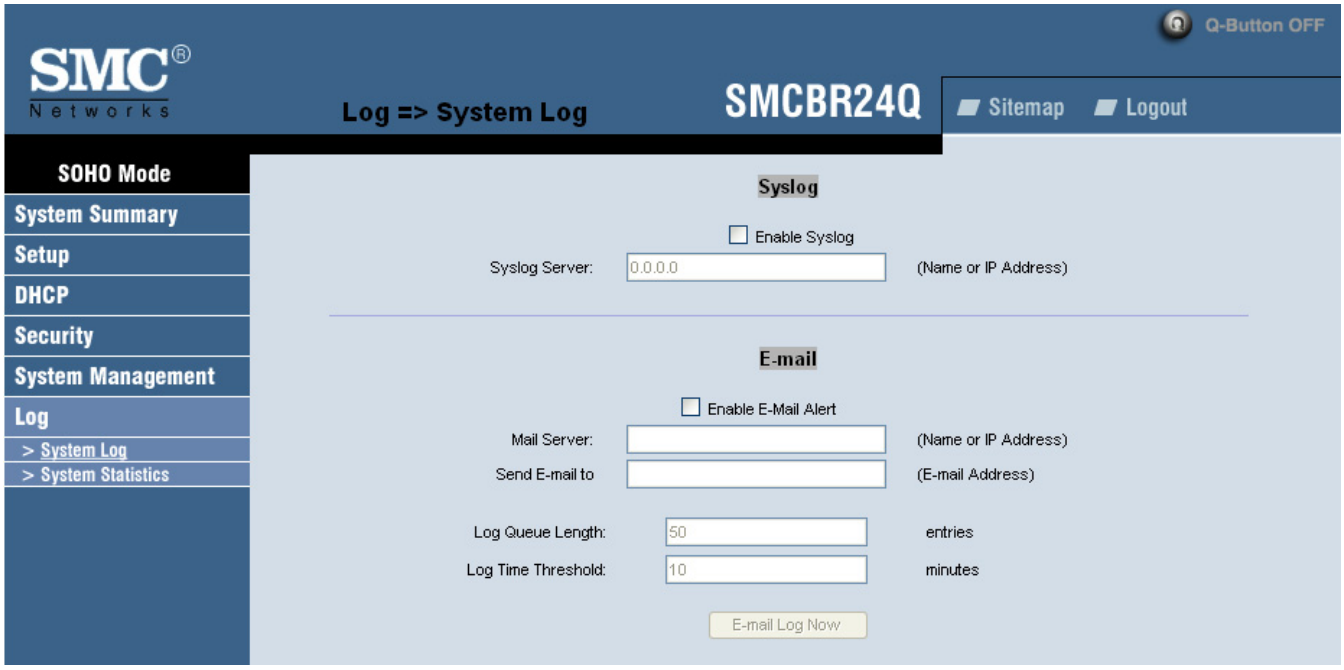
You will need to specify where your preferences file is located. When you click "Browse", your browser will bring up a dialog which will allow you to select a file which you had previously saved using the "Export Settings" button. After you have selected the file, click the "Import" button. This process may take up to a minute. You will then need to restart your SMCBR24Q in order for the changes to take effect.

Export Configuration File:

When you click the "Export" button, your browser will bring up a dialog asking you where you would like to store your preferences file. This file will be called "SMCBR24Q.exp" by default, but you may rename it if you wish. This process may take up to a minute.

Log

System Log



There are three parts in System Log: **Syslog, E-mail,** and **Log Setting**.

Syslog

Enable Syslog: If check the box, Syslog will be enabled.

Syslog Server: In addition to the standard event log, the SMCBR24Q can send a detailed log to an external Syslog server. Syslog is an industry-standard protocol used to capture information about network activity. The SMCBR24Q Syslog captures all log activity, every connection source, destination IP address, IP service, and number of bytes transferred. Enter the Syslog server name or IP address in the **Syslog Server** field. Restart the SMCBR24Q for the change to take effect.

E-mail

Enable E-Mail Alert: If check the box, E-Mail Alert will be enabled.

Mail Server: If you wish to have any log or alert information E-mailed to you, then you must enter the name or numerical IP address of your SMTP server. Your Internet Service Provider can provide you with this information.

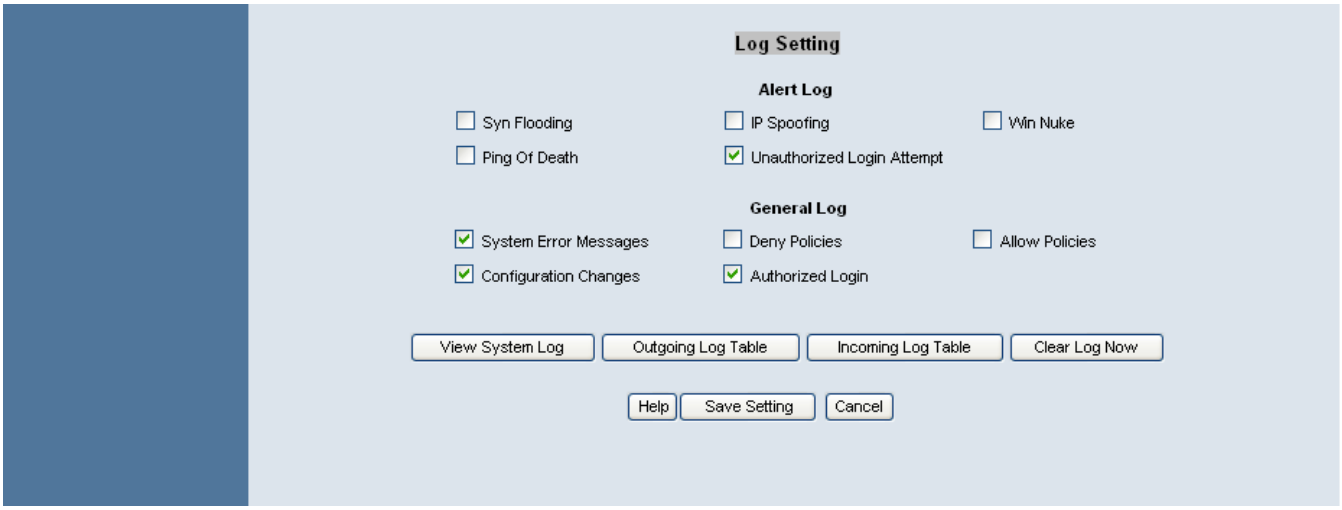
Send E-mail To: This is the E-mail address to which your log files will be sent. You may leave this field blank if you do not want to receive copies of your log information.

Log Queue Length (entries): The default is 50 entries. SMCBR24Q will e-mail log when Log entries are over 50.

Log Time Threshold (minutes): The default is 10 minutes. SMCBR24Q will e-mail the log every 10 minutes or when the log criteria is met in the Log Queue Length or Threshold Settings..

E-mail Log Now: Clicking **E-mail Log Now** immediately sends the log to the address in the **Send E-mail to** Filed.

Log Setting



Alert Log

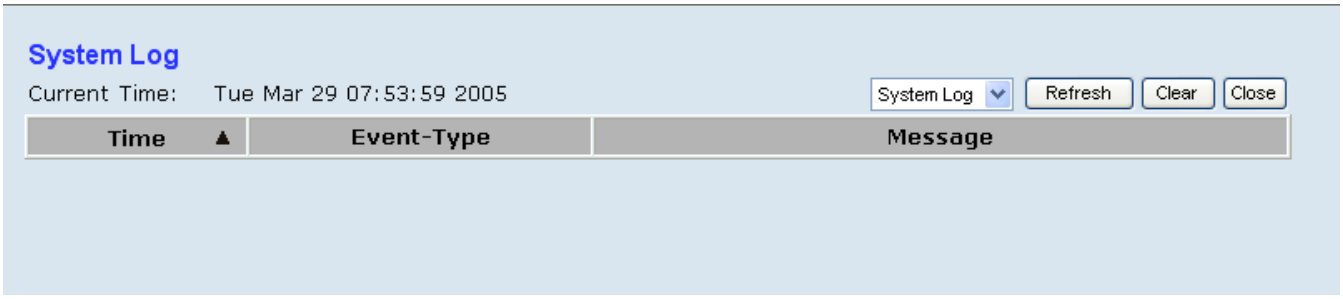
Checks the following events box for receiving alert log. Syn Flooding, IP Spoofing, Win Nuke, Ping of Death and Unauthorized Login Attempt.

General Log

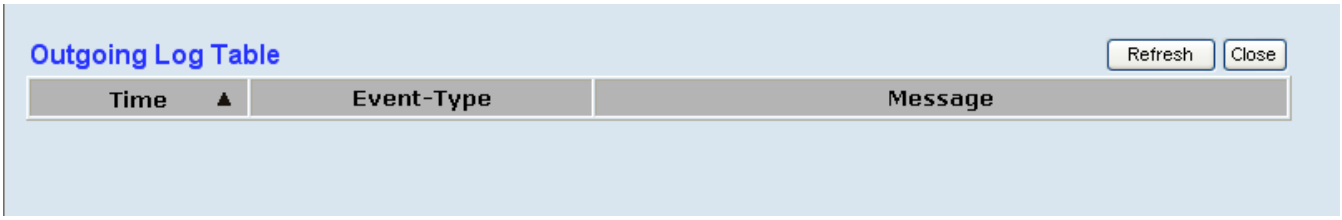
Checks the following events box for receiving log. System Error Messages, Deny Policies, Allow Policies, Content Filtering, Data Inspection, Authorized Login, Configuration Changes.

There are four setup buttons available in Log Setting screen

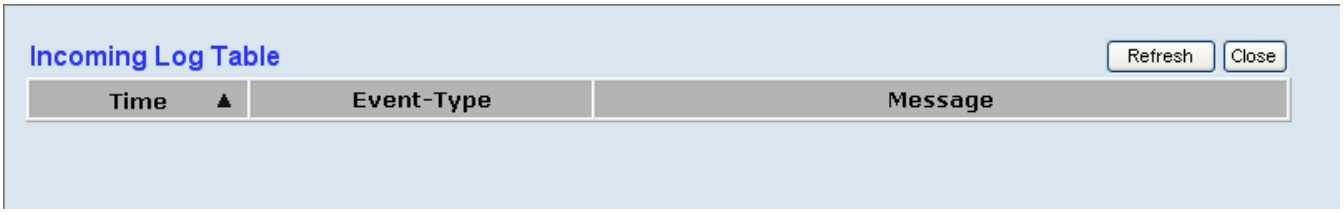
View System Log: Once you press this button, the new window will pop up the Log, and user can choose view **ALL, System Log, Access Log, Firewall Log and VPN Log**.



Outgoing Log Table: Once you press this button, the new window will pop up and it will display the outgoing packet information including LAN IP, Destination URL/IP and Service/Port number.

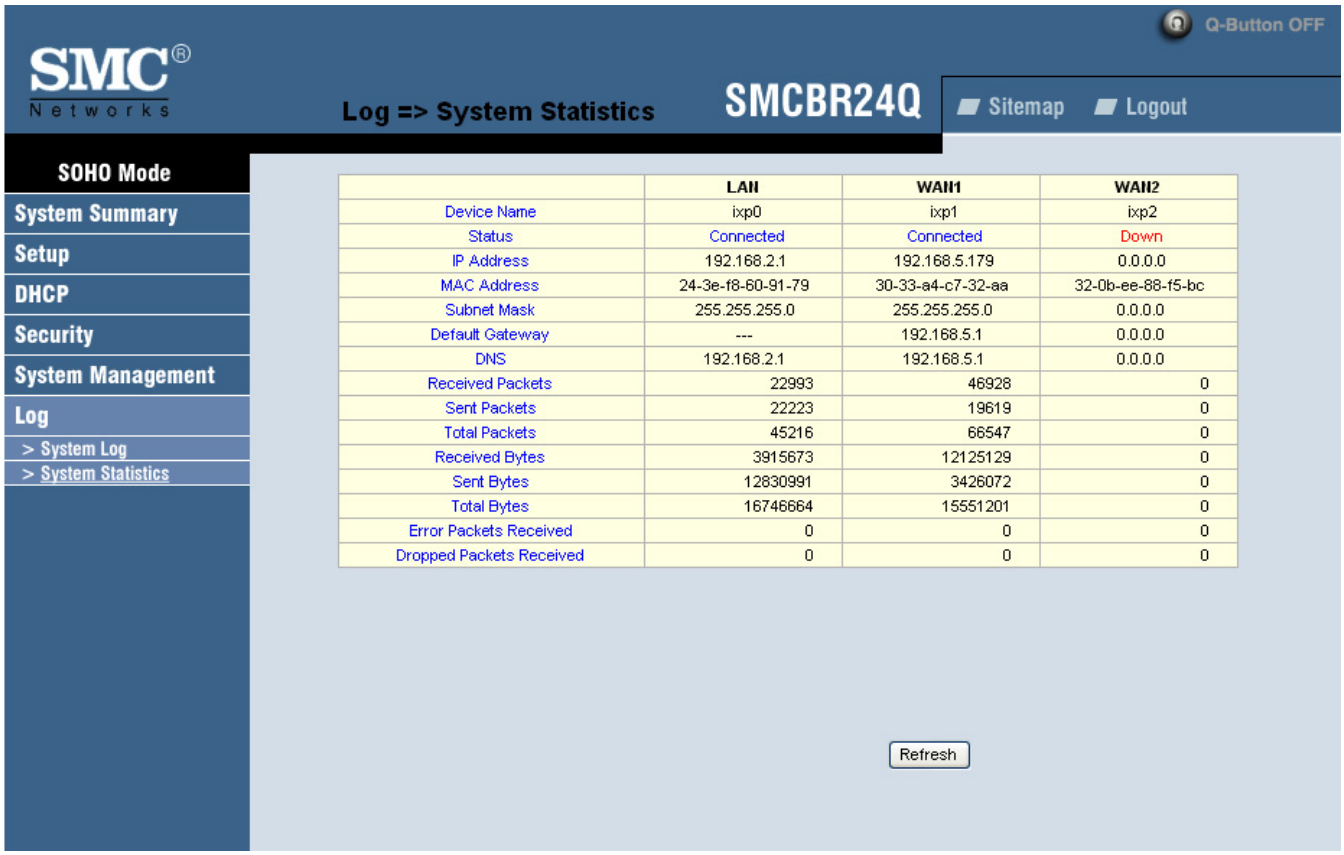


Incoming Log Table: Once you press this button, the new window will pop up and it will display the incoming packet information including Source IP and Destination Port number.



Clear Log Now: This button will clear out your log without E-mailing it. Only use this button if you don't mind losing your log information.

System Statistics



SMCBR24Q is able to perform the system statistics on Device Name, Status, IP Address, MAC Address, Subnet Mask, Default Gateway for LAN, WAN1 and WAN2.

Q-button in the SOHO Mode

The Q-button is a user friendly design. It provides a basic bandwidth management method. The end user can enjoy smooth Internet applications without any hassles with just one push.

Q-button, Q-button LED and Q-button icon

The Q-button is on the front panel with an LED above the button and an icon in the upper right corner of the UI indicating its current status. The default is off. When the Q-button is off (shown in Fig. 2), the green LED is off and the icon is grayed out. When the Q-button is on (shown in Fig. 2), the green LED is on and the icon turns yellow.

Fig. 1: Q-button off

Fig. 2: Q-button on

If no configuration in the QoS page by the UI:

When the button is pushed on without any configurations in the QoS page, the router distributes the available bandwidth provided by the ISP evenly to the min. rate of bandwidth of each PC on the LAN. The max. rate of each PC is 100% of the available bandwidth provided by the ISP.

If any configuration in the QoS page by the UI:

Any QoS configurations will make the Q-button a hot key. The end user can set the bandwidth management in the QoS page with the Q-button pushed off in advance. Once the Q-button is on, the pre-settings will be enabled. The end user can also set the bandwidth management with the Q-button pushed on.

Note: *bandwidth management settings will only work with the Q-button pushed on.*

FOR TECHNICAL SUPPORT, CALL:
From U.S.A. and Canada (24 hours a day, 7 days a week)
(800) SMC-4-YOU; Phn: (949) 679-8000; Fax: (949) 679-1481

From Europe : Contact details can be found on www.smc.com

INTERNET
E-mail address:
techsupport@smc.com

Driver updates:
http://www.smc.com/index.cfm?action=tech_support_drivers_downloads

World Wide Web:
http://www.smc.com/

For Literature or Advertising Response, Call:

U.S.A. and Canada:	(800) SMC-4-YOU	Fax (949) 679-1481
Spain:	34-91-352-00-40	Fax 34-93-477-3774
UK:	44 (0) 871 277 98 02	Fax 44 (0) 1234 831 413
France:	33 (0) 1 55 64 04 55	Fax 33 (0) 45 34 68 58
Italy:	39 02 739 12 68	Fax 39 02 739 14 17
Benelux:	31 (0) 654 776 790	Fax 31 (0) 172 242 393
Central Europe:	49 (0) 89 92861-0	Fax 49 (0) 89 92861-230
Nordic and Baltics	46 (0) 566 622 83	Fax 45 (0) 566 622 86
Eastern Europe:	420 266 794 421	Fax 420 266 794 423
Sub- Saharan Africa:	27 012 661 0232	Fax 34 93 471 3374
North West Africa:	34 93 477 4920	Fax 34 93 477 3774
CIS:	34 93 477 4920	Fax 34 93 477 3774
PRC:	86-10-6235-4958	Fax 86-10-6235-4962
Taiwan:	886-2-87978006	Fax 886-2-87976288
Asia Pacific:	(65) 238 6556	Fax (65) 238 6466
Korea:	82-2-553-0860	Fax 82-2-553-7202
Japan:	81-45-224-2332	Fax 81-45-224-2331
Australia:	61-2-8875-7887	Fax 61-2-8875-7777
India:	91-22-8204437	Fax 91-22-8204443

If you are looking for further contact information, please visit www.smc.com.

Model Number: SMCBR24Q

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